

Book

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PUBLIC-PRIVATE PARTNERSHIP MONITOR

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FOREWORD

We are pleased to present the first edition of the *Public–Private Partnership Monitor*. This edition covers public–private partnerships (PPPs) in the following nine Asian countries: Bangladesh, India, Indonesia, Kazakhstan, Papua New Guinea, the People’s Republic of China, the Philippines, Thailand, and Viet Nam.

A recent study of 25 of the developing member countries (DMCs) of the Asian Development Bank (ADB) has demonstrated that \$204 billion of the \$457 billion annual infrastructure gap would need private sector investment.¹ ADB has responded to this need through loans and technical assistance. From 2013 to 2016, ADB approved 257 loans and technical assistance projects with PPP components. As of July 2017, ADB was mandated to provide transaction advisory on 13 projects and supported 12 applications for private sector participation in infrastructure through the Asia Pacific Project Preparation Facility.

The PPP Monitor tracks the development of the PPP business environment as well as the challenges of doing PPPs in each country covered. It is divided into four main categories: Regulatory Framework, Institutional Capacity for Implementation, PPP Market Maturity, and Financial Facilities. These four categories are covered by over 100 quantitative and qualitative indicators. By creating an active platform for dialogue between the public and private sectors, the PPP Monitor aims to increase the level and quality of private sector participation in our DMCs.

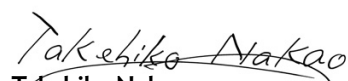
The PPP Monitor indicates that PPPs have developed to different degrees depending on the country, the sector, and the various challenges encountered. We also found that some DMCs have good PPP frameworks, but still have limited implementation capacity under such frameworks. Another key finding is that having a well-developed financial market strongly corresponds to the size of a given PPP market. In all countries surveyed, the most well-developed PPP frameworks were found in the energy sector, which has had the largest share of private participation in Asia since the 1990s. The most developed PPP market among our DMCs, taking into account its gross domestic product was the Philippines.

In future editions, the PPP Monitor will expand its coverage to include more DMCs, contain more features, and will be available in an online format. We look forward to providing you with updates on an annual basis.

¹ Asian Development Bank. 2017. *Meeting Asia’s Infrastructure Needs*. Manila.

The information contained herein derives from consultations with leading technical and legal firms as well as financial institutions. We would like to express our appreciation to the private sector firms that we collaborated with, particularly Mott MacDonald, who project managed the delivery of this document through strong coordination and an intensive survey. The legal reviews conducted by Allen & Overy, Baker McKenzie International, Ashurst and India Law Partners were key inputs as was the feedback from commercial banks Mizuho and SMBC. However, it should be noted that the PPP Monitor reflects no official views of those firms and institutions.

We hope that you find the first edition of the PPP Monitor engaging and informative.

A handwritten signature in black ink, reading "Takehiko Nakao". The signature is fluid and cursive, with the first name "Takehiko" and the last name "Nakao" clearly distinguishable.

Takehiko Nakao

President

Asian Development Bank

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This publication was developed by the Office of Public–Private Partnership (OPPP). Its purpose is to provide information on the public–private partnership frameworks and markets in specific developing member countries of the Asian Development Bank (ADB) with the objective of gathering business intelligence for private sector sponsors, and offering a comprehensive tool for public sector policy makers to monitor and improve the enabling environment for private sector participation of sustainable, quality infrastructure projects.

We are thankful to the ADB staff who helped improve the quality of data through their review and verification efforts including Bidyut Saha and Trevor Lewis for Bangladesh; Johanna Boestel, Trevor Lewis, and Guriyot Singh for India; Aziz Haydarov for Indonesia; Asem Chakenova and Yukihiro Shibuya for Kazakhstan; Husain Haider and Marcelo J. Minc for Papua New Guinea; Hubert Jenny, Allen Xio, Fionna Connel and Robert Shoelhammer for the People’s Republic of China; Joven Balbosa, Stephen Schuster and Carlos Gavino for the Philippines; Daniel Wiedmer for Thailand; and Dao Viet Dung and Dominic Mellor for Viet Nam.

Also gratefully acknowledged is the contribution from the staff of the OPPP, including Ryuichi Kaga, former head of OPPP, for initiating the *Public–Private Partnership Monitor*; Alexander N. Jett for spearheading its development with support from Aura Abon, Aida May Tiansay and Aliza Belarmino; as well as Amr Qari, Almazbek Galiev, Jonathan Grosvenor, Srinivas Sampath, Siddhartha Shah and Ferran Vila Planas for providing their valuable inputs.

Takeo Koike
Officer-in-Charge and Director
Office of Public–Private Partnership

DEFINITIONS

Term	Definition
Public–Private Partnership (PPP) ^a	<p>Contractual arrangement between public (national, state, provincial, or local) and private entities through which the skills, assets, and/or financial resources of each of the public and private sectors are allocated in a complementary manner, thereby sharing the risks and rewards, to seek to provide optimal service delivery and good value to citizens. In a PPP, the public sector retains the ultimate responsibility for service delivery, although the private sector provides the service for an extended time. Within Asian Development Bank operations, all contracts such as performance-based contracts (management and service contracts), lease–operate–transfer, build–own–operate–transfer, design–build–finance–operate, variants, and concessions are considered as various forms of PPP.</p> <p>Excluded:</p> <ul style="list-style-type: none"> • contracts involving turnkey design and construction as part of public procurement (engineering, procurement, and construction contracts); • simple service contracts that are not linked to performance standards (those that are more aligned to outsourcing to private contractor staff to operate public assets); • construction contracts with extended warranties and/or maintenance provisions of, for example, up to 5-year postcompletion (wherein performance risk-sharing is minimal as the assets are new and need only basic maintenance); and • all privatization and divestures.
Availability/performance-based payment method	Method of investment recovery in PPP projects, when payments to the private party are made by the contracting authority over the lifetime of a PPP contract in return for making infrastructure or services available for use at acceptable and contractually agreed performance standards.
Currency conversion swap fee	A premium paid by the borrower to settle on a swap in which the parties sell currencies to each other subject to an agreement to repurchase the same currency in the same amount, at the same exchange rate, and on a fixed date in the future.
Direct agreement	An agreement normally made between the project company, the government contracting agency, and the lenders. The agreement usually gives the lenders step-in rights to take over the operation of the key PPP contracts.
Feed-in tariff (FIT)	A FIT is a policy mechanism designed to accelerate investment in renewable energy technologies, by offering long-term purchase agreements for the sale of renewable energy electricity.

Term	Definition
Financial close	The event whereby (i) there is the existence of a legally binding commitment of equity holders and/or debt financiers to provide or mobilize funding for the full cost of the project and (ii) the conditions for funding have been met and the first tranche of funding is mobilized. If this information is not available, construction start date is used as an estimated financial closure date.
Financial equilibrium	The mechanism in PPP agreement for dealing with changes when changes in specified conditions and circumstances trigger compensating changes to the terms of the agreement. Some civil law jurisdictions emphasize economic or financial equilibrium provisions that entitle a partner to changes in the key financial terms of the contract to compensate for certain types of exogenous events that may otherwise impact returns. The partner is protected as the economic balance of the contract must be maintained and adequate compensation paid for damages suffered. Unexpected changes that merit financial equilibrium may arise from force majeure (major natural disasters or civil disturbances), government action, and unforeseen changes in economic conditions.
Government contracting agency	The ministry, department, or agency that enters into a PPP contract with the private sector and is responsible for ensuring that the relevant public assets or services are provided.
Government guarantee	<p>Agreements under which a government agrees to bear some or all risks of a PPP project. It is a secondary obligation that legally binds the government to take on an obligation if a specified event occurs. A government guarantee constitutes a contingent liability, for which there is uncertainty as to whether the government may be required to make payments, and, if so, how much and when it will be required to pay.</p> <p>In practice, government guarantees are used when debt providers are unwilling to lend to a private party in a PPP because of concerns over credit risk and potential loan losses. Government guarantees can also be used to benefit the equity investors in a PPP company when they require protection against the investment risks they bear.</p>
Gross-cost contract	Type of PPP contract arrangement in railway sector, under which all revenues (from fares and other sources) are transferred to the public authority, and the risks absorbed by the developer are confined to those associated with the cost of operations.
Independent power producer (IPP) scheme	<p>A scheme whereby a producer of electrical energy that is not a public utility makes electric energy available for sale to utilities or the general public.</p> <p>A scheme whereby a producer of electrical energy, which is a private entity, owns and/or operates facilities to generate electricity and then sells it to a utility, central government buyer or end users. The IPP invests in generation technologies and recovers its cost from the sale of the electricity.</p>
Interest rate swap fee	A premium paid by the borrower for a hedging contract to convert a floating interest rate into a fixed rate. The two parties agree to exchange interest rate payments based on a notional principal amount, with one typically paying a fixed rate and the other generally paying a floating rate.

Term	Definition
Lender's step-in rights	Lender's rights in project-financed arrangements to "step in" to the project company's position in the contract to take control of the infrastructure project where the project company is not performing.
Material adverse government action	An action by the government that directly and materially affects the private party of a PPP project in performing its obligations under the relevant PPP contract, and which would reasonably be expected to result in a material adverse effect.
Net-cost contract	Type of PPP contract arrangement in railway sector, under which all revenues (from fares and other sources) are retained by the developer, and traffic and revenue risks are absorbed either fully or as per a contractually agreed portion.
Nonrecourse/limited recourse project financing	The financing of the development or exploitation of a right, natural resource, or other asset where the bulk of the financing is to be provided by way of debt and is to be repaid principally out of the assets being financed and their revenues.
Project bond financing	An alternative source of financing infrastructure project by placing bonds.
Project development fund (PDF)	A fund dedicated to reimburse the cost of feasibility studies, transaction advisers, and other costs of project development, to encourage contracting agencies to use high-quality transaction advisers and best practice. PDFs provide the specialized resources needed to conduct studies, to design and structure a PPP, and then to procure the PPP.
Regulatory framework	A framework encompassing all laws, regulations, policies, binding guidelines or instructions, other legal texts of general application, judicial decisions, and administrative rulings governing or setting precedent in connection with PPPs. In this context, the term "policies" refers to other government-issued documents that are binding on all stakeholders, that are enforced in a manner similar to laws and regulations, and that provide detailed instructions for the implementation of PPPs.
Risk allocation matrix	Matrix indicating the allocation of the consequences of each risk to one of the parties in the PPP contract, or agreeing to deal with the risk through a specified mechanism that may involve sharing the risk.
Social infrastructure	Infrastructure that accommodates social services: hospitals, schools and universities, prisons, housing, courts, and so on.
State-owned enterprise	A company or enterprise owned by the government or in which the government has a controlling stake.
Unsolicited bid	A proposal made by a private party to undertake a PPP project. It is submitted at the initiative of the private party, rather than in response to a request from the government.
Viability gap fund	A scheme wherein the projects with low financial viability are given grants (or other financial support from the government) up to a stipulated percentage of the project cost, making them financially viable as PPPs.

^a The definition of PPP in this report adheres to the definition stated in ADB Public–Private Partnership Operational Plan, 2012–2020: Realizing the Vision for Strategy 2020—The Transformational Role of Public–Private Partnerships in Asian Development Bank operations, 2012.

ABBREVIATIONS

Acronym	Definition
ACV	Airports Corporation of Vietnam
ADB	Asian Development Bank
APSCL	Ashuganj Power Station Company Limited
ASA	authorized state agency
ASEAN	Association of Southeast Asian Nations
BEM	Bangkok Expressway and Metro
BEPZA	Bangladesh Export Processing Zones Authority
BERC	Bangladesh Energy Regulatory Commission
BIDA	Bangladesh Investment Development Authority
BLPA	Bangladesh Land Port Authority
BLT	build–lease–transfer
BMA	Bangkok Metropolitan Authority
BMO	Bangkok Metropolitan Authority
BOI	Board of Investment
BOO	build–operate–own
BOT	build–operate–transfer
BOOT	build–own–operate–transfer
BPC	Bangladesh Petroleum Corporation
BPDB	Bangladesh Power Development Board
BPJT	Badan Pengelola Jalan Tol
BPNG	Bank of Papua New Guinea
BPS	basis points
BREB	Bangladesh Rural Electrification Board
BTO	build–transfer–operate
BTS	Bangkok Transit System
BTSC	Bangkok Mass Transit System Corporation
BVGL	business viability guarantee letter
CAG	Comptroller and Auditor General
CAO	contract–add–operate
CCEA	Cabinet Committee on Economic Affairs
CPA	Chittagong Port Authority

Acronym	Definition
CPRB	Construction Project Review Board
CPSE	Central Public Sector Enterprise
CPGCBL	Coal Power Generation Company of Bangladesh Limited
DBFOT	design–build–finance–operate–transfer
DEA	Department of Economic Affairs
DENR	Department of Environment and Natural Resources
DGCA	Director General of Civil Aviation
DGHS	Directorates, General of Health Services
DIPP	Department of Industrial Policy and Promotion
DOT	develop–operate–transfer
DOTC	Department of Transport and Communications
DOTR	Department of Transportation
DPWH	Department of Public Works and Highway
DRC	Development and Reform Commission
EBRD	European Bank for Reconstruction and Development
ECA	export credit agency
ECB	External Commercial Borrowings
ECC	Environmental Clearance Certificate
EGAT	Electricity Generating Authority of Thailand
EGCB	Electricity Generation Company of Bangladesh
EIA	Environmental impact assessment
EIP	Electricity Industry Policy
EMRD	Energy & Mineral Resources Division
EPC	engineering procurement and construction
EPZ	export processing zones
EVN	Electricity of Viet Nam
EXAT	Expressway Authority of Thailand
FCL	Full container load
FDI	foreign direct investment
FEMA	Foreign Exchange and Management Act
FIPB	Foreign Investment Promotion Board
FIT	feed-in tariff
GCA	government contracting agency
GOCC	government-owned and/or -controlled corporation
GOI	Government of India
HAM	hybrid annuity model
HPH	Hutchinson Port Holdings
HPP	hydroelectric power plant
ICC	Investment Coordination Committee
ICAO	International Civil Aviation Organization

Acronym	Definition
ICCC	Independent Consumer and Competition Commission
ICLG	International Comparative Legal Guides
ICT	information and communication technology
IDCOL	Infrastructure Development Company Limited
IFB	invitation for bid
IFI	international financing institution
IIPDF	India Infrastructure Project Development Fund
IIGF	Indonesia Infrastructure Guarantee Fund
IOC	international oil companies
IPC	Indonesian Port Corporations
IPP	independent power producer
IRR	implementing rules and regulations
IWT	inland water transport
JICT	Jakarta International Container Terminal
KCH	Kumul Consolidated Holdings
KEGOC	Kazakhstan Electricity Grid Operating Company
KPPIP	Committee for Acceleration of Prioritized Infrastructure Development
KPI	key performance indicator
KTZ	Kazakhstan Temir Zholy
LGU	local government unit
MCA	Model Concession Agreement
MEA	Metropolitan Electricity Authority
MIGA	Multilateral Investment Guarantee Agency
MOCA	Ministry of Civil Aviation
MOE	Ministry of Energy
MOEMR	Ministry of Energy and Mineral Resources
MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MOPME	Ministry of Primary and Mass Education
MOPNG	Ministry of Petroleum and Natural Gas
MORTH	Ministry of Road Transport and Highway
MOS	Ministry of Shipping
MOT	Ministry of Transport
MOTC	Ministry of Transport and Communications
MOU	memorandum of understanding
MHA	Ministry of Home Affairs
MNRE	Ministry of New and Renewable Energy
MPA	Mongla Port Authority
MPT	major port trust
MRTB	Ministry of Road Transport and Bridges

Acronym	Definition
MSW	municipal solid waste
MWSS	Metropolitan Waterworks and Sewerage System
NBTC	National Broadcasting and Telecommunications Commission
NDRC	National Development and Reform Commission
NEC	National Executive Council
NEDA	National Economic and Development Authority
NEP	National Energy Policy
NEPC	National Energy Policy Council
NEQA	National Environmental Quality Act
NGO	nongovernment organization
NHAI	National Highway Authority of India
NHDP	National Highway Development Project
NPC	National Power Corporation
NPMP	National Port Master Plan
NTS	National Transport Strategy
NWPGCL	North West Power Generation Company Limited
NWRB	National Water Resources Board
O&M	operation and maintenance
ONEP	Office of Natural Resources and Environmental Policy and Planning
PAT	Port Authority of Thailand
PDAM	Perusahaan Daerah Air Minum
PDF	project development fund
PDMF	Project Development and Monitoring Facility
PEA	Provincial Electricity Authority
PGCB	Power Grid Company of Bangladesh
PLN	Perusahaan Listrik Negara
PNGPL	PNG Ports Corporation Limited
PPA	power purchase agreement
PPL	PNG Power Limited
PPP	public–private partnership
PPPAC	Public Private Partnership Approval Committee
PPPGB	PPP Governing Board
PPPTAF	PPP technical assistance fund
PPSU	Private Participation in State Undertaking
PRC	People’s Republic of China
PWD	Public Works Department
QRPP	quick rental power plants
RBI	Reserve Bank of India
REC	renewable energy source
RERED	Rural Electrification and Renewable Energy Development

Acronym	Definition
RFP	request for proposal
RFQ	request for qualification
ROO	rehabilitate–own–operate
ROT	rehabilitate–operate–transfer
SEC	Securities and Exchange Commission
SECI	Solar Energy Corporation of India
SEPO	State Enterprise Policy Office
SERC	State Electricity Regulatory Commission
SEZ	special economic zone
SIA	social impact assessment
SIP	Strategic Investment Plan
SHS	Solar home systems
SOE	state-owned enterprise
SPP	small power producer
SPV	special purpose vehicle
SREDA	Sustainable and Renewable Energy Development Agency
SRT	State Railways of Thailand
SSF	Strategic support fund
SWM	solid waste management
TAMP	Tariff Authority of Major Port
TBD	to be decided
THC	terminal handling charge
TOT	transfer–operate–transfer
TransCo	National Transmission Corporation
TRB	Toll Regulatory Board
ULB	urban local body
UMPP	Ultra Mega Power Project
VFM	value for money
VGF	viability gap funding
VSPP	very small power producer
WASA	Water Supply and Sewerage Authority
WPA	water purchase agreement
WPI	wholesale price index
WTO	World Trade Organization

Weights and Measures

B	baht
D	dong
GW	gigawatt
km	kilometer
m	meter
MW	megawatt
m ³	cubic meter
P	peso
Rp	rupiah
Rs	rupee
T	tenge
CNY	yuan

**Currency Units
(as of May 2017)**

P1.00 = \$0.02	\$1.00 = P50.78
D1.00 = \$0.000044	\$1.00 = D22,698
Rp1.00 = \$0.000075	\$1.00 = Rp13,315
Rs1.00 = \$0.015435	\$1.00 = Rs64.78
B1.00 = \$0.03	\$1.00 = B33.56
T1.00 = \$0.0031	\$1.00 = T325
CNY1.00 = \$0.15	\$1.00 = CNY6.76

GUIDE TO UNDERSTANDING THE REPORT

Topic Coverage

For each of the developing member countries covered, the information and data are organized into the following topic clusters:

Table 1: Country-Level Topics

Topic	Description
Regulatory framework	Intends to capture the progress of a country's regulatory framework in relation to the governing PPP type of arrangement against the number of subcategories: <ul style="list-style-type: none"> • existence of dedicated PPP laws • allowed PPP types • eligible infrastructure sectors • treatment of unsolicited bids • state-owned enterprises' participation in PPP • land rights • environmental and social issues • foreign investor participation restrictions • dispute resolution and enforcement mechanism • lender's security rights • termination and compensation • government support • standardized PPP contracts used in the market
Institutional capacity for implementation	Aims to monitor a capacity of a country to plan, prepare, and procure PPP projects. It has the following subcategories: <ul style="list-style-type: none"> • PPP institutional set-up • PPP project planning • PPP project preparation • risk allocation • PPP project procurement
PPP market maturity	Illustrates a PPP market maturity by counting the number of PPP projects that achieved financial close, number of projects currently in preparation and procurement
Financial facilities	Aims to monitor availability and range of financial products for PPP projects, such as commercial bank loans, hedging, and bond financing.

PPP = public-private partnership.

Table 2: Sector-Level Topics

Topic	Description
Regulatory framework	Sector-specific regulations and regulators that have an impact on the success of a PPP project, for example, such as regulations of tariffs and service levels.
Institutional capacity for implementation	Aims to illustrate a capacity of a country to plan, prepare, and procure PPP projects in each sector.
Features of past PPP projects	Presents features of past PPP projects realized in a sector on various topics: <ul style="list-style-type: none"> • PPP projects that achieved financial close • foreign investor participation • government support • payment mechanism • tariff levels • typical risk allocation • performance requirements
Local capabilities	Comments on availability of contractors and operators in the local market in each sector.
Project financing	Provides statistics on the type of PPP project financing realized for past PPP projects in a sector.
Challenges	Comments on challenges for PPP progress in each sector, as well as discusses currently implemented tackling measures (if available).

PPP = public–private partnership.

Each of the topics and associated subtopics presented in Tables 1 and 2 are characterized by qualitative and quantitative indicators. Qualitative indicators take the form of a question, to which “yes” or “no” answers can be given. Quantitative indicators are represented in numbers, ratios, investment value, and duration.

A detailed list of all indicators with explanations is provided in the Appendix.

Data Presentation in the Report

With regard to presentation, there are two types of progress indicators:

- Indicators reflecting features of current policies and regulations. These are represented in the report in the tables with an **orange color string**.
- Indicators reflecting what happens in practice. These are represented in the report in the tables with a **blue color string**.

An example is shown below:

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✖	✓	✓
Number of PPP projects implemented under the latest PPP Law	n/a	0	6

In addition, for ease of perception, some indicators are color coded using a traffic light pattern, where **green** is considered positive based on internationally recognized good practice, **red** is considered negative, while **yellow** represents neither strongly positive nor negative.

Where the information has not been available, “no data” is stated in the report.

Where an indicator is considered not applicable, “n/a” is stated in the report.

Time Periods

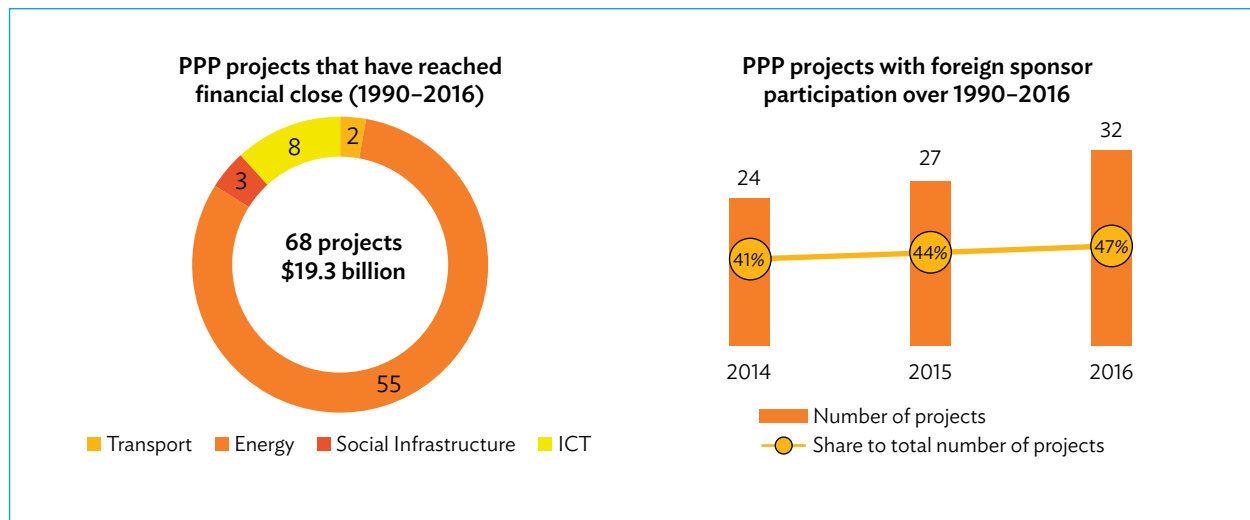
Research has been carried out over the period of September 2016–February 2017, with the aim of reflecting the status as at the end of 2016. Therefore, some indicator data may have changed between that period and the date of publication of the report. Pipeline data is effective as of June 2017.

In country-level sections, quantitative data in relation to the number of projects reflect the cumulative number of projects over the periods of 1990–2014, 1990–2015, and 1990–2016. Otherwise, data represent the status at each individual year.

In sector-level sections, quantitative data in relation to number of projects reflect the cumulative number of projects over the period of 1990–2016.

1. BANGLADESH

The Government of Bangladesh, recognizing the need to improve or develop infrastructure, has been putting emphasis on PPP in recent years. A Policy and Strategy for PPP was introduced in 2010 that improved the regulation of PPP projects and established an Office of PPP to promote PPPs but with no statutory authority. Subsequently, a PPP Act was enacted in 2015 aiming to facilitate the development of core sector public infrastructure and services. Overall, the PPP legal framework is reasonably comprehensive and enables a wide range of provisions to mitigate private sector risk. Following the PPP Act, the institutional set-up improved as the Office of PPP became the PPP Authority under the Office of the Prime Minister with responsibilities, including appointing advisors, developing and approving PPP contracts and a new PPP unit under the Ministry of Finance who approve government funding to a PPP.



A further significant improvement in institutional arrangements followed the publication of the Procurement Guidelines for PPP Projects in 2016, which sets out clear and comprehensive requirements for project preparation documents and clear and streamlined procedures for PPP procurement, including improved transparency of information to bidders.

This generally supportive regulatory and institutional framework is reflected in the significant number of closed PPP projects. Most of the projects to date have been in thermal power generation and are not categorized as PPPs in Bangladesh. There have also been projects successfully implemented in the social infrastructure, transport, and information and communication technology (ICT) sectors.

A list of 44 approved projects published by the PPP Authority indicates a promising PPP pipeline, which includes social infrastructure and transport in addition to a number of IPP projects published separately.

1.1 Country Profile

1.1.1 Regulatory Framework

1.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects implemented under the latest PPP law	no data	0	0

The Bangladesh PPP Act (or PPP Law) was approved by the Parliament and enacted on 16 September 2015. The PPP Law replaced the Policy and Strategy for PPP introduced in 2010. The objective of the PPP Law is to facilitate the development of core sector public infrastructure and services vital for the people of Bangladesh.

The PPP Law has seven chapters:

- Chapter 1 includes the preliminaries and definitions.
- Chapter 2 provides for the establishment of a PPP Authority and its role.
- Chapter 3 determines the provisions for the identification and approval of PPP projects.
- Chapter 4 broadly covers the selection of a private partner to develop and execute PPP projects, with the detailed process set out in the Procurement Guidelines for PPP Projects, 2016 (PPP Procurement Guidelines).
- Chapter 5 covers transparency, corruption, and conflict of interest.
- Chapter 6 identifies some of the key issues that should be covered in a PPP contract. It also provides for land access rights and the right of the private partner to impose levy on users for accessing public services or purchasing public goods and includes provisions relating to the governing law and dispute resolution process to be adopted under a PPP contract.

- Chapter 7 includes miscellaneous measures covering issues such as grievance procedures, confidentiality, etc.

1.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in the PPP regulations	no data	no data	no data

Although specific types of PPP contracts are not expressly defined in the available documentation, based on the projects included in World Bank's Private Participation in Infrastructure Database, concession contracts, such as build-own-operate (BOO) and build-operate-transfer (BOT), and management and lease contracts have been used on different PPP projects in Bangladesh.

1.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	ICT	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social Infrastructure	✓	✓	✓

Those indicators marked in yellow in the table above reflect the fact that in 2014 while these sectors were defined in the policy they were not specifically enabled under a law until 2015.

Whereas the Policy and Strategy for PPP (2010) defined the specific sectors eligible for PPP, the PPP Law 2015 takes a less prescriptive approach and instead entitles the relevant contracting authority to enter in a PPP contract for the construction or reconstruction of "Infrastructure." Infrastructure is very broadly defined as "any new or existing, physical or nonphysical infrastructure in the public sector through which public goods or public services or both are created or provided."

It should be noted that in Bangladesh, energy sector IPPs are regulated by separate laws and generally follow different approval and procurement method (see section 1.5 on the governance of energy projects).

1.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	none	none	none
Project capital investment size	none	none	none

The Policy and Strategy for PPP 2010 classified PPP projects by investment size (as identified in the pre-feasibility study) into large, medium, and small projects. However, this distinction has not been carried through into the PPP Act or the PPP Procurement Guidelines.

Although a threshold on the capital investment size is not in place, under the PPP Law or the PPP Procurement Guidelines, the PPP Screening Manual (2013) sets a condition in relation to the project size (Screening Condition 5: Sufficient Size) to ensure that the transaction delivery costs are not disproportionate to the project size.

1.1.1.5 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	✓	✓	✓
Swiss challenge	✓	✓	✓
Compensation of the project development cost	no data	no data	✗
Government support for land acquisition and resettlement cost	✓	✓	✓
Government support in the form of viability gap funding and guarantees	✓	✓	✓

According to the Guidelines for Unsolicited Proposals (2016), the private sector proponent can submit a concept note—setting out the proposed PPP project scope and its past relevant experience—to the contracting authority for review and consideration with a copy to the applicable line ministry and the PPP Authority. If a concept note obtains the necessary approvals, then the applicable proponent will be asked to submit its detailed unsolicited proposal. However, the government is not obliged to consider the proposal.

The mode of competitive bidding for unsolicited proposals may include a bonus system or other appropriate methods that may be proposed by the PPP Authority and approved by the approving authority. According to paragraph 17 of the Guidelines for Unsolicited Proposals (2016), the bonus for the unsolicited bidder would be equivalent to 7% of the evaluation score assessed by the evaluation committee for the proposal or bid submitted by the unsolicited bidder. In previous guidelines, that is, the PPP Unsolicited Proposal

Procedures 2014, a Swiss Challenge System was also included in the mode of competitive bidding.

With regard to any project development costs, paragraph 18 (d) of the Guidelines for Unsolicited Proposals (2016) expressly states that all costs and expenses associated with the preparation and submission of the unsolicited proposal or any other costs would be fully borne by the original proponent.

It is noted that no specific reference is made to government support for land acquisition and resettlement costs or viability gap funding and guarantees in the Guidelines for Unsolicited Proposals (2016); however, the PPP Procurement Guidelines shall apply to unsolicited proposals subject to incorporation of the requirements of the unsolicited proposal guidelines.

1.1.1.6 State-owned enterprise participation

	2014	2015	2016
Is a state-owned enterprise (SOE) allowed to participate in a PPP as a counterparty to the government?	no data	no data	no data
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	✓	✓	✓
Cumulative PPP projects with SOE participation (number)	no data	no data	2
Cumulative PPP projects with SOE participation (share in total number of PPP projects)	no data	no data	3%

Information on SOE participation in PPP projects is not available. However, it is noted that a joint venture between a private firm and an SOE was awarded a PPP project in the energy (thermal power generation) sector. SembCorp Industries (owning 71% stake in the project) and state-owned North West Power Generation Company (holding the remaining 29%) are the project sponsors for the Sirajganj 414 MW Dual Fuel Combined Cycle Power Plant, with the implementation and other agreements signed in August 2016.

There is no special regulation regarding land rights under the PPP framework in Bangladesh; therefore, the general law will apply. The 1972 Constitution (lastly amended in 2011) provides that all citizens shall have the right to hold, acquire, transfer, and dispose of property; however, the 1950 State Acquisition and Tenancy Act sets a 33-acre land ceiling on private landowners.

1.1.1.7 Land rights

	2014	2015	2016
Which of the following is permitted to the private partner?			
Transfer land lease/use/ownership rights to third party	✓	✓	✓
Use leased/owned land as collateral	✓	✓	✓
Mortgage leased/owned land	no data	no data	no data
Is there any legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than the government or the private partner?	no data	no data	no data
Is there a land registry/cadastre with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to the private partner:			
Appraisal of land value	✓	✓	✓
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✗	✗	✗
Immovable property on land	✓	✓	✓
Plots classification	✗	✗	✗

The International Comparative Legal Guides for Bangladesh state that in practice, there is a general understanding that foreign entities cannot own land (based on the Land Office refusing to allow registration to any person not holding a Bangladeshi identification) and, as such, land has to be owned by foreigners through incorporating a company in Bangladesh. The International Comparative Legal Guides also note that in many cases, land owned by municipal corporations is leased out to interested parties for long tenures with restrictions in respect of the transfer of a lease to a foreign entity.

According to the Investment Policy Review by UNCTAD (2013), access to land titles and land registration are subject to many laws and regulations, including the Transfer of Property Act of 1882, the Registration Act of 1908, and the Land Reforms Board Act of 1989. This sometimes makes it complex, long, and costly to administer and find relevant information for a piece of land.

The Bangladesh Registration Rules (2014) stipulate that, inter alia, the land value, owners, boundaries, and immovable property on land should be captured during land registration.

The Environment Conservation Act (1995) establishes the Department of Environment which enforces the Environmental Clearance Certificate (ECC) scheme. The ECC scheme makes it compulsory for any industrial project to obtain a permit before operating. The Environmental Conservation Rules of 1997 define the procedures that industrial investors have to follow in order to obtain an ECC.

1.1.1.8 Environmental and social issues

	2014	2015	2016
Is there a local regulation establishing process for environmental impact assessment?	✓	✓	✓
Is there a legal mechanism for the private partner to limit environmental liability for what is outside of its control or caused by third parties?	no data	no data	no data
Is there a local regulation establishing process for social impact assessment?	✓	✓	✓
Is there involuntary land clearance for PPP projects?	✓	✓	✓

Furthermore, the feasibility study of a PPP project includes an overview of environmental and social issues that may need to be addressed (Procurement Guidelines for PPP projects 2016) and an environmental impact assessment (EIA) is required by legislation to be carried out (PPP Screening Manual 2013). An EIA assesses the direct and indirect effects of a project on humans, fauna, and flora; soil, water, air, climate, and the landscape; and material assets and the cultural heritage.

There is no special regulation regarding land clearance for PPP projects; however, the Government of Bangladesh has the right, for the benefit of the public, to take private ownership of land by compulsory purchase. This practice has been used for a number of projects, including social infrastructure and transportation projects.

Pursuant to Paragraph 1, Chapter 9, of The Guidelines for Foreign Exchange Transactions (“Forex Guidelines”), foreign investors are free to make investments in Bangladesh except for a few reserved sectors such as defense equipment and machinery, production of nuclear energy, security, printing, mining, etc.

There is no limitation pertaining to foreign equity participation in nonreserved sectors.

An entity carrying out a project in a nonreserved sector may therefore be set up in collaboration with local investors or may be wholly owned by the foreign investors. Therefore, the selected private partner can be a local entity, an entity with 100% foreign ownership, or a foreign owned local entity.

It is understood that a number of PPPs that have reached financial close were exclusively owned by foreign enterprises, for example, in the transport sector (airports and ports), in the energy sector (thermal power generation), and in the social infrastructure sector (health).

Is there any restriction for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	yes	yes	yes
Currency conversion	yes	yes	yes

1.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects (%)								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads	100	100	100	Power generation	100	100	100	
Railways	100	100	100%	Power transmission	100	100	100	
Ports	100	100	100	Power distribution	100	100	100	
Airports	100	100	100	Oil and gas	100	100	100	
Water and wastewater				Municipal solid waste	100	100	100	
Bulk water supply and treatment	100	100	100	Social infrastructure				
Water distribution	100	100	100	Health care infrastructure	100	100	100	
Wastewater treatment	100	100	100	Health care services	100	100	100	
Wastewater collection	100	100	100	Education infrastructure	100	100	100	
ICT				Education services	100	100	100	
Fixed-line infrastructure	100	100	100	Government buildings	100	100	100	
Fixed-line services	100	100	100	Prisons and correction centers	100	100	100	
Wireless/mobile infrastructure	100	100	100	Social housing	100	100	100	
Wireless/mobile services	100	100	100	Sport and leisure facilities	100	100	100	

With regard to the use of foreign labor, nationals of all foreign countries, with the exception of Israel, are eligible for work permits in Bangladesh as long as they are aged 18 years or older. However, per the Board of Investment (BOI) and Bangladesh Export Processing Zones Authority (BEPZA) guidelines, expatriate work permits can normally be granted only for posts that require skills and expertise that is not available locally. The guidelines also specify that the ratio of expatriate to national employees in any company is capped at 1:20 in industrial companies or 1:5 in commercial offices. In addition, according to the Investment Policy Review by UNCTAD (2013), the regulatory framework on the issue of work permits lacks transparency and clarity. The laws and regulations that are relevant include the Foreigners Act of 1946, the Foreigners Order of 1951, the Registration of Foreigners Act of 1939, the Bangladesh Control of Entry Act of 1952, and guidelines from the BOI and BEPZA.

The key trade policy in Bangladesh is covered in the Export Policy 2009–2012, the Import Policy Order 2009–2012, the Imports and Exports (Control) Act of 1950, and some sectoral policies. According to the Investment Policy Review by UNCTAD (2013), approval of imports of machinery and equipment has to be sought from BOI. However, exemptions of duties on the import of machinery and spare parts (for a period of 12 years, or up to 10% of the total capital invested) are offered by the government in certain projects, for example, power generation. Moreover, companies located in the export processing zones (EPZs) benefit from the standards exemptions of import duties.

The Foreign Private Investment Promotion and Protection Act (FPIPPA) 1980 is the key law that enables the government to regulate foreign investments and provides a fair and equitable treatment for foreign investors, the usual protections in relation to expropriation, and provisions for foreign exchange. The foreign exchange regulations may restrict repatriation of divestment proceeds to the net asset value, with repatriation of capital and capital gains being subject to strict reporting requirements or authorization by Bangladesh Bank.

	2014	2015	2016
Cumulative PPP projects with foreign sponsor participation (number)	24	27	32
Cumulative PPP projects with foreign sponsor participation (share in total number of PPP projects)	41%	44%	47%

It is noted that the number of PPP projects in Bangladesh with foreign sponsor participation could be higher, as for a number of projects, ownership information is not available.

1.1.1.10 Dispute resolution and enforcement mechanism

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?	✓	✓	✓
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	✓	✓	✓
Has the country signed the New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓

The PPP Act expressly provides that disputes arising from application or interpretation of the provision of the PPP agreement would be settled through mutual consent of the parties; or, if the dispute is not settled, intervention of a neutral expert mediator or arbitration would be resorted to. Furthermore, disputes may only be settled as described above irrespective of other acts or enactments, by means of national or international arbitration rules, and the seat of arbitration would be in Dhaka; however, in special circumstances through consent, the seat may be in other countries as well. However, remedy from national or international courts cannot be sought before invoking the dispute resolution process, as it takes precedence over any acts or enactments.

Prior to the PPP Act in 2014, dispute resolution mechanism for PPPs was not expressly defined in the regulations, although it could be negotiated on a contract basis.

1.1.1.11 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights:			
Security over the project assets	✓	✓	✓
Security over the land on which they are built (land-use right)	✓	✓	✓
Security over the shares of a PPP project company	✓	✓	✓
Can there be a direct agreement between the government and lenders ^a	✓	✓	✓
Do lenders get priority in the case of insolvency	✓	✓	✓
Can lenders be given step-in rights ^b	✓	✓	✓

^a There is no explicit regulation, but there are provisions to give comfort to lenders under the Foreign Private Investment Act 1980.

^b Footnote a.

According to the Central Bank of Bangladesh, the policy framework for foreign investment in Bangladesh is based on the Foreign Private Investment (Promotion & Protection) Act 1980, which ensures legal protection to foreign investment in Bangladesh against nationalization and expropriation. It also guarantees nondiscriminatory treatment between foreign and local investment, and repatriation of proceeds from sales of shares and profit.

It is not possible to give asset security by means of a general security agreement, due to the requirement of perfection of security, which involves registration, notification, or recording with separate regulators or parties. An agreement is required in relation to each type of asset, notwithstanding there are different forms of security available such as mortgage over immovable property, hypothecation over present and future book debts, moveable properties and plant and machinery, pledge over shares, letters of credit, and corporate or personal guarantees.

Security over shares can be taken by way of pledge of shares, by executing a share pledge agreement. For the purpose of creating a security interest by way of pledge in favor of the lender, the chargors are required to deposit with a third party:

- original certificates in respect of the shares; and
- blank share transfer forms executed by each of the chargors, along with verification of the same by the borrower.

Secured creditors have priority over all other creditors and claimants except floating charge holders as per the Companies Act 1994 and the Bankruptcy Act 1997. The debts are payable to the fullest extent unless the assets are insufficient to meet them, in which case they are abated in equal proportions.

1.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to the private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✓	✓	✓
Force majeure	✓	✓	✓
Does the law enable the concept of economic/financial equilibrium?	no data	no data	no data
Does the law enable compensation payment to the private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	✓	✓	✓
Change in law	✓	✓	✓

The indicators marked in yellow in the table above reflect the fact that the regulatory framework does not expressly regulate material adverse government action, force majeure, or change in law. Furthermore, Chapter 6 of the PPP Act on terms and conditions of partnership contract does not state that the contract shall contain provisions for grounds for termination. However, compensation for such events potentially can be negotiated within the contractual terms agreed between the parties in the PPP agreement.

1.1.1.13 Government support

	2014	2015	2016
Is project development fund (PDF) available?	✓	✓	✓
Land acquisition support from the government			
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on time frame to complete land acquisition (days)	✗	✗	✗
Is there a dedicated agency to streamline land acquisition?	✗	✗	✗
Exemption from/reduction of land-use fees	no data	no data	no data
VGF	✓	✓	✓
Limits to VGF as a percentage of project's capital cost	30%	30%	30%
Government guarantees:^a			
Currency inconvertibility and transfer risk	✗	✗	✗
Foreign exchange risk	✗	✗	✗
War and civil disturbance risk	✗	✗	✗
Breach of contract risk	✗	✗	✗
Regulatory risk	✗	✗	✗
Expropriation risk	✗	✗	✗
Government payment obligation guarantee ^b	✓	✓	✓
Credit guarantees	✗	✗	✗
Minimum demand/revenue guarantee	✗	✗	✗
Availability-/performance-based payment contracts^c	✓	✓	✓
Tax subsidies	✓	✓	✓

IPP = independent power producer, PPA = power purchase agreement, VGF = viability gap funding.

^a Indicators marked red if the regulation do not contain any provision for a particular type of guarantee.

^b Regulations are silent on this, but some energy IPP projects received payment guarantees, therefore it is understood that this type of guarantee can be provided on a case-by-case basis.

^c Regulations are silent on this; however, all energy generation projects have been implemented on availability payment basis under PPA.

Details of available government support for PPP projects are listed in Table 3.

Table 3: Details of Available Government Support for PPP Projects in Bangladesh

Government Support Type	Comments
PDF	PPPTAF was established in 2012 to provide early-stage project development funding support to sanctioned PPP projects.
Land acquisition and resettlement	The government support for PPP projects may also take the form of acquisition or requisition of land, resettlement of populations, or the provision of utilities. Examples where the government was responsible for land acquisition are the Bibiyana 300–450 MW Gas-Fired Combined Cycle Power Project and the Dhaka Elevated Expressway Project. According to the World Bank Benchmarking of PPP Procurement in Bangladesh, the average number of calendar days that the procuring authority spends on obtaining any permits, land, and/or right of way that the procuring authority must provide according to the regulatory framework is 270 days.
VGF	<p>The PPP Law sets out the following forms of financial participation of the government in the PPP projects. The government may provide financing against the following activities of PPP projects:</p> <ul style="list-style-type: none"> • technical assistance financing, • viability gap financing, • financing against equity and loan, • financing against linked component, and • financing against any other activities prescribed by the PPP Authority <p>According to the Guideline for VGF for PPP Project (2012), the VGF is applicable only to BOT projects, with the total amount in the form of capital grant not exceeding 30% of total estimated project cost and the amount of VGF being equivalent to the lowest offer in the competitive tender for capital subsidy or annuity. Furthermore, in order for a PPP project to be eligible for VGF, the following criteria should be met:</p> <ul style="list-style-type: none"> • the project is implemented through competitive tendering process, • the ERR of the project meets the threshold level specified by the MOF PPP Unit, • the project is in one of the sectors stipulated in the Policy and Strategy for PPP (2010) (now repealed and replaced), and • the project provides a service against payment of a predetermined tariff or user charge.
Government guarantees	PPP regulations are silent on the provision of government guarantees. In practice, a number of energy generation projects received payment guarantees under PPAs; however, in other sectors, guarantees have not been provided.
Availability-based payment mechanism	PPP regulations are silent on the possibility of availability-based payment method. In practice, all energy generation projects have been implemented on availability payment basis under PPA. In other sectors, this payment method has not been used.
Tax subsidies	The government is offering fiscal incentives to PPP investors, such as reduced import tax on capital goods and various tax holidays, with the aim of reducing the cost of implementing the project and enhancing the viability of the project. Depending on the location and the sector, the incentives may vary.

BOT = build–operate–transfer, ERR = economic rate of return, MOF = Ministry of Finance, PDF = project development fund, PPA = power purchase agreement, PPP = public–private partnership, PPPTAF = PPP technical assistance fund, VGF = viability gap funding.

Source: Mott MacDonald.

Cumulative PPP projects that received government support	2014	2015	2016
VGF	0	0	0
Government guarantees	22	22	22
Availability-/performance-based payment basis	49	50	55

Source: Mott MacDonald.

No data regarding PPP projects that received government support in the form of land acquisition have been available. The numbers of the PPP projects undertaken on availability/performance payment basis entirely refer to energy IPP projects. Similarly, government payment guarantees have been provided for certain energy projects.

1.1.1.14 Standard contracts

	2014	2015	2016
What standardized contracts are available and used in the market?			
PPP/concession agreement	x	x	x
Power purchase agreement	✓	✓	✓
Capacity take-or-pay contract	x	x	x
Fuel supply agreement	✓	✓	✓
Transmission and use of system agreement	x	x	x
Performance-based operation and maintenance contract	x	x	x
Engineering procurement and construction contract	x	x	x

World Bank Benchmarking of PPP Procurement in Bangladesh confirms that standardized PPP model contracts and/or transaction documents have been developed.

1.1.2 Institutional Capacity for Implementation

Indicators marked in yellow above reflect the fact that while a PPP unit existed in 2014, it was only institutionalized as a statutory authority in 2015 following the PPP Act.

1.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP Unit)?	✓	✓	✓
What role does the PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, running PDF)	✓	✓	✓
Appraisal of PPP project feasibility studies	✓	✓	✓
Approval of PPP projects	✗	✗	✗
Procurement	✗	✗	✓
Managing, monitoring, and enforcing ongoing PPP contracts	✗	✗	✓

PPP promoting Institutions in Bangladesh are provided in Table 4.

Table 4: PPP-Promoting Institutions in Bangladesh

Institution	Role in Promoting PPP
Cabinet Committee on Economic Affairs	Inter alia, providing in-principle approval and final approval for the contracting authority to enter into a contract with the preferred bidder and/or the project company.
PPP Authority (Office of PPP)	Initially established as Office of PPP in September 2010 under the Prime Minister's Office to promote the PPP concept. Under the 2015 PPP Act, Office of PPP was institutionalized as a statutory authority. Its powers and functions are set out in the PPP Act and include providing decisions on the financial participation and provision of incentives by government; framing technical and best practice requirements, prequalification and bid documents; approving the selected bidder; approving the termination of PPP contracts; and approving model PPP contracts.
Line ministry/implementing agency (or contracting authority)	Responsible for the identification, formulation, prequalification, tendering, contract award, and overseeing the implementation of PPP projects on the basis of the PPP contract.
MOF PPP Unit	Established in the Finance Division of the Ministry of Finance; responsible for overseeing the fiscal viability of PPP projects and sanctioning support funding for their development and financing, including managing the three key funds: the PPPTAF, viability gap fund, and Bangladesh Infrastructure Finance Fund.

MOF = Ministry of Finance, PPP = public-private partnership, PPPTAF = PPP technical assistance fund.

Sources: Government of Bangladesh. 2016. Procurement Guidelines for PPP Projects. http://www.pppo.gov.bd/download/ppp_office/Procurement-Guideline-for-PPP-Projects-2016_and_Guidelines-for-Unsolicited-Proposals-2016.pdf; Government of Bangladesh. 2015. PPP Act. [http://www.pppo.gov.bd/download/ppp_office/PPP_Law_2015_\(Approved_Translation\).pdf](http://www.pppo.gov.bd/download/ppp_office/PPP_Law_2015_(Approved_Translation).pdf); PPP Procurement Guidelines. www.pppo.gov.bd/; Public-Private Partnerships Authority of the People's Republic of Bangladesh. <http://www.pppo.gov.bd/>

1.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✓	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	✓	✓	✓
Is there any screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	✓	✓	✓

A list of Cabinet Committee on Economic Affairs (CCEA)-approved projects under the PPP Program is advertised in the PPP Authority's website. These include:

- 13 PPP projects in the transportation sector,
- 1 PPP project in the energy sector, and
- 30 PPP projects in the social infrastructure sector, which includes health, social housing, economic zones, tourism, etc.

In addition, many IPPs (considered to be a form of PPP) are listed in the Renewable Energy Master Database of the Sustainable & Renewable Energy Development Authority.

The PPP Policy and Guidelines 2010 sets out a provision for the Sectoral Coverage of PPP where a number of priority sectors for PPPs have been identified. These are areas that have been identified as being priority areas for delivering PPP projects, and any project meeting this requirement will be deemed to have met the requirement for sector coverage. According to the PPP Screening Manual (2013), where projects do not fall within any of the listed areas for Sectoral Coverage of PPP, line ministries/implementing agencies will need to demonstrate that the proposed project is embedded in a sector policy or a sector master plan.

According to the PPP Authority, the PPP Technical Assistance Fund (PPPTAF) is established to provide early-stage project development funding support to sanctioned PPP projects. The PPPTAF covers the cost of professional consultants and advisors needed to ensure that the government achieves appropriate risk allocation in PPP projects and pre-develops projects to a standard that attracts maximum interest from investors and lenders.

According to the Procurement Guideline for PPP Projects (2016), the scope of a feasibility study may include, but shall not be limited to, the following:

- technical issues,
- commercial and financial considerations,
- environmental factors,
- social issues,
- linked projects, and
- any other issues that may be deemed relevant by the PPP Authority or the contracting authority.

1.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages	2	2	2
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	no data	no data	✓
Financial feasibility	no data	no data	✓
Legal feasibility	no data	no data	no data
Environmental and social sustainability	no data	no data	✓
Value for money assessment	no data	no data	✓
Fiscal affordability assessment	no data	no data	✓
PPP structuring and risk allocation	no data	no data	✓
Initial market testing	no data	no data	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	1	1	1
Is the approval from the Ministry of Finance or equivalent required before commencement of procurement?	✓	✓	✓
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	✓	✓	✓

Although not expressly stated in the Procurement Guideline for PPP Projects (2016), the World Bank Benchmarking of PPP Procurement in Bangladesh mentions that value for money and fiscal affordability assessments are carried out as part of the project development; and the PPP Knowledge Lab makes reference to risk identification and market assessment during the process of the preparation of the PPPs.

According to the Procurement Guideline for PPP Projects (2016), the contracting authority or the PPP Authority may appoint external transaction adviser(s) and/or consultant(s), use any internal and/or in-house experts and/or any other resources retained by the PPP Authority or the contracting authority for different purposes that may include carrying out the feasibility study, marketing, supporting the procurement process, negotiations, contract signature, condition precedent, and construction and/or operations. It is considered normal practice to appoint an independent, international, and qualified transaction adviser. Some examples from the list of CCEA-approved projects in the PPP Authority's website are PWC, E&Y, and International Finance Corporation.

Under Section 26 of the PPP Law, the PPP agreement may contain matters relating to risk distribution. Furthermore, during the PPP screening process, it is assessed whether the risk matrix has been completed to show the indicative risk allocation. The PPP Screening Manual (2013) also includes a "typical risk allocation matrix."

1.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	✓	✓	✓

1.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	no data	no data	no data
In case of a competitive tender:			
Is prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expressions of interest (days)	no data	no data	28
Minimum time allowed to submit a bid:			
Domestic bidding (days)	no data	no data	56
International bidding (days)	no data	no data	56
Is negotiation available?	no data	no data	✓
Is there a process allowing unsuccessful bidders to challenge the award/complain?	no data	no data	✓
If yes, maximum time allowed to submit a complaint starting from announcement of the preferred bidder (days)	no data	no data	10
Maximum time limit from bid closing date till selection of a preferred bidder	no data	no data	no data
Maximum time limit from selection of a preferred bidder till signing the contract	no data	no data	no data
Transparency: Which of the following is published?			
Procurement notice	no data	no data	✓
Q&A during bid clarification stage	x	x	✓
Evaluation results to bidders	no data	no data	no data
Award notice	x	x	✓
Contract	x	x	x
Confidentiality	no data	no data	✓

Overall, the selection of a private partner for the delivery of PPP projects is based on four phases:

- identification phase,
- development phase,
- bidding phase, and
- approval and award phase.

The bidding phase for PPP projects can either be a single-stage bidding process or a two-stage bidding process:

- single-stage bidding process—comprises of only an invitation for bid (IFB), and
- two-stage bidding process—comprises of a request for qualification (RFQ) as well as a request for proposal (RFP).

The features of the procurement process are presented in Table 5.

Table 5: PPP-Procurement Process in Bangladesh

Theme	Description
Project Announcement	
Advertisement	<ul style="list-style-type: none"> The contracting authority advertises all RFQ or invitation for bid (IFB) as applicable based on any guidance or standard templates issued by the PPP Authority in at least one Bangla language national newspaper and one English language national newspaper. All invitations are also advertised on the contracting authority's, applicable line ministry's, and the PPP Authority's website. The PPP Authority may directly contact any trade missions and/or interested investors in the PPP Authority's database to inform them about the launch/issue of the RFQ or IFB. The contracting authority may require all interested parties to register online in order to access the bid documents and other relevant information and to participate in the bidding process, for which it may fix a charge to be paid by all interested parties in order to download the documentation from the data room.
RFQ	<ul style="list-style-type: none"> The interested parties (bidders or applicants) complete their registration and become registered entities. The bidders submit their applications in response to the RFQ. The bidders are evaluated on the basis of predetermined qualifying criteria stipulated in the RFQ. The prequalified bidders are shortlisted (maximum five of the shortlisted bidders).
Prequalification evaluation criteria	<p>Technical and financial capacity of the bidders:</p> <ul style="list-style-type: none"> Technical capacity may include examples of past experience of having undertaken projects of a similar nature as defined in the RFQ document. Financial capacity may include examples of experience of having provided and/or raised funds for projects as defined in the RFQ document.
Prequalification evaluation method	<ul style="list-style-type: none"> The shortlisting process may include a single test or multiple tests. The shortlisting process is carried out based on the criteria as stipulated in the RFQ document. The RFQ may specify mandatory requirements and/or compliance requirements. If a bidder does not comply with such requirements, its proposal will be rejected.
Short List	
RFP	<ul style="list-style-type: none"> Shortlisted bidders submit their technical proposals and financial proposals in two separate sealed envelopes enclosed together in an outer single envelope. Initially only the technical proposals are opened and evaluated in accordance with the RFP on the basis of the predetermined selection criteria stipulated in the RFP. Thereafter, the financial proposals of only shortlisted bidders who are compliant and who conformed to the specified requirements under the technical evaluation are opened and evaluated in accordance with the criteria stipulated in the RFP in order to select the preferred bidder.

continued on next page

Table 5 continued

Theme	Description
Methods of interactions with the bidders	<ul style="list-style-type: none"> The medium of communication is set out in the bid documents and may include email, letter, or fax, or a combination of any. The evaluation committee through the contracting authority may seek written clarifications and/or supplementary information from any bidder through letter and/or e-mail.
Evaluation of proposals	<ul style="list-style-type: none"> The evaluation method may either include the QCBS method or the CBS method; The contracting authority and the PPP Authority will determine the appropriate evaluation method on the criteria and the weighting (where relevant), which is clearly stipulated in the RFP or IFB documents. QCBS method: the technical criteria (including commercial criteria, where applicable) and the financial criteria of the proposal or bid (as applicable) are taken into account in selection of the preferred bidder. There is a technical score and a financial score, which are weighted in order to derive the total score. The shortlisted bidder with the highest total score is awarded the PPP project. CBS method: the technical criteria (including commercial criteria, where applicable) may be evaluated on a pass/fail and/or scoring basis. The shortlisted bidders who have either passed the technical evaluation or the requisite number of shortlisted bidders as stipulated in the RFP or IFB who have ranked/scored the highest from among the shortlisted bidders in the technical evaluation are identified and only their financial proposals or financial bids are opened, evaluated, and scored. The shortlisted bidder with the highest financial score is awarded the PPP project. The evaluation criteria may also include additional criteria in order to ensure that there are no tied proposals or tied bids, for example, best and final offer.
Investor Selection	
Contract negotiation	<ul style="list-style-type: none"> The contracting authority negotiates the contract with the preferred bidder.
Contract approval	<ul style="list-style-type: none"> Vetting of contract by the Legislative and Parliamentary Affairs Division (of the Ministry of Law, Justice, and Parliamentary Affairs). Final approval by CCEA. The contracting authority issues a Letter of Award within 4 weeks following receipt of CCEA approval.
Contract Signing	

CBS = cost-based selection, CCEA = Cabinet Committee on Economic Affairs, IFB = invitation for bid, PPP = public–private partnership, QCBS = quality and cost-based selection, RFP = request for proposal, RFQ = request for qualification.

Source: Government of Bangladesh. 2016. *Procurement Guidelines for PPP Projects*. http://www.pppo.gov.bd/download/ppp_office/Procurement-Guideline-for-PPP-Projects-2016_and_Guidelines-for-Unsolicited-Proposals-2016.pdf

1.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	59	62	68
PPP projects currently in preparation	no data	no data	23
PPP projects currently in procurement	no data	no data	32

Note: It should be noted that the research relied primarily on information reported in public sources that may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

The PPP projects listed above are based on the information available. It is noted that the number of PPP project failures in Bangladesh could be higher, as for a number of projects this information is not available.

Examples of PPP projects failures/renegotiations:

- Projects that were stalled: Dhaka–Ashulia Elevated Expressway PPP—The government had initially decided to implement the project under the PPP framework; however, due to little/no interest from investors, it decided to run the project under a government-to-government agreement.
- Projects renegotiated: Dhaka Elevated Expressway PPP—The project reached the first financial close in January 2011 and then, following negotiations, revised the financial close in December 2013. It is currently at the construction phase, according to the PPP Authority's website.
- Projects cancelled (postfinancial close): Shah Amanat International Airport—A management and lease contract signed in December 2005 was subsequently cancelled in 2007. Three ICT projects (WorldTel Bangladesh, Dhaka Telephone Company, and National TeleCom) are reported to be in distress.

Furthermore, it is noted that information regarding thermal power generation projects in the pipeline is not available.

1.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	13	14	16
Cumulative PPP projects that received export credit agency (ECA)/international financing institution (IFI) financing	15	16	18

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	×	×	×
Maximum tenor for local currency loan (years)	5-9	5-9	5-9
Availability of interest rate swaps	✓	✓	✓
Forward duration of interest rate swap (years)	no data	no data	15
Availability of currency swaps	✓	✓	✓
Forward duration of currency rate swap (years)	<5	<5	<5
Availability of project bond financing	×	×	×
Availability of project financing from local public sector banks	✓	✓	✓
Maximum tenor for loan from local public sector banks (years)	10+	10+	10+

Typically for nonrecourse project financing, international lenders would require:

- government guarantee for off-taker obligations,
- government to guarantee availability of US dollars in local banking system and convertibility of taka to US dollars,
- political risk coverage from export credit agency (ECA) or multilateral,
- direct agreements (incorporating step-in and substitution rights) with contractors and major project counterparties,
- assignment of rights of project company under all the major project agreements,
- first-ranking fixed security over borrower's assets (including performance and warranty bonds, insurances, receivables, etc.),
- security over present and future assets (fixed and floating) of the project company,
- charge on bank and reserve accounts, and
- first-ranking fixed security over the shares held by the borrower.

1.2 Roads

1.2.1 Regulatory Framework

1.2.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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As discussed in Section 1.1.1.9 of this report, government approval and decision on the foreign investor participation is required in certain “controlled” sectors, including

- Large-scale infrastructural projects (e.g., flyover, elevated expressway, monorail, economic zone, inland container depot/container freight station).

1.2.1.2 Government contracting agency

Ministry of Road Transport and Bridges (MRTB) is the state authority that oversees the Road Transport and Highways Division and the Bridges Division. The MRTB is the key contracting agency for road projects.

1.2.1.3 Sector-specific regulations

Does the private partner have the legal right to charge users?	✓
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Private concessionaires have a legal right to collect revenue from road users. Depending on the type of PPP contract and/or concession agreement, they may have to inject a portion of the revenue into the system maintenance or return a portion to the grantor or the host government agency.

Fees are charged at agreed tariff and fee increment is also as per each individual project agreement.

1.2.1.4 Sector regulators

The road sector still lacks an independent regulator to perform checks on the service standard, performance, safety, and tariff. The controlling and regulating role is carried out by each subdivision within the MRTB.

1.2.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

1.2.2 Institutional Capacity for Implementation

1.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The Bangladesh PPP Authority's website lists all approved projects under the PPP Program. The road sector has six projects in the project development stage (or earlier in the project life cycle), with four projects valued at around \$1.4 billion, while budgets have not been finalized for the remaining two projects as they are in the initial stage.

PPP pipeline of road projects is provided in Table 6.

Table 6: PPP-Pipeline of Road Projects

No.	Project Name	Length (km)	Value (\$ million)
1	Flyover from Santinagar to Mawa Road via 4th (New) Bridge over Buriganga River	13	338
2	Hemayetpur–Singair–Manikganj PPP Road	32	80–200
3	Improvement of Hatirjheel (Rampura Bridge)–Shekherjaiga–Amulia–Demra Road	37	400
4	2nd Padma Multipurpose Bridge at Paturia–Goalundo	no data	no data
5	Dhaka–Chittagong Access Controlled Highway	241	no data
6	Upgrading of Dhaka Bypass to 4 Lane (Madanpur–Debogram–Bhulta–Joydebpur)	no data	200–500

km = kilometer, PPP = public–private partnership.

Source: PPP Authority. *PPP Projects*. <http://www.pppo.gov.bd/projects.php> (accessed 15 February 2017).

1.2.2.2 Project preparation

Number of PPP projects in preparation	5
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1.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	0
Unsolicited bids	1
Competitive bidding process	1
PPP projects currently in procurement	1 ^a

^a Upgrading of Dhaka Bypass to 4 Lane (Madanpur–Debogram–Bhulta–Joydebpur) project.

1.2.3 Features of Past PPP Projects

As of December 2016, only one project, Jamuna Bridge management and lease contract in 1990s, reached financial close.

It should be noted that Dhaka Elevated Expressway PPP was awarded in 2011; however, since then the project has been having difficulties in getting financing.

1.2.3.1 PPP Projects that reached financial close

	Number	Value (\$ million)
PPP projects that reached financial close	1	no data

1.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	1	100%

1.2.3.3 Government support

PPP projects received government support:	Number
VGF	no data
Government guarantees:	
Minimum traffic/revenue guarantees	0
Projects on availability/performance-payment basis	0

1.2.3.4 Payment mechanism

PPP projects by the payment mechanism:	Number
User-paid contracts	1
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✓
Advertising	✓

1.2.3.5 Tariffs

Tariffs on toll (tariff setting and indexation) are regulated by the MRTB. The allowable fare increment is normally stated in each concession agreement.

Examples of current toll rates for PPP Road schemes are provided in the table below:

Table 7: Examples of Current Toll Rates for PPP Road Schemes

Road	Toll Type	Motor Cycle	Car/Light Vehicle	Small Bus	Large Bus	Trucks and Lorries
Jamuna (Bangabandhu) Bridge	Open (Taka per trip)	50	500	650	900	850–1,400

PPP = public–private partnership.

Source: Mott MacDonald.

1.2.3.6 Risk allocation

Typical risk allocation arrangements in Road PPP contracts are provided in Table 8.

Table 8: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Collection risk	✓			
Competition risk	✓			
Government payment risk	✓			
Environmental and social risk	✓			
Land acquisition risk		✓		
Permits	✓			
Geotechnical risk	✓			
Brownfield risk: inventory studies, property boundaries, project scope		✓		
Political risk	✓			
Foreign exchange risk	✓			

PPP = public–private partnership.

Source: Mott MacDonald.

1.2.4 Local Capabilities

Bangladesh as a country still lacks key skills in construction work. Local contractors generally have skills and experience to execute construction work only to locally acceptable standards. For a more complex type of construction, for example, elevated roads or bridges, foreign contractors (from Japan, the Republic of Korea, the People's Republic of China, and Thailand) bring in the requisite experience and know-how to execute the work to internationally acceptable standards.

With regard to O&M of road infrastructure, foreign firms generally execute the work to a higher standard than local companies.

There are also a few international (engineering) consultancy firms who could provide project management, risk management, and program management services.

1.2.5 Project Financing

PPP projects with foreign lending participation	1
PPP projects that received export credit agency/ international financing institution support	1

1.2.6 Challenges

The Government of Bangladesh had initially decided to implement the Dhaka–Ashulia Elevated Expressway project under the PPP framework, and a notice was issued inviting tenders from investors by July 2011. The tender invitation, however, did not receive positive response and the government decided to implement the project under a government-to-government agreement. Similarly, Aminbazar to Azimpur Elevated Expressway was intended to be implemented as a PPP; however, a year after transaction announcement, the project got mothballed.

Dhaka Elevated Expressway PPP project contract was awarded to the preferred bidder in January 2011, and 2 years later in December 2013, the concession contract terms were renegotiated. However, the sponsor has yet to secure funding for the project and there have been delays in the implementation of the project. One of the key reasons why the Dhaka Elevated Expressway project has yet to reach financial close, after nearly 3 years from contract award, is uncertainty in traffic forecast and reluctance of lenders to take the demand risk.

Challenges for PPP progress in road sector are provided in Table 9.

Table 9: Challenges for PPP Progress in Road Sector

Challenges	Currently Implemented Tackling Measures
Risks due to uncertainty in ridership/users making the project not bankable	
Land acquisition delays due to decentralization of the process and objection of local residents, particularly in urban areas of high density	
PPP = public-private partnership. Source: Mott MacDonald.	

1.3 Railways

1.3.1 Regulatory Framework

1.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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1.3.1.2 Government contracting agency

Ministry of Railways is the key contracting agency for rail projects.

1.3.1.3 Sector-specific regulations

The private party has a legal right to collect revenue from users, whether passenger or freight. Since the PPP concept for Bangladesh railways is still at early development stage, there is no set precedence on the type of PPP contract and/or concession agreement.

1.3.1.4 Sector regulators

The rail sector still lacks independent regulator to perform checks and balances on the service standard, performance, safety, and tariff. The controlling and regulating role is carried within the Ministry of Railways.

1.3.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based operation and maintenance contract	✗
Engineering procurement and construction contract	✗

1.3.2 Institutional Capacity for Implementation

There is only one project (however only indirectly relating to railways) listed as approved project on Bangladesh PPP Authority's website. The project is estimated to be valued at \$200 million–\$500 million.

1.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	×

PPP pipeline of railways projects is provided in Table 10.

Table 10: PPP Pipeline of Railways Projects

Project Name	Length (km)	Value, (\$ million)	Suggested PPP Form	Lead Agency
Construction of a New Inland Container Depot near Dhirasram Railway Station	no data	200–500	no data	Bangladesh Railway

PPP = public–private partnership.

Source: PPP Authority. *PPP Projects*. <http://www.pppo.gov.bd/projects.php> (accessed 15 February 2017).

1.3.2.2 Project preparation

Number of PPP projects in preparation	1
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1.3.2.3 Procurement

PPP projects currently in procurement	0
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1.3.3 Features of Past PPP Projects

As of February 2017, there have been no PPP projects in the railway sector in Bangladesh.

1.3.4 Local Capabilities

Similar to the road sector, Bangladesh needs input from foreign contractors to help rebuild their rail infrastructure to an acceptable international standard. Bangladesh also lacks experienced local network and infrastructure operators.

1.3.5 Challenges

Challenges for PPP Progress in Rail Sector are provided in Table 11.

Table 11: Challenges for PPP Progress in Rail Sector

Challenges	Currently Implemented Tackling Measures
No sound PPP pipeline or planning document in this sector.	

PPP = public–private partnership.

Source: Mott MacDonald.

1.4 Ports

1.4.1 Regulatory Framework

The Foreign Private Investment (Promotion and Protection) Act of 1980 allows foreign direct investment with the public sector without any ownership restrictions.

1.4.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
--	------

Notwithstanding, government approval and decision on percentage of the foreign investor participation is required in certain “controlled” sectors, as discussed in Section 1.1.1.9 of this report, which includes seaports and deep seaports.

1.4.1.2 Government contracting agency

According to Policy and Strategy for PPP (2010), it is the CCEA that gives the final approval for the development of a PPP project. The relevant state-owned port authorities, under the Ministry of Shipping (MOS), are capable of entering into the contract upon approval.

1.4.1.3 Sector-specific regulations

The MOS is responsible for formulating policies for Bangladesh maritime sector that includes ports, inland water transport (IWT), national waterways, and ocean shipping.

1.4.1.4 Sector regulators

Most Bangladesh imports and exports are handled through Chittagong Port, which has no private sector operator in its terminal operations. The Chittagong Port Authority (CPA), functioning under the control of MOS, sets and regulates the tariffs for services and facilities offered at Chittagong Port. The 1976 Ordinance gives full financial and administrative autonomy to the CPA. Similarly, Mongla Port Authority (MPA) imposes and collects various fees at Mongla Port.

Tariffs for the IWT are regulated by the government. Several institutions are involved in regulating the IWTs. The Department of Shipping is responsible for regulating the IWT in parallel with the Bangladesh Inland Water Transport Authority on main routes, and the Bangladesh Transport Corporation on secondary routes.

The Bangladesh Land Port Authority (BLPA) imposes various tariffs for services and facilities offered at all the landside ports throughout the country.

Details of port sector regulatory agencies in Bangladesh are provided in Table 12.

Table 12: Port Sector Regulatory Agencies in Bangladesh

Agency	Function
Department of Shipping	Issue of survey and registration certificates for inland water transport vessels.
Bangladesh Inland Water Transport Authority	Issue of route permits for passenger vessels on primary routes. Fixation of maximum and minimum fares and freight rates for inland water transport on behalf of the government. Approves timetables for passenger launch services. Inspects ships, cargo, and inland vessels to ensure compliance with the provision of ISO 1976. Acts as the competent authority of Bangladesh for the protocol on inland water transit and trade, looking after the use of waterways for the purpose of trade and transit between Bangladesh and India.
Bangladesh Transport Corporation	Issue of route permits for passenger vessels on secondary routes.
Chittagong Port Authority	Manages, maintains, improves, and develops the Port. Provides and maintains adequate and efficient port services and facilities in the port or the approaches to the port. Regulates and controls berthing and movement of vessels and navigation within the port.

Sources: CPA Ordinance. 1976. www.dpp.gov.bd/upload_file/gazettes/6672_27531.pdf; Bangladesh Inland Water Transport Authority. <http://www.biwta.gov.bd/>

1.4.1.5 Standard contracts

Information not available.

1.4.2 Institutional Capacity for Implementation

1.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The seventh five-year plan (2016–2020) identifies the general objectives up to 2020. The MOT has identified port and water transport as one of the prospective sectors under PPP. The PPP Authority lists the following projects in Table 13.

Table 13: PPP Pipeline of Maritime Projects

No.	Project Name	Location	Value (\$ million)
1.	Construction of Laldia Bulk Terminal	Laldia Char, Patenga, Chittagong	60
2.	Construction and operation of inland container terminal (ICT) at Khanpur	Narayanganj	32
3.	Third seaport development	Payra	no data

Source: PPP Authority. PPP Projects. <http://www.pppo.gov.bd/projects.php> (accessed 15 February 2017).

The “third seaport” in Bangladesh, listed in Table 13, is the Payra Seaport. It is noted that “Phase 1” of the port development, which was funded by the government due to lack of private investment, has been constructed and limited operations are taking place. The government, however, plans to gradually turn the Payra Seaport into a deep seaport and might decide to implement further development of the port under the PPP framework. No information is currently available in relation to this project on the PPP Authority’s website.

1.4.2.2 Project preparation

Number of PPP projects in preparation	3
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1.4.2.3 Procurement

PPP projects procured through:	
Direct appointment	no data
Unsolicited bids	1
Competitive bidding process	1
PPP projects currently in procurement	0

1.4.3 Features of Past PPP Projects

1.4.3.1 PPP projects that reached financial close

	\$ million
PPP projects that reached financial close	no data

There has been only one project so far—management and lease contract for Chittagong Container Terminal (and limited information is available on the details of the project).

It is worth noting that in August 2016, Mongla Port Jetty PPP project was awarded to private firm PowerPac Ports (PPPL), a subsidiary of the local Sikder Group. However, the financial close has not been reached yet.

1.4.3.2 Tariffs

Does private sector have the freedom to set the tariff?
--

The government regulates tariffs. Terminal handling charges (THCs) are charges made by the terminal operators in respect of container movement services performed at a terminal. For container terminals, THCs cover the movement of a container between the ship's hold to the exit-entry gate via the container terminal yard. Table 14 gives a general indication of the destination THCs for a full container load (FCL) as charged by the relevant terminal operator, port authority, and/or shipping line.

Table 14: Typical Terminal Handling Charges

Designation	Company	Year	Terminal Handling Charge in US dollar	
			20-foot equivalent unit	40-foot equivalent unit
Shipping Line	APL	2016	90	140
Shipping Line	MOL	2016	100	120
Port authority	Chittagong Port Authority	2015	110	138

Note: Actual terminal handling charge may vary from port to port of each country, as the cost of handling depends on the contractual agreement between terminal operators and the relevant shipping line.

Sources: Mott MacDonald; ADB. 2015. *Strategic Master Plan for Chittagong Port*. Manila (<https://www.adb.org/projects/45078-001/main>).

1.4.3.3 Risk allocation

Information not available.

1.4.4 Local Capabilities

Bangladesh has three main commercial seaports: Chittagong, Mongla, and the newly constructed Payra Port. The World Bank reported that Chittagong, the largest and principal port in Bangladesh, handled over 1.47 million TEUs of containerized cargo in 2012–2013. Management and port operations of the three ports in Bangladesh are conducted by the relevant port authorities, that is, no private terminal operators currently provide services in the port.

Limited capacity exists in Bangladesh for marine civil works. Bangladesh has an extensive network of natural rivers with inland ports. Thousands of smaller vessels transport passengers and cargo within the inland waterway network.

PPP projects with foreign lending participation	0
PPP projects that received export credit agency/international financing institution financing	0
PPP projects that received bond financing	0
PPP projects that were refinanced	0

1.4.5 Challenges

Challenges for PPP progress in port sector are provided in Table 15.

Table 15: Challenges for PPP Progress in Port Sector

Challenges	Currently Implemented Tackling Measures
Lack of implementation for prospective port projects	PPP Law (2015)—streamline the formulation and execution of PPP projects
Relationship between private operator and state-owned port authorities.	Introduction of the landlord model for Chittagong Port Authority
Lack of commitment from government to privatize existing port facilities.	
No policy/regulation on port charges	
Hinterland connections to ports	

PPP = public–private partnership.

Sources: Mott MacDonald; UNCTAD.2013. *Investment Policy Review: Bangladesh*. United Nations Conference on Trade and Development. http://unctad.org/en/PublicationsLibrary/diaepcb2013d4_en.pdf

1.5 Energy

1.5.1 Regulatory Framework

1.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership (percentage) of equity in greenfield projects	
Power generation	100
Power transmission	100
Power distribution	100
Oil and gas	100

It is understood that a company wholly or partially owned by foreign shareholders is subject to the same regulations, controls, and fees as a company owned by local shareholders. Signed in 1980, the Foreign Private Investment Act accorded protection to foreign private investment. Notwithstanding, government approval and decision on percentage of the foreign investor participation is required in certain “controlled” sectors, as discussed in Section 1.1.1.9 of this report, including:

- generation, supply, and distribution of power in the private sector, and
- exploration, extraction, and supply of natural gas/oil.
- Additionally, a number of facilities and incentives are provided to foreign investors, such as:
 - tax exemptions (on royalties, on foreign loans, on capital gains from transfer of shares, on income tax for up to 3 years for expatriate personnel, etc.),
 - remittance of up to 50% of salary of the foreigners employed in Bangladesh,
 - no restriction on issuance of work permits related to foreign nationals and employees, and

- facilities for repatriation of invested capital, profit, and dividends.

A national authority was created in 2016, the Bangladesh Investment Development Authority (BIDA), to promote private investment in the country.

1.5.1.2 Government contracting agency

The Ministry of Power, Energy and Mineral Resources has two main divisions:

- The Power Cell was created in order to implement power sector reform, it manages electricity business, and
- The Energy & Mineral Resources Division (EMRD), which manages the energy sector. Energy & Mineral Resources Division has two corporations:
 - The Bangladesh Oil, Gas and Mineral Corporation (PetroBangla), responsible for mining, developing, producing, and transporting natural gas and mineral resources, and
 - Bangladesh Petroleum Corporation, responsible for import, refining, marketing, transportation, and storage of oil.

Bangladesh Power Development Board (BPDB) operates most publicly owned generators and urban distributors (except in Dhaka and West Zone); it acts as a single buyer, purchasing from public and private generators and selling to distributors. In addition, it conducts procurement process for private power projects (IPPs).

Sustainable and Renewable Energy Development Agency (SREDA) is an agency mandated with the task of promoting renewable energy. It acts as the state nodal agency for all renewable energy programs and projects in Bangladesh. SREDA is not only responsible for promoting and approving all renewable energy projects but also to develop an energy audit and administrative activities related to energy efficiency and conservation.

1.5.1.3 Sector-specific regulations

In order to create flexibility in the energy sector, the Government of Bangladesh has adopted various models, specific to the energy sector:

- The government created a special status for IPP: these PPP plants have been particularly successful in providing new generation capacity. Usually, IPP sell energy to utilities under a PPA with one of the public companies, either the BPDB or PGCB. As per the policies, such contracts benefit from sovereign guarantees.
- To meet Bangladesh's energy needs, a special type of project was also developed, quick rental power plants (QRPP or Rentals). These are typically small, oil-fired power stations established as an emergency measure to cope with power shortage for the short term and to be used during peak demand periods for the long term. With the exception of several Rentals, whose contracts last for a relatively long term of 15 years, most of the contracts are short term ones of 3 to 5 years. Power generated from Rentals is purchased by BPDB under government initiatives. BPDB usually purchases the rental power at high cost (due to the short term of the rental contracts) and sells the power at the regulated bulk tariff with the negative margin incurred at BPDB being the cost of the policy implementation.

While there is a good level of activity in the power sector in Bangladesh and willingness to consider different delivery methods and incentives to private sector to deliver a step change in energy supply, Rentals would not be considered to be the type of projects currently developing as typical PPPs as they lack long-term performance obligations. However, for the purpose of this report, and because this type of project represents a significant aspect of the local context, it has been decided to keep track of it. Therefore, Rental projects are counted in the assessment of the energy sector.

In general, a license is required for any power generation and energy transmission, distribution, supply, and storage projects. Licenses are issued by the Bangladesh Energy Regulatory Commission (BERC).

1.5.1.4 Sector regulators

Details of energy sector regulatory agencies in Bangladesh are provided in Table 16.

Table 16: Energy Sector Regulatory Agencies in Bangladesh

Agency	Function
BERC	The commission has the mandate to regulate electricity, gas, and petroleum products for the whole country. Among others, the BERC has authority over consumer protection, approval of tariffs and pricing, issuance of generation and distribution licenses, and promotion of competition. The BERC Act 2003 gives the commission a legal mandate for liberalization of the sector which makes it a quasi-judicial authority.
Bangladesh Ministry of Power, Energy and Mineral Resources	The government is responsible for the overall planning and development of the energy sector, through the issuance of policy directives relating to energy.
Sustainable and Renewable Energy Development Agency	Responsible for all renewable energy sector regulation.

BERC = Bangladesh Energy Regulatory Commission.

Source: Mott MacDonald.

1.5.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPA	✓
Capacity take-or-pay contract	no data
Fuel supply agreement	✓
Implementation agreement (government guarantee)	✓
Transmission and use of system agreement	no data
Engineering procurement and construction contract	no data

1.5.2 Institutional Capacity for Implementation

1.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Bangladesh recognizes the need to increase its electrical power supply and the government has committed to ensuring access to reliable electricity for all citizens by 2012 and to developing renewable energy. In 2008, the Renewable Energy Policy defined the target of 10% of renewable energies by 2020, corresponding to additional generation capacity of 2,000 MW. The government has also set renewable energy development targets for several technologies for each year from 2015 to 2021, calling for an additional 3,100 MW of renewable energy capacity to be installed by 2021. Most of the new capacity is planned from solar (1,676 MW, or 54%) and wind (1,370 MW, or 44%).

PPP pipeline of energy projects are provided in Table 17.

Table 17: PPP Pipeline of Energy Projects

No.	Project Name
1	Construction of LPG Import, Storage and Bottling Plant at Kumira
2	Solar Park at Gaibandha, 200 MW
3	Grid-Tied Solar Power Project at Sylhet, 10 MW
4	Solar Park at Moulvibazar, 10 MW
5	Solar Park at Panchagarh, 30 MW
6	Solar Park at Lalmonirhat, 5 MW
7	Solar Park at Sylhet, 10 MW
8	Solar Park at Narayanganj, 100 MW
9	Solar Park at Bagerhat, 100 MW
10	Solar Park at Manikganj, 35 MW
11	Solar Park at Panchagarh, 70 MW
12	Solar Park at Bhola, 50 MW
13	Solar Park at Tangail, 50 MW
14	Solar Park at Lalmonirhat, 100 MW
15	Solar Park at Panchagarh, 8 MW
16	Wind Power Project at Cox's Bazar, 60 MW
17	Solar-Wind Hybrid Power Plant in Feni, 18 MW
18	Solar Park at Cox's Bazar, 200 MW
19	Solar Park at Mymensingh, 50 MW
20	Solar Park at Sunamganj, 32 MW

continued on next page

Table 17 continued

No.	Project Name
21	Wind Power Project at Parky Beach area, Anawara in Chittagong, 50–200 MW
22	Grid Wind–Solar Hybrid System, 7.5 MW
23	Wind Power Plant across the coastal regions of Bangladesh, 15 MW
24	Solar Park at Rangpur, 30 MW
25	Solar Park at Cox's Bazar, 20 MW

PPP = public–private partnership.

Source: PPP Authority. Sustainable & Renewable Energy Development Authority Database. http://www.sreda.gov.bd/index.php/ee_master_pdf (accessed 15 February 2017).

1.5.2.2 Project preparation

Number of PPP projects in preparation	no data
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1.5.2.3 Procurement

	Number
PPP projects procured through:	
Direct appointment	18
Unsolicited bids	24
Competitive bidding process	17
License scheme	14
PPP projects currently in procurement	25

Currently, there are about 25 projects (mainly solar power plants) under various stages of procurement and negotiation with the bidders. These are mainly unsolicited proposals. The delays in contract signing have been reported because of land acquisition issues, as well as few sponsors not being satisfied with some contract provisions in relation to governing law, arbitration, stamp duty on deeds of land acquisition, and 15 years' corporate tax exemption.

1.5.3 Features of Past PPP Projects

1.5.3.1 PPP projects that reached financial close

Energy Generation	Number	\$ million
Renewables energy generation	2	9
Solar	1	no data
Wind	0	–
Hydro	0	–
Geothermal	0	–
Waste/biomass	1	9
Thermal energy generation	53	11,603
Coal	3	3,149
Diesel	16	1,062
Natural gas	25	6,984
Other	9	408
Total Energy Generation	55	11,612

In total, 55 projects have reached financial close from 2000 until 2016 of which 35 were IPPs or BOO, and 20 were Rentals. As stated in Section 1.5.1.3, Rentals were counted to provide a more realistic picture of the current situation in the energy sector.

1.5.3.2 Foreign investor participation

PPP Projects with Foreign Sponsor Participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation		
Renewables	1	50%
Thermal	22	42%

1.5.3.3 Government support

PPP projects that received government support:	Number (including Rentals)
Viability gap funding	no data
Government guarantees	22
Projects on availability/performance–payment basis	55

1.5.3.4 SOE participation

	Number	Share to the Total Number of Energy PPP Projects
PPP projects with SOE participation:	2	4%

1.5.3.5 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	0
Government-paid contracts	55

1.5.3.6 Tariffs

Is there a system of FITs?	x
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Prices of electricity, gas, and petroleum in bulk and retail are determined by the BERC: the commission published a Power Pricing Framework in 2004 and tariff regulations. However, Bangladesh has not introduced a FIT scheme; the policy tool is yet to come into force although the draft document has been done so far.

1.5.3.7 Risk allocation

Information not available.

1.5.4 Local Capabilities

The energy sector is controlled by the government either through regulatory control or through state-owned companies. Power generation entities are partly corporatized, but natural gas entities are all state-owned entities. PetroBangla manages exploration, development, production, and sales of domestic natural gas and coal and Bangladesh Petroleum Corporation manages oil. However, international oil companies (IOCs) are responsible for more than 50% of domestic gas production.

Power Generation Entities:

- Ashuganj Power Station Company Limited (APSCL), established in 2000, was started based on the transferred asset from BPDB. In 2015, it contributed 9% of the country's power generation.

- Electricity Generation Company of Bangladesh (EGCB), established in 2004, contributed 7% of local power generation in 2015. It has attracted development partner funding from financial institutions such as JICA, World Bank, and ADB.
- North West Power Generation Company Limited (NWPGL), established in 2007, contributed 5% of power generation in Bangladesh.
- Coal Power Generation Company of Bangladesh Limited (CPGCL), established in 2011, is an executing agency of JICA.
- IPPs and Quick Rental Plants which have been introduced to support a rapid growth in energy needs.

Other key players in the energy sector:

- **Power Grid Company of Bangladesh (PGCB)** is a wholly owned subsidiary of the BPDB, operates the national transmission grid, schedules grid operations, and wheels energy to distributors.
- **Dhaka Electric Supply Company (DESCO)**, a public company that provides power supply services.
- **Bangladesh Rural Electrification Board (BREB)** established in 1977 to monitor electrification projects and facilitate socioeconomic development and improve agriculture in rural areas of Bangladesh.
- **Infrastructure Development Company Limited (IDCOL)** is a state-owned nonbanking financial institution that administers financing for rural energy and renewable energy development projects (mainly solar home systems [SHS] and biogas) with 15 participating national nongovernment organizations (NGOs). Infrastructure Development Company Limited has a long list of projects financed by development partners such as JICA, World Bank, and ADB, among others.

1.5.4.1 Project financing

	Number (including Rentals)
PPP projects with foreign lending participation	15
PPP projects that received ECA/IFI financing	15

Through a local consultative group, the ADB is coordinating all international donors' activities in the energy sector.

World Bank has initiated a RERED (Rural Electrification and Renewable Energy Development) program and has signed a \$15 million grant agreement with the government to increase access to clean energy in rural areas. Similarly, the Japan International Cooperation Agency and the United States Agency for International Development are supporting rural electrification programs in Bangladesh.

1.5.5 Challenges

Challenges for PPP progress in energy sector are provided in Table 18.

Table 18: Challenges for PPP Progress in Energy Sector

Challenges	Currently Implemented Tackling Measures
Inadequate tariff levels and insufficient regulation	The Bangladesh Energy Regulatory Commission has been receiving assistance from multilateral agencies to carry out its mandate. The government is focusing on reforming the regulatory framework to facilitate development of new projects.
Institutional weakness	Reform of energy sector institutions is starting to show results with corporatization of state-owned operating entities such as Dhaka Electric Supply Company Ltd or Electricity Generation Company of Bangladesh and by empowering the Bangladesh Power Development Board.
<p>Despite the government commitment, there have been utility-scale solar photovoltaic (PV) projects delivered in Bangladesh. A number of unsolicited proposals for grid-tied solar power totaling around 500 MW were received by the power division over the past few years, but none of the projects awarded is expected to become operational anytime soon due to difficulties experienced by the private sector in obtaining land and the inexperience of some of the companies involved.</p> <p>About 15 MW of power is generated by solar rooftop PV systems that have been installed in the main cities as a result of a government requirement for a certain percentage of lighting loads to be met by solar power for getting a new grid connection. However, most of these panels were installed to comply with the requirement to get a new grid connection and there were inadequate quality control and monitoring to ensure that quality panels were installed. As a result, most these solar rooftop PV systems produce little or energy.</p> <p>Procurement and governance. Only a small number of players with close connections with the government make it to the final stages of the bidding processes. This could be the sign of limited transparency. Recently, the Bangladesh Power Development Board procurement process was tainted with corruption allegations.</p>	

PPP = public-private partnership.

Source: Mott MacDonald.

1.6 Water and Wastewater

1.6.1 Regulatory Framework

1.6.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	
Bulk water supply and treatment	100%
Water distribution	100%
Wastewater treatment	100%
Wastewater collection	100%

1.6.1.2 *Government contracting agency*

Various, including the Water Supply and Sewerage Authority.

1.6.1.3 *Sector-specific regulations*

Can private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on the release of treated effluents?	✓

The application process for raw water extraction is provided by the Government of the People's Republic of Bangladesh Ministry of Water Resources as per Bangladesh Water Rules (2015) under the Bangladesh Water Act (2013).

Wastewater treated effluent discharge regulations are detailed in Schedules 9 and 10 of The Environmental Conservation Rules; however, this regulation was created in 1997 and is expected to be outdated.

1.6.1.4 *Sector regulators*

Details of water sector regulatory agencies in Bangladesh are provided in Table 19.

Table 19: Water Sector Regulatory Agencies in Bangladesh

Agency	Function
Water Supply and Sewerage Authority (WASA)	The most significant public authorities responsible for the management and provision of water and sewage services are Dhaka WASA and Chittagong WASA. In other conurbations, this authority is delegated to the local municipality office. The scope of authority is: construction, operation, improvement, and maintenance of the necessary infrastructure for collecting, treating, preserving, and supplying potable water to the public, industries, and commercial concerns, and construction, operation, improvement, and maintenance of the necessary infrastructure for collecting, treating, and disposing domestic sewerage.
The national water resource council	Responsible for coordinating all aspects of water management and issues directives through its executive committee
WARPO	Responsible for preparing the National Waste Management Plan and subsequent updates and monitoring implementation
Department of Environment	Enforcement of environmental legislation including wastewater discharge
Bangladesh Water Development Board	Develop a state of knowledge and capability that will enable the country to design future water resources management plans

Source: Mott MacDonald.

1.6.1.5 Standard contracts

Standard agreements for PPP procurement are not yet in place. The FIDIC suite of contracts has been regularly used by International Development Banks for procurement of infrastructure and is well understood in the local market.

1.6.2 Institutional Capacity for Implementation

1.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

- The PPP project pipeline is published on the PPP Authority website.
- The Policy Strategy for PPP (2010) names water supply and distribution, sewerage and drainage, and effluent treatment plans as priority sectors. However, it does not give details of the strategy for water and wastewater.

- The National Water Management Plan 2004 details the water resource management strategy until 2025; however, update has been provided since 2004.

PPP pipeline of water projects are provided in Table 20.

Table 20: PPP Pipeline of Water Projects

No.	Project Name	Location	Capacity (m ³ /d)	Value (\$ million)
1	Installation of Water Supply, Sewerage, Drainage System & Solid Waste Management System in Purbachal New Town	Purbachal New Town, Rupganj, Narayanganj and Kaliganj, Gazipur	Not stated	200–500

PPP = public-private partnership.

Source: PPP Authority. *PPP Projects*. <http://www.pppo.gov.bd/projects.php> (accessed 15 February 2017).

1.6.2.2 Project preparation

Number of PPP projects in preparation	1
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1.6.2.3 Procurement

PPP projects currently in procurement	1
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1.6.3 Features of Past PPP Projects

As of February 2017, there have been PPP projects in water sector in Bangladesh.

1.6.3.1 Tariffs

The tariff system for Chittagong is shown in the Table 21.

Table 21: Chittagong Water Supply and Sewerage Authority

Category	Tariff Rate (\$/m ³)
Domestic	0.096
Nondomestic	0.270

Source: WASA. 2016. <http://ctg-wasa.org.bd/>

The clause 22 of the WASA act 1996 permits Water Supply and Sewerage Authorities (WASAs) to increase the tariff at a rate of 5% per year.

1.6.4 Nonrevenue Water and Infiltration

Nonrevenue water (%)	22.77
Nonrevenue water (m³/km/day)	72.87
Infiltration	no data

Source: IBnet. 2016. *IBNET Database*. <https://database.ib-net.org/DefaultNew.aspx> (accessed 17 February 2017).

1.6.5 Local Capabilities

Given the lack of previous experience in water PPP projects means there is not enough local experience in this type of design and constructions. It is expected that there would be significant requirement to import project management and equipment. Several regional and international players have business operations in Bangladesh.

1.6.6 Challenges

Challenges for PPP progress in water sector are shown in Table 22.

Table 22: Challenges for PPP Progress in Water Sector

Challenges	Currently Implemented Tackling Measures
Dhaka WASA and Chittagong WASA currently have both financial and human resource constraints arising from ongoing services and projects, thus limiting their capacity to engage in PPP project development.	
Water resource challenges: despite the relative abundance of water throughout Bangladesh and its conurbations, the abnormally high population densities result in severe stress on water resources from pollution and over-abstraction. Therefore, identifying water resources suitable for abstraction is very challenging.	
There are over 40 different agencies, organizations, and categories of organizations involved in the water sector, which means that the private sector is required to manage multiple stakeholders.	
Low water tariff. True cost recovery is not yet practiced.	
Investor returns may be constrained from managing the significant raw water pollution risks (including groundwater pollution with arsenic and surface water polluted with sewage and industrial pollution), which result in affordability issues arising from more expensive treatment requirements or the high risk of standards not being achieved with only basic treatment.	

PPP = public-private partnership.

Source: Mott MacDonald.

1.7 Social Infrastructure

1.7.1 Regulatory Framework

1.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Health care infrastructure	100%
Health care services	100%
Education infrastructure	100%
Education services	100%
Government buildings	100%
Prisons and correction centers	100%
Social housing	100%
	100%

There is limitation pertaining to equity participation, that is, 100% foreign equity will be allowed for both health and education sectors.

1.7.1.2 Government contracting agency

For the health care sector, the government or public sector is the first key actor which by constitution is responsible not only for policy and regulation but also for provision of comprehensive health services, including financing and employment of health staff.

- The Ministry of Health and Family Welfare, through the two Directorates, General of Health Services (DGHS) and Family Planning (DGFP), manages a dual system of general health and family planning services through district hospitals.
- In addition, the Ministry of Local Government, Rural Development and Cooperatives manages the provision of urban primary care services. It is worth noting that although the Ministry of Health is the leading agency for institution-based health care delivery at the national level and in rural areas, primary health care in urban areas is the responsibility of respective local government institutions (municipalities and city corporations) which are under the Ministry of Local Government, Rural Development and Cooperatives. The quality of services at these facilities, however, is quite low, mainly due to insufficient resources, institutional limitations, and absenteeism or negligence of providers.

Regarding the education sector, Bangladesh's Ministry of Primary and Mass Education is responsible for primary education (grades 1 to 5), and the Ministry of Education oversees secondary and post-secondary education.

1.7.1.3 Sector-specific regulations

Can the private sector be given rights to provide education services?	✓
Can the private sector be given rights to provide health care services?	✓

1.7.1.4 Sector regulators

Social Infrastructure sector regulatory agencies in Bangladesh are provided in Table 23.

Table 23: Social Infrastructure Sector Regulatory Agencies in Bangladesh

Agency	Function
Ministry of Health and Family Welfare	Sets standards
Director General Health Services	Licenses health facilities to function Licenses the administration of controlled medicines Approves nonmedical and nonnursing health cadre training institutions SOPs for operation of laboratory and diagnostic centers
Director General Family Planning	Licenses the administration of controlled family planning methods
Ministry of Education	Formulates policies and programs for the development of post-primary to higher education, including madrasah, and technical and vocational education Formulates laws, rules, and regulations for the management and administration of post-primary education sector and its institutions in the country
Ministry of Primary and Mass Education	Formulates policies and programs for the development of primary education

Source: Mott MacDonald.

1.7.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
Engineering procurement and construction contract	✗

1.7.2 Institutional Capacity for Implementation

1.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

In 2010, Bangladesh has issued the National Education Policy to set the sector priorities. However, even though the size of the budget has gradually increased over the years in Bangladesh, the share of education in the overall budget has decreased: where the United Nations Educational, Scientific and Cultural Organization stipulates that the budgetary allocation for education should constitute at least 6% of GDP or 20% of the total budget, the government only spends 2% of the GDP for education.

In parallel with the National Five-Year Plan, the Ministry of Health and Family Welfare prepares a Strategic Investment Plan which sets out the sector's strategic priorities and defines an overall strategic framework to guide investments in the health sector accordingly. The Strategic Investment Plan is intended to provide the basis for policy implementation plan preparation and health sector investments over the next 5 years.

Thirty PPP projects in the social infrastructure sector are advertised in the PPP Authority's website. These include education, health, social housing, economic zones, and tourism projects.

Focusing on the projects that would typically be categorized as PPP projects based on international standards, there are 19 projects, of which three have reached financial close, listed in the PPP Authority's website. The 16 projects in the pipeline are shown in Table 24.

Table 24: PPP Pipeline of Social Infrastructure Projects

No.	Project Name	Location	Capacity (m ³ /d)	Value (\$ million)
1	Multistoried commercial cum residential apartment complex with modern amenities	Nasirabad, Chittagong	no data	80–200
2	High-rise residential apartment building for low and middle income group of people at Jhilmil Residential Project Dhaka	Dhaka	no data	>500
3	Construction of satellite township with multistoried flat building	Mirpur, Dhaka	no data	30–80
4	Medical college and modernization of railway hospital at CRB in Chittagong	Chittagong	no data	30–80
5	Medical college and nursing institute and modernization of railway hospital at Kamlapur	Kamlapur	no data	no data

continued on next page

Table 24 continued

No.	Project Name	Location	Capacity (m ³ /d)	Value (\$ million)
6	Oboshor: senior citizen health care and hospitality complex	Sreemangal, Sylhet Division	no data	<6
7	Medical college and modernization of railway hospital	Saidpur, Nilphamari	no data	no data
8	Medical college and modernization of railway hospital	Paksey, Pabna	no data	no data
9	New modern medical college and hospital of 250 beds	Khulna	no data	data
10	Installation of water supply, sewerage, drainage system and solid waste management system	Purbachal New Town	no data	200–500
11	Development of occupational diseases hospital, labor welfare center and commercial complexes	Tongi, Gazipur	no data	<6
12	Development of occupational diseases hospital, labor welfare center and commercial complexes	Chasara, Narayanganj	no data	no data
13	Economic Zone 2: Mirersharai	Mirersharai	no data	no data
14	Economic Zone 3: Sreehatta	Sreehatta	no data	no data
15	Economic Zone 5: Anowara, Chittagong	Anowara, Chittagong	no data	no data
16	Development of Economic Zone	Jamalpur	no data	no data

m³ = cubic meter.

Source: PPP Authority. *PPP Projects*. <http://www.pppo.gov.bd/projects.php> (accessed 15 February 2017).

1.7.2.2 Project preparation

Number of PPP projects in preparation	12
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1.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	no data
Competitive bidding process	no data
PPP projects currently in procurement	4

1.7.3 Features of Past PPP projects

1.7.3.1 PPP projects that reached financial close

PPP projects that reached financial close	Number	\$ million
Health care	2	<6
Education	0	<6
Other	1	no data

International Finance Corporation and the Government of Bangladesh launched a pilot PPP in two existing dialysis centers in government hospitals: the National Institute of Kidney Disease in Dhaka, and the Chittagong Medical College in Chittagong. This pioneering PPP is the first of its kind in the country's health sector. The private partner will finance, refurbish, and install 110 machines at these facilities—a 13% increase in the number of dialysis machines in the country. Apart from this, the private partner will staff, operate, and maintain the facilities for a period of 10 years.

1.7.3.2 Foreign investor participation

	Number	Share in Total Number of Social Infrastructure PPP Projects
PPP projects with foreign sponsor participation	3	100%

1.7.3.3 Government support

PPP projects that received government support:	Number
Viability gap funding	no data
Government guarantees:	no data
Projects on availability/performance-based payment basis	no data

1.7.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	no data
Government-paid contracts	no data

1.7.3.5 Tariffs

Information not available.

1.7.3.6 Risk allocation

Information not available.

1.7.4 Local Capabilities

1.7.4.1 Health sector

To complement the government's limited capacity and resources to provide basic health services, and in response to low quality of public services, the private sector and NGOs have established a network of facilities.

- The private sector consists of the formal sector that provides both western and traditional (Unani and Ayurvedic) services through a range of facilities from hospitals to clinics, laboratories, and drug stores. The informal sector consists largely of untrained providers of western, homeopathic, and traditional (kobiraj) medicine. However, private services are poorly regulated. The formal sector is concentrated in urban areas, and the informal sector is the principal provider in rural areas.
- A large NGO sector has emerged as the “third sector” of health providers in Bangladesh.

1.7.4.2 Education sector

The educational system in Bangladesh is three-tiered and highly subsidized: the government operates many schools, at all levels, but also subsidizes parts of the funding of many private schools. The government has put more emphasis on vocational and technical education in the new National Education Policy 2010. This is to meet the local skill requirement. Nowadays, the educational system has three major streams: general, technical–vocational, and *madrasah* (religious system of education).

In addition, Bangladesh has developed a nonformal primary education (NFPE) system, mostly established by NGOs. The government has prioritized nonformal education to eradicate mass illiteracy and to enable continuing education.

1.7.5 Challenges

Challenges for PPP implementation in social infrastructure sector are presented in Table 25.

Table 25: Challenges for PPP Progress in Social Infrastructure Sector

Challenges	Currently Implemented Tackling Measures
<p>Lack of efficiency control in health services: The Bangladesh public health system remains highly centralized, with planning undertaken by the Ministry of Health and Family Welfare and little authority delegated to local levels. However, information management is not; the Health Information System suffers from the bifurcation of the Ministry into Directorate General of Health Services and Directorate General of Family Planning, with separate and distinct reporting systems for each Directorate General. Similarly, while there exist a number of acts and ordinances to regulate the health system, many of these legal instruments date from several decades ago. Separate councils for the registration and licensing of medical practitioners, dentists, and nurses have been established, but their authority to investigate or discipline providers is weak.</p> <p>Low government spending on education as a share of the gross domestic product. Currently it is around 2%, the second lowest in South Asia, lower than in most other countries at similar levels of development. This would result in potential inability to provide adequate payment to potential investors.</p> <p>Absence of robust performance standards for institutions and articulation of competencies for students pave the way for large variations in performance across schools. Incentives for good performance are nonexistent or minimal, rendering good policies ineffective. In addition, education in Bangladesh is provided by a large number of private and nongovernment organization institutions. There is clear regulation regarding these institutions, making planning and implementation of sector-wide development strategies challenging.</p> <p>Limited interface between the subsectors: Two different ministries administer subsectors which face management challenges in the management of the different education subsectors. For example, the various education departments of the two ministries have their own Education Management Information Systems, and reliability and compatibility of data become a central question in developing the sector.</p>	

PPP = public-private partnership.

Source: Mott MacDonald.

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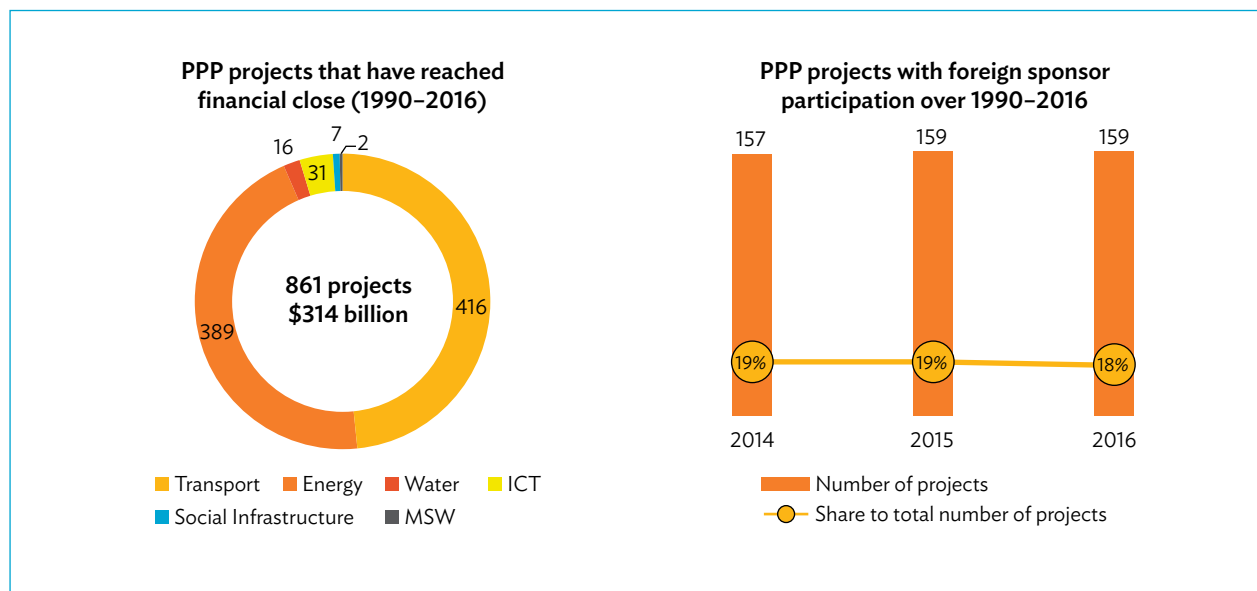
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2. INDIA

Public-private partnership (PPP) means an arrangement between a government, statutory entity, or government-owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being made and/or management being undertaken by the private sector entity, for a specified period of time, where there is well-defined allocation of risk between the private sector and the public entity, and the private entity who is chosen on the basis of open competitive bidding receives performance-linked payments that conform (or are benchmarked) to specified and predetermined performance standards, measurable by the public entity or its representative.



From the perspective of the number and the overall value of projects, India has emerged as one of the major PPP markets within South Asia. The government has considered the PPP route in almost all sectors, including transportation (roads, ports, airports, and railways), energy (power, oil and gas), and urban utilities as well as in social sectors.

Although there was a substantial increase in PPP investments of \$48.9 billion in 2010, India has witnessed a significant decline in PPP investment thereafter with investments of \$4.12 billion in 2015 and \$2.01 billion in 2016. The key reasons for this declining trend in the recent past are unfavorable market conditions, inability of promoters to infuse fresh equity, and delays in obtaining environmental and forest clearances for the private sector. The public sector has faced challenges in the form of delays in regulatory decisions due to issues such as land acquisition and also a shortage of funds.

India does not have a dedicated central legislation on PPP, since PPPs are already enabled and PPP as a procurement process is permitted. With the objective of laying down robust procurement procedures and ensuring transparency in the PPP process, guidelines and manuals have been issued on PPPs. The government has also taken a series of measures toward improving the PPP environment in the country. Some states, such as Gujarat, Punjab, Bihar, and Andhra Pradesh, have developed specific legal frameworks to enable private partnership in infrastructure, while some other states, such as Karnataka, Odisha, Maharashtra, and Assam, have specific policy frameworks for private sector participation in infrastructure.

- To strengthen the institutional capacity of the PPP model in India, the government set up the Public Private Partnership Approval Committee (PPPAC) in 2005 and has also established a PPP Cell in 2006 in the Department of Economic Affairs (DEA) under the Ministry of Finance (MOF). The PPP Cell is responsible for all matters relating to PPPs, including policies, guidelines, schemes, and capacity-building initiatives. The PPP Cell also acts as the Secretariat for Private Partnership Appraisal Committee and Empowered Institution (EI)/Empowered Committee (EC) for the projects slated for financial support through DEA's scheme for financial support to PPPs in infrastructure—Viability Grant Fund (VGF). The government also created an India Infrastructure Project Development Fund (IIPDF) in 2007–2008 under the MOF and has established institutions in 2005 for assessing projects requiring Viability Gap Funding (VGF).
- To aid in project preparation and decision making, the government issued a series of guidance papers and a “PPP Tool Kit,” which provide sector-specific guidelines and aid decision-making at all key stages of the PPP project cycle.
- The Planning Commission of India (now called the NITI Aayog) had issued standardized model bidding documents for Request for Qualification (RFQ) and Request for Proposal (RFP) and model contractual documents, the Model Concession Agreement (MCA), for different sectors to streamline the bidding process and terms of contract.
- The government has developed Post-Award Contract Management Guidelines and the Post-Award Contract Management Manual. They provide the foundation principles for post-award contract management of PPP projects. They have been developed for three sectors—highways, ports, and schools. In addition, a generic Post-Award Contract Management Toolkit has also been developed by DEA. The multisectoral applicability of these Post-Award Contract Management tools makes them flexible. These tools are available on the PPP website of DEA (www.pppinindia.gov.in)
- In addition, the DEA has developed dossiers (Greenbooks and Guides) on the health sector, focusing on diagnostic centers, greenfield hospitals, medical colleges, primary health care, and brownfield hospitals. These are also available on the PPP website of the DEA.

- A PPP Guide for Practitioners 2016 has been developed by the DEA, an exhaustive document for assisting project authorities develop their capacities for PPPs, including procurement, contract management, or any other aspect of PPPs. This guide can be downloaded on the PPP website of the DEA.
- Model RFP for Financial Consultants and Transaction Advisors has also been made available on the PPP website of the DEA, and sector-specific MCAs have also been drafted for different sectors, inter alia:
 - Six-laning of NHs
 - Four-laning of NHs
 - Build–operate–transfer (BOT) projects up to Rs1,000 million
 - Major ports
 - Storage of food grains
- Foreign direct investment (FDI) in most sectors is on the automatic route, implying 100% FDI in almost all infrastructure sectors. In 2016, 19% of PPP projects have attracted foreign investors.
- The Ministry of Environment Forest and Climate Change on 6 June 2014 notified the acceptance of applications for environmental clearance through an online web portal. The process has helped to reduce time by avoiding human interface in by post application and better transparency, since the status of project clearance can be viewed online.
- In December 2014, the DEA released a report on “developing a framework for renegotiation of PPP contracts” with a view of presenting a fact-based approach for renegotiating the terms of concession agreements in terms of ascertainable cost, risk, and social benefit neutrality.
- In addition to the above, in 2015, in order to further improve the private participation in road sector, the government launched a hybrid annuity model (HAM), to speed up the project awarding process. The primary aim of HAM was to safeguard the developers and lenders from the risks or challenges they faced in the conventional models such as design–build–finance–operate–transfer (DBFOT) or BOT models. In 2016, the National Highway Authority of India (NHAI) approved HAM and from January to May 2016, about 16 such projects were declared.¹
- With the aim of revisiting and revitalizing the PPP model in India, a 10-member committee was set up by the central government headed by Vijay Kelkar. The committee submitted its recommendation in November 2015. The committee recommended guidelines for risk allocation, strengthening policy and governance, strengthening institutional capacity, and strengthening contracts.
- Unsolicited bids are generally not accepted, although some states, such as Gujarat and Andhra Pradesh, have adopted these through a “Swiss Challenge” approach or “unsolicited proposals” route. “The Kelkar Committee report on Revisiting and Revitalising PPP Models of Infrastructure,” dated November 2015, noted that the “unsolicited proposals” route tends to bring in inconsistency in the information requirement definitions, in the procurement process, leading to lack of transparency and lack of fair treatment of potential bidders. Hence, the Kelkar Committee recommends that unsolicited proposals should be discouraged. It is noted that the government does not support unsolicited bids.

¹ M. Desai. June 2016. *Hybrid Annuity Project—Risk Mitigation for Stakeholders*. Credit Analysis and Research Limited (CARE). p. 1.

2.1 Country Profile

2.1.1 Regulatory Framework

2.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects that reached financial close under the latest PPP framework	1,335 ^a	1,380	1,436

^a Government of India. *Database of Infrastructure Projects in India*. [https://infrastructureindia.gov.in/project-list?id=1&searchType=Government%20Infrastructure%20Projects%20\(PPP\)](https://infrastructureindia.gov.in/project-list?id=1&searchType=Government%20Infrastructure%20Projects%20(PPP)) (accessed 15 February 2017).

India does not have dedicated central legislations on PPP. PPP for procurement of goods and services is governed by a combination of the Constitution of India and certain rules, procedures, and manuals as set out below:

- General Financial Rules, 2017;
- Delegation of Financial Powers Rules, 1978
- Manual on Policies and Procedures for Purchase of Goods, 2006
- Central Vigilance Commission Guidelines relating to certain matters, including guidelines on prequalification criteria, increasing transparency in procurement process, integrity pact between the procurer and the prospective bidders
- Specific PPP legislations in many states

To aid in project preparation and decision making, the government has issued a series of guidance papers and a PPP Structuring ToolKit, which provide sector-specific guidelines for five sectors—state highways, water and sanitation, ports, solid waste management (SWM), and urban transport. This toolkit helps improve the quality of PPP projects being developed and covers the entire life-cycle of PPP projects. It has been made available online, on the DEA's website www.pppinindia.gov.in. The documents relating to detailed guidelines for appraisal/approval procedure of the PPP projects in the central government sector are listed below:

- Procedure for approval of PPP projects and guidelines for formulation, appraisal, and approval of PPP projects in central sector—notification dated January 12, 2007.
- Guidelines for formulation, appraisal, and approval of PPP project costing less than Rs1,000 million.
- Guidelines for formulation, appraisal, and approval of PPP projects (i) of all sectors costing more than Rs1,000 million and less than Rs2,500 million and (ii) under National Highways Development Project (NHDP) costing more than Rs2,500 million and less than Rs5,000 million.
- A compendium of guidelines for formulation, appraisal, and approval of central sector PPP projects.

The procedures defined in these guidelines are not binding but the intention is for them to be observed for all central sector projects.

Outside of the central government, states are encouraged to put in place a similar mechanism.

Certain states (e.g., Gujarat, Punjab, Bihar, and Andhra Pradesh) have already developed specific legal frameworks to enable private partnership in infrastructure where there are dedicated legal PPP instruments. Some states (e.g., Karnataka, Odisha [formerly known as Orissa], Maharashtra, and Assam) have specific policy frameworks for private sector participation in infrastructure. Some states (e.g., Odisha and MP) have developed a workflow for PPP project approvals, usually chaired by the chief secretaries of the respective states. These empowered committees have representation of senior administrative officials to streamline the approvals process.

The Constitution of India divides the responsibility of legislation between the National Parliament and state legislature bodies. The Indian Parliament is competent to make laws on matters listed in the union list which includes ports, airports, railways, national highways, inland waterways, telecommunication, oilfields, and mineral resources. The state legislatures are competent to make laws on matters listed in the state list which includes police services, prisons and corrective facilities, regulation of local government, public health and sanitation, state highways, city roads, and water supply and irrigation. Some states which have an explicit legal framework for infrastructure, including for private investment in public infrastructure, are:

- Andhra Pradesh—The Andhra Pradesh Infrastructure Development Enabling Act 2001
- Assam—The Assam Policy on PPP in Infrastructure Development
- Bihar—The Bihar Infrastructure Development Enabling Act 2006
- Chhattisgarh—Guidelines for Formulation, Appraisal, and Approval of PPP projects in Chhattisgarh, 2013
- Goa—The Goa Policy on PPP
- Gujarat—Gujarat Infrastructure Development Act 1999 amended in 2006
- Haryana—Haryana PPP Policy
- Karnataka—The Karnataka Infrastructure Policy 2007
- Kerala—Policy for PPP in Kerala, 2014
- Odisha—The Orissa PPP Policy 2007
- Punjab—The Punjab Infrastructure Development and Regulation Act 2002
- Rajasthan—Rajasthan Infrastructure Development Fund with an initial corpus of \$500,000
- Tamil Nadu—Tamil Nadu Infrastructure Development Act, 2002
- Uttar Pradesh—Uttar Pradesh Infrastructure and Industrial Investment Policy, 2012
- Uttarakhand—Uttarakhand PPP Policy, 2012
- West Bengal—The West Bengal Policy on Infrastructure Development through PPP 2003
- Rajasthan—Social Sector Viability Gap Funding Scheme, 2007
- Madhya Pradesh—Scheme and Guidelines for Madhya Pradesh Project Development Fund, 2009

- Madhya Pradesh—Guidelines for PPP 2009
- Madhya Pradesh—PPP Policy (draft stage)
- Gujarat State Viability Gap Funding Scheme, 2007

The Constitution (Seventy-third Amendment) Act 1992 has decentralized responsibilities of urban local bodies (ULBs) which includes water supply, urban roads and bridges, public health and sanitation, SWM, and other public amenities.

2.1.1.2 PPP type

	2014	2015	2016
Number of PPP types defined in the PPP regulations	5	5	5

The DEA indicates the following as commonly adopted forms of PPP:

- Management contracts
- BOT and its variants
- Build–lease–transfer (BLT)
- Design–build–finance–operate–transfer (DBFOT)
- Operate–maintain–transfer (OMT)

Build–own–operate (BOO) model is not a supported form of PPP.

The government does not recognize short-term service contracts (up to 3 years), engineering–procurement–construction (EPC) contracts and divestiture of assets as forms of PPP.

Variants in PPP models in use apart from the above include:

- Operation and maintenance
- Lease, develop, operate contract

Recently the government has introduced a new HAM. Under this model, the life-cycle cost (net present value of the quoted project cost and NPV of the operation and maintenance (O&M) cost for operation period) will be the bid parameter for selection of the concessionaire. The project cost will be inflation indexed through a Price Index Multiple which is weighted average of Wholesale Price Index (WPI) and consumer price index in the ratio of 70:30. In case of road projects, the pertinent authority, The NHAI will pay 40% of the project cost in five equal instalments during the project tenure. The concessionaire will have to initially bear the balance 60% of the project cost through a combination of equity and debt, which will be paid by the NHAI in semiannual instalments after the completion of the project construction along with an interest at bank rate plus 3%.

2.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	Information and communication technology (ICT)	✓	✓	✓
Municipal solid waste (MSW)	✓	✓	✓	Social infrastructure	✓	✓	✓

Source: Department of Industrial Policy and Promotion. 2016. *Consolidated FDI Policy Circular of 2016*. http://dipp.nic.in/English/Policies/FDI_Circular_2016.pdf (accessed 6 February 2017).

PPP guidelines for formulation, appraisal, and approval of PPP projects are applicable to all PPP projects sponsored by the central government ministries, Central Public Sector Undertakings, and statutory authorities or other entities under their central administrative control.

2.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	Applicants should have minimum net worth equivalent to 25% of estimated capital cost of projects for which bids shall be invited.	Applicants should have minimum net worth equivalent to 25% of estimated capital cost of projects for which bids shall be invited.	Applicants should have minimum net worth equivalent to 25% of estimated capital cost of projects for which bids shall be invited.
Project capital investment size	None	None	None

Source: Government of India, Ministry of Finance, Department of Economic Affairs. Scheme and Guideline for Indian Infrastructure Project Development Fund 2013. <https://www.pppinindia.gov.in/documents>

2.1.1.5 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	✓	✓	✓
Swiss challenge	✓	✓	✓
Compensation of the project development cost	✓	✓	✓
Government support for land acquisition and resettlement cost	✓	✓	✓
Government support in the form of VGF and guarantees	✓	✓	✓

Although possible, unsolicited bids or Swiss challenge proposals are not preferred by the government, owing to the lack of transparency, asymmetry of information, and lack of fair and equal treatment to potential bidders. The term “Swiss Challenge” has been used in one case as a misnomer for projects bid out as per standard procedures but with the “Design” component open for challenge.

However, some states in India (e.g., Gujarat and Andhra Pradesh) have adopted Swiss Challenge approach/unsolicited proposals in their respective state PPP Acts and Policies in different ways. Today a number of other states have also embraced this procurement methodology. Rajasthan and Madhya Pradesh, for instance, have included it in their guidelines for infra projects. Bihar, Karnataka, and Punjab have also come out with guidelines/policies/procedures for treating unsolicited bids. Therefore, their approach to unsolicited bids will differ from that of the DEA’s and will be applicable to sectors under the state list (as defined previously) or which are under control of state legislation.

2.1.1.6 State-owned enterprise participation

	2014	2015	2016
Is state-owned enterprise (SOE) allowed to participate in PPP as a counterparty to the government?	✓	✓	✓
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firm) as a counterparty to the government?	✓	✓	✓ ^a
PPP projects with SOEs participation to date (number)	no data	no data	no data
PPP projects with SOEs participation to date (Share in total number of PPP projects)	no data	no data	no data

^a Hybrid arrangements are allowed only if SOE is a minority partner in the SPV and only for strategic or specific reason that justify SOE participation

In India, Central Public Sector Enterprises (CPSEs) are those companies in which the direct holding of the central government or other CPSEs is 51% or more. As of 31 March 2016, there were 320 CPSEs.²

The indication of hybrid arrangements (joint venture between SOE and private firms for PPP, special purpose vehicle [SPV]) being allowed (as tick marks provided in table above) is based on actual past or present scenarios. Such hybrid arrangements are currently allowed by the government for airports and ports, and the SOE has to be a minority partner in the SPV.

The report by the committee on “Revisiting and Revitalising PPP Model of Infrastructure,” dated November 2015, states that, in general, such participation is discouraged, except for well-articulated strategic reasons.

2.1.1.7 Land rights

	2014	2015	2016
Which of the following is permitted to the private partner?			
Transfer land lease/use/ownership rights to third party	✓	✓	✓
Use leased/owned land as collateral	✓	✓	✓
Mortgage leased/owned land			
Is there any legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than the government or the private partner?	✓	✓	✓
Is there land registry/cadastre with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to the private partner:			
Appraisal of land value	✓	✓	✓
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✓	✓	✓
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

In India, land is a subject within the powers of the state government as per the Constitution of India and hence property laws in India may differ from state to state. When a person acquires or owns an immovable property, the law also gives him/her the right to use, lease, sell, rent or transfer and/or gift the land. The owner also has a right to mortgage his immovable property as a security for loans.

² Government of India, Ministry of Heavy Industries and Public Enterprises, Department of Public Enterprises. Public Enterprises Survey 2015–16. Vol. 1. <http://dpe.gov.in/pesurveyreports/public-enterprises-survey-2015-16> (accessed 4 August 2017).

The key regulations governing land in India are:

- The Real Estate (Regulation and Development) Act, 2016, which seeks to protect investors and boost investments in the real estate sector by ensuring sale of plot, apartment, or building, or real estate project, in an efficient and transparent manner.
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (Land Acquisition Act)
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2015.
- Transfer of Property Act, 1882—a legislation which regulates the transfer of property in India.
- The Registration Act, 1908—procedure for registration of documents related to the transfer of immovable properties with the designated registration authority. It ensures that all documents regarding the sale and purchase of land are recorded and maintained.
- Indian Easements Act, 1882.
- The Indian Contract Act, 1872—determines the circumstances in which obligations of the parties to a contract are legally binding on them.
- The Indian Stamps Act, 1899.

In the case of PPP, the Land Acquisition Act provides that:

- The appropriate government acquires land for PPP projects, where the ownership of the land continues to be vested with the government.
- When private companies acquire land for PPP projects, the prior consent of at least 70% of those affected families shall be obtained through a process as may be prescribed by the appropriate government.

2.1.1.8 Environmental and social issues

	2014	2015	2016
Is there any local regulation establishing process for environmental impact assessment (EIA)?	✓	✓	✓
Is there any legal mechanism for private partner to limit environmental liability for what is outside of its control or caused by third parties?	✓	✓	✓
Is there any local regulation establishing process for social impact assessment (SIA)?	✓	✓	✓
Is there any involuntary land clearance for PPP projects?	✓	✓	✓

The Ministry of Environment, Forest, and Climate Change has stipulated that EIAs are mandatory for infrastructure projects. The EIA notification was first issued in 1994 with the most recent one in 2006.

All projects are broadly categorized into two categories (depending on the spatial extent of potential impacts on human health and natural and man-made resources): Classifications of projects under Categories A and B are based on the pollution intensity or locational aspects. Category A projects are approved by the central government from the Ministry of Environment, Forest and Climate Change and Category B projects are cleared by State/ Union Territory Environmental Impact Assessment Authority. The maximum timeline stated in the EIA Notification for the various stages of obtaining environmental approvals is 210 days excluding the time required to undertake EIA study.

In India, SIA was mandated in 2013 by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.³ Any major project is required to conduct SIA within 6 months from the project start date. For projects requiring land acquisition, the project developers must obtain consent from a majority of landowners. In the case of PPP projects, consent is required from 70% of landowners. After land acquisition, the project owners are required to compensate the affected individuals with a minimum amount of two times the market rate for urban land and a minimum of four times the value rate for rural land.

State has legal powers under “the principle of eminent domain” for the acquisition of private property and this can lead to involuntary displacement of people. The National Resettlement and Rehabilitation Policy, 2007, provides for rehabilitation and resettlement of persons affected by the acquisition of land for projects of public purpose or involuntary displacement due to any other reason.

2.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects ^a								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads	100%	100%	100%	Power generation	100%	100%	100%	
Railways	0%	100% ^b	100% ^c	Power transmission	100% ^d	100%	100%	
Ports	100%	100%	100%	Power distribution	100%	100%	100%	
Airports	100%	100%	100%	Oil and gas	100%	100%	100%	
Water and wastewater				MSW ^e	100%	100%	100%	
Bulk water supply and treatment	100%	100%	100%	Social infrastructure				

continued on next page

³ The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013. Chapter II. Clause 4(1). <http://icadr.nic.in/#> (accessed 4 August 2017).

Table 105 continued

	2014	2015	2016		2014	2015	2016
Water distribution	100%	100%	100%	Health care infrastructure	100%	100%	100%
Wastewater treatment	100%	100%	100%	Health care services	100%	100%	100%
Wastewater collection	100%	100%	100%	Education infrastructure	100%	100%	100%
ICT ^f				Education services	100%	100%	100%
Fixed-line infrastructure	100%	100%	100%	Government buildings	0%	0%	0%
Fixed-line services	100%	100%	100%	Prisons and correction centers	0%	0%	0%
Wireless/mobile infrastructure	100%	100%	100%	Social housing	0%	0%	0%
Wireless/mobile services	100%	100%	100%	Sport and leisure facilities	100%	100%	100%

^a Government of India, Ministry of Commerce and Industries, Department of Industrial Policy and Promotion. Consolidated FDI policy 2016. <http://dipp.nic.in/circulars/consolidated-fdi-policy-circular-2016> (accessed February 2017).

^b A total of 100% FDI in railways allowed for construction, operation, and maintenance of suburban corridor projects PPP; high-speed train projects; dedicated freight corridors; railway electrification; signalling system; freight terminals; passenger terminals; infrastructure in industrial parks; and mass rapid transport system.

^c Footnote 21.

^d A total of 100% FDI for power transmission, distribution, and generation, and 49% permissible for power exchange (FDI limit 26% and FII limit 23%).

^e Footnote 23.

^f A total of 100% FDI is allowed in the case of urban infrastructure projects, which includes water, wastewater, and SWM.

Foreign investment into an Indian entity on a strategic basis is subject to FDI policy. The government formulates FDI policy on a yearly basis. Currently, the consolidated FDI policy dated 7 June 2016 is in effect along with certain press notes issued by the Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry. Foreign investors can invest directly in India either on their own or through joint ventures in majority of sectors. There are few exceptions, indicated through a limited list of activities, where foreign investment is prohibited, as indicated above.

In telecom services, FDI of up to 100% is allowed, of which up to 49% can be through the automatic route (i.e., without prior approval of the government or the Reserve Bank of India [RBI]) and the balance can be through Foreign Investment Promotion Board (FIPB) consent.

Are there any restrictions for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	Yes	yes	yes
Currency conversion	No	no	no

Any foreign transactions involving foreign exchange is subjected to the provisions of Foreign Exchange and Management Act, 1999 (FEMA) and its amendment in 2002.

FEMA states that foreign nationals can acquire land or property in India only under the following circumstances:

- Where the acquisition of property is by an Indian company owned by a foreign national, which has been set up to conduct activities permitted under the FDI norms.
- The foreign national is a person of Indian origin.

In all other circumstances, applications must be made to the RBI, and these are considered on case-by-case basis subject to the FEMA requirements. In addition to these provisions that apply across India, states have specific laws that regulate the purchase or acquisition of property in that state.

The Foreigners Act, 1946; The Registration of Foreigners Act, 1939; and The Citizenship Act, 1955 together with rules and amendments regulate the foreigners' entry, movement, and stay in India. The granting of employment visas by the Indian Bureau of Immigration (under the Ministry of Home Affairs [MHA] of the government) is allowed only to highly skilled and/or qualified professionals who are being engaged or appointed by a company or organization in India. Furthermore, employment visas shall not be granted for jobs for which qualified Indians are available.

Import of capital goods, machinery or equipment excluding second hand machinery is allowed subject to the conditions defined in the FDI Policy.

The FDI policy dated 7 June 2016 provides that a foreign investor in the construction development sector will be permitted to exit and repatriate foreign investment before the completion of project under automatic route provided that a lock-in period of 3 years, calculated with reference to each tranche of foreign investment, has been completed. However, transfer of stake from one nonresident to another nonresident without repatriation of investment will neither be subjected to any lock-in period nor to any government approval. Lock-in periods do not apply to hotels and tourist resorts, hospitals, special economic zones (SEZs), educational institutions, old age homes, and investment by nonresident Indians (NRIs).

	2014	2015	2016
Cumulative PPP projects with foreign sponsor participation (number)	157	159	159
Cumulative PPP projects with foreign sponsor participation (Share in the total number of PPP projects)	19%	19%	18%

2.1.1.10 Dispute resolution and enforcement mechanism

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?	✓	✓	✓ ^a
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	✓	✓	✓
Has the country signed New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓

^a Yes, subject to meeting certain conditions. Model concession agreement indicates that in case of dispute, arbitration prescribed by the International Centre for Alternative Dispute Resolution, New Delhi, shall apply. Procedure shall be in accordance with the Arbitration and Conciliation Act. However, the Act as amended on 2015 states that foreign awards can be enforced subjected to some conditions.

The legal framework for PPP in India ranges from the Constitution of India to rules and regulations notified from time to time by various state instrumentalities. In addition to legislations relevant to a particular sector, such as the NHAI Act, 1988, laws governing normal commercial transactions like the Indian Contract Act, 1872; Sale of Goods Act, 1930; Negotiable Instruments Act, 1881, etc., will also have a bearing on PPP arrangements, as will various statutes.

With a view to enhance transparency in PPP projects, the DEA proposes setting up of a dedicated dispute resolution mechanism to address issues related to bidding and award of PPP projects. However, this is yet to be implemented.

Various alternative methods of dispute resolution such as amicable settlement, conciliation mediation, arbitration, and expert adjudication are generally provided for in the concession contracts.

The government signed the New York Convention (Convention on Recognition and Enforcement of Foreign Arbitral Awards 1958) with the declaration that it will apply for the recognition and enforcement of awards made only in the territory of a state, which is party to this convention. The government further declared that it will apply the convention only to differences arising out of legal relationships, whether contractual or not, which are considered as commercial under the law of India.

2.1.1.11 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights?			
Security over the project assets	✓	✓	✓
Security over the land on which they are built (land-use right)	✗	✗	✗
Security over the shares of PPP project company	✓	✓	✓
Can there be a direct agreement between government and lenders	✗	✗	✗
Do lenders get priority in the case of insolvency	✓	✓	✓
Can lenders be given step-in rights	✓	✓	✓

The PPP guide for Practitioners issued by the DEA, dated April 2016, states that in the case of PPP projects, funding is through project finance arrangement under which lenders generally rely either exclusively or mainly on the cash flow expected to be generated by the project to recover loans and earn a return on their investments. The arrangement is also known as nonrecourse or limited recourse funding that has the following features:

- No or limited recourse to sponsor's assets.
- Bankability based on the debt service capacity of the project.
- Debt service capacity based on future cash flows of a single activity.

Master Circular issued by the RBI on "Prudential norms on Income Recognition, Asset Classification and Provisioning pertaining to Advances," dated 1 July 2015, states that, in the case of PPP projects, the debts due to the lenders may be considered as secured to the extent assured by the project authority in terms of the concession agreement, subject to the following conditions:

- User charges/toll/tariff payments are kept in an escrow account where senior lenders have priority over withdrawals by the concessionaire.
- There is sufficient risk mitigation, such as predetermined increase in user charges or increase in concession period, in case project revenues are lower than anticipated.
- The lenders have a right of substitution in case of concessionaire default.
- The lenders have a right to trigger termination in case of default in debt service.
- Upon termination, the project authority has an obligation of (i) compulsory buyout and (ii) repayment of debt due in a predetermined manner.

Some of the state PPP legislations and policies provide for facilitation of securitization where the government agency or local authority may facilitate a developer to securitize project receivables and project assets in favor of Lenders, subject to terms fixed by the government or state infrastructure authorities.

The PPP guidelines by the DEA provide for a substitution agreement or tripartite agreement among the lender, the private partner, and public entity, and in case a project requires financial assistance from MOF, the DEA is party to the tripartite agreement.

2.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to private partner in case of early termination due to the following:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✓	✓	✓
Force majeure	✓	✓	✓
Does the law enable the concept of economic/financial equilibrium?	✓	✓	✓
Does the law enable compensation payment to private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	✓	✓	✓
Change in law	✓	✓	✓

Sector-specific MCAs provide a framework for PPP agreements. The MCA indicates that in case of termination, the following shall be applicable:

- Political force majeure and defaults by the government are proposed to qualify for adequate compensatory payments to the concessionaire and will thus guard against any discriminatory or arbitrary action by the government.
- In the event of termination, the project debt would be fully protected by the government, except where termination occurs due to default by the concessionaire or due to nonpolitical force majeure events, where it is only partially protected.

The government has notified through circulars the sectors eligible for financial support under Viability Gap Funding (VGF), which includes all of the sectors covered in this document. These sectors figure in the harmonized List of Infrastructure Sub-sectors as notified by the government.

For government guarantees, the approach between central sectors and some state sectors is variable. In the case of central sectors, government guarantees are not defined explicitly for PPP projects and are part of the risk-mitigation strategy adopted on a project-specific basis.

2.1.1.13 Government support

	2014	2015	2016
Is project development fund (PDF) available?	✓	✓	✓
Land acquisition support from the government	✓	✓	✓
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on timeframe to complete land acquisition (days)	✗	✗	✗
Is there dedicated agency to streamline land acquisition?	✗	✗	✗
Exemption from/reduction of land-use fees	✓	✓	✓
VGF	✓	✓	✓
Limits to VGF as a percentage of project capital cost	40%	40%	40%
Government guarantees:	✓	✓	✓
Currency inconvertibility and transfer risk	✓	✓	✓
Foreign exchange risk	✓	✓	✓
War and civil disturbance risk	✓	✓	✓
Breach of contract risk	✓	✓	✓
Regulatory risk	✓	✓	✓
Expropriation risk	✓	✓	✓
Government payment obligation guarantee	✓	✓	✓
Credit guarantees	✓	✓	✓
Minimum demand/revenue guarantee	✓	✓	✓
Availability/performance-based payment contracts	✓	✓	✓
Tax subsidies	✓	✓	✓

Some states (e.g., Andhra Pradesh and Bihar) have Infrastructure Development Acts which clearly define that the state government provides for treatment of risks in the concession agreement. For instance, the risks covered under Bihar State Infrastructure Development Enabling Act, 2006, include:

- Construction period risk such as land expropriation, cost overruns, increase in financing cost, time and quality risk, contractor default risk, default by developer, and environmental damages.
- Operation period risk which includes government agency default, developer default, termination of concession agreement by the government, environmental damage, labor risk, and technology risk.
- Market and revenue risk which includes insufficient income from user levies and insufficient demand for facility.
- Finance risk which includes inflation, interest rates, and currency risk.
- Legal risk which includes change in law, title/lease risk, security structure, insolvency of developer, and breach of financing documents.
- Miscellaneous risk which includes direct political force majeure, indirect political force majeure, and natural force majeure.

Details of available government support for PPP projects are provided in Table 26.

Table 26: Details of Available Government Support for PPP Projects in India

Government Support Type	Comments
PDF	<p>The Ministry of Finance in the budget for 2007–2008 had announced the setting up of a revolving fund with the amount of Rs1,000 million (which can be supplemented further if required with the approval of the Finance Ministry) to quicken the process of project preparation and development known as India Infrastructure Project Development Fund (IIPDF).</p> <p>Its primary objective is to support the development of credible and bankable PPP projects. It provides a mechanism through which a sponsoring authority will be able to source funding to cover a portion of the PPP transaction costs, thereby reducing the impact of costs related to procurement on their budgets.</p> <p>This fund can cover the expenses of feasibility studies, environment impact studies, financial structuring, legal reviews and development of project documentation, concession agreement development, commercial assessment studies (including traffic studies, demand assessment, capacity to pay assessment), grading of projects, fees of consultants and advisors, etc., under the project development stage.</p> <p>Typically, the fund can provide up to 75% of the project development expenses to the sponsoring authority and on successful completion of the bidding process, the project development expenditure would be recovered from the successful bidder. In the case of failure of the bidding process, it will be recovered from the sponsoring authority.</p>
Land acquisition and resettlement	<p>Acquisition of land for the development of project under the PPP framework by the public entity prior to commencement of the bidding process has been supported by the Government of India.</p> <p>One of the key factors that determines the approval of the Public Private Partnership Approval Committee (PPPAC) for the development of the PPP project includes the extent of land availability (usually must not be less than 60%) with the public entity for the purpose of project development.</p> <p>The land acquisition process includes an assessment of the land required for a project, notification, and eventual acquisition, and the ability of the government or the line department to fulfill the obligation to provide land without any encumbrance or encroachments. Shifting of utilities from the project site and the acquisition of right of way for the project development are also part of the process. Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 provides for acquisition of land for public purpose under a humane participation, informed and transparent process, and to provide just and fair compensation to affected families. The enactment clearly sets out the procedure to be adopted for acquisition of land with respect to development of projects under PPP framework.</p>
VGF	<p>The DEA notification dated 23 January 2006 provides for VGF equivalent to the lowest bid for capital subsidy but subject to a maximum of 20% of the total project cost. In the case of the sponsoring ministry/state government/statutory entity poses to provide any assistance over and above the VGF, it shall be restricted to a further 20% of the total project cost.</p> <p>Provision of VGF to a PPP in infrastructure requires that the Empowered Institution, the lead financial institution, and the private sector company shall enter into a tripartite agreement.</p>

continued on next page

Table 26 continued

Government Support Type	Comments
Government guarantees	<p>A government guarantee such as a payment or performance guarantee, and foreign currency conversion guarantee, may be provided based on the result of feasibility study and negotiation between the foreign investor and the authority.</p> <p>Government Guarantee Policy 2010 by the DEA states that the sovereign guarantee is normally extended for the purpose of achieving the following objectives:</p> <ul style="list-style-type: none"> To improve viability of project or activities undertaken by government entities with significant social and economic benefit. To enable SOEs to raise resources at lowest interest charges or on more favorable terms. To fulfill the requirement in the case where a sovereign guarantee is a precondition for concessional loans from bilateral/multilateral agencies to sub-sovereign borrowers.
Availability/performance-based payment mechanism	<p>The DEA provides for annuity-/availability-based BOT models in sectors and/or projects not amenable for sizable cost recovery through user charges. In such cases, the government harnesses private sector efficiencies through contracts based on availability/performance payments. Implementing annuity models will require necessary framework conditions such as payment guarantee mechanism by means of making available multi-year budgetary support, a dedicated fund, and letter of credit. The government may consider setting up a separate window of assistance for encouraging annuity-based PPP projects. A variant of this approach could be to make an upfront payment of certain percentage of the project cost during construction period on a case-to-case basis.</p>
Tax subsidies	<p>The government has provided several incentives such as tax exemption and duty-free imports of road building equipment and machinery to encourage private sector participation. Also, 100% exemption on income tax is available to eligible infrastructure projects for a period of 10 years.</p> <p>PPP projects may also qualify for various tax incentives offered by the government:</p> <ul style="list-style-type: none"> • Exemption from registration tax on acquisition of real estate for BOT projects. • Application of, or exemption from, a lower rate of value-added tax for infrastructure facilities or construction of those facilities supplied to the state or local governments as BTO and BOT projects. • Reduction of, or exemption from, various appropriation charges. • Recognition of a certain percentage of the investment as a reserve to be treated as an expense for computing corporate taxes. • Allowing the project company to issue infrastructure bonds at a concessional tax rate on interest earned. • Protection against reduction of tariffs or shortening of concession period. • Protection from a reduction of tariffs or the concession period if the project developer can reduce construction costs below those estimated in the agreement.

BOT = build-operate-transfer, BTO = build-transfer-operate, DEA = Department of Economic Affairs, PDF = project development fund, PPP = public-private partnership, SOE = state-owned enterprise, VGF = viability gap funding.

Source: Mott MacDonald.

Cumulative PPP projects received government support	2014	2015	2016
VGF	204	216	221
Government guarantees	72	80	81
Availability/performance-based payment basis	293	319	331

2.1.1.14 Standard contracts

	2014	2015	2016
What standardized contracts are available and used in the market?			
PPP/concession agreement	✓	✓	✓
Power purchase agreement (PPA)	✓	✓	✓
Capacity take or pay contract	✓	✓	✓
Fuel supply agreement	✓	✓	✓
Transmission and use of system agreement	✓	✓	✓
Performance-based O&M contract	✓	✓	✓
EPC contract	✓	✓	✓

2.1.2 Institutional Capacity for Implementation

2.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP Unit)?	✓	✓	✓
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, running PDF)	✓	✓	✓
Appraisal of PPP project feasibility studies	✓	✓	✓
Approval of PPP project	✓	✓	✓
Procurement	✓	✓	✓
Managing, monitoring, and enforcing ongoing PPP contracts	✓	✓	✓

Description and roles of PPP-promoting agencies are given in Table 27.

Table 27: PPP-Promoting Institutions in India

Institution	Role in Promoting PPP
Department of Economic Affairs, PPP Cell, Infrastructure division	<p>The PPP Cell acts as the Secretariat for the PPPAC, Empowered Committee, and Empowered Institution for the projects proposed for financial support through VGF and for central sector projects.</p> <p>The PPP Cell is responsible for policy-level matters concerning PPPs, including project identification, pre-feasibility analysis, coordination with government agencies, procurement, Model Concession Agreements, capacity building, and project operation and management.</p> <p>The PPP Cell is also responsible for matters and proposals relating to clearance by the PPPAC, Scheme for Financial Support to PPPs in Infrastructure (VGF Scheme), and IIPDF.</p> <p>The PPP Cell has also developed a tool kit for improving PPPs decision-making processes, which includes various tools to assist in the progressive phases of the PPP project, right from project identification to contract management and monitoring</p>
IIPDF	IIPDF is created within the Department of Economic Affairs, MOF of the Government of India to support the development of PPP projects.
PPPAC	The Cabinet Committee on Economic Affairs in its meeting on October 27, 2005, approved the procedure for the approval of PPP projects. Pursuant to this decision, the PPPAC was set up. The PPPAC was notified in 2006, and it is responsible for the appraisal of PPP projects in the central sector
Empowered Institution	Empowered Institution considers the sanction of projects for VGF of up to Rs1,000 million for each eligible project, subject to the budgetary ceiling indicated by the MOF. Empowered Institution also considers proposals, which require funding support of more than Rs1,000 million and can forward these proposals to Empowered Committee.
Empowered Committee	Empowered Committee considers the sanction of projects for VGF from Rs1,000 million up to Rs2,000 million. after recommendation from Empowered Institution, for each eligible project, subject to the budgetary ceiling indicated by the MOF, and also provides instructions relating to eligibility of projects for such support as and when requested by Empowered Institution.
IIFCL	IIFCL—India Infrastructure Finance for long-term debt financing of PPP projects. It was set up in 2006 and registered as non-banking financial company in 2013.

IIPDF = India Infrastructure Project Development Fund, MOF = Ministry of Finance, PPP = public–private partnership, PPPAC = Public Private Partnership Appraisal Committee, VGF = viability gap funding.

Source: Mott MacDonald.

Besides the central government institutions mentioned above, there are also various organizations at the state level and/or the sector level who play a role in planning or procuring PPP projects.

2.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✓	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	✓	✓	✓
Is there any screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	✓	✓	✓

2.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages	no data	no data	no data
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓
Financial feasibility	✓	✓	✓
Legal feasibility	✓	✓	✓
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✓	✓	✓
Fiscal affordability assessment	✓	✓	✓
PPP structuring and risk allocation	✓	✓	✓
Initial market testing	✓	✓	✓
Number of approvals to be obtained by the public sector to get the final go-ahead to commence PPP project procurement	no data	no data	no data
Is the approval from the MOF or equivalent required before commencement of procurement?	✓	✓	✓
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	x	x	x

As per the framework provided by the DEA in 2006, project proposals should satisfy the following criteria to get financial support:

- The proposal should be based on a contract or concession agreement between a government or statutory entity and a private sector company

The project proposal should be related to the one of the sectors (road and bridges, railway, seaport, airport, inland water ways, power, urban transport, water supply, sewerage, SWM, other physical infrastructure in urban area, infrastructure project under SEZ, international convention centers, tourism infrastructure, health, education, and medical colleges) as

described in the guidelines.⁴ (More updates can be checked at the time of finalization of the report from <https://www.pppinindia.gov.in/schemes-for-financial-support>.)

- The project should provide a service against payment of predetermined tariff or user charges.
- The project should obtain “in principle” approval from Empowered Institution.
- Projects based on standardized and/or model documents duly approved by the respective governments will be preferred for consideration, whereas nonstandard documents will be scrutinized by the Empowered Institution before consideration for financial assistance.
- Within 30 days of receipt of the project proposal, Empowered Institution shall inform the sponsoring government and/or statutory entity whether the project is eligible for financial assistance. If the project is based on nonstandard documents, the approval process may require an additional 60 days.
- For any clarification and instruction regarding the project approval, Empowered Institution may refer the project to Empowered Committee for suggestions.
- The financial assistance will be provided if the contract/concession is awarded in favor of a private sector company.
- A private sector company shall be eligible for VGF only if it is selected on the basis of open competitive bidding and will be responsible for financing all the project phases during the concession period.
- The quantum of financial support will be in the form of capital grant at the stage of construction, and the maximum support provided by the DEA under the VGF scheme is up to 20% of the total project cost. The sponsoring authority or state, if required, can provide an additional grant of up to 20% of the project cost.
- VGF for proposals up to (i) Rs1,000 million—may be sanctioned by the Empowered Institution; (ii) up to Rs2,000 million—may be sanctioned by the Empowered Committee; and (iii) amounts exceeding Rs2,000 million—may be sanctioned by the Empowered Committee with the approval of the finance minister

The guidelines (PPPAC Guidelines) notified by the government for formulation, appraisal, and approval of Central Sector PPP projects are as follows:

- Sponsoring ministry identifies projects to be taken up under PPP and undertakes feasibility studies and project agreements preparation with the assistance of suitably qualified consultants.
- If needed, a project is discussed in an interministerial consultative committee. Comments are then annexed to the project proposal for consideration of the PPPAC.
- For in-principle clearance of the PPPAC, Administrative Ministry submits project proposal in a predefined format along with pre-feasibility/feasibility report.
- The PPPAC circulates these documents to concerned ministries and convenes a meeting with them within 3 weeks to accord in-principle approval to the project.
- For projects based on the standard MCA, PPPAC in-principle approval is not required. In such projects, approval only needs to be taken prior to inviting financial bids.

⁴ Government of India. *Public Private Partnership in India*. <https://www.pppinindia.gov.in/schemes-for-financial-support> (accessed 8 February 2017).

- Following in-principle clearance, RFQ may be floated by the administrative ministry for shortlisting of eligible bidders.
- RFP and all contract documents are drafted.
- Proposal for final clearance (appraisal note) is sent to the PPPAC in a pre-specified format, which is circulated to all PPPAC members.
- NITI Aayog, law ministry, and other concerned ministries send their written comments to the PPPAC, which is forwarded to the administrative ministry.
- All the procurement documents and agreements with PPPAC memo are submitted for PPPAC's consideration. The PPPAC takes a view on the appraisal note and comments of all ministries, along with Administrative Ministry's response.
- The PPPAC either recommends the project for final approval of the competent authority, with or without changes, or suggests changes to administrative ministry for resubmission for further consideration of the PPPAC.
- Once cleared by the PPPAC, the project is put up to the competent authority for final approval.

2.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	✓	✓	✓

The PPP Tool Kit (www.pppinindia.gov.in) identifies the major risks associated with infrastructure projects and indicates the potential risk matrix for all phases of the project (pre-operative, construction, operation, handover, and others) under each major PPP model used for implementing the projects. However, the risk allocation can be negotiated on a case-to-case basis in the project contract.

2.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	✓	✓	✓
In case of competitive tender:			
Is prequalification required?	✓	✓	✓
Minimum time allowed to submit PQ/EOI (days)	45	45	45
Minimum time allowed to submit a bid:			
Domestic bidding (days)	30	30	30
International bidding	45	45	45
Is negotiation available?	✗	✗	✗
Is there any process allowing unsuccessful bidders to challenge the award/make complain?	✓	✓	✓
If yes, maximum time allowed to submit a complaint starting from announcement of preferred bidder (days)	10	10	10

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Table continued

	2014	2015	2016
Maximum time limit from bid closing date till selection of a preferred bidder	no data	no data	no data
Maximum time limit from selection of a preferred bidder till signing the contract	60	60	60
Transparency: Which of the following is published?			
Procurement notice	✓	✓	✓
Questions and answers during bid clarification stage	✓	✓	✓
Evaluation results to bidders	✓	✓	✓
Award notice	✓	✓	✓
Contract	✓	✓	✓
Confidentiality	✓	✓	✓

Details of PPP procurement process are given in Table 28.

Table 28: PPP-Procurement Process in India

Theme	Description
Responsible agency	Authorized government agencies (ministries/department of ministries/central public sector enterprise/any company in which more than 50% of the paid-up share capital is held by the central government)
Project announcement	All PPP projects should be announced on the following websites with updates to reflect their current procurement status: www.pppinindia.gov.in / www.infrastructureindia.gov.in
Prequalification invitation documentation	RFQ is used for prequalification. A model RFQ document is generic in nature with the objective to identify credible partner who has the requisite technical and financial capacity for undertaking the project and aims at lending transparency and predictability to the entire process.
Prequalification evaluation criteria	Technical capability The applicant should have acquired sufficient experience, which can be measured either from the construction work undertaken/commissioned by it, or from revenue of BOT/build-own-lease-transfer/build-own-operate-transfer projects, or from both, during the 5 years preceding the application date. The technical capability of the bidders can be assessed based on the following parameters:
Prequalification evaluation criteria	<ul style="list-style-type: none"> • Project experience on BOT projects in the specified sector. • Project experience on BOT projects in the core sector • Construction experience in the specified sector • Construction experience in the core sector • Operation and maintenance experience Financial capability <ul style="list-style-type: none"> • The prequalified applicants should have sufficient financial strength and fund arrangement to undertake the project.

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Table 28 continued

Theme	Description
Prequalification evaluation method	<ul style="list-style-type: none"> As per the Model RFQ document issued by the Planning Commission, submission can be evaluated in two categories: Technical capability <ul style="list-style-type: none"> The credentials of eligible applicants are measured in terms of their “experience score” in the eligible project. Sum of the experience scores for all eligible projects shall be the “aggregate experience score” of a particular applicant. In case of a consortium, the aggregate experience score of each of its members, who have an equity share of at least 26% in such consortium, shall be summed up for arriving at the combined aggregate experience score of the consortium. Financial capability <ul style="list-style-type: none"> Applicants should have a minimum net worth of 25% of the estimated capital cost of projects for which bids are to be invited.
Shortlist	
Request for proposal documentation	<ul style="list-style-type: none"> General information about the project, including the contents and scope of the project, and detailed description of the outputs of the project and the services. Draft project contract Copies of any permit and approval Technical evaluation of complex projects and the estimated project cost Site visit and verification of information Instruction to the bidder Bidding description of bidding procedure and schedule of bidding process and pre-bid conference summary Evaluation method Pre-bid conference summary Feasibility report, requirements on performance, facility quality standard, service provision standard, tariff mechanism, applicable regulations, contract rewards and penalties, and force majeure events.
Methods of interactions with the bidders	<ul style="list-style-type: none"> Question and answer iterations Prebid conferences
Evaluation of technical proposals	<ul style="list-style-type: none"> Bidder should get minimum technical requirements or cutoff score (experience score) to proceed to financial evaluation. Bids that fail to meet the cutoff would not be considered for financial evaluation.
Evaluation of financial proposals	<ul style="list-style-type: none"> The evaluation considers the whole-of-life costs or payments in the bid. Net present value calculation to enable comparison between bids with different cash flow timing. Most often the bidder makes the best financial offer (lowest grant, highest premium, highest concession fee, etc.) would be selected as the preferred bidder. Value for money
Contract signing	

BOT = build–operate–transfer, PPP = public–private partnership, RFQ = request for qualification.

Source: Government of India. Public Private Partnerships in India. <https://www.pppinindia.gov.in/standardized-bidding-documents> (accessed 5 February 2017).

2.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	811	847	861
PPP projects currently in preparation	n/a	n/a	21
PPP projects currently in procurement	n/a	n/a	162

Notes: It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

2.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	14	15	18
Cumulative PPP projects received export credit agency (ECA)/ international financing institution (IFI) financing to date	46	49	51
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Availability of interest rate swaps	✓	✓	✓
Availability of currency conversion swaps	✓	✓	✓
Availability of project bond financing	✓	✓	✓

Indicative project finance loan terms for loans in hard currency are given in Table 29.

Table 29: Indicative Project Finance Hard Currency Loan Terms

Term	Value
Maximum tenor	7 years
Upfront arrangement fee	1.5% of the loan amount
Floor rate (reference rate)	LIBOR
Margin rate	3.5%–5.0%
Political risk cover premium	no data
Swap fee	no data

Sources: Reserve Bank of India. *External Commercial Borrowings (ECB) Policy—Revised Framework*. <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=10153&Mode=0> (accessed 12 February 2017); consultations with commercial banks.

India has a developed capital market, and the majority of infrastructure PPP projects are financed locally often by state-owned banks. In addition, each Indian state has got a separate credit rating assigned by credit agencies.

As per the Guideline for External Commercial Borrowing Provided by RBI, Indian companies are allowed to access funds from abroad in the following methods:

- External Commercial Borrowings (ECB): refers to commercial loans in the form of bank loans, securitized instruments buyers' credit, suppliers' credit availed from nonresident lenders with a minimum average maturity of 3 years.
- Foreign Currency Convertible Bonds (FCCBs): a bond issued by an Indian company expressed in foreign currency, and the principal and interest in respect of which are payable in foreign currency. This bond is issued under the Depositary and Receipt mechanism scheme, 1993, of RBI and is subscribed by a nonresident in foreign currency. It is convertible to ordinary shares of the issuing company.
- Preference shares: this instrument is denominated in Rupees and the Rupees interest rate will be based on the swap equivalent of LIBOR plus the spread as permissible for ECBs of corresponding maturity.
- Foreign Currency Exchangeable Bonds (FCEBs): a bond expressed in foreign currency, the principal and interest in respect of which are payable in foreign currency, this bond should be issued under the FCEB, 2008 Scheme. This bond is exchangeable for the share of another company.

ECB can be accessed under two routes:

- Automatic route (i.e., without prior approval of the government or the RBI).
- Approval route (i.e., requires prior approval of the government through the FIPB).

The "all in cost limit" which includes rate of interest, other fees, and expenses in foreign currency, except commitment fee, pre-payment fee and fees payable in Indian rupees. The reference rate is LIBOR and ceiling rates are given as follows:

- 6 Months Average LIBOR (Maturity period: 0–3 years)
- 6 Months Average LIBOR + 350 bps (Maturity period: 3–5 years)
- 6 Months Average LIBOR + 500 bps (Maturity period: >5 years)

Indicative project finance loan terms for loans in hard currency are given in Table 30.

Table 30: Indicative Local Currency Loan Terms

Term	Value
Maximum tenor	20 years
Upfront arrangement fee	0.25%–0.35% of loan amount
Floor rate (reference rate)	1.5%–2% (base rate)
Margin rate	11.5%–12.5%
Political risk cover premium	no data
Swap fee	no data

Source: Reserve Bank of India. *External Commercial Borrowings (ECB) Policy—Revised Framework*. <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=10153&Mode=0> (accessed 12 February 2017).

2.2 Roads

2.2.1 Regulatory Framework

2.2.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	100%
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2.2.1.2 *Government contracting agency*

Ministry of Road Transport and Highway (MORTH) is the organization of the central government which formulates and administers the program in consultation with other central ministries/departments.

2.2.1.3 *Sector-specific regulations*

Does private partner have legal right to charge users?	✓
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The most commonly applied regulations for the development of national highways are:

List of operational standards for road design.

The National Road Safety Policy outlines the policy initiatives to be implemented by the government at all levels to improve the road safety activities in the country.

Indian Road Congress was set up by the government in consultation with state governments in December 1934, to provide a national forum for regular pooling of experience and ideas on all matters concerned with planning, design construction, and maintenance of highways.

2.2.1.4 *Sector regulators*

- The NHAI under MORTH is the lead agency to regulate and manage PPP contracts. The NHAI has also formed SPV for funding road projects.
- MORTH, NHAI, and BRO (Border Roads Organisation) manage the National Highway and expressways.
- Public Works Department (PWD) and other road corporations govern and manage state highways and major district roads.
- Rural roads are developed, maintained, and monitored by the Ministry of Rural Development.
- Project Roads for irrigation, power, mines, etc., are governed by state PWDs and project organizations.
- Urban roads for intracity networking are governed by municipal corporations.
- Village roads are being governed by the respective *zilaparishads* (administrative district) and state governments.

All the abovementioned regulators and implementation agencies also manage the operations, maintenance, and toll collection (where applicable) for the roads.

2.2.2 Institutional Capacity for Implementation

2.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The government aims to develop a total of 63,591 kilometers (km) of national highways under various programs such as:

- NHDP
- Special Accelerated Road Development Programme for the North-East region (SARDP-NE)
- Development of roads in Left Wing Extremism affected areas
- National Highways interconnectivity Improvement Project (NHIIP)

The programs also envisage the following projects potentially being procured through PPP models:

- Completion of Golden Quadrilateral (GQ) and East–West (EW) and North–South (NS) corridors
- Four-laning of 10,000 km under the NHDP Phase 2
- Two-laning with paved shoulders of 20,000 km of national highways under NHDP Phase 4
- Augmenting highways in the northeast under the Special Accelerated Road Development Programme
- Six-laning of selected stretches of national highways under NHDP Phase 5
- Development of 1,000 km of expressways under NHDP Phase 6
- Construction of ring roads, flyovers, and bypasses on selected stretches under NHDP Phase 7

The Union Budget of 2016–2017 mentions that the total investment in the central road sector would be \$8.21 billion (including \$30 million for road transport during 2016–2017).

NHAI has been authorized to generate Internal and Extra Budgetary Resource of \$8.85 billion during 2016–2017. During this period, around 25,000 km of national highways have been targeted to be awarded. Of this, NHAI aims to award 15,000 km and MORTH another 10,000 km.

BOT is the preferred mode of delivery with around 70% of the projects being developed under this model.

PPP pipeline of road projects is listed in Table 31.

Table 31: PPP Pipeline of Road Projects

No.	Project Name	Length (km)	Value (\$ million)
1	Mumbai–Pune Expressway Expansion PPP	95	93.70
2	Chakeri–Allahabad Section Six-Laning	145	29.43
3	Handia–Varanasi Section Six-Laning	72.4	355.73
4	Baleshwar–Chandikhole Section Six-Laning	137	343.50
5	Four- to Six-Laning of Raipur–Bilaspur Section	127	293.71
6	NH-74 Nagina–Kashipur Section PPP	99	237.70
7	NH-56 Lucknow–Sultanpur Section PPP	126	218.41
8	NH-275 Bangalore–Mysore Highway	123	476.37
9	Biju Expressway	656	505.15
10	Kozhikode City Road Improvement Project	no data	30.40
11	Sangrur–Punjab/Haryana Border Section NH071 Four-Laning PPP	60	82.30
12	Coimbatore–Mettupalayam NH-67 Road Project PPP	54	75.23
13	Punjab Road Corridors Upgrade Package III A PPP	123.12	no data
14	Punjab Road Corridors Upgrade Package III B PPP	176.42	no data
15	Punjab Road PPP Package C	no data	no data
16	Four-laning of +A19:A356 Tuljapur–Ausa road under NHDP-IV	55.8	135.00
17	Six-laning of NH-8 in Gujarat	93.2	192.70
18	Six-laning of Gundugolanu–Rajamundry—Andhra Pradesh NHDP Phase 5	68.3	208.90
19	Six-laning of Anandapuram–Vishakhapatnam– Anakapalli—Andhra Pradesh —NHDP Phase 5	62	223.80
20	Aurangabad–Bihar–Jharkhand border–NHDP Phase 5	69.58	149.20
21	Bihar/Jharkhand Border–BarwaAdda— NHDP Phase 5	152.02	417.70
22	Six-laning of Chitradurga–Haveri Section of NH 4—Karnataka	151	103.40
23	KhambatakiGhat on Pune Satara Section of NH 4	6	104.40
24	Singhara–Binjabahal—Odisha—NHDP Phase 4	103.79	163.70
25	Binjabahal–Telebani—Odisha—NHDP Phase 4	78.32	159.20
26	Cuttack–Angul—Odisha—NHDP Phase 3	112	218.20
27	Balasore–Chandikhole—Odisha—NHDP Phase 5	138.2	no data

PPP = public–private partnership.

Sources: Government of India, Ministry of Road Transport and Highways. <http://www.nhai.org/Projecttargetedforaward201617.pdf> (accessed 20 February 2017); Government of India. Database of Infrastructure Projects in India. [https://infrastructureindia.gov.in/project-list?id=1&searchType=Government%20Infrastructure%20Projects%20\(PPP\)](https://infrastructureindia.gov.in/project-list?id=1&searchType=Government%20Infrastructure%20Projects%20(PPP)) (accessed 15 February 2017).

2.2.2.2 Project preparation

Number of PPP projects in preparation	15
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2.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	2
Unsolicited bids	242
Competitive bidding process	307
PPP projects currently in procurement	53

2.2.3 Features of Past PPP Projects

2.2.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	362	64,848

2.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	47	13%

2.2.3.3 Government support

PPP projects received government support:	Number
VGF	183
Government guarantees:	
Minimum traffic/revenue guarantees	6
Projects on availability/performance-based payment basis	48

Majority of the PPP road projects are supported in terms of land acquisition by the government.

2.2.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	209
Government-paid contracts	48
What additional revenue streams are allowed?	
Land-use development rights	no data
Advertising	✓

2.2.3.5 Tariffs

The implementation agencies such as NHAI, NHIDCL (National Highway and Infrastructure Development Corporation Limited), BRO, and PWD will carry out the regulatory functions for PPP road projects. For the initial few years, there will be an agreement specifying the upper limit for the user fees that can be charged to users. For the subsequent years, usually, a fee revision is stipulated through a defined formula. The appropriate upper limit of tariffs is to be notified by the government from time to time. There are both open and closed toll systems practiced in India.

The levy of user fees is governed by the:

- National Highways Fee (Determination of Rates and Collection) Rules, 2008
- The National Highways Rules, 1997, permitting
 - collection of fees for the use of sections of national highways, permanent bridge, and temporary bridges on national highways
 - collection of fees for the use of national highways section and permanent bridge (delivered as a public-funded project).

The agreement provides for indexation of user fees to the extent of 30% linked to WPI and exchange rate variations (20% indexed to WPI and 10% to exchange rate variations).

Examples of toll rates on current toll roads are presented in Table 32.

Table 32: Examples of Current Toll Rates

State	NH-No.	Toll Plaza Name	Toll Plaza Location	Section/Stretch	Type of Vehicle	Tariff in INR		
						Single Journey	Return Journey	Monthly Pass
Gujarat	NE-1	Ahmedabad Vadodra Expressways	Km 2,600	A V Expressway Phase 1 and 2	Car/Jeep/Van	95	145	3,170
					LCV	155	230	5,120
					Bus/Truck	320	485	10,730

continued on next page

Table 133 continued

State	NH-No.	Toll Plaza Name	Toll Plaza Location	Section/Stretch	Type of Vehicle	Tariff in INR		
						Single Journey	Return Journey	Monthly Pass
					Up to 3 Axle Vehicle	350	525	11,705
					4 to 6 Axle	505	755	16,825
					HCM/EME	505	755	16,825
					7 or more Axle	615	920	20,480
Delhi	8	IGI Airport	Km 19.100	Delhi-Gurgaon	Car/Jeep/Van	15	no data	345
					LCV	25	no data	460
					Bus/Truck	50	no data	685
					Up to 3 Axle Vehicle	50	no data	1,375
					4 to 6 Axle	50	no data	1,375
					HCM/EME	50	no data	1,375
					7 or more Axle	50	no data	1,375

HCM/EME = Heavy Construction Machinery / Earth Moving Equipment, LCV = Light Commercial Vehicles.

Source: Government of India, Ministry of Road Transport and Highways. <http://morth.nic.in/> (accessed 12 February 2017).

2.2.3.6 Risk allocation

Typical risk allocation arrangements in road PPP contract are presented in Table 33.

Table 33: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Collection risk	✓			
Competition risk				no data
Government payment risk		✓		Foreign sponsor participation
Environmental and social risk	✓			
Land acquisition risk		✓		In the roads sector, the risks associated with land acquisition have the potential to derail a project timetable
Permits	✓			
Geotechnical risk			✓	

continued on next page

Table 33 continued

Risk	Private	Public	Shared	Comment
Brownfield risk: inventories studies, property boundaries, project scope			✓	
Political risk		✓		
FX risk			✓	Foreign sponsor participation

PPP = public–private partnership.

Source: Mott MacDonald.

2.2.4 Local Capabilities

In India, there are numerous local construction companies taking up roles as operators and/or contractors. Some of the large, well-known players include:

- GMR Group
- IL&FS
- IRB Infrastructure Developers
- AshokaBuildcon
- EssellInfraprojects
- Uniquist Infra Ventures
- KNR Construction
- Transstroy—OJSC Consortium
- Galfar Engineering Contracting SAOG
- Sadbhav Engineering
- Oriental Structural Engineers
- Hindustan Construction Company, which is actively involved in the construction of roads.

2.2.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI support	0

2.2.6 Challenges

Recently, this sector has faced debt repayment issues and project fund constraints. It is noted that a few projects are undergoing debt restructuring processes with lenders, leading to delay in completion of projects.

Lenders indicate limited liquidity for this sector. Also, private developers are facing liquidity crunch, leading to delay in meeting upfront equity requirements. Procedural delays in granting clearances and land for the projects is also impacting project success. Specific challenges for progressing road PPP projects are presented in Table 34.

Table 34: Challenges for PPP Progress in Road Sector

Challenges	Currently Implemented Tackling Measures
The risks associated with land acquisition have the potential to severely impact a project schedule.	An Infrastructure Group has been created to resolve approval/clearance issues and is working actively toward this.
Road development and maintenance projects less than 100 kilometers are relatively small to attract major international bidders and strategic investors.	To cater to the investment need requirements in the road sector, the Department of Industrial Policy and Promotion of the Ministry of Commerce and Industry is actively working to attract foreign investors.
No uniform tolling policy.	
Traffic figures of government tend to be optimistic, leading to the need for independent traffic projections by the private sector causing delay in financial closure.	Approval from NHAI to raise subordinate debt up to 30% of the total project cost of the NHAI through securitization of future cash flow in BOT toll projects.
Disparity in tolling rates between private-funded projects and public-funded projects leading to user resistance.	The share of private participants is expected to increase significantly by way of equity alone for NHAI BOT projects under the NHDP from Phase 3 to Phase 7.

BOT = build–operate–transfer, NHAI = National Highway Authority of India, NHDP = National Highways Development Project, PPP = public–private partnership.

Source: Mott MacDonald.

2.3 Railways

2.3.1 Regulatory Framework

2.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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100% FDI in the railway infrastructure segment has been allowed by the Indian Railways in the recent past in the following categories, which has opened up opportunities for private participation in the Indian Railways:

- network expansion,
- gauge conversion,
- high-speed railway projects,
- dedicated freight corridors (DFCs),
- connectivity to mines and ports,
- electrification and signalling system,
- high-speed tracks and suburban corridors, and
- freight and passenger terminals.

100% FDI is permitted in metro rail projects as well, but as the system falls under mass rapid transit system, and not typically part of Indian Railways, it is not covered substantially under this section.

2.3.1.2 *Government contracting agency*

Concession agreements with foreign collaboration are signed by the Ministry of Railways, under its zonal arms—Zonal Railways. Agreements with domestic concessioners are signed by the respective agency or corporations executing the PPP project. For instance:

- Zonal Railways—Western, Central, Eastern, Southern
- Rail Vikas Nigam
- Container Corporation of India (CONCOR)

2.3.1.3 *Sector-specific regulations*

Basic regulations exist that apply to government financed railway projects on government infrastructure, including:

- The Railways Act, 1989
- Railway Protection Force (Amendment) Act, 2003
- Railways (Amendment) Act, 2005
- Railways (Amendment) Act, 2008

Operations of metro rails are governed under The Metro Railways (Operation and Maintenance) Act, 2002.

2.3.1.4 *Sector regulators*

There is no single apex regulating authority designated for controlling functions of the Indian Railways at present. Policies and legislations under different functions are being constructed, amended, and regulated by the Indian Railways under the guidelines set by different directorates falling under it. For instance, NTDPC (National Transport Development Policy Committee) aims to provide an integrated and sustainable transport system; similarly, directorate of Research Designs and Standards Organisation sets the technical standards of the industry.

However, Railway Regulatory Authority of India (RRAI), a national level independent agency, was proposed by Bibek Debroy Committee in 2015. It was proposed that the agency shall be instrumental in three prime functions—policy making, regulatory function (monitoring or compliance), and operations.

In the railways budget for fiscal year (FY) 2016–2017, it has been proposed that an independent body known as the Rail Development Authority may be established, which would be housed outside the Ministry of Railways but funded through the annual railway budget sanctioned by the Parliament. However, this would be undertaken under a new Regulatory Authority Bill Draft, which is yet to be proposed to the Parliament for discussion.

2.3.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
Performance-based O&M contract	✗
EPC contract	✓

2.3.2 Institutional Capacity for Implementation

2.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

- The Indian Railways is planning 20 projects (worth Rs140,000 million) in the current plan for new lines, track doubling, and electrification projects in the PPP mode.
- While seven PPP projects worth Rs56,930 million have been planned as part of a joint venture model, an additional Rs22,360 million worth of projects will be executed through the customer-funded model.
- Three PPP projects worth Rs30,160 million are planned through the annuity route and in-principle approval has been given to six others worth Rs30,780 million. These models are part of the participatory policy for rail connectivity launched in 2012.

2.3.2.2 Project preparation

Number of PPP projects in preparation	1
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2.3.2.3 Procurement

PPP projects currently in procurement	0
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2.3.3 Features of Past PPP Projects

2.3.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	8	7,826

2.3.3.2 Foreign investor participation

	Number	Share in Total Number of Rail PPP Projects
PPP projects with foreign sponsor participation	2	25%

2.3.3.3 Government support

PPP projects received government support:	Number
VGF	4
Government guarantees	0
Projects on availability/performance-based payment basis	0

2.3.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	5
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	no data
Advertising	no data
Track access charges	no data

2.3.3.5 Tariffs

Currently, setting of tariffs for railways is the function of the Railway Board. Revising rail fares is a politically sensitive issue. Every year, the rail budget is passed without any substantial rise in rail tickets. To free the rail tariffs from political influences, a Rail Development Authority is proposed to be set up as mentioned in section 1.3.1.4.

2.3.3.6 Risk allocation

Typical risk allocation arrangement in railway PPP contracts is given in Table 35.

Table 35: Typical Risk Allocation Arrangements in Railway PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			
Revenue collection risk	✓			
Tariff risk	✓			
Competition risk	✓			
Government payment risk	✓			
Environmental and social risk			✓	
Land acquisition risk		✓		The Railway Authority bears the greatest risk.
Utilities relocation risk	✓			Will be the operator's responsibility but will also get support from the government.
Interface with other transport				
Permits			✓	
Geotechnical risk		✓		
Regulatory risk			✓	Rail authority and the private entity would seek change in law enforcement for specific events.
Political risk		✓		
FX risk	✓			A fixed fee has to be paid to the government, so that the public sector is not affected by foreign exchange rates.
Early termination risk			✓	Will entail some risk on both parties.

PPP = public-private partnership.

Source: Mott MacDonald.

2.3.4 Local Capabilities

The Indian Railways manufactures its own rolling stock, including railroad cars, coaches, and wagons through the following units and subsidiaries:

- Integral Coach Factory, Chennai
- Rail Coach Factory, Kapurthala
- Bharat Earth Movers
- Burn Standard
- Braithwaite
- Bharat Wagon and Engineering

Alstom India is a leading supplier of train control systems. The company also possesses capability of supplying rolling stock for India's fastest trains—Shatabdi and Rajdhani, which include Alstom designed Linke Hofmann Busch coaches. Other rolling stock suppliers in private sector include

- Titagarh Wagons
- Texmaco Rail and Engineering
- BESCO
- Jindal Rail Infrastructure
- Pennar Industries
- Cimmco

2.3.5 Challenges

Specific challenges for progressing rail PPP projects are presented in Table 36.

Table 36: Challenges for PPP Progress in the Rail Sector

Challenges	Currently Implemented Tackling Measures
Faulty Model —Indian Railways has not adhered to the model concession agreement offered by the Planning Commission but has been relying on its past experience in PPP projects, which to a certain extent has resulted in delays and oversights causing operating challenges.	The CAG of India has advised that the provisions of the agreement need to be complete and clearly defined, with the requisite safeguards, to address any unforeseen event during the concession period.
Return Rate Conflicts —The Ministry of Finance has benchmarked the RoI at 14% for a railway project to be economically viable. However, two of the six projects audited by the CAG had been approved by the Ministry of Railways despite having a projected IRR of 10.5% and 11.8%, respectively. On the contrary, projects with IRR as high as 22% have not been progressed.	The CAG has recommended that adequacy and accuracy of data/information including assumptions need to be exhaustively analyzed for assessing IRR in order to judge the economic viability of the project.
Cost and Delays —Milestone payment and target completion dates missing in some contracts. In the case of Haridaspur–Paradip railway link, even though 70% of the land was available by 2006, the audit committee found that only 17% of the line was completed by March 2013, whereas the project cost had nearly doubled.	
Lack of Regulation —As of now, there is no independent PPP regulator.	
Monitoring —Each of the PPP projects were supposed to involve a CPRB that would review monthly progress and financial reports, in order to monitor progress and prescribe corrective measures if necessary. The audit committee (CAG) did not find the requisite reviews made by the CPRB.	

CAG = Comptroller and Auditor General, CPRB = Construction Project Review Board, IRR = implementing rules and regulations, PPP = public-private partnership.

Source: Mott MacDonald.

2.4 Ports

2.4.1 Regulatory Framework

2.4.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	100%
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Around 95% of India's trading by volume and 70% by value is done through maritime transport, and the government plays an important role in supporting the port sector. It has allowed up to 100% FDI under the automatic route for development of ports and harbors. The government also provides a 10-year tax holiday to enterprises investing to develop, maintain, and operate ports, inland waterways, and inland ports.

The DIPP in the Ministry of Commerce and Industry reported that the port sector received FDI worth \$1.64 billion between April 2000 and March 2016.

2.4.1.2 *Government contracting agency*

Concession agreements for upgradation and developments in major ports are contracted by the respective major port trusts (MPTs). Twelve agreements for the development of nonmajor ports have been executed by the respective state corporations established and operating under the jurisdiction of the State Maritime Board, including

- Department of Ports, Andhra Pradesh
- Gujarat Pipavav Port
- Kerala State Maritime Development Corporation
- Public Works, Ports and Inland Water Transport Department, Karnataka
- Maharashtra Maritime Board
- Gujarat Maritime Board

2.4.1.3 *Sector-specific regulations*

There are 12 major ports and about 200 nonmajor ports in India. All major ports fall under the jurisdiction of the government, and thus are governed by policy directives stipulated under the MPT Act, 1963, except Ennore port, which is governed under the Companies Act 1956. Nonmajor ports fall under the jurisdiction of the state governments' Maritime Boards.

The Ministry of Shipping has filed a bill for replacing the MPT Act with "The Central Port Authorities Act, 2016" (Draft). This step is being taken in view of the need to give more autonomy and flexibility to the major ports, and to bring a common and professional approach to their governance.

2.4.1.4 Sector regulators

Ministry of Shipping (the government), Tariff Authority of Major Ports (TAMPs), and several State Maritime Boards are the regulating authorities in the sector.

The reform process for major ports was initiated in 1990s, as part of the broader strategy for infrastructure development, which called for private sector participation due to the inadequacy of public resources.

The TAMP was established in 1997 with the basic objective of regulating the tariffs for major ports. All the major economic functions were directly under the ambit of the TAMP until January 2008 when the MCA was approved allowing private participation, thus improving efficiency and to share development and maintenance cost. The model agreement suggested:

- The concessioner to pay a license fee for using land instead of lease for the terminal area.
- Royalty to be paid as a percentage of gross revenue. Any discounts offered to shipping lines under the terminal handling agreement cannot be taken into consideration while calculating gross revenue.
- No termination compensation is paid to the concessioner on expiry of the agreement.
- Depreciating the entire capital cost of the assets, replacing obsolete assets, over the remaining concession period, even if the new assets would have residual life left at the end of the concession period.
- Tariffs not to be fixed or adjusted by the concessioner but revised as per the decision of the TAMP.

However, in the absence of an independent regulatory body to look into the execution and maintenance of PPP projects, a review board has been proposed to replace the TAMP, with authority to:

- Arbitrate between Port Authority and PPP concessionaries
- Review stressed PPP projects and suggest measures to revive them
- Act as an appellate authority looking into grievances regarding the services rendered by the port authority and/or private operators operating within the port premises.

The review board is expected to reduce the cases of litigation between the PPP operators and the port authority.

For nonmajor ports, similar regulatory models have been developed by the State Maritime Boards. Key features of Gujarat Maritime Board's model include:

- No interference by state authorities in governing tariffs, although the possibility to establish an independent body was kept open.
- The concessioner pays the lease rent on the basis of a separate lease or sub-lease agreement
- The concessioner pays a waterfront royalty either in the form of a fixed fee related to the amount of cargo handled through the terminal, revised by 20% every 3 years

(straight line option) or a fee notified by the Government of Gujarat along with the Schedule of Port Charges, revised by 20% every 3 years.

- Compensation to be paid to the concessioner against the movable assets at the terminal, on expiry of the concession period.

Details of port sector regulatory agencies are presented in Table 37.

Table 37: Port Sector Regulatory Agencies in India

Agency	Function
Ministry of Shipping	Apex body for formulation and administration of the rules, regulation, and laws related to shipping
Tariff Authority of Major Ports	Regularising tariffs for major ports
State Maritime Boards	Formulation and administration of the rules, regulation, and laws related to shipping

Source: Mott MacDonald.

The government plans to introduce a new framework for renegotiating PPP contracts, based on sector-specific issues, to provide higher flexibility to the parties involved.

The power of the Ministry of Shipping has been enhanced to accord investment approval for PPP projects in the sector.

2.4.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
Performance-based O&M contract	✓
EPC contract	✓

2.4.2 Institutional Capacity for Implementation

2.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Pipeline of PPP projects in port sector is provided in Table 38.

Table 38: PPP Pipeline of Maritime Projects

No.	Project Name	Location	Value (\$ million)
1	Floating storage and regasification unit in Mumbai Harbour on DBFOT basis	Maharashtra	40.75
2	Redevelopment of Berths 8, 9, and Barge Berth at Port of Marmugao	Goa	18.37

Source: Government of India, Department of Economic Affairs, PPP Cell, Infrastructure Division. <https://www.pppinindia.gov.in/projects-summary> (accessed 6 February 2017).

2.4.2.2 Project preparation

Number of PPP projects in preparation	2
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2.4.2.3 Procurement

PPP projects procured through:	
Direct appointment	4
Unsolicited bids	30
Competitive bidding process	21
PPP projects currently in procurement	0

2.4.3 Features of Past PPP Projects

2.4.3.1 PPP projects that reached financial close

	No.	\$ million
PPP projects that reached financial close	39	8,745

2.4.3.2 Foreign investor participation

	Number	Share in Total Number of Port PPP Projects
PPP projects with foreign sponsor participation	18	46.2%

2.4.3.3 Government support

PPP projects received government support:	Number
VGF	0
Government guarantees	0
Projects on availability/performance-based payment basis	0

2.4.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	18
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✓
Wharf charge	✓
Navigation charge	✓
Pilotage charge	✓
Channel access charge	✓

2.4.3.5 Concession fees

What are the typical mechanisms for fee paid to the government?	
Lump sum	✗
Royalties	✓
Revenue share	✓
Profit share	✗
Annual lease	✓

2.4.3.6 Tariffs

Does private sector have the freedom to set the tariff?	✗
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All major ports fall under the direct control of the TAMPs. The government is planning to deploy newer guidelines which will dilute the role of the TAMP from that of being a rate setter to a monitoring and grievances addressing authority. Individual port trust will have the flexibility to determine rates in line with prevailing market conditions without loss of traffic. This rate-setting freedom is expected to play a key role in the success of state governments' ports.

2.4.3.7 Labor

How is the issue of excess and efficiency of labor force typically being resolved?	
Private operator given the freedom to hire and fire and to set its own terms and conditions of employment	no data
The pre-PPP workforce is transferred to the private operator. Private operator is allowed to make gradual changes to the terms and conditions of employment, provided these are no worse than before and/or are acceptable to the unions or workers' representatives.	no data
The port authority or the government undertakes a major labor force restructuring in advance of the PPP, and the workforce is transferred to the private operator.	no data

2.4.3.8 Risk allocation

Typical risk allocation arrangements in port PPP contracts are presented in Table 39.

Table 39: Typical Risk Allocation Arrangements in Port PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk			✓	Depends on the overall portfolio of products being handled by the port so affected by types of industry in the vicinity.
Competition risk (exclusivity)	✓			Depends upon the portfolio of products handled by the port, which in turn depends upon the designed handling capacity of the port.
Tariff	✓			
Environmental and social risk			✓	
Land acquisition risk		✓		Low risk if the project is sanctioned environmental clearance. Coastal land either falls under the ambit of the Maritime Board or the port authority
Permits		✓		Obtaining clearances is normally time-consuming, posing risks of delay and cost escalation.
Geotechnical risk		✓		
FX risk	✓			Public sector to get a fixed portion of the revenue, so only the revenue of the private party is affected.
Political risk		✓		

Source: Mott MacDonald.

2.4.4 Local Capabilities

Mundra Port is the largest private port in Gujarat. It is owned by Adani Enterprises under the group company Adani Ports and SEZ (APSEZ). In FY 2013–2014, it became the biggest and the first to handle 100 million tonnes of cargo. Other major players include the following:

- Larsen and Toubro has designed, established, and commissioned the Katupally International Container Terminal.
- Reliance Industries operates Sikka port in Gujarat.
- Essar too operates a number of ports in India, including Vadinar, Salaya, and Hazira in the west, with a total cargo load of 140 MTPA.
- Marg foundation India was a part of the development of the Karaikal Port, near Pondicherry.
- DVS Raju has a stake in Gangavaram port, NATCO Group in Krishnapatnam port, AMP Terminals in Pipavav port, and Balaji Infra in Digbi port.
- JSW Steel operates Jaigarh port near Mumbai.

2.4.5 Project Financing

PPP projects with foreign lending participation	1
PPP projects that received ECA/IFI financing	1

2.4.6 Challenges

Specific challenges for progressing PPP Port projects are given in Table 40.

Table 40: Challenges for PPP Progress in the Port Sector

Challenges	Currently Implemented Tackling Measures
Inadequate road and rail networks interconnecting inland container terminals (ICT) and seaports	
Inadequate cargo-handling equipment, navigational aids, information technology systems, insufficient dredging capacity, and lack of technical expertise lowers the efficiency of Indian ports.	
Tariff regulatory risk arising from the TAMP policy:	The Ministry of Shipping has filed a bill for replacing the “Major Port Trust Act, 1963” with “The Central Port Authorities Act, 2016” (Draft). This step is being taken in view of the need to give more autonomy and flexibility to the major ports, and to bring a common and professional approach in their governance.

PPP = public–private partnership, TAMP = Tariff Authority of Major Ports.

Source: Mott MacDonald.

2.5 Airports

2.5.1 Regulatory Framework

2.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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The FDI policy permits up to 100% FDI in greenfield projects and up to 74% in brownfield projects under automatic route. FDI beyond 74% in brownfield projects should be through government participation (PPP).

2.5.1.2 Government contracting agency

The Ministry of Civil Aviation (MOCA) is responsible for the formulation of national policies and programs for the development and regulation of the Civil Aviation sector in India. The ministry exercises administrative control over attached and autonomous organizations such as Airports Authority of India (AAI), Director General of Civil Aviation (DGCA), and Bureau of Civil Aviation Security (BCAS).

2.5.1.3 Sector-specific regulations

The following acts specifically pertain to the airport sector:

- AAI Act, 1994, was amended by the Indian Parliament in 2003 to facilitate participation of the private sector in the development of greenfield airports. The act excludes private airports from its ambit.
- The National Civil Aviation Policy 2016, issued by the MOCA, focuses on strengthening nationwide air connectivity and rationalizing fares to be affordable to masses. Accordingly, the National Civil Aviation Policy⁵ encourages the development of airports in PPP mode with AAI and the state governments contributing as public enterprises.
- As per the guidelines prescribed by the International Civil Aviation Organization (ICAO), MOCA publishes regulations to airport and airline operators to ensure safety and security of operations. AAI is responsible for implementing the guidelines and monitoring compliance.
- DGCA ensures that no tall structures are erected within a periphery of 30 km from runways, so that there are no obstructions to the flight operations.
- Regulations related to customs and immigration are administered, respectively, by the MOF and the MHA.

⁵ Government of India, Ministry of Civil Aviation. <http://pib.nic.in/newsite/PrintRelease.aspx?relid=146238> (accessed 15 February 2017).

2.5.1.4 Sector regulators

Details of airport sector regulatory agencies are described in Table 41.

Table 41: Airport Sector Regulatory Agencies in India

Agency	Function
Airport Authority of India (AAI)	<ul style="list-style-type: none"> AAI is responsible for developing, financing, operating, and maintaining of all public sector airports. AAI acts as an operator and regulator of airports, and is the only body (except the Indian Air Force) empowered to provide the air traffic services over the Indian airspace and adjoining oceanic areas in accordance with the International Civil Aviation Organization standards. Communication, Navigation and Surveillance/Air Traffic Management and other allied infrastructure required for a greenfield airport will be mandatorily provided by the AAI.
Director General of Civil Aviation (DGCA) and Bureau of Civil Aviation Security (BCAS)	<ul style="list-style-type: none"> The aerodrome license is granted by the DGCA The DGCA and BCAS are responsible for safety and security aspects related to flight operations.
Airport Economic Regulatory Authority (AERA)	<ul style="list-style-type: none"> AERA regulates the tariff and user charges for the services rendered by the airports. It also monitors performance standards of nationwide airports.
Ministry of Civil Aviation (MOCA)	<ul style="list-style-type: none"> Site Clearance for all greenfield airports is granted by MOCA, based on the reports submitted by AAI/DGCA.
Ministry of Environment and Forest (MOEF)	<ul style="list-style-type: none"> MOEF will issue the environment and forest clearance certificate for the proposed site.
Ministry of Defence (MOD)	<ul style="list-style-type: none"> The MOD will approve the greenfield project, if the proposed project comes within the restricted airspace.
Ministry of Finance (MOF) and Ministry of Home Affairs (MHA)	<ul style="list-style-type: none"> Clearance for Customs-related service will be issued by the MOF. MHA issues the license with regard to the location of the airport, acquisition and installation of security equipment, and verification of credentials of the developers. Clearances for Immigration-related services will be issued by the MHA.

Source: Mott MacDonald.

2.5.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
Performance-based O&M contract	✓
EPC contract	✓

2.5.2 Institutional Capacity for Implementation

2.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

- AAI targets operating 250⁶ airports in the country by 2020.
- Expenditure of \$3 billion has been budgeted for nonmetro (Tier II and III) airports between 2016 and 2020, focusing on the modernization and upgrading of many of the existing airports.

Planned PPP Projects in the airport sector are presented in Table 42.

Table 42: PPP Pipeline of Airport Projects

No.	Project Name	Value (Rs million)
1	International Airport (Mopa)	30,000 ^a

PPP = public–private partnership.

^a Government of India. *Public–Private Partnerships in India*. <https://www.pppinindia.gov.in/> (accessed 20 February 2017).

Source: Government of India. *Public Private Partnerships in India*. <https://www.pppinindia.gov.in/> (accessed 20 February 2017).

2.5.2.2 Project preparation

Number of PPP projects in preparation	0
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2.5.2.3 Procurement

PPP projects procured through:	
Direct appointment	0
Unsolicited bids	6
Competitive bidding process	5
PPP projects currently in procurement	0

⁶ Government of India. *Make in India Initiative*. <http://www.makeinindia.com/sector/aviation> (accessed 15 February 2017).

2.5.3 Features of Past PPP Projects

2.5.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	7	5,111

2.5.3.2 Foreign investor participation

	Number	Share in Total Number of Airport PPP Projects
PPP projects with foreign sponsor participation	4	57%

2.5.3.3 Government support

PPP projects received government support:	Number
Land acquisition support	no data
VGF	1
Government guarantees	0
Projects on availability/performance-based payment basis	0

2.5.3.4 SOEs participation

PPP projects with SOEs participation:	Number	Share in Total Number of Airport PPP Projects
As a sole counterparty to the government	no data	
In a joint venture arrangement with the private sector	no data	

2.5.3.5 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	3
Government-paid contracts	0

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Table continued

What aeronautical revenue streams are allowed?	
Landing fees	✓
Aircraft parking fees	✓
Boarding bridge fees	✓
Terminal service fees	✓
What nonaeronautical revenue streams are allowed?	
Commercial	✓
Ancillary	✓

2.5.3.6 Tariffs

The user charges levied by the airports for aeronautical services are determined as per the provisions under the Government Support Agreement. The Joint Venture Committee (JVC)/SPV is free to fix the charges for nonaeronautical services, subject to the applicable law and provisions in the development and maintenance contracts.

2.5.3.7 Risk allocation

Typical risk allocation arrangement in airport PPP projects is given in Table 43.

Table 43: Typical Risk Allocation Arrangements in Airport PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Competition risk (exclusivity)	✓			Competition risk is medium because of the oligopolistic nature of the industry.
Environmental and social risk		✓		The environmental procedures are complex and time-consuming
Land acquisition risk		✓		There are hurdles in land acquisition, primarily resistance from local communities. This is mainly observed because of considerable difference between the registered value of land at which compensation is offered and the actual market value, which results in disputes and litigation
Permits		✓		Multiple approval agencies are involved for statutory approvals
Handover risk			✓	
Political risk		✓		
FX risk			✓	Foreign sponsor participation

PPP = public-private partnership.

Source: Mott MacDonald.

2.5.4 Local Capabilities

- The private sector played an unprecedented role during the 11th Five-Year Plan (2005–2012) by acting as a key contributor for the development of airports in PPP mode. The major contributors are:
 - GMR—Hyderabad International Airport, modernization of Delhi International Airport
 - GVK—Modernization of Mumbai International Airport
 - L&T, Unique, and Siemens—Bangalore International Airport
 - MAYTAS Infra—Shimoga and Gulbarga airports

2.5.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects received ECA/IFI financing	0

2.5.6 Challenges

Specific challenges for progressing airport PPP projects are presented in Table 44.

Table 44: Challenges for PPP Progress in the Airport Sector

Challenges	Currently Implemented Tackling Measures
Project preparation: Lack of information for bidders.	
Land acquisition: Land acquisition is a major roadblock in the development of airport projects under PPP mode.	
Obtaining statutory approvals and clearances: This is frequently a source of project delay.	The Government of India has implemented the Single window clearance scheme, which should ease the process of obtaining approvals with a single source of information/contact.
Financial constraints: The infrastructure projects are capital intensive in nature and have long gestation periods. Most of the private players are dependent on financing institutions and equity markets to raise funds for their part under the PPP projects.	The Hybrid Annuity Method implemented by the Government of India could overcome the financial constraints.

PPP = public–private partnership.

Source: Mott MacDonald.

2.6 Energy

2.6.1 Regulatory Framework

2.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	100%
Power transmission	100%
Power distribution	100%
Oil and gas	100%

A total of 49% FDI is allowed in:

- Power exchanges (through automatic routes under the Central Electricity Regulatory Commission), and
- Petroleum and natural gas refining sector (for public sector undertakings without involving any disinvestment or dilution of domestic equity).

2.6.1.2 Government contracting agency

In India, there are different authorities for the power sector and the oil and gas sector.

Power

The Ministry of Power is an apex organization under the central government, which formulates and administers the program in consultation with other central ministries/departments. The Ministry of Power is a holding body for

- generation: tariff regulation,
- scheduling and dispatching,
- transmission, and
- distribution

Oil and Gas

The Ministry of Petroleum and Natural Gas (MOPNG) is an apex organization under the central government. Major functions of MOPNG include:

- Exploration, production, refining, distribution and marketing, and import and export of oil and natural gas.
- Conservation of petroleum products and liquefied natural gas.

2.6.1.3 Sector-specific regulations

Power

- The power sector in India is mainly governed by the Electricity Act 2003 (amended in 2007), which seeks to create a liberal framework of development in this sector. Some of its salient features include:
 - De-licensing of generation and free permission for captive generation.
 - Open access in transmission to be provided to distribution licensees, generating companies.
 - Open access in distribution to be allowed by State Electricity Regulatory Commissions (SERCs) in phases.
 - Trading is recognized as a distinct activity and the Regulatory Commissions being authorized to safeguard it by fixing ceiling on trading margins.
 - The follow-on policy includes National Tariff Policy 2006, which assures electricity at reasonable rates and competitive price to the customers. This policy was amended as Revised Tariff Policy, 2016. The key features of this policy are ensuring financial viability of the sector, attracting investments, and minimizing regulatory risks.
 - To reduce dependency on imported coal, a PPP policy framework will be devised with Coal India to increase coal production.

Renewable Energy

The Ministry of New and Renewable Energy (MNRE), the governing body for new and renewable energy in India, facilitates research, design, development, manufacture, and deployment of new and renewable energy systems/devices and focuses on solar, wind, small hydro projects, and biofuel projects. The roles of the MNRE include:

- Issue guidelines for green large-area developments, for grid interactive solar and wind energy.
- Provide fiscal concessions such as 80% accelerated depreciation, concessional customs duty for specific critical components, excise duty exemption, and income tax exemption on profits from power generation.
- Through the policy for grid-connected solar rooftop projects, the Joint Electricity Regulatory Commission and the SERC of 29 states and union territories have notified regulations and tariff orders for grid-connected solar rooftop projects.
- Provide central financial assistance for small, micro hydro power projects to the public and private sectors.
- Provide VGF support of up to \$153,846.2/megawatts (MW) based on reverse e-auction, under the 5,000 MW VGF scheme, which is to be implemented by Solar Energy Corporation of India (SECI). SECI aims to develop renewable energy technologies and ensure inclusive renewable energy power development throughout India.
- Formulate Offshore Wind Energy Policy focusing on exploring and promoting deployment of offshore wind farms in the exclusive economic zones and to promote investment in wind energy infrastructure.
- Formulate policy for repowering of the wind power projects.

- Provide generation-based incentives of \$0.007/unit (kWh) subject to a maximum of \$153,846.2/MW for wind power projects (not availing the benefits of accelerated depreciation).
- Formulate the National Biofuel Policy, 2009, promoting biofuel usage. The government provides a 12.36% concession on excise duty on bioethanol and has exempted biodiesel from excise duty.

Oil and Gas

- The oil and gas sector is governed by the Petroleum and Natural Gas Regulatory Board Act, 2006, which regulates the refining, storage, transportation, distribution, and marketing of petroleum products excluding production of crude oil and natural gas.
- Open acreage policy will enable private participants to come up with proposals for exploration and development of fields not identified by the government.
- Other policies include New Hydrocarbon Exploration and Licensing Policy, Small Fields Policy (March 2016) for monetization of 67 discoveries, through international competitive bidding. New gas pricing formula linked to global market was made effective from November 2014.
- Petroleum and minerals pipeline Act, 1962, governs laying of pipelines for transport of petroleum and minerals.
- The Policy on Shale Gas and Oil, 2013, allows companies to apply for shale gas and oil rights in their petroleum exploration licenses and petroleum mining leases.

State Initiatives for Renewable Energy

- SERCs in Andhra Pradesh, Haryana, Punjab, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Gujarat, Kerala, Punjab, Odisha, and West Bengal have announced preferential tariffs for purchase of power from wind power projects.
- New Solar Policy (2016) for Delhi, Himachal Pradesh, and Haryana.
- New Solar Policy (2015) for Telangana, Jharkhand, Gujarat, and Andhra Pradesh.

2.6.1.4 Sector regulators

Details of energy sector regulatory authorities are presented in Table 45.

Table 45: Energy Sector Regulatory Agencies in India

Agency	Function
CERC	Responsible for improving the power market and promoting investment in the power sector. Central Electricity Regulatory Commission operates at the national level, the State Electricity Regulatory Commissions operate at the state level, and Joint Electricity Regulatory Commission operates in all union territories, and the states of Manipur and Mizoram.

continued on next page

Table 45 continued

Agency	Function
Petroleum and Natural Gas Regulatory Board	Assists the Ministry of Petroleum in storage, transportation, distribution, and marketing of petroleum, petroleum products, and natural gas, excluding production of crude oil and natural gas.
Director General of Hydrocarbon (DGH)	Under the Ministry of Petroleum and Natural Gas, promotes sound management of the oil and natural gas resources with a balanced regard for environment, safety, and technological and economic aspects of the petroleum industry. Also, regulates the exploration and optimal exploitation of hydrocarbons.
Ministry of New and Renewable Energy (MNRE)	Assists the Ministry of Power through research, design, development, manufacture, and deployment of new and renewable energy systems/devices for transportation, and portable and stationary applications in rural, urban, industrial, and commercial sectors.

Source: Mott MacDonald.

2.6.1.5 Standard contracts

What standardized contracts are available and used in the market?		
Power		
PPP/concession agreement	✓	
PPA	✓	
Capacity take or pay contract	✓	
Fuel supply agreement	✓	
Transmission and use of system agreement	✓	
Performance-based O&M contract	✗	
EPC contract	✓	
Oil and gas sector		
PPP/concession agreement	✗	
PPA	✗	
Capacity take or pay contract	✗	
Fuel supply agreement	✗	
Transmission and use of system agreement	✗	
Performance-based O&M contract	✗	
EPC contract	✗	

2.6.2 Institutional Capacity for Implementation

2.6.2.1 Project planning

Power		
Have sector strategy and investment priorities been defined?	✓	
Is there a PPP project pipeline developed and available?	✓	
Oil and gas		
Have sector strategy and investment priorities been defined?	✓	
Is there a PPP project pipeline developed and available?	✓	

Make in India campaign, launched in September 2014, has proposed a massive infrastructure developmental program for the energy sector, including:

- Setting up of Ultra Mega Power Projects (UMPPs) of 4,000 MW capacity each and identified Power Finance Corporation as the nodal agency for the UMPPs with likely investment of \$27.92 billion.
- An investment of \$114.87 billion is proposed for thermal power projects and \$2.707 billion in hydro projects. Investment in transmission line sector is proposed at \$8.198 billion and includes Green Corridor-I (\$1.307 billion), Green Corridor-II (\$0.565 billion), tariff-based competitive bidding (\$1.616 billion), and \$4.710 billion scheme to be awarded by Powergrid.
- India has set an ambitious plan to add 175 gigawatts of renewable energy generation capacity by 2022.
- The government has proposed many steps to attract investments like expansion plans from 23 refineries for tapping foreign investment in export-oriented infrastructure, including product pipelines and export terminals.

PPP pipeline of energy projects is listed in Table 46.

Table 46: PPP Pipeline of Energy Projects

No.	Project Name	Value (\$ million)
Power		
1	Telangana Solar PV Project (1,000 MW)	no data
2	Brahmapuram Waste-to-Energy PPP Plant	10.5
3	Anantapur Solar PV Project (250 MW)	no data
4	Cheyur Coal-Fired Power Plant (4,000 MW)	2,366.8
5	Bedabaha Coal-Fired Power Plant (4,000 MW)	2,366.8
6	Rajarhat Waste-to-Energy Plant PPP	no data

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Table 46 continued

No.	Project Name	Value (\$ million)
7	Kakatiya Thermal Power Project (800 MW)	no data
8	Nayunipalli Coal-Based UMPP Project (4,000 MW)	no data
	Oil and gas	no data
9	Jagdishpur–Haldia Pipeline (2,050 km)	1,654
10	Karanja LNG Terminal	603.5

PPP = public–private partnership.

Source: IJ Global Project Finance and Infrastructure Global Database. <https://ijglobal.com/> (accessed 23 February 2017).

2.6.2.2 Project preparation

Number of PPP projects in preparation	8
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2.6.2.3 Procurement

Energy	
PPP projects procured through:	Number
Direct appointment	167
Unsolicited bids	190
Competitive bidding process	89
License scheme	24
PPP projects currently in procurement	20

2.6.3 Features of Past PPP Projects

2.6.3.1 PPP projects that reached financial close

Energy Generation	Number	\$ million
Renewables energy generation		
Solar	79	4,373
Wind	92	7,145
Hydro	46	9,493
Geothermal	0	0
Waste/biomass	14	131

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Table continued

Thermal energy generation		
Coal	86	94,164
Diesel	16	3,213
Other (natural gas)	23	7,044
Others (transmission and distribution)	33	6,596
Total Energy Generation	389	132,158

2.6.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation		
Renewables	42	18%
Thermal	18	14%

2.6.3.3 Government support

PPP projects received government support:	Number
VGF	25 ^a
Government guarantees	
Capital Subsidy/Payment guaranties	73
Projects on availability/performance-based payment basis	276

Note: In India, the government provides land acquisition support to all PPP projects.

^a Six PPP projects have principle approval and three PPP projects have final approval.

2.6.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	43
Government-paid contracts	276

2.6.3.5 Tariffs

The implementing and regulating agency, Central Regulatory Electricity Commission, will carry out the regulatory functions in the case of a PPP Power project. Tariff Policy, 2006, sets directives for various aspects of power project development, such as requirements for competitive bidding, rates of return for power projects, financing limits in relation to debt-equity ratios, and depreciation rates for power assets.

For renewable energy, the policy requires that each state electricity regulator specify a time-bound renewable purchase obligation with distribution companies and establish preferential tariffs for the purchase of electricity from nonconventional technologies. In January 2016, the central government approved amendments to the tariff policy that increased state-wise renewable purchase obligation targets to 17% by 2022, including a minimum 8% provision for solar energy (from the previous target of 3%).

Petroleum Planning and Analysis Cell along with the MOPNG regulates the tariff for the petroleum and petroleum products including hydrocarbon.

Is there a system of feed-in tariffs (FIT)?			✓	
Typical FIT levels	Type	\$ equivalent/ kWh ^a		
Wind Zone-1	Wind	9.86		
Wind Zone-2		8.96		
Wind Zone-3		7.89		
Wind Zone-4		6.56		
Wind Zone-5		6.16		
Below 5 MW (for Himachal Pradesh, Uttarakhand, and northeastern states)	Hydro	7.01		
5 MW to 25 MW (for Himachal Pradesh, Uttarakhand, and northeastern states)		5.95		
Below 5 MW (for other states)		8.26		
5 MW to 25 MW (for other states)		6.99		
Biomass (other than rice straw and travelling grate boiler)				
Biomass power projects with water cooled condenser	Biomass	4.58		
Biomass power projects with air cooled condenser		4.85		
Biomass (with rice straw and travelling grate boiler)				
Biomass power projects with water cooled condenser		4.79		
Biomass power projects with air cooled condenser		5.07		
Biomass (with rice straw and AFBC boiler)				
Biomass power projects with water cooled condenser		4.77		
Biomass power projects with air cooled condenser		5.06		
Biomass (other than rice straw and AFBC boiler)				
Biomass power projects with water cooled condenser		4.58		
Biomass power projects with air cooled condenser		4.85		
Biomass Gasifier Power Project		3.89		
Bagasse-based cogeneration		4.73		

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Table continued

Biogas	Biogas	6.10
Solar PV		8.47
Solar thermal	Solar	18.01

^a Levelled total tariff (FY 2016); number considered for one state.

Source: Central Electricity Regulatory Commission. Determination of level of generic tariff for FY 2016–2017 under Regulation 8 of the Central Electricity Regulatory Commission Regulation 2012. <http://www.cercind.gov.in/> (accessed 15 February 2017).

2.6.3.6 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are presented in Table 47.

Table 47: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk		✓		
Tariff risk	✓			
Government payment risk		✓		In case of foreign sponsor
Environmental and social risk	✓			
Land acquisition risk			✓	
Permits	✓			
Handover risk	✓			
Political risk		✓		
Regulatory risk		✓		
Interconnection risk			✓	
Brownfield risk: asset condition			no data	
Grid performance risk	✓			
Hydrology risk	✓			
Exploration and drilling risk			no data	

PPP = public-private partnership.

Source: Mott MacDonald.

2.6.4 Local Capabilities

There are many local construction companies for thermal power, renewable energy and oil and gas. The most prominent/renowned among these are Tata Power, Essar Power, Jindal Power, Adani Power Private, IL&FS Energy Development Company, Monnet Power, Jaiprakash Power Ventures, Welspun Private, BHEL, NTPC (National Thermal Power Corporation), Lanco Solar Energy, Greenko, and Azure Power India Private. All of these are actively involved in the construction of energy projects.

Implementation agencies, such as SECI, and various state directorates of energy, CERC, Power Grid Corporation of India, Gujarat Maritime Board, Power Finance Corporation, Rural Electrification Corporation, and Indian Renewable Energy Development Agency, have dominated operation, maintenance, and tariff collection.

2.6.5 Project Financing

PPP projects with foreign lending participation	17
PPP projects received ECA/IFI financing	46

2.6.6 Challenges

Specific challenges for progressing energy PPP projects are given in Table 48.

Table 48: Challenges for PPP Progress in the Energy Sector

Challenges	Currently Implemented Tackling Measures
Environmental clearances	An infrastructure group chaired by the minister has been set up for addressing interministerial clearances and other related issues.
Dispute resolution facility	Kelkar Committee report 2015, on revisiting and revitalising PPP model proposes to set up a committee under the Department of Economic Affairs for speedy dispute resolution.
Exploration policy	New Hydrocarbon Exploration and Licensing Policy introduced
Fuel supply	As per Union Budget 2016–2017, a PPP policy framework will be devised with Coal India
Private sector liquidity limits	

PPP = public–private partnership.

Source: Mott MacDonald.

2.7 Municipal Solid Waste

2.7.1 Regulatory Framework

2.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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2.7.1.2 Government contracting agency

The Ministry of Urban Development is an apex organization under the central government, which formulates and administers the program in consultation with other central/state ministries/departments (like the Ministry of Power, the MNRE, the Ministry of Agriculture, the and Ministry of Chemicals and Fertilizers) and ULBs. The Ministry of Urban Development is a holding body for:

- Formulations, coordination, and monitoring of policies for water supply, sanitation, and MSW management.

2.7.1.3 Sector-specific regulations

The sector is mainly governed by the MSW (Management and Handling) Rules, 2000, which were revised and renamed as SWM in 2016.

Other applicable laws in this sector include:

- Hazardous and Other Wastes (Management and Transboundary Movement Rules, 2016): for the control of hazardous waste.
- Biomedical Waste Management Rules, 2016: for handling of waste generated from hospitals, super speciality centers, and nursing homes.
- E-waste Management Rules 2016: related to electrical and electronic-related waste.
- Plastic Waste Management Rules 2016: for scientific disposal of plastic waste.
- Construction and Demolition Waste Management Rules 2016: for waste generated from construction, remodelling, and repair and demolition of any civil structure.

2.7.1.4 Sector regulators

Details of MSW sector regulatory agencies are presented in Table 49.

Table 49: MSW Sector Regulatory Agencies in India

Agency	Function
Central Public Health and Environmental Engineering Organisation (CPHEEO)	Assists the Ministry of Urban Development in urban water supply and sanitation including solid waste management in the country. It plays a vital role in processing the schemes posed for external funding agencies, including World Bank/Japan Bank for International Cooperation/Asian Development Bank/and bilateral and multilateral funding agencies and institutional financing such as the Life Insurance Corporation of India.
Ministry of Environment, Forest and Climate Change (MOEF and CC)	Involved in framing the rules for the management and handling of MSW under the (i) Environment (Protection) Act, (ii) Water (Prevention and Control of Pollution) Act, (iii) Air (Prevention and Control of Pollution) Act, and (iv) Central Pollution Control Board.
Ministry of New and Renewable Energy (MNRE)	MNRE supports MSW-based power generation projects.

MSW = municipal solid waste.

Source: Mott MacDonald.

2.7.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
PPA	✓
Long-term waste supply contract	✓
Capacity take or pay contract	✓
Transmission and use of system agreement	✓
Performance-based O&M contract	✓
EPC contract	✓

2.7.2 Institutional Capacity for Implementation

2.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The Prime Minister of India launched Swach Bharat Mission in October 2014 and Smart City Mission in June 2015, aiming to create an efficient competitive market and to attract foreign investors. Total outlay for Swach Bharat Mission is Rs620,090 million (\$9.54 billion). It covers all 4,041 statutory towns and proposes to achieve 70% of the funding from the private sector.

Smart City Mission is proposed to be implemented through SPV managed by the state governments for which the cabinet has approved Rs480,000 million (\$7.38 billion).

2.7.2.2 Project preparation

Number of PPP projects in preparation	1
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2.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	no data
Competitive bidding process	no data
PPP projects currently in procurement	5

2.7.3 Features of Past PPP Projects

2.7.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	2	107

2.7.3.2 Foreign investor participation

	Number	Share in Total Number of SWM PPP Projects
PPP projects with foreign sponsor participation	0	0

2.7.3.3 Government support

PPP projects received government support:	Number
VGF	no data
Government guarantees:	no data
Projects on availability/performance-based payment basis	no data

2.7.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	no data
Government-paid contracts	no data

2.7.3.5 Tariffs

Is there a system of FIT?	✓
Is there tipping fees/gate fees?	✓

The CERC vide its notification dated 7 October 2015 and 31 March 2015 have notified norms for the determination of generic tariff for MSW and refuse-derived fuel based MSW. The tariffs are:

- \$9.69/kWh (Rs6.50/kWh) for MSW and;
- \$11.32/kWh (Rs7.59/kWh) for refuse-derived, fuel-based MSW.

The Ministry of Power sets and also ensures compulsory purchase of power generated from such waste-to-energy plants, by the distribution company. The Ministry of Natural Resources and Environment provides subsidy or incentive for the same.

2.7.3.6 Risk allocation

Typical risk allocation arrangements in MSW PPP contracts are discussed in Table 50.

Table 50: Typical Risk Allocation Arrangements in MSW PPP Contracts

Risk	Private	Public	Shared	Comment
Waste volume risk	✓	✓		This risk is allocated to the public sector in BOT and management contract, and to the private sector in BOOT-type PPP contracts.
Waste quality risk	✓			This risk is allocated to the private sector in BOOT-type PPP contracts.
Government payment risk	✓	✓		This risk is allocated to the public sector in BOT (and management contract) and to the private sector in BOOT-type PPP contracts.
Environmental and social risk	✓		✓	This risk is allocated to the private sector in BOT and BOOT but is shared by management contract-type PPP contracts.
Land acquisition risk		✓		
Political risk		✓		

BOT = build–operate–transfer, BOOT = build–own–operate–transfer, MSW = municipal solid waste, PPP = public–private partnership.

Source: Government of India, Department of Economic Affairs, PPP Cell, Infrastructure Division. <https://www.pppinindia.gov.in> (accessed 6 February 2017).

2.7.4 Local Capabilities

Apart from the ULBs, involved in the MSW Management sector, there are a few leading MSW Management service providers from the private sector, undertaking design, procurement, and operations. Some well-known private players are

- Ramky Enviro Engineers
- Samki Group
- Antony Waste Handling Cell Private
- SELCO International
- Zanders Engineers
- Jindal ITF Urban Infrastructure
- Mailhem Engineers
- Southern Cogen Systems
- Mahindra Acres
- SENES

2.7.5 Project Financing

PPP projects with foreign lending participation	no data
PPP projects received ECA/IFI support	no data

2.7.6 Challenges

Specific challenges for progressing MSW PPP projects are discussed in Table 51.

Table 51: Challenges for PPP Progress in MSW Sector

Challenges	Currently Implemented Tackling Measures
Insufficient sanitary land fill	In SWM 2016, detailed criteria have been established for: setting up of solid waste processing and treatment facilities, SWM in hilly areas, waste-to-energy processing, sanitary landfills site selection, development of facilities at the sanitary landfills, specifications for landfilling operations and closure on completion of landfilling, and pollution prevention. Such measures should facilitate the introduction of new land fill and waste processing facilities.
Lack of incentives for the private sector to invest	Revenue from recovery programs such as waste to energy and provision of user fees are being proposed in SWM 2016.
Insufficient land allocation	SWM 2016 proposes identification of land and its inclusion in City Master Plan/City Development Plan

MSW = municipal solid waste, PPP = public-private partnership, SWM = solid waste management.

Source: Mott MacDonald.

2.8 Water and Wastewater

2.8.1 Regulatory Framework

2.8.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Bulk water supply and treatment	100%
Water distribution	100%
Wastewater treatment	100%
Wastewater collection	100%

2.8.1.2 Government contracting agency

The Ministry of Water Resources is the principal agency responsible for water in India. It oversees the planning and development of the resource—ranging from the policy formulation to infrastructure support, in consultation with state-level agencies and other ministries.

Urban and Municipal Infrastructure Corporation is the contracting agency in the urban and town areas.

2.8.1.3 Sector-specific regulations

Can the private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on treated effluent released?	✓

There are guidelines and standards defined and implemented for industrial effluent discharge by the pollution control boards at central and state levels. This board at the national level is known as the Central Pollution Control Board and similarly each state has its own Pollution Control Board.

The National Urban Sanitation Policy was implemented by the government in 2008, with the primary objectives of sanitized cities free from open defecation, safe collection and treatment of all wastewater, elimination of manual scavenging, and collection and disposal of solid waste safely.

The National Water Policy 2002 prioritizes water use in the following order: drinking, irrigation, hydropower, ecology, agricultural and nonagricultural industries, navigation, and other uses. These priorities may be modified or added if warranted by the area-/region-specific considerations. The policy also encourages private participation in the planning and operation of water systems.

2.8.1.4 Sector regulators

Details of water sector regulatory agencies are given in Table 52.

Table 52: Water Sector Regulatory Agencies in India

Agency	Function
Ministry of Water Resources (MOWR)	Responsible for laying down guidelines and programs for the development and regulation of the country's water resources.
Central Ground Water Board (CGWB)	Responsible to carry out scientific studies, exploration aided by drilling, monitoring ground water regime, assessment, augmentation, and management and regulation of country's groundwater sources.
Planning Commission	Allocation of funds
National Water Resource Council (NWRC)	All policy decisions taken in the country.
National Water Development Agency (NWDA)	Carry out detailed studies (feasibility study, among others), surveys, and investigations with respect to peninsular components of the national perspective for water resource development.
Ministry of Housing and Urban Poverty Alleviation and Ministry of Urban Development	Urban water supply and sanitation.
Ministry of Drinking Water and Sanitation	Rural water supply and sanitation.
Ministry of Environment and Forests (MOEF)	Pollution control, deals with environmental laws and regulations
Ministry of Agriculture and Farmers' Welfare	Improving water utilization efficiency in agriculture via PMKSY (Pradhan Mantri Krishi Sinchayee Yojana)
Central Pollution Control Board	Monitoring water quality
Municipal Corporation	Locally these corporations provide services like water supply, sanitation, health, drainage, and solid waste management.

Source: Mott MacDonald.

2.8.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
Water purchase agreement	✓
Performance-based O&M contract	✓
EPC contract	✓

2.8.2 Institutional Capacity for Implementation

2.8.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There are national and state-level strategies developed by the government for water and wastewater sectors. The responsibility for water supply and sanitation at the central and state levels are shared by various ministries.

Currently, the information was available for only one planned water PPP project as listed in Table 53.

Table 53: PPP Pipeline of Water Projects

No.	Project Name	Location	Capacity (m ³ /day)	Value (Rs million)
1	Water Supply Scheme (Bhiwandi) Project	Maharashtra, India		5,687

PPP = public-private partnership.

Source: Government of India. Database of Infrastructure Projects in India. <https://infrastructureindia.gov.in> (accessed 15 February 2017).

2.8.2.2 Project preparation

Number of PPP projects in preparation	0
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2.8.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	0
Unsolicited bids	13
Competitive bidding process	13
PPP projects currently in procurement	1

2.8.3 Features of Past PPP Projects

2.8.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	16	624

2.8.3.2 Foreign investor participation

	Number	Share in Total Number of Water PPP Projects
PPP projects with foreign sponsor participation	9	56%

2.8.3.3 Government support

PPP projects received government support:	Number
VGF	8
Government guarantees	2
Projects on availability/performance-based payment basis	7

2.8.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	6
Government-paid contracts	7

2.8.3.5 Risk allocation

Typical risk allocation arrangement for water PPP contracts is presented in Table 54.

Table 54: Typical Risk Allocation Arrangements in Water PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			
Revenue collection risk			✓	
Tariff risk		✓		
Government payment risk		✓		
Environmental and social risk	✓			The environmental procedures are complex and time-consuming
Land acquisition risk		✓		
Interface risk			✓	
Handover risk	✓			
Political risk		✓		
FX risk		✓		

PPP = public-private partnership.

Source: Mott MacDonald.

2.8.4 Nonrevenue Water and Infiltration

Nonrevenue water (%)	no data
Nonrevenue water (m ³ /km/day)	no data
Infiltration	no data

2.8.5 Local Capabilities

There are a number of leading, local companies specializing in water and wastewater sector PPP projects, some of which are listed below:

- SPML Infra
- VA Tech Wabag
- L&T
- Veolia Water India
- IL&FS
- Gammon India
- Vishvaraj Infrastructure

2.8.6 Project Financing

PPP projects with foreign lending participation	no data
PPP projects received ECA/IFI support	1

The Asian Development Bank actively participated in the Agartala Water Supply project development.

2.8.7 Challenges

Specific challenges for progressing water PPP projects are given in Table 55.

Table 55: Challenges for PPP Progress in Water Sector

Challenges	Currently Implemented Tackling Measures
Project preparation and lack of information: The absence of adequate preproject development activities reduces the interest of private players as does the lack of information made available to bidders.	
Obtaining statutory approvals and clearances:	The Government of India has implemented the single window clearance, which should ease the process of getting approvals from the relevant departments.
Lack of institutional capacity: The limited institutional capacity to undertake large and complex projects at various central ministries, especially at level of state and local bodies, hinder the translation of targets into actual projects.	

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Table 55 continued

Challenges	Currently Implemented Tackling Measures
Finance availability: The private sector is dependent on commercial banks to raise debt for PPP projects. With commercial banks reaching their sectoral exposure limits, and large Indian infrastructure companies being highly leveraged, financing the PPP projects is becoming difficult.	
PPP = public–private partnership. Source: Mott MacDonald.	

2.9 Social Infrastructure

2.9.1 Regulatory Framework

2.9.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Health care infrastructure	100%
Health care services	100%
Education infrastructure	100%
Education services	100%
Government buildings	0%
Prisons and correction centers	0%
Social housing	0%
Sport and leisure facilities	100%

There are two routes by which India gets FDI. In the automatic route, FDI is allowed without prior approval by the government or the RBI. In the government route, prior approval by the government is needed via this route. FIPB is the responsible agency to oversee this route.

A total of 100% FDI is allowed under the automatic route for greenfield projects. For brownfield project investments, up to 100% FDI is permitted under the government route. In the education sector, the government allows 100% FDI, through the automatic route.

The Foreign Educational Institutions (Regulations of Entry and Operations) Bill, 2010, was adopted to liberalize the education sector in India.

A total of 100% FDI is allowed in the health sector by the government.

2.9.1.2 Government contracting agency

At a central level, the Ministry of Human Resource Development is the government contracting agency (GCA) for PPP in the education sector. The Ministry of Health and Family Welfare is the GCA for PPP in the health care sector.

While at a local level, Departments of School, Higher and Technical Education of various state governments also act as the contracting agency for PPP in education and Department of Health and Family Welfare acts as the contracting agency for PPP projects for health care sector.

2.9.1.3 Sector-specific regulations

Can the private sector be given rights to provide education services?	✓
Can the private sector be given rights to provide health care services?	✓

2.9.1.4 Sector regulators

Details of social infrastructure sector regulatory agencies are presented in Table 56.

Table 56: Social Infrastructure Sector Regulatory Agencies in India

Agency	Function
Ministry of Human Resource Development	Formulating the National Policy on Education. Plans development, including expanding access and improving quality of the educational institutions throughout the country, including in the regions where people do not have easy access to education. Provides financial help in the form of scholarships, loan subsidy, etc., to deserving students from deprived sections of the society. Encourage international cooperation, including working closely with the UNESCO and foreign governments as well as universities, to enhance the educational opportunities. Regulator for PPP in education.
Ministry of Health and Family Welfare	Department of Health and Family Welfare deals with medical and public health matters including drug control and prevention of food adulteration as well as family welfare programs aimed at population stabilization consistent with the requirements of economic growth, social development, and environmental protection. Regulator for PPP in health care in India.

PPP = public-private partnership, UNESCO = United Nations Educational, Scientific and Cultural Organization.

Source: Mott MacDonald.

2.9.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
Performance-based O&M contract	✓
EPC contract	✓

2.9.2 Institutional Capacity for Implementation

2.9.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of social infrastructure projects is listed in Table 57.

Table 57: PPP Pipeline of Social Infrastructure Projects

No.	Project Name	Location	Value (\$ million)
1	Bengaluru Hospital	Andaman Nicobar Islands	26.78
2	Shillong Health Care PPP	Shillong, Meghalaya	57.00
3	Kalamboli Territory Project	Navi Mumbai	27.72
4	Educomp India Schools	Andaman Nicobar Islands	195.80
5	Continental Hospital	Hyderabad	65.70

PPP = public-private partnership.

Source: *IJ Global Project Finance and Infrastructure Journal Database*. <https://ijglobal.com/> (accessed 12 February 2017).

2.9.2.2 Project preparation

Number of PPP projects in preparation	0
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2.9.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	no data
Competitive bidding process	no data
PPP projects currently in procurement	10

2.9.3 Features of Past PPP Projects

2.9.3.1 PPP projects that reached financial close

PPP projects that reached financial close	Number	\$ million
Health care	6	590.1
Education	1	119.7

There are seven PPP projects that have reached financial closure, of which Shillong PPP, Kalamboli Territory Projects, Ranchi Hospital PPP, Bolnagar Medical College PPP, and Educomp India schools are DBFMO/DBFOT contracts.

2.9.3.2 Foreign investor participation

	Number	Share in Total Number of Social PPP Projects
PPP projects with foreign sponsor participation	1	14%

Gurgaon Medanta Hospital PPP is the only PPP with foreign sponsor participation.

2.9.3.3 Government support

PPP projects received government support:	Number
VGF	no data
Government guarantees	no data
Projects on availability/performance-based payment basis	no data

2.9.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	no data
Government-paid contracts	no data

2.9.3.5 Risk allocation

Typical risk allocation arrangements for the key risks in social infrastructure PPP contracts are presented in Table 58.

Table 58: Typical Risk Allocation Arrangements in Social Infrastructure PPP Contracts

Risk	Private	Public	Shared	Comment
Government payment risk	✓			
Land acquisition risk			✓	
Political risk			✓	

PPP = public-private partnership.

Source: Mott MacDonald.

2.9.4 Local Capabilities

No information available.

2.9.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects received ECA/IFI support	0

2.9.6 Challenges

Specific challenges for progressing social infrastructure PPP projects are discussed in Table 59.

Table 59: Challenges for PPP Progress in Social Infrastructure Sector

Challenges	Currently Implemented Tackling Measures
Education	
Regulatory environment: There is no independent PPP regulator in India currently. In order to attract more domestic and international private funding of infrastructure, a more robust regulatory environment, with an independent regulator, is essential.	
Weakness in enabling policies.	
Insufficient instruments to meet long-term equity and debt financing.	
Low acceptance of PPPs by private and government stakeholders	
Absence of required coordination between the central and state governments and agencies: Inadequate management capacity within government to manage the design, implementation, and evaluation processes. Inadequate capacity to develop bankable education sector projects.	

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Table 59 continued

Challenges	Currently Implemented Tackling Measures
Health care	
Lack of direction from the state governments in identifying areas where partnership is possible.	
No policy to include private sector participation in the health care governing body: This is negatively impacting the equitable representation of both private and public sector interests.	

PPP = public-private partnership.

Source: Mott MacDonald.

2.10 Information and Communication Technology

2.10.1 Regulatory Framework

2.10.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Communication	
Fixed-line infrastructure	100%
Fixed-line services	100%
Wireless/mobile infrastructure	100%
Wireless/mobile services	100%
Information technology	100%

For the telecom sector, FDI up to 49% is allowed under the automatic route and 74% through FIPB; 100% is allowed through the automatic route for manufacturing of telecom equipment.

2.10.1.2 Government contracting agency

- The Ministry of Communications is the competent authority to enter contracts for the telecom sector.
- The Ministry of Electronics and Information Technology is the competent authority to enter contracts for information technology.

2.10.1.3 Sector-specific regulations

- The Telecom Regulatory Authority of India Act, 1997, came into effect in February 1997 to regulate telecom services and tariffs, protecting both telecom service providers and consumers.

- The Information Technology Act (ITA), 2000, provides legal framework for electronic business transactions by recognizing digital signatures and electronic records, giving legal recognition to e-commerce transactions. The act was further amended in 2008, providing framework for data protection and protection against cyber crimes/terrorism.

2.10.1.4 Sector regulators

Details of ICT sector regulatory agencies are presented in Table 60.

Table 60: ICT Sector Regulatory Agencies in India

Agency	Function
Ministry of Communication	Overall communication sector management and strategy
Department of Telecommunication (DOT)	Responsible for policy implementation, licensing, and coordination matters relating to telegraphs, telephones, wireless, data and telematics services, and other similar like forms of communications
Telecom Regulatory Authority of India (TRAI)	Responsible for the development of directives, regulations, and orders that deal with various subjects, such as interconnection, service quality, and tariff.
Ministry of Electronics and Information Technology	Overall infrastructure management and strategy.

ICT = information and communication technology.

Source: Mott MacDonald.

2.10.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/Concession Agreement	✓
PPP/Managed Service/Management Agreement	✓
PPP/Turnkey Agreements	✓
PPP/Lease Agreement	✓

2.10.2 Institutional Capacity for Implementation

2.10.2.1 Project planning

Communication	
Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓
Information Technology	
Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of ICT projects is presented in Table 61.

Table 61: PPP Pipeline of ICT Projects

No.	Project Name	Value (\$ million)
1	Agrani Satellite Services	255.40
2	Aircel Cellular	122.60
3	AircelDigilink India	458.80
4	Aircel	3,887.80
5	Bharti Airtel	23,878.70
6	Bharti Infotel (merged with Bharti Airtel)	998.70
7	Bharti Mobile (merged with Bharti Cellular)	897.70
8	Bharti Mobitel (merged with Bharti Cellular)	101.80
9	Bharti Telesonic (merged with Bharti Airtel)	323.90
10	BPL Cellular	380.80
11	BPL Mobile	827.14
12	Escorts Telecom	287.10
13	Escotel Mobile Communications	331.40
14	Evergrowth Telecom (merged with Bharti Airtel)	182.00
15	Fascel	354.50
16	Hexacom India (Merged with Bharti Airtel)	84.20
17	HFCL Infotel (Quadrant Televentures)	361.40
18	Hutchison Essar South	332.10
19	Hutchison Essar Telecom	837.50
20	Hutchison Telecom East	81.50
21	Idea Cellular	11,283.75
22	Network i2i (merged with Bharti Airtel)	547.70
23	Reliance Communications	14,500.46
24	Reliance Telecom	700.40
25	ShyamTelelink	2,656.57
26	Spice Communications (merged with Idea Cellular)	740.85
27	Tata Teleservices	7,537.62
28	Uninor	2,358.37
29	Videocon Telecommunications	1,390.00
30	Vodafone Essar	17,053.32

ICT = information and communication technology, PPP = public-private partnership.

Source: *IJ Global Project Finance and Infrastructure Journal Database*. <https://ijglobal.com/> (accessed 12 February 2017).

2.10.2.2 Project preparation

Number of PPP projects in preparation	0
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2.10.2.3 Procurement

PPP projects procured through:	
Direct appointment	0
Unsolicited bids	30
Competitive bidding process	4
License scheme	2
PPP projects currently in procurement	1

2.10.3 Features of Past PPP Projects

2.10.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects reached financial closure	31	93,754

2.10.3.2 Foreign investor participation

	Number	Share in Total Number of ICT PPP Projects
PPP projects with foreign sponsor participation	13	42%

2.10.3.3 Government support

	Number
PPP projects received government support	no data

2.10.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User fees	13

2.10.3.5 Tariffs

Is there a system of tariffs?

✓

Differential pricing is common in India, depending on the demand, volume, location, etc. Tariffs are set by private players, in line with Telecom Regulatory Authority of India regulations for the telecom sector and Ministry of Electronics and Information Technology for the information technology sector.

2.10.3.6 Risk allocation

Typical risk allocation arrangement in ICT PPP contracts is provided in Table 62.

Table 62: Typical Risk Allocation Arrangements in ICT PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk	✓			
Tariff risk	✓			
Government payment risk	✓			
Operational risk	✓			
Environmental and social risk				
Permits			✓	Depending on the permit.
Handover risk	✓			
Political risk		✓		Discriminatory changes in law and expropriating actions.
Regulatory risk			✓	Delay in issuance of regulatory approvals leads to increase in cost and delays in implementation.
Technology and obsolescence risk	✓			
Residual cost	✓			Operator will face decommissioning cost.

ICT = information and communication technology, PPP = public-private partnership.

Source: Mott MacDonald.

2.10.4 Local Capabilities

Indian information technology companies are capable of offering efficient solutions of high quality at low cost. Many foreign companies have outsourced their work to India, resulting in an increase in the number of business process outsourcing companies in the country.

Indian Information technology companies have increased their global presence by opting for crossborder acquisition as well as organic growth. The sector has witnessed increasing government spending in Information technology to modernize the public sector.

The telecom industry is a highly competitive industry. The service providers are focused on specific regional markets, particularly in the highest revenue-earning areas such as Delhi, Mumbai, and Chennai.

2.10.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects received ECA/IFI financing	3

2.10.6 Challenges

Specific challenges for progressing ICT PPP projects are discussed in Table 63.

Table 63: Challenges for PPP Progress in the ICT Sector

Challenges	Currently Implemented Tackling Measures
Lack of ICT infrastructure in the public sector.	NIC has been developing ICT infrastructure for the public sector by linking all ministries/ departments across India through its ICT network “NICNET.”
Regulatory environment and complex structure of government bodies: leading to delay in project implementation and higher transaction cost.	New PPP framework addressing the concerns of the private parties has improved regulatory environment.
Lack of information/comprehensive database: leading to overestimation of the potential demand for services, leading to erroneous pricing of services, and hence significant fluctuation in the actual project cost compared to original budgets.	NIC has set up national and state data centers for the management of information system and data streams across national and state ministries and departments. National Knowledge Network has been set up for institutions/organizations for carrying out research and development.
Long-term agreements are subject to technology and market uncertainty: entailing large cost risk to public and private parties.	

ICT = information and communication technology, NIC = National Informatics Centre, PPP = public-private partnership.

Source: Mott MacDonald.

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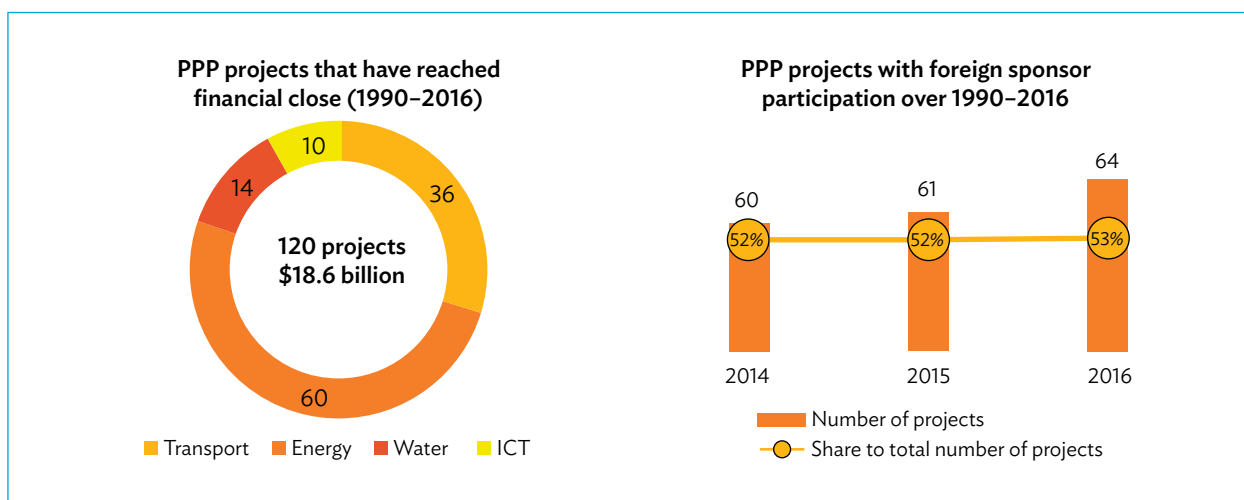
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3. INDONESIA

The history of public–private partnership (PPP) development in Indonesia dates back to the early 1990s, when the first projects with private sector participation in the toll road and energy sectors were implemented. In the Indonesian context, PPPs were formally introduced as a modality in 2005, and energy projects, included in the charts below, are excluded. Since then, Indonesia has made continuous efforts to institutionalize and promote PPP arrangements by enhancing the PPP regulatory framework. Indonesia now has a PPP unit at the Ministry of Finance (MOF), project development fund (PDF), guarantee facility, and a land acquisition financing mechanism. Many regulations have also been introduced.



The latest development was the issuance of new PPP regulations in 2015—Presidential Regulation No. 38/2015, which upgraded the PPP framework in the following respects:

- Introduction of availability/performance payment scheme as a source of investment return, in addition to traditional user payment method. This can now be applicable for sectors where government is not a direct off-taker of the services (i.e., outside of power generation and bulk water supply).
- Expansion of PPP sectorial coverage to social infrastructure (including urban, educational, tourism, sports, health facilities, and public housing). The regulation also enables two types of infrastructure to be bundled as a single PPP project.

- The regulation provides more details on government's support for land acquisition, guarantees, and tax incentives.
- Accelerated procurement process, allowing direct appointment under specific conditions.
- Formally allowing state-owned or regionally owned enterprises to be contracting agencies allowing such enterprises to use the PPP framework instead of the business-to-business arrangements based on the sector legal framework.

Procedural guidelines for PPP development and procurement have been fine-tuned in a newly issued BAPPENAS Regulation No. 4/2015 which provides detailed requirements in each project preparation stage, namely (i) planning (identification, budgeting, categorization), (ii) preparation (prefeasibility study, government support, guarantees), and (iii) transaction (market sounding, public tender, agreement, financial close).

In 2014, the government issued an updated negative investment list, which opened additional areas for foreign investor participation, such as health care services sector.

However, challenges to PPP implementation remain in Indonesia.

One of the major impediments has been a land acquisition process which stalled quite a few PPP projects in the past. To speed up the land acquisition process, in 2012, a new law on land acquisition in public interest was adopted followed by the implementation of a series of rules and regulations. The law now limits the land acquisition procedure to 583 days and allows for revocation of land rights in public interest. To further speed up the process, the regulations also enable the private sector to acquire the land on behalf of the government contracting agency (GCA) and seek reimbursement from the government afterward. Specifically, in 2015, a bridging finance mechanism was set up at the MOF to enable timely reimbursement of land acquisition cost to the project investors.

Another challenge for PPPs in Indonesia is that the GCAs has limited capacity to properly prepare project preparation studies highlighting what constrains and delays the project's readiness for the market. The government is addressing this issue by various modes, namely a more active support to the GCAs through the MOF's PPP Unit and the Committee on Acceleration of Priority Infrastructure delivery which employs qualified advisors to ensure quality project preparation. However, this takes place only for certain PPP projects, and the PPPs are yet to become a regular modality for the GCAs to deliver their investment programs.

The public sector in Indonesia is decentralized and characterized by multiple levels of government agencies. Lack of coordination between multiple government stakeholders and a lack of clarity on responsibilities of each agency during a PPP project preparation and approval have often been a cause for projects delays, particularly in relation to decision-making.

3.1 Country Profile

3.1.1 Regulatory Framework

3.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects that reached financial close under the latest PPP law	n/a	0	3

The latest key regulations are:

- Presidential Regulation No. 38 of 2015 on Cooperation Between Government and Business Entities in Procurement of Infrastructure (PPP Regulation)
- Ministry of National Development Planning/National Development Planning Agency (BAPPENAS) Regulation No. 4 of 2015 on Procedure for Cooperation between Government and Business Entities in Procurement of Infrastructure
- Government Goods and Services Procurement Policy (LKPP) Regulation No. 19 of 2015 concerning Procurement Procedure for Partnership between Government and Business Entities for Procurement of Infrastructure

The following PPP projects have reached financial close under the latest PPP regulations:

- Java-7 Coal-Fired Power Plant (2,000 megawatts [MW]) PPP
- Central Java Coal-Fired Power Plant (2,000 MW) PPP
- Umbulan Water Supply PPP

It is noteworthy that three PPP projects have been awarded under the latest PPP regulations but have not reached financial close yet:

- Palapa Ring Broadband Western Package PPP
- Palapa Ring Broadband Central Package PPP
- Palapa Ring Broadband Eastern Package PPP

It should be noted that since 1990s, a large number of infrastructure PPP projects (especially energy independent power producer [IPP] projects and toll roads) have been implemented under specific sectoral laws rather than under PPP framework. These sectoral laws stipulate different preparation, approval, and procurement procedures. Please refer to the respective sector sections for some details.

3.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in the PPP regulations	2	3	3

Regulations do not define specific types of PPP contracts, rather the source of investment return is specified, which can be:

- user payment
- availability/performance-based payment
- other forms that do not conflict with the legislation

Availability/performance-based payment scheme is a new model introduced in the latest law.

Typically, a range of PPP types is allowed in Indonesia but this can be sector dependent. Build–Operate–Transfer (BOT), BOOT, BOO, DBOM, DBFO, DBFOO, LDO, operation and maintenance (O&M), as well as other variants and similar arrangements.

3.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	Information and communication technology (ICT)	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social infrastructure	✗	✓	✓

The regulation also enables two types of infrastructure to be bundled as one PPP project.

3.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	no data	no data	In general, Indonesia Investment Coordinating Board requires a debt-to-equity ratio of 3:1 of the required investment amount. However, this number may vary depending on the nature of the project.
Project capital investment size	no data	no data	For foreign investments in the form of a participation in a project company, the general investment requirement is Rp10 billion. However, this number may vary depending on the nature of the project.

3.1.1.5 Unsolicited Bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	✓	✓	✓
Swiss challenge	✓	✓	✓
Compensation of the project development cost	✓	✓	✓
Government support for land acquisition and resettlement cost	no data	no data	✓
Government support in the form of viability gap funding (VGF) and guarantees	✓	✓	✓

Unsolicited proposals can be submitted by business entities under the conditions that the projects are economically and financially feasible; technically integrated with the sector master plan; and the project proponent has the capacity to finance the project. The project proponent is entitled to receive one of three forms of compensation: 10% additional points, right to match the offer of the first-ranked bidder or compensation of development cost. However, no detailed procedure has been developed yet for the mentioned ways of treatment of unsolicited proposals.

Government guarantees may also be given in accordance with the applicable legislation.

3.1.1.6 State-owned enterprise participation

	2014	2015	2016
Is a state-owned enterprise (SOE) allowed to participate in PPP as a counterparty to the government?	✓	✓	✓
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	✓	✓	✓
Cumulative PPP projects with SOE participation (number)	12	13	14
Cumulative PPP projects with SOE participation (share in total number of PPP projects)	10%	11%	12%

3.1.1.7 Land rights

	2014	2015	2016
Which of the following is permitted to the private partner?			
Transfer land lease/use/ownership rights to third party	✓	✓	✓
Use leased/owned land as collateral	no data	no data	✓
Mortgage leased/owned land	✓	✓	✓
Is there any legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than government or the private partner?	✓	✓	✓
Is there land registry/cadastre with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to private partner?			
Appraisal of land value	✓	✓	✓
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✓	✓	✓
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

Hak milik (right to own land) is limited to individuals of Indonesian nationality and certain legal entities (e.g., government banks, religious groups). For this reason, *perseroan terbatas* (limited liability companies) are not allowed to obtain *hak milik*, irrespective of their shareholding structure. Nevertheless, penanaman modal asing (foreign companies) as well as domestic companies may hold the following land-related rights:

- *hak guna bangunan* (right to build),
- *hak guna usaha* (land cultivation rights title), and
- *hak pakai* (right to use).

A legal framework pertaining to land acquisition has been stipulated through:

- Land Law No. 2 of 2012,
- Land Procurement for Public Interest, Perpres No. 71 of 2012, as amended by Perpres No. 40 of 2014, No. 99 of 2014, and No. 30 of 2015, and
- Land Acquisition for Public Projects, and Regulation of National Land Agency (BPN) No. 5 of 2012; Technical Guidelines for Implementation of Land Procurement.

Law No. 2 of 2012 sets out that land procurement for public interest shall be conducted by the government in line with spatial or development plans and with adequate and fair compensation. Its implementing regulation, Perpres No. 71 of 2012, defines and provides details of a four-stage process, consisting of (i) planning, (ii) preparation, (iii) implementation, and (iv) handover stages. Under this framework, a maximum duration for land acquisition is estimated to be 583 working days. The compensation, determined with an independent appraiser, shall be sourced from the national budget and/or the regional budget, although if a project is financially feasible, a winning bidder shall pay back some or the entire cost of land (according to Perpres No. 38 of 2015).

Perpres No. 40 of 2014 mainly addresses raising the amount of land to be acquired directly without the four-stage procedure from the previous 1 to 5 hectares. To further speed up the process, the Perpres also makes it possible that the private sector finances the land procurement initially and then seeks reimbursement from the government afterward.

3.1.1.8 *Environmental and social issues*

	2014	2015	2016
Is there local regulation establishing process for environmental impact assessment?	✓	✓	✓
Is there legal mechanism for private partner to limit environmental liability for what is outside of its control or is caused by third parties?	✓	✓	✓
Is there local regulation establishing process for social impact assessment?	✓	✓	✓
Is there involuntary land clearance for PPP projects?	✓	✓	✓

3.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads	95%	95%	95%	Power generation ^a	100%	100%	100%	
Railways	49%	49%	49%	Power transmission ^b	100%	100%	100%	
Ports ^c	95%	95%	95%	Power distribution ^d	100%	100%	100%	
Airports	49%	49%	49%	Oil and gas	75%	75%	75%	
Water and wastewater				Municipal solid waste^e	95%	95%	95%	
Bulk water supply and treatment	95%	95%	95%	Social infrastructure				
Water distribution	95%	n/a ^f	n/a	Health care infrastructure	67%	67%	67%	
Wastewater treatment	100%	100%	100%	Health care services	67%	67%	67%	
Wastewater collection	100%	100%	100%	Education infrastructure	67%	67%	67%	
ICT				Education services	49%	49%	49%	
Fixed-line infrastructure	67%	67%	67%	Government buildings	67%	67%	67%	
Fixed-line services	49%	49%	49%	Prisons and correction centers	67%	67%	67%	
Wireless/mobile infrastructure	67%	67%	67%	Social housing	67%	67%	67%	
Wireless/mobile services	49%	49%	49%	Sport and leisure facilities	49%	49%	49%	

^a Applies to power generation projects above 10 MW over the duration of concession period, provided projects use PPP scheme, otherwise 95%.

^b Applies to projects under PPP scheme, otherwise 95%.

^c Applies to cargo terminal developments under PPP scheme, otherwise 49%.

^d Hybrid arrangements are allowed only if SOE is a minority partner in the SPV and only for strategic or specific reason that justify SOE participation.

^e Excludes hazardous waste.

^f Water Law 2004 revoked in 2015. Please see Section 3.7.1.3 for details.

Is there any restriction for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	yes	yes	yes
Currency conversion	no	no	no

	2014	2015	2016
Cumulative PPP projects with foreign sponsor participation (number)	60	61	64
Cumulative PPP projects with foreign sponsor participation (share in total number of PPP projects)	52%	52%	53%

3.1.1.10 Dispute resolution and enforcement mechanism

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?	x	x	x
What dispute-resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	✓	✓	✓
Has the country signed New York Convention on the recognition and enforcement of foreign arbitral award?	✓	✓	✓

PPP regulations (both old and new) prescribe PPP contracts to include a determination of dispute-resolution mechanism. However, there are no standard dispute-resolution procedures for PPPs as there are no model concession documents available. Most contractual disputes for “less-than-termination” events are resolved through negotiation. If unresolved, domestic or international arbitration is called for, commonly with the Singapore International Arbitration Centre.

Indonesia has ratified the New York Convention; however, in order for foreign arbitral awards to be recognized and enforced within the jurisdiction of the Republic of Indonesia, such awards must satisfy the following requirements:

- The awards are rendered by an arbitration body or by an arbitrator in a country which is bilaterally bound to Indonesia or jointly bound with Indonesia by an international convention on the recognition and enforcement of foreign arbitral awards. Its enforcement is based on the principle of reciprocity.
- Foreign arbitral awards are only limited to those which, according to Indonesian law, fall within the scope of its commercial law.
- Foreign arbitral awards do not contravene public order.
- Foreign arbitral awards may be enforced in the Republic of Indonesia after an exequatur (writ of execution) has been obtained from the Chairman of the Central Jakarta District Court.

However, provisions by which the parties can bring a dispute either to the courts or to arbitration are open to different interpretations which may have a bearing on the effectiveness of such provisions. There have been cases where Indonesian courts have

decided that an arbitration provision will prevail when there is an uncertainty as to which forum, as between the arbitration and court, would apply in a particular dispute.

3.1.1.11 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights?			
Security over the project assets	no data	✓	✓ ^a
Security over the land on which they are built (land-use right)	no data	✓	✓
Security over the shares of PPP project company	no data	✓	✓
Can there be a direct agreement between government and lenders	no data	✓	✓
Do lenders get priority in the case of insolvency	no data	✓	✓ ^b
Can lenders be given step-in rights	x ^c	✓	✓

^a To the extent such assets are owned by the project company.

^b Only secured lenders.

^c Regulations are silent.

3.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to the private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✓	✓	✓
Force majeure	✓	✓	✓
Does the law enable the concept of economic/financial equilibrium?	✓	✓	✓
Does the law enable compensation payment to the private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	✓	✓	✓
Change in law	✓	✓	✓

PPP regulations (both old and new) prescribe PPP contracts to include determinations for grounds for and consequences of termination, force majeure, and mechanism for allowing variations. However, there are no standard compensation clauses as there are no model concession documents available. Also, there is still no clear, standardized system for compensating the private sector for unilateral changes by the government during or after bidding (i.e., before project reaches financial close).

The exception is energy generation IPP projects, where the Ministry of Energy and Mineral Resources (MOEMR) issued Regulation No. 10/2017 on principles of power purchase agreements (PPAs) (including provisions for termination and compensation), that all future PPAs have to comply with.

In addition, for all sectors, compensation mechanism could be provided to private partners through government guarantees (see section 3.1.1.13).

3.1.1.13 Government support

	2014	2015	2016
Is PDF available?	✓	✓	✓
Land acquisition support from government			
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on timeframe to complete land acquisition (days)	583 ✓	583 ✓	583 ✓
Is there a dedicated agency to streamline land acquisition?	✓	✓	✓
Exemption from/reduction of land-use fees	✓	✓	✓
VGF	✓	✓	✓
Limits to VGF as a percentage of projects capital cost	49%	49%	49%
Government guarantees:^a			
Currency inconvertibility and transfer risk	✓	✓	✓
Foreign exchange risk ^b	✗	✗	✗
War and civil disturbance risk	✓	✓	✓
Breach of contract risk	✓	✓	✓
Regulatory risk	✓	✓	✓
Expropriation risk	✓	✓	✓
Government payment obligation guarantee	✓	✓	✓
Credit guarantees ^c	✗	✗	✗
Minimum demand/revenue guarantee ^d	✓	✓	✓
Availability/performance-based payment contracts	✓	✓	✓
Tax subsidies	✓	✓	✓

^a The following is based on the types of government guarantees commonly provided by the government.

^b Regulations are silent on the provision of foreign exchange guarantees, and IIGF risk allocation guidelines encourage the investors to use hedging instruments, therefore marked red.

^c Regulations are silent on this type of guarantee, therefore marked red.

^d The IIGF and regulations do not explicitly state that such guarantees can be provided. But it is known that 4 toll road PPP projects received revenue guarantees in the past (however three of these four projects had SOE as a main sponsor).

Details of available government support for PPP projects in Indonesia are shown in Table 64.

Table 64: Details of Available Government Support for PPP Projects in Indonesia

Government Support Type	Comments
PDF	<p>PDF is administered by the MOF to support GCAs in preparation of final business cases and transaction advisory for PPP projects.</p> <p>In addition, Committee for Acceleration of Prioritized Infrastructure Development has a mandate to prepare outline business cases for infrastructure priority projects (including PPPs), and the MOF-owned IIGF carries out project preparation studies for PPP projects that require government guarantees.</p> <p>All or part of project preparation cost could be imposed onto the winning bidder.</p>
Land acquisition and resettlement	<p>National Land Agency is assigned to coordinate land acquisition process, compensation, and other issues.</p> <p>LMAN was established in 2015 by the MOF to facilitate the financing of land for infrastructure projects. It is expected that LMAN will speed up the overall land acquisition process. LMAN has a flexible budgeting system that allows them to use the budget any time, without any obligation to return the unused budget to the MOF.</p> <p>Land Revolving Fund managed by the Ministry of Public Works and Housing is a dedicated facility to support land acquisition for toll road PPP projects where Government of Indonesia provides bridging finance for the private sector.</p>
VGF	<p>VGF can be allocated as a cash contribution to a part (not dominant) of the construction cost at the construction stage of well-prepared PPP projects (which are economically feasible but not financially viable) under the approval of the MOF.</p>
Government guarantees	<p>Could be provided through PT PII, also known as the IIGF. The IIGF provides guarantees for obligations of GCAs under contractual agreements to mitigate risks stemming from the government's actions and inaction, comprising, among others:</p> <ul style="list-style-type: none"> • breach of contract, • delays in obtaining permits and/or licenses, • changes in the law, • failure of tariff adjustment, • failure of network/facility integration, and • GCA's obligation in contractually agreed revenue payments. <p>For IPP projects undertaken under the Electricity Law (not under a PPP framework), the MOF may issue a BVGL. It is addressed to the project companies and covers the risk of nonpayment and/or termination of the agreement. The BVGL may be granted for the period from preconstruction to construction and/or part or all of the operation period. The BVGL should be construed as a form of support undertaking. It is a mechanism to ensure that the MOF funds PLN so that PLN can fulfil its payment obligations to the IPP. In the event of nonpayment and/or termination, the project company is required to submit the claim for the benefit of BVGL through PLN. Although project companies do not have direct recourse to the MOF under the BVGL, under the Indonesian Civil Code, the MOF support letter likely creates a primary legal obligation on the MOF to procure performance by PLN. If the MOF fails to do so, it may be liable for payment of damages to the project company.</p> <p>The BVGL is not automatically granted to project companies and, therefore, projects wishing to benefit from the guarantee are subject to an application process. The BVGL will be issued after signing of the power purchase agreement. Regulation 173/2014 requires that the project benefiting from the BVGL must achieve financial close within 12 months from the date of issue of the BVGL. However, this deadline is extended to 48 months for geothermal projects.</p>
Availability/performance-based payment mechanism	<p>Availability/performance-based payment methods have been introduced in the latest PPP regulation (Presidential Regulation 38/1205) as a potential source of investment return, in addition to traditional user-paid mechanism. This can now be applicable for sectors other than power generation or bulk water supply.</p>

BVGL = business viability guarantee letter, GCA = government contracting agency, IIGF = Indonesia Infrastructure Guarantee Fund, IPP = independent power producer, LMAN = State Assets Management Agency, MOF = Ministry of Finance, PDF = project development fund, PLN = Perusahaan Listrik Negara, PPP = public-private partnership, VGF = viability gap funding.

Source: Mott MacDonald.

Cumulative PPP projects received government support	2014	2015	2016
VGF	no data	no data	1
Government guarantees	26	27	32
Availability/performance-based payment basis	57	58	63

Exhaustive data regarding PPP projects that received government support in the form of land acquisition and VGF have not been available; however, it is known that Java 7 coal power plant PPP received land acquisition support, while Umbulan Water Supply PPP received VGF assistance. The numbers of the PPP projects undertaken on availability/performance payment basis entirely refer to energy IPP projects. However, it is noteworthy that three availability payment contracts were signed in the ICT sector in 2016 for the Palapa Ring broadband PPP projects for Western, Central, and Eastern Indonesia, which became the first projects using availability payment scheme introduced under 2015 PPP regulations.

3.1.1.14 Standard contracts

What standardized contracts are available and used in the market?	2014	2015	2016
PPP/concession agreement	x	x	x
PPA	✓	✓	✓
Capacity take-or-pay contract	x	x	x
Fuel supply agreement	x	x	x
Transmission and use of system agreement	no data	no data	no data
Performance-based O&M contract	x	x	x
Engineering procurement and construction (EPC) contract	✓ ^a	✓	✓

^a The FIDIC (International Federation of Consulting Engineers) suite of contracts is regularly used for large infrastructure procurement projects.

3.1.2 Institutional Capacity for Implementation

3.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP Unit)?	✓	✓	✓
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, running PDF)	✓	✓	✓

continued on next page

Table continued

	2014	2015	2016
Appraisal of PPP project feasibility studies	x	x	x
Approval of PPP project	x	x	x
Procurement	x	x	x
Managing, monitoring, and enforcing ongoing PPP contracts	x	x	x

Details of PPP promoting institutions in Indonesia are shown in Table 65.

Table 65: PPP-Promoting Institutions in Indonesia

Institution	Role in Promoting PPP
PPP Unit of the Directorate for PPP Development under National Development Planning Agency (BAPPENAS)	Project screening and/or prioritization, provision of guidance, and dissemination of information; publication of a PPP book presenting information to prospective investors on national PPP projects in the pipeline.
Committee for Acceleration of Prioritized Infrastructure Development (KPPIP)	Coordinating unit in decision-making processes to speed up settlement of issues arising from lack of effective coordination between the various government stakeholders. KPPIP acts to facilitate coordination in debottlenecking efforts for national strategic projects and priority projects. Determines funding scheme and sources for priority projects. Chaired by the Coordinating Ministry of Economic Affairs, with members comprising BAPPENAS, the MOF, the Head of the National Land Agency, and other sectoral ministries. Has a central role in monitoring, coordinating, and speeding up the deliveries of strategic and priority PPP projects, sometimes commissioning or amending the pre-feasibility studies to prepare them for the market. In charge of formulating strategies and policies for infrastructure development projects that are deemed to be particularly important for capacity enhancement of GCAs, setting quality standards of pre-feasibility studies (outline business cases) and evaluation procedure, and other facilitative roles in the implementation of PPP projects.
PPP Unit under the MOF	Set up as a champion in PPP project preparation and can procure advisors directly or can assign other government agencies, for example, PT SMI. Coordination of preparation of Final Business Case and transaction advisory. Assessing and approving the necessity for government support (tax incentives, viability gap funding, or guarantees) for PPP projects.
Indonesia Infrastructure Guarantee Fund/PT PII	MOF-owned institution providing guarantees for obligations of GCAs under contractual agreements to mitigate risks stemming from the government's actions and inaction for PPP projects.

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Table 65 continued

Institution	Role in Promoting PPP
PT SMI	MOF-owned institution acting as a government's infrastructure bank providing project financing (senior, mezzanine, and equity) for PPP projects, as well as providing advisory services to help GCAs in project preparation activities, such as pre-feasibility studies, market sounding, bidding process, or contract settlement.
National Procurement Agency	Regulator of procurement procedure for PPP projects.
Investment Coordination Board	Marketing of the PPP projects to foreign investors. Provides a centralized licensing point for certain sectors.

GCA = government contracting agency, KPPIP = Committee for Acceleration of Prioritized Infrastructure Development, MOF = Ministry of Finance, PPP = public-private partnership, SMI = Sarana Multi Infrastruktur.

Source: Mott MacDonald.

3.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✓	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	✗	✗	✗ ^a
Is there screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	✓	✓	✓

^a Promoted but not institutionalized, therefore yellow and ✗.

Identification of PPP projects is initiated by GCAs or private entities. Multi-criteria analysis is being promoted to evaluate potential projects, which include factors such as technical and economic rationale, demand sustainability, support from stakeholders (through public consultation), compliance with laws and regulations, conformity with the national development plan, spatial plan, value for money, potential revenues, and project financing scheme; however, this multi-criteria analysis is not institutionalized and no detailed methodology is available for GCAs to follow. BAPPENAS could provide ad hoc assistance to GCAs in screening and assessment of project level of readiness and benefits for society in accordance with the national development plan. The final outcome is issued in the form of a PPP book presenting information to prospective investors on national PPP projects in the pipeline and project status.

3.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages ^a	2	2	2
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓

continued on next page

Table continued

	2014	2015	2016
Financial feasibility	✓	✓	✓
Legal feasibility	✓	✓	✓
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✓	✓	✓
Fiscal affordability assessment	✓	✓	✓
PPP structuring and risk allocation	✓	✓	✓
Initial market testing	✓	✓	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	no data	no data	no data
Is the approval from the MOF or equivalent required before commencement of procurement?	✓	✓	✓
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	✓	✓	✓

^a Number of project appraisal stages refers to the number of different levels of project preparation required before PPP project can go to the procurement stage, for example, outline business case and final business case, pre-feasibility study and feasibility study.

Approval from the MOF is only required for PPP projects that are regulated under Perpres 38/2015 and:

- for projects that need government support (VGF and/or guarantees), and
- for projects that are submitted to MOF PPP Unit to carry out project preparation through PDF.

For projects implemented under different frameworks (e.g., for energy IPPs or toll road PPPs), MOF approval is not required.

Generally, prefeasibility-level studies (outline business case) by GCA have not been prepared in line with international best practices, but gradually, the Committee for Acceleration of Prioritized Infrastructure Development (KPPIP) is addressing this for the strategic and priority projects employing international advisors to revisit the studies. Furthermore, for feasibility-level studies (final business case) and transaction advisory, the MOF normally appoints international advisors (therefore, ✓ is marked against this indicator, but yellow in the table above).

3.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	✓	✓	✓

The IIGF publishes and periodically updates “Risk Allocation Guidelines” illustrating basic risk allocation between GCAs and business entities in each sector or structure as a reference to guarantee proposals from the GCAs. The risk allocation is suggested in the feasibility study or final business case and is to be negotiated and concluded on a case-by-case basis in the project contract.

3.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	✓	✗	✗
In case of competitive tender:			
Is prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expressions of interest (days)	✗	✗	✗
Minimum time allowed to submit a bid:	✗	✗	✗
Domestic bidding (days)			
International bidding (days)			
Is negotiation available?	✓	✓	✓
Is there any process allowing unsuccessful bidders to challenge the award/complain?	✓	✓	✓
If yes, maximum time allowed to submit a complaint starting from announcement of preferred bidder	✗	5	5 ^a
Maximum time limit from bid closing date till selection of preferred bidder	✗	✗	✗
Maximum time limit from selection of preferred bidder till signing the contract	✗	✗	✗
Transparency. Which of the following is published?			
Procurement notice	✓	✓	✓
Q&A during bid clarification stage	✓	✓	✓
Evaluation results to bidders	✓	✓	✓
Award notice	✓	✓	✓
Contract	✗	✗	✗
Confidentiality^b	✗	✗	✗

^a In practice, may vary depending on the nature of the project.

^b Regulations silent on GCA's obligation to bidders in relation to confidentiality.

New LKPP Regulation 19/2015 on procurement made direct appointment of the PPP company possible provided any of the special conditions are met:

- the project has already been built or operated by the same company,
- the project requires new technology and only one company holds this technology, and
- the company controls majority of all land required to implement the project.

The features of the competitive procurement process for PPP projects regulated under Perpres 38/2015 and LKPP Regulation 19/2015 are presented in Table 66.

Table 66: PPP-Procurement Process in Indonesia

Theme	Description
Responsible agency	Line ministries, such as Minister of Transportation, Minister of Public Works and Housing, Minister of Telecommunication, Head of Government Agency, or Head of Regional Government are the authorities who have been delegated by laws and regulations to act as the GCA in procuring business entity for PPP in accordance with their relevant sector. However, state-owned enterprise/return on equity may act as GCA to the extent stipulated under the sectorial law (e.g., PT Perusahaan Listrik Negara (Persero) for electricity).
Project announcement	The procurement notice is published online on the responsible agency website as well as on the website of the Ministry of National Development Planning (www.pkps.bappenas.go.id).
Prequalification invitation documentation	<ul style="list-style-type: none"> • Background information and brief description of the project • Objective of the project • Scope of works of the PPP project • Important information related to the PPP project • Qualification requirement for the bidders • Description of qualification process, including schedule, evaluation criteria, and method; items that disqualify bidders; format of qualification forms
Prequalification evaluation criteria	<ul style="list-style-type: none"> • Comply with all regulations to conduct business • Experience and capability to finance and to implement the project • If the bidder is consortium, then: <ul style="list-style-type: none"> – Experience and capability in PPP projects (at least by one of the consortium members) – Experience and financing capacity will be evaluated as aggregate for consortium • Compliance with tax obligation • Not in the state of bankruptcy • Not having any conflict of interest • For foreign business entity, all the documents issued abroad must be certified/validated by the issuing authority and validated by the Indonesian embassy • For consortium, the consortium must have consortium agreement
Prequalification evaluation method	The qualification evaluation is conducted using elimination method based on bidder's compliance to the prequalification requirement. The procurement committee will only eliminate bidders if they are substantially noncompliant to the prequalification requirement. The procurement committee cannot eliminate bidders that are noncompliant to unsubstantial prequalification administrative requirement, and the bidders can fulfil the time requirement as stated in the prequalification document. The evaluation process will include the checking on the completeness and compliance to the prequalification requirement and confirm and clarify that the information provided is true.

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Table 66 continued

Theme	Description
Short list	Direct appointment possible if only one company is prequalified.
RFP documentation	<p>The RFP should include the following:</p> <ul style="list-style-type: none"> • general project description, • instruction to bidders, • rules on opening and evaluation of proposal document, • restriction on corruption, collusion, nepotism, fraud, and conflict of interest, • performance and technical specification requirement, • risk allocation matrix, • payment mechanisms, • financial models including sources of funding, • fulfilment of requirements related to aspects of legal, social, environment, guarantees and guarantees requirements, • insurance and insurance requirement, • other documentation that is considered necessary by the procurement committee to be included and specified in the RFP, • annexes that consist of: <ul style="list-style-type: none"> – information memorandum – draft cooperation agreement – main requirement of guarantee letter (if government guarantee is required), and • other documents required.
Methods of interactions with the bidders	<ul style="list-style-type: none"> • Prequalified bidders will be provided access to a data room after submitting nondisclosure agreement • Question and answers in writing • Prebid conferences • Face-to-face meetings (clarification meeting)
Evaluation of technical proposals	<p>There are two methods of evaluation of bid proposal, one-stage evaluation and two-stage evaluation.</p> <ul style="list-style-type: none"> • One-stage evaluation is used when the PPP project has a clear specification and does not require any further discussion for technical optimization to achieve optimal technical solution. • Two-stage evaluation is used when the technical specification of the project is not clearly defined because of the various technologies and innovations, and it requires optimization of the technical proposal. In this method, stage 1 involves evaluation of the submitted administration and technical proposal—where qualified bidders will be then invited to discuss the technical optimization. Stage 2 will involve the evaluation of the submission of optimized technical proposal and financial proposal. <p>On both methods, the technical proposal is evaluated using the technical threshold. Bidders who score less than the threshold will be eliminated.</p>
Evaluation of financial proposals	<ul style="list-style-type: none"> • At one-stage evaluation, the financial proposal can be evaluated based on: <ul style="list-style-type: none"> – value of rate of investment return, – scoring system, – lowest value of VGF, and – combination of above. • At two-stage evaluation, the financial proposal can be evaluated based on: <ul style="list-style-type: none"> – highest economic value (combination of technical and financial value), and – lowest value of VGF.

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Table 66 continued

Theme	Description
Investor selection	
Contract negotiation	Preferred bidder is invited for negotiations.
Contract signing	Winning bidders must establish a business entity which will sign the PPP agreement. PPP agreement signing by GCA and winning bidder, which will be effective after preliminary requirements stipulated in the agreement are obtained by all parties. Within a maximum of 12 months after the PPP agreement is signed, the implementing business entity must sign a financing agreement. An extension of 6 months may be given in some cases.

GCA = government contracting agency, PPP = public-private partnership, RFP = request for proposal, VGF = viability gap funding.

Sources: Government Goods and Services Procurement Policy (LKPP) Regulation No. 19 of 2015 concerning Procurement Procedure for Partnership between Government and Business Entities for Procurement of Infrastructure. kppip.go.id; Regulation of the President of the Republic of Indonesia Number 38 of 2015 concerning Cooperation between the Government and Business Entities in the Provision of Infrastructure. <http://pkps.bappenas.go.id/attachments/article/1297/PRESIDENTIAL%20REGULATION%20%2038%20%202015.pdf>

3.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	115	117	120
PPP projects currently in preparation	n/a	n/a	34
PPP projects currently in procurement	n/a	n/a	13

Note: It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

3.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	24	25	27
Cumulative PPP projects that received export credit agency (ECA)/ international financing institution (IFI) financing	24	25	27

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Max tenor for local currency loan (years)	5-9	5-9	5-9
Availability of interest rate swaps	✓	✓	✓
Forward duration of interest rate swap (years)	no data	no data	20
Availability of currency swaps	✓	✓	✓
Forward duration of currency rate swap (years)	5-9	5-9	5-9
Availability of project bond financing	✗	✗	✗
Availability of project financing from local public sector banks	✓	✓	✓
Max tenor for loan from local public sector banks (years)	no data	no data	no data

In Indonesia, hard-currency-denominated loans are mainly provided to finance energy IPP projects.

Indicative project finance hard currency loan terms in Indonesia are provided in Table 67.

Table 67: Indicative Project Finance Hard Currency Loan Terms in Indonesia

Term	Value
Maximum tenor	15–20 years for well-structured project with strong support
Upfront arrangement fee	100–300 bps
Floor rate (reference rate)	LIBOR
Margin rate	100–500 bps
Political risk cover premium	no data
Interest rate swap fee	no data
Currency conversion swap fee	no data

bps = basis points

Note: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Sources: Consultations with banks (Mizuho and SMBC)

Indicative project finance local currency loan terms in Indonesia is shown in Table 68.

Table 68: Indicative Project Finance Local Currency Loan Terms in Indonesia

Term	Value
Maximum tenor	10 years
Upfront arrangement fee	no data
Floor rate (reference rate)	JIBOR
Margin rate	no data
Political risk cover premium	no data
Interest rate swap fee	30–50 bps
Currency conversion swap fee	50–200 bps

bps = basis points

Note: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Source: Consultations with banks (Mizuho and SMBC)

It is noteworthy that it is very difficult to generalize loan terms. In general, the factors determining pricing include

- exposure to market/revenue risk,
- exposure to foreign exchange risk,
- credibility of off-taker,
- credibility of sovereign,
- availability of export credit or multilateral support,
- proven effectiveness of sector and underlying technology, and
- Financing market (i.e., Lehman shock) and regulations (i.e., Basel III)

Security package issues

In project finance, the stability of the revenue stream is most important and most international lenders will require a sovereign guarantee from the MOF for the paying authority's obligations. In addition, from a commercial bank's perspective, such sovereign guarantee has to be further guaranteed and insured by export credit agencies and/or multilateral lending agencies.

Recent regulations by Central Bank require all tariff payments to be made in local currency—thus requiring the government or relevant authority/counterparty to guarantee availability of US dollars and convertibility of rupiah to US dollar.

Local bank requirements

In general, local banks lending in local currency will have less stringent requirements on a project; however, they will also offer a higher financing cost. Local banks can generally cope with higher debt-to-equity ratios, lower debt service coverage ratio, and no explicit sovereign guarantee where international lenders would require it. They can also cope with some level of revenue and fare risk where international banks demand a guaranteed off-take for greenfield projects.

3.2 Roads

3.2.1 Regulatory Framework

3.2.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	95%
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3.2.1.2 Government contracting agency

Indonesia Toll Road Authority (Badan Pengelola Jalan Tol [BPJT]) under the Ministry of Public Works is a state authority that is competent to enter into a PPP contract.

3.2.1.3 Sector-specific regulations

Does the private partner have the legal right to charge users?	✓
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Key sector regulations are listed below:

- Law No. 38/2004 on Roads
- Government Regulations No 44/2009 and No 43/2013 on Toll Road
- Minister of Public Works Regulation No. 13/PRT/M/2010 on Guidelines for Procurement of Toll Road Concession

Technical requirements for toll road construction and operation typically follow minimum Indonesian standard requirements and also some international standards, such as AASHTO, CALTRAN, etc., as agreed with BPJT.

3.2.1.4 Sector regulators

Ministry of Public Works and Indonesia Toll Road Authority are the main regulators for toll road concessions.

3.2.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✓

3.2.2 Institutional Capacity for Implementation

3.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The Third National Medium Term Development Plan 2015–2019 estimates investment needs in road infrastructure to be \$55 billion, with around \$15 billion of it expected to come from private sector. Table 31 lists pipeline of PPP projects in road sector sourced from the latest edition of BAPPENAS PPP book and KPPIP website; however, it is understood that this list might not be exhaustive as BPJT might separately plan toll road PPP projects.

PPP pipeline of road projects is shown in Table 69.

Table 69: PPP Pipeline of Road Projects

No.	Project Name	Length (km)	Value (\$ million)
1	Manado–Bitung Toll Road, Sulawesi	38	380
2	Balikpapan–Samarinda Toll Road, East Kalimantan	94	740
3	Serang–Panimbang Toll Road, East Java	84	808
4	Sukabumi–Ciranjang Toll Road, West Java	15	103
5	The 2nd Jakarta–Cikampek Toll Road, West Java	62	834
6	Tanjung Priok Access Toll Road, West Java	23	281
7	Jogyakarta–Solo Toll Road, Central Java	45	113
8	Jogyakarta–Bawen Toll Road, Central Java	72	270

km = kilometer, PPP = public–private partnership.

Sources: BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>; KPPIP, <https://kppip.go.id/> (accessed 18 February 2017).

3.2.2.2 Project preparation

Number of PPP projects in preparation	8
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3.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	2
Unsolicited bids	1
Competitive bidding process	4
PPP projects currently in procurement	2

Currently, two toll road projects, Manado–Bitung and Balikpapan–Samarinda toll roads, are in the procurement stage.

3.2.3 Features of Past PPP Projects

3.2.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	27	4,943

Around 50% of the projects happened in 1990s and were brownfield (rehabilitate–operate–transfer) type. Starting from 2004, when Law No. 38/2004 on Roads removed the monopoly over development and operation of toll roads and regulatory function from state-owned company PT Jasa Marga, the awarded projects were typically BOT concessions; however about a third of the project involved PT Jasa Marga as a sponsor.

3.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	3	11%

3.2.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	4
Minimum traffic/revenue guarantees	4
Projects on availability/performance-based payment basis	0

No information has been available on the number of road PPP projects (reached financial close) that received government support in the form of land acquisition and VGF. It is known that land revolving fund (\$489 million of government commitment) managed by the Ministry of Public Works and Housing is a dedicated facility to support land acquisition for toll road PPP projects.

3.2.3.4 *Payment mechanism*

PPP projects by payment mechanism:	Number
User-paid contracts	27
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✓
Advertising	✓

Perpres 38/2105 introduced the possibility of performance-based payment mechanism for the toll road PPP sector, where government will take the traffic risk, but the implementation of this is yet to be tested.

3.2.3.5 *Tariffs*

Toll road tariffs are controlled by the Minister of Public Works & Public Housing, with BPJT having the authority to recommend the initial fare and subsequent toll tariff adjustments to the Minister. Regulations stipulate that the tariff will be reviewed every 2 years.

Both open and closed toll road operations are practiced in Indonesia, with differing tariff structures as illustrated in the following tables. Tariff varies for six groups of vehicles:

- Group I: small car, pick-up/small truck, and passenger bus
- Group II: truck with two axles
- Group III: truck with three axles
- Group IV: truck with four axles
- Group V: truck with five axles and truck trailer
- Group VI: motorcycle

Examples of current toll rates are detailed in Tables 70 and 71.

Table 70: Examples of Current Toll Rates on Roads with Open Toll System (Rupiah per trip)

Toll Road	Group I	Group II	Group III	Group IV	Group V	Group VI
Jakarta Intra Urban Toll Road (2015)	9,000	1,1000	14,500	18,500	21,500	–
Jakarta Outer Ring Road (2014)	8,500	10,500	12,000	16,000	18,000	
Cimanggis–Cisalak	4,000	5,000	8,000	10,000	12,000	
Ngurah Rai–Nusa Dua–Benoa (2015)	11,000	16,500	2,2000	27,500	33,000	4,500
Bogor Ring Road (2011)	3,500	5,000	6,500	8,000	10000	
Suramadu (2016)	15,000	22,500	30,000	37,500	45,000	

Source: Indonesia Toll Road Authority. <http://bpjt.pu.go.id/> (accessed 13 February 2017).

Table 71: Examples of Current Toll Rates (Effective from 2015) on Roads with Closed Toll System (Rupiah per km)

Toll Road	Length (km)	Group I	Group II	Group III	Group IV	Group V	Group VI
Jakarta–Bogor	59	145	190	255	322	382	
Purwakarta–Cileunyi	123	375	570	740	930	1,190	
Jakarta–Cikampek	83	165	260	285	355	455	

km = kilometer.

Source: Indonesia Toll Road Authority. <http://bpjt.pu.go.id/> (accessed 13 February 2017).

3.2.3.6 Risk allocation

Typical risk allocation arrangements in road PPP contracts (concession type) is shown in Table 72.

Table 72: Typical Risk Allocation Arrangements in Road PPP Contracts (Concessions)

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Collection risk	✓			
Tariff risk		✓		
Competition risk		✓		
Government payment risk				There has not been any performance-based payment road PPP contracts as yet

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Table 72 continued

Risk	Private	Public	Shared	Comment
Environmental and social risk			✓	
Land acquisition risk		✓		
Permits	✓			
Geotechnical risk	✓			
Brownfield risk: inventories studies, property boundaries, project scope	✓			
Political risk		✓		
Force majeure			✓	
Foreign exchange risk	✓			

PPP = public-private partnership.

Sources: Mott MacDonald; IIGF. 2017. *Risk Allocation Guideline*. <http://www.iigf.co.id/media/kcfinder/docs/risk-allocation-guideline-2017-tanpa-sambutan.pdf>

3.2.4 Local Capabilities

State-owned road developer PT Jasa Marga has demonstrated a limited capacity for new road project development. Private players have entered the market but are yet to make a substantial contribution to the market.

Indonesian state-owned contractors and Indonesian private contractors have a demonstrated competency for basic road design and construction. Top-tier firms have demonstrated competency for construction of elevated/viaduct road construction.

Bridge construction typically would require international contractor experience.

3.2.5 Project Financing

PPP projects with foreign lending participation	1
PPP projects that received ECA/IFI support	0

Toll roads in Indonesia were mostly financed by domestic state banks with majority of financing being capital injections to SOEs or corporate financing for toll road constructions.

3.2.6 Challenges

In 2011, the BPJT awarded the Ngawi-Kertosono segment, comprising around 50 kilometers (km), and the Solo Ngawi segment, comprising around 40 km, of the Trans-Java toll road to the local subsidiary of the Australian contractor Theiss Pty. The project ran into difficulties primarily due to BPJT not fulfilling its public sector obligations to secure land required for the project. On 31 March 2015, the group entered into an agreement to

sell 100% of its shares in PT Solo Ngawi Jaya and Pt Ngawi Kertosono Jaya. Completion of the sale agreements was subject to relevant regulatory approvals. BPJT has transferred the projects to the SOE, Jasa Marga.

In 1990s, two projects were terminated: Jakarta Outer Ring Road (S and E1 sections) and Jakarta Outer Ring Road (E2, E3, and N sections).

Challenges for PPP progress in road sector are provided in Table 73.

Table 73: Challenges for PPP Progress in Road Sector

Challenges	Currently Implemented Tackling Measures
Difficulty to finance toll road PPP projects as lenders are reluctant to accept traffic risk.	Introduction of availability/performance-based payment mechanism in sectors other than power and water under Perpres 38/2015.
Land acquisition delays	Over the last 5 years, the government introduced a series of laws aimed to speed up land acquisition process, but implementation of these measures in practice is yet to be proved. Land revolving fund (\$489 million of government commitment) managed by the Ministry of Public Works and Housing is a dedicated facility to support land acquisition for toll road PPP projects.

PPP = public–private partnership.

Source: Mott MacDonald.

3.3 Railways

3.3.1 Regulatory Framework

3.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	49%
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3.3.1.2 Government contracting agency

The Ministry of Transportation (MOT), head of government agency, or head of regional government, as well as state-owned or regional-owned enterprises could act as GCA.

3.3.1.3 Sector-specific regulations

Does the private partner have the legal right to charge users?	no data
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The key sector regulations are:

- Railway Act No. 23/2007
- Government regulations No. 56/2009 on Railway Provision

3.3.1.4 Sector regulators

Details of railways sector regulatory agencies in Indonesia are shown in Table 74.

Table 74: Railways Sector Regulatory Agencies in Indonesia

Agency	Function
Ministry of Transportation	Grant approvals on alignment; set design criteria, technical specifications, and permits
Perusahaan Listrik Negara (National Public Electricity)	To provide power supply
Ministry of Communication	Issuing the approval of Radio frequency band

Source: Mott MacDonald.

3.3.1.5 Standard contracts

What standardized contracts are available and used in the market?		
PPP/concession agreement	x	
Performance-based O&M contract	x	
EPC contract	✓	

3.3.2 Institutional Capacity for Implementation

3.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The Third National Medium Term Development Plan 2015–2019 estimates investment needs in railway infrastructure to be \$17 billion, with around half of it expected to come from the private sector.

PPP Pipeline of railway projects is listed in Table 75.

Table 75: PPP Pipeline of Railway Projects

No.	Project Name	Length (km)	Value (\$ million)	Lead Agency
1	Batam Island Railway, Riau Islands	43	635	Batam Indonesia Free Zone Authority
2	Urban Railway City of Medan, North Sumatera	no data	477	Local Development Planning Agency, City of Medan

km = kilometer, PPP = public–private partnership.

Sources: BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>; IJ Global Database. <http://www.ijglobal.com> (accessed 18 February 2017); KPPIP. <https://kppip.go.id/> (accessed 18 February 2017).

3.3.2.2 Project preparation

Number of PPP projects in preparation	2
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3.3.2.3 Procurement

PPP projects currently in procurement	0
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3.3.3 Features of Past PPP Projects

As of the end of 2016, there has not been any railway PPP project in Indonesia.

In 2016, the Indonesian government had awarded a 50-year concession for the \$5.1 billion Jakarta–Bandung high speed rail line to the joint venture between Indonesian SOEs and China Railway International; however, the project has not reached financial close yet.

3.3.4 Local Capabilities

Indonesia's railways PPP market is still at an embryonic stage of development, with an absence or significant weakness of local capabilities in many key areas:

- Transaction preparation and structuring would require import of international expertise.
- Railways ridership assessments, design, and planning relies on international expertise.
- Rolling stock and systems would require import of goods and international expertise.
- Railways system integration would require import of international expertise.
- Indonesian SOE contractors and Indonesian private contractors with experience in road design and construction are currently adapting that experience in collaboration with international contractors in the current railway sector construction work packages.

- O&M management under a PPP would require import of international expertise.
- Export credit and international expertise would be required in project financing.

3.3.5 Challenges

The Soekarno–Hatta International Airport (SHIA) rail link PPP has been proposed as a priority project but failed to be tendered to market because of haltering project development. Key challenges have included lack of investment into developing a reliable ridership (demand) assessment and land availability for proposed alignment. The project has been eventually handed over to an SOE.

For the Jakarta–Bandung high speed rail line awarded in 2016, the consortium was seeking land development rights along the alignment to cross-subsidize the project. However, to date key permits have not been granted, which has prompted the project lenders to ask for a government guarantee for the project; however, the request was rejected by the Indonesian government.

Challenges for PPP progress in the rail sector are shown in Table 76.

Table 76: Challenges for PPP Progress in the Rail Sector

Challenges	Currently Implemented Tackling Measures
Land acquisition delays, especially in urban areas of high density.	Over the last 5 years, the government introduced a series of laws aimed to speed up land acquisition process, but implementation of these measures in practice is yet to be proved.
There has been insufficient investment to date in assessing potential ridership for proposed rail projects. Additionally, there has been insufficient development of “stepping-stone” intermediate-technology projects such as bus networks for developing ridership along potential alignments. Additionally, project conceptualization to date has given insufficient attention to feeder systems to bring passengers from origination to station, and from station to final destination.	
Private bus travel offers very competitive fares, while cost-recovery-plus orientated railway tariffs would likely be substantially more expensive. Therefore, a strong value proposition (safety, reliability, availability, etc.) or heavy cross-subsidy would be needed to encourage passengers to have modal shift toward the railways.	
First-of-a-kind risks: The low level of modern railways experience in Indonesia will present many first-of-a-kind risks, especially around finding or importing know-how and systems.	

Source: Mott MacDonald.

3.4 Ports

3.4.1 Regulatory Framework

3.4.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	95%
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Presidential Regulations 39/2014 allowed 95% ownership of marine cargo terminal within PPP schemes during the concession period. This includes the supply of piers, buildings, container terminals, bulk terminals, and roll-on/roll-off terminals.

3.4.1.2 *Government contracting agency*

For PPP projects in the Indonesian port sector, the GCA is generally the relevant port authority represented by the MOT. In addition, new PPP regulation officially allowed SOE to act as GCA. For the port sector, these are Indonesian Port Corporations (IPC's), named PT Pelabuhan Indonesia (Pelindo) I, II, III, and IV.

3.4.1.3 *Sector-specific regulations*

The port sector in Indonesia is largely regulated under Law No. 17/2008 on Shipping. The 2008 Shipping Law (implemented in 2011), also sometimes referred to as the Navigation Act, provided the foundation for port reform in Indonesia. Prior to 2011, all the major commercial ports in Indonesia were controlled by the four state-owned IPCs. The IPCs acted as both the sole operator and port authority and had regulatory authority over private sector ports. The law removed the state-sector monopoly on ports and encourages participation by the private sector. The law made a clear separation between the regulator and the operator—reducing the role of the IPCs to that of a port operator.

Other relevant regulations in the port sector are as follows:

- Government Regulation No. 20 of 2010 on Inland Waterways Transport (“Government Regulation No. 20/2010”);
- Government Regulation No. 64 of 2015 concerning Amendment to Government Regulation No. 61 of 2009 concerning Harbours (“PP No. 64/2015”);
- Minister of Transport Regulation No. KM 62 of 2010 on Organization and Work of the Implementing Unit of Port (“Minister Regulation No. 62/2010”);
- Government Regulation No. 20 of 2010 on Coastal Seas Transportation as amended by Government Regulation No. 22 of 2011 on the Amendment of Government Regulation No. 20 of 2010 on Coastal Seas Transportation (“Government Regulation No. 22/2011”);
- Government Regulation No. 21 of 2010 on Maritime Environmental Protection (“Government Regulation No. 21/2010”);

- Government Regulation No. 64 of 2015 concerning Amendment to Government Regulation No. 61 of 2009 concerning Harbours (“PP No. 64/2015”);
- Regulation of the Minister of Transport No. 51 of 2015 concerning the Implementation of seaport (“PMP No. 51/2015”); and
- Regulation of the Minister of Transportation No. PM 15 of 2015 concerning Concession and Other Cooperation Forms Between the Government and the Port Business Entity in the Field of Harbours, which has been amended by Regulation of the Minister of Transportation No. PM 166 of 2015 concerning the amendment of the Regulation of the Minister of Transportation No. PM 15 of 2015 concerning Concession and Other Cooperation Forms Between the Government and the Port Business Entity in the Field of Harbours (“PMP No. 15/2015”).

3.4.1.4 Sector regulators

There is still some uncertainty as to what power and control the IPCs still have within the port sector. Most regulatory authority at the port level resides with the newly formed port authority although the government largely regulates port tariffs to ensure fair opportunities for competition.

Pursuant to Article 1, paragraph (26) of the Navigation Act, the port authority shall mean a government agency at a port as the authority performing regulatory, controlling, and supervisory functions on port activities carried out on a commercial basis. Thus, under a PPP scheme, the MOT can become the port authority, namely the party performing regulatory arrangement, control, and supervision of port activities administered under the PPP.

All ports in Indonesia must have the following regulatory authorities: port authority, port administration unit, and harbor master.

Details of port sector regulatory agencies in Indonesia are shown in Table 77.

Table 77: Port Sector Regulatory Agencies in Indonesia

Agency	Function
Port authority	<ul style="list-style-type: none"> • Providing onshore and offshore land for the port • Providing and maintaining anchor, port pool, cruise line, and road arrangement • Providing and maintaining aids to navigation • Ensuring safety and order in the port • Ensuring and maintaining the sustainability of the port environment • Preparing the port masterplan comprising the port working area and port interest area • Suggesting a rate to be determined by the Ministry of Transportation, for the use of water or land, and port facilities provided by the government as well as port services convened by the port authorities in accordance with the prevailing laws and regulations • Ensuring smooth distribution of goods

continued on next page

Table 77 continued

Agency	Function
Port administration unit	Responsible for ports that are not yet commercially operated
Harbor master	<ul style="list-style-type: none"> Responsible for the safety and security of the port, including implementation, supervision, and law enforcement Responsible for the search and rescue around in vicinity of the port

Source: Mott MacDonald.

3.4.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
EPC contract	✓

3.4.2 Institutional Capacity for Implementation

3.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Law No. 17/2008 calls for the development of a National Port Master Plan (NPMP). The NPMP provides a framework for planning Indonesia's port system with a 20-year planning horizon. The Minister of National Development Planning/Head of National Development Planning Agency (BAPPENAS) issues a PPP book to provide information to potential investors on available PPP infrastructure investments in Indonesia. The latest official PPP book (2017) lists five major port projects under preparation. In 2016, several more port priority infrastructure projects (for the period 2016–2019) were made official by Presidential Regulation No 47/2016.

PPP Pipeline of maritime projects is provided in Table 78.

Table 78: PPP Pipeline of Maritime Projects

No.	Project Name	Location	Value (\$ million)
1	Development of Kuala Tanjung International Hub Port	North Sumatera	8,000
2	Development of Patimban Deep Seaport ^a	West Java	3,090
3	Expansion of Kabil Port (Tanjung Sauh Terminal)	Batam	806
4	Development of Bitung International Hub Port	North Sulawesi	500

continued on next page

Table 78 continued

No.	Project Name	Location	Value (\$ million)
5	Development of new Makassar New Port	South Sulawesi	422
6	Cikarang–Bekasi–Laut Inland Waterways ^a	Java	255

PPP = public–private partnership.

^a Funding scheme not yet determined—potential for PPP.

Sources: BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>; KPPIP. <https://kppip.go.id/> (accessed 18 February 2017)

3.4.2.2 Project preparation

Number of PPP projects in preparation	5
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3.4.2.3 Procurement

PPP projects procured through:	
Direct appointment	1
Unsolicited bids	0
Competitive bidding process	no data
PPP projects currently in procurement	1

3.4.3 Features of Past PPP Projects

3.4.3.1 PPP projects that reached financial close

	No	\$ million
PPP projects that reached financial close	9	3,429

Although there has been private involvement in Indonesia for single user ports, especially in the mining and energy sectors, private sector involvement in Indonesian public ports has been limited due to the dominance of state-owned port operators, Pelindo I, II, III, and IV. Historically, public port projects in Indonesia have been assigned directly to state-owned enterprises (*pelindos*). Subsequently, state-owned port operators would enter into a joint venture with private company to finance, construct, and operate certain port facilities and equipment under business-to-business (B2B) arrangements.

One of the notable examples of significant private sector involvement is the operation of Jakarta International Container Terminal (JICT) by a joint venture between Hutchinson Port Holdings (HPH) and Pelindo II, where HPH holds majority stake. Similarly, the recent

joint venture between Mitsui and Pelindo II to develop and operate a greenfield container terminal in Tanjung Priok Port gives another precedent. This is further expansion of Mitsui's operation in Tanjung Priok, following its acquisition of Portek in 2011, which is the company that operates container Terminal 009 in Tanjung Priok.

3.4.3.2 Foreign investor participation

	Number	Share in Total Number of Port PPP Projects
PPP projects with foreign sponsor participation	6	67%

3.4.3.3 Government support

PPP projects that received government support:	Number
VGF	0
Government guarantees	0
Projects on availability/performance-based payment basis	n/a

3.4.3.4 Payments mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	9
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✗
Wharf charge	✓
Navigation charge	✓
Pilotage charge	✓
Channel access charge	✓

In a landlord port model, the landlord typically receives revenue streams from wharf charges, navigation charges, pilotage charges, and channel access charges. It is feasible, if port infrastructure (such as channels, wharves, and land backing) is developed and financed by a private sector partner, and landlord dues could be collected by the private sector. There are no existing examples in Indonesia where the private sector has landlord rights, although this is the model currently envisaged for the new Kuala Tanjung International Hub Port.

3.4.3.5 Concession fees

What are the typical mechanisms for fee paid to the government?	
Lump sum	no data
Royalties	no data
Revenue share	✓
Profit share	no data
Annual lease	no data

In 2015, Pelindo I, III, and IV signed concession agreements with the government for the commercial operations of 89 existing ports. Subsequently, the three port operators must deposit a minimum concession fee of 2.5% per year from the gross income of each port to the government, as the owner of the ports. Since historically private sector involvement has been through joint venture with one of the *pelindos*, the concession fee mechanism is likely to be passed down to the private sector partner.

3.4.3.6 Tariffs

Does private sector have the freedom to set the tariff?	✓
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Currently, Indonesia is implementing a common model of port administration known as a “Landlord Port.” The government owns, provides, and regulates access to port land, port waters as well as basic port infrastructure while port operators provide port services for a long duration in the form of a concession agreement. The newly established port authorities and private terminal operators can establish commercial rates for port services that is market related. The government will oversee the rates to ensure port operators behave competitively. Guidelines for stipulating port tariffs are specified under MOT regulation PM No. 95 of 2015. Tariffs for services performed by the port authorities are determined by the port authorities themselves after consulting with the MOT. The relevant port authority collects the tariffs.

Terminal handling charges (THCs) are charges made by the terminal operators with respect to cargo movement/stevedoring services performed at a terminal. For container terminals, THCs cover the movement of a container between the ship’s hold to the exit–entry gate via the container terminal yard.

Actual THCs vary from port to port, as the charges are part of a full negotiated package with the government. The JICT and the Koja Container Terminal at Tanjung Priok Port reportedly opposed recent increases in container handling charges. Foreign shipping companies had previously implemented a \$95 THC per twenty-foot equivalent (TEU), and a charge of \$135 per forty-foot equivalent (FEU). This sum comprised \$70 payable to the port operator and \$25 in surcharge. Now, the port operator’s share has risen to \$83 per TEU

and \$124 per FEU, which has prompted international shipping companies to increase their surcharge to compensate for the increased box handling charge, as shown below.

Typical terminal handling charge is shown in Table 79.

Table 79: Typical Terminal Handling Charge

Designation	Company	Year	Terminal Handling Charge in US dollar	
			Twenty-foot equivalent unit	Forty-foot equivalent unit
Shipping Line	Hapag-Lloyd	2017	95	145
Shipping Line	MOL	2016	95	145
Shipping Line	CNC LINE	2015	123	154

Source: Mott MacDonald.

3.4.3.7 Labor

How is the issue of excess and efficiency of labor force typically being resolved?	
Private operator given the freedom to hire and fire and to set its own terms and conditions of employment	no data
The pre-PPP workforce is transferred to the private operator. The private operator is allowed to make gradual changes to the terms and conditions of employment, providing these are no worse than before and/or are acceptable to the unions or workers' representatives.	no data
The port authority or the government undertakes a major labor force restructuring in advance of the PPP, and the workforce is transferred to the private operator.	no data

Limited information on historical labor force arrangements is available. However, all scenarios above are feasible and would depend on the nature of the specific agreement.

3.4.3.8 Risk allocation

Typical risk allocation arrangements in port PPP contracts is provided in Table 80.

Table 80: Typical Risk Allocation Arrangements in Port PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			Market practice in the port sector that private party bears this risk.
Competition risk (exclusivity)		✓		
Tariff implementation or escalation risk			✓	
Environmental and social risk			✓	Environmental permits required in preparing project to be public responsibility. Private takes responsibility for obtaining environmental and social permits and obligations on signing the PPP agreement.
Permits			✓	Permits required in preparing project are public responsibility. Construction and operations permits are private responsibility.
Geotechnical risk	✓			The private sector is typically responsible for designs to assess and address site-specific condition risks, including geotechnical surveys.

PPP = public–private partnership.

Source: Mott MacDonald.

3.4.4 Local Capabilities

The Indonesia port sector consists of hierarchy system of approximately 2,400 ports. Indonesia has 111 commercial ports of which 25 are deemed “strategic ports.” Approximately 50% of the ports are classified as special terminals/dedicated private terminals serving the mining, oil and gas, power, forestry, fishery tourism, and shipyard industry. Major ports in Indonesia, such as JICT, are normally operated by international companies. There is a big domestic stevedoring capacity with almost 90% of Indonesia’s external trade transported via sea. The market for marine civil works in Indonesia is large with experienced local and international contractors working on local and international projects.

The logistics infrastructure supporting ports in Indonesia is significantly behind that of neighboring countries like Malaysia and Singapore, which reduces efficiency and adds to supply chain costs. There is a need for the logistics capability in Indonesia to drastically improve in order to raise port capability to international standards.

3.4.5 Project Financing

PPP projects with foreign lending participation	2
PPP projects that received ECA/IFI financing	1

3.4.6 Challenges

Challenges for PPP progress in port sector are shown in Table 81.

Table 81: Challenges for PPP Progress in Port Sector

Challenges	Currently Implemented Tackling Measures
Historic dominance of state-owned enterprises (<i>pelindos</i>) in port development and operation, resulting in significant influence and power of <i>pelindos</i> that creates uncertainty in the potential investors. Although Shipping Law 2008 calls for an independent port authority, its enforcement still needs improving. There is a lack of clarity on <i>pelindos</i> ' roles as regulator or operator in cases where they are in a joint venture with a foreign operator. One example would be the extension of the Hutchison Port Holdings concession contract for the Jakarta International Container Terminal by Pelindo II which raised questions regarding Pelindo's role with the MOT. The ministry actually opposed the extension as it claimed that it was not consulted.	The MOT competitive behavior and promotes port competition and competitive tendering process.
Poor planning of supporting land-side logistics infrastructure for potential port PPP projects undermines bankability of the projects.	This is a recognized shortcoming and the government is simultaneously prioritizing road and rail upgrades (also through PPPs) to increase supply chain capacity and efficiency.

MOT = Ministry of Transport, PPP = public–private partnership.

Source: Mott MacDonald.

3.5 Airports

3.5.1 Regulatory Framework

3.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	49%
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Specific ownership/control issues for aviation as a national strategic asset or utility.

3.5.1.2 Government contracting agency

PT Angkasa Pura I and PT Angkasa Pura II manage and operate all major airports in Indonesia (a total of 26 airports). Both organizations *persero* (limited liability state-owned companies) and are regulated by the Directorate General of Civil Aviation (DGCA) which is part of the MOT. The government contracting entity would therefore most likely be the DGCA or another body of the MOT, or PT Angkasa Pura I or II themselves as per 2015 PPP regulation, which officially allowed SOE to act as GCA.

3.5.1.3 Sector-specific regulations

The Association of Southeast Asian Nations (ASEAN) Single Aviation Market came into effect in January 2015. This policy aims to liberalize the air transport market in each ASEAN member state to boost the region's connectivity and competitiveness as well as reduce air fares. The single market allows ASEAN-based carriers to carry passengers and cargo from and to any third country to an ASEAN member state. This requires each state to fully open up their international airports to other ASEAN members and eliminate restrictions on the frequency and maximum capacity of flights. As some member states (Indonesia and the Philippines) object to certain provisions in this agreement, concessions were made that it would not be fully implemented until after 2016.

Key local sector regulations include:

- Aviation Act No.1/2009
- Government Regulations No. 40/2012 on Airport Construction and Environmental Preservation

The International Civil Aviation Organization publishes a number of regulations that airport operators are required to adopt in order to ensure safe and secure air transport operations. This includes Annex 14, which sets out the physical requirements for any type of civil airport in order for it to receive an operating license from the national Civil Aviation Authority as well as Annex 17, which deals with various security measures to safeguard the aviation industry against acts of unlawful interference. The MOT and the Civil Aviation Authorities are responsible for implementing and monitoring compliance with these regulations.

3.5.1.4 Sector regulators

Details of airport sector regulatory agencies in Indonesia are shown in Table 82.

Table 82: Airport Sector Regulatory Agencies in Indonesia

Agency	Function
The DGCA under the Ministry of Transportation	Main regulator of airports and aviation in Indonesia. It is responsible for developing and implementing policies as well as norms, standards, procedures, and criteria on the use of airspace, aircraft, and airports; the organization of air transport and air navigation; and enhanced safety, security, and environmental quality. The DGCA also acts as airport authority in terms of supervising aviation activities at airports including the regulation of airport services and operations. In addition, the DGCA is responsible for certification and licensing of air transportation, airports, flight security, air navigation, aircraft airworthiness, and operations
AirNav Indonesia	National air traffic control provider, and its main business includes the provision of air traffic services, aeronautical telecommunications, dissemination of aeronautical information as well as search and rescue information and aviation meteorology information.
AVSEC Airport Security	Formed by PT Angkasa Pura (as the only airport operator), it provides security services and meets international and national rules with regard to the provision of security services at airport.

DGCA = Directorate General of Civil Aviation.

Source: Mott MacDonald.

3.5.2 Institutional Capacity for Implementation

3.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The key challenge that PT Angkasa Pura I & II face is to ensure that airport infrastructure is developed in line with the strong growth in air transport demand in all parts of the country. Total passenger figures in Indonesia were around 100 million in 2015 and the trade body International Air Transport Association predicts this to be more than double by 2035 to over 240 million annual passengers. Consequently, a number of airports have already run out of capacity and are in urgent need of expansion, and it is anticipated that the majority of PT Angkasa Pura I & II airports will need upgrading in the near future.

BAPPENAS 2015 PPP book identified 12 projects that are planned to be implemented as PPPs; however, in the latest edition of PPP book (2017), all these projects have been removed. While the initial list indicated the ambition of Indonesia to implement large airport projects as PPPs, in reality the government faces significant difficulty in progressing with these projects due to the factors outlined in the previous section on key challenges.

One example is Yogyakarta Airport, which was meant to be implemented as a PPP but then PT Angkasa Pura had to obtain bond financing in order to get the project under way.

PPP Pipeline of airport projects is listed in Table 83.

Table 83: PPP Pipeline of Airport Projects

No.	Project Name	Value (\$ million)
1	Development of New Bali Airport	510
2	Development of New Yogyakarta Airport	500
3	Expansion of Mutiara Airport, Central Sulawesi	103
4	Expansion of Komodo Airport, East Nusa Tenggara	49
5	Expansion of Radin Inten II Airport, Lampung	109
6	Expansion of Juwata Airport, North Kalimantan	103
7	Expansion of Sentani Airport, Papua	109
8	Expansion of Tjilik Riwut Airport, Central Kalimantan	109
9	Expansion of Fatmawati Soekarno Airport, Bengkulu	124
10	Expansion of Hanandjoeddin Airport, Bangka–Belitung Island	58
11	Expansion of Matahora Airport, Southeast Sulawesi	49
12	Expansion of Sultan Babullah Airport, North Maluku	100
13	Batam Airport	no data

PPP = public–private partnership.

Sources: BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>; Asian Development Bank.

3.5.2.2 Project preparation

Number of PPP projects in preparation	no data
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The status of preparation for the project in the pipeline is not clear.

3.5.2.3 Procurement

Number of PPP projects in procurement	0
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3.5.3 Features of Past PPP Projects

There have not been any past airport PPP projects in Indonesia.

3.5.4 Local Capabilities

The operation and management of airports is split between two SOEs with PT Angkasa Pura I being responsible for operating 13 airports in Eastern Indonesia (including Bali Denpasar) as well as PT Angkasa Pura II that operates 13 airports in Western Indonesia (including SHIA, the country's largest airport).

Tenders for construction or improvement works at the airports are usually only released to the national construction sector through the websites or separate tender notices.

There are a number of contractors and professional services companies in Indonesia who are able to design and construct passenger terminals or airports. One such example is the new Terminal 3 at Jakarta SHIA, a facility with an ultimate capacity of 25 million passengers per year. PT Wijaya Karya Tbk, one of Indonesia's largest contractors, formed a consortium with Indulexco, an Indonesian professional services firm (responsible for preparing the detailed engineering design) and submitted the winning bid for the terminal design. Other examples of national contractors with airport construction experience include PT Adhi Karya as well as PT Brantas Abipraya.

3.5.5 Financial Facilities

Information not available.

3.5.6 Challenges

Challenges for PPP progress in the airport sector are shown in Table 84.

Table 84: Challenges for PPP Progress in the Airport Sector

Challenges	Planned Solutions
<p>Dominance of SOEs (PT Angkasa Pura) in airport development and operation creates lack of certainty in potential investors.</p> <p>Access to sufficient amount of funding for upgrading existing airports or for building new airports has been another obstacle.</p> <p>One of the new airport projects was the New Yogyakarta International Airport, and in order to develop this airport, the government signed an MOU with GVK, an Indian conglomerate (that already manages commercial operations at the Bali International Airport). Despite the MOU, the project did not move forward and was then planned to be procured as a PPP. This was also not successful, which resulted in Angkasa Pura I having to sell conventional bonds to finance the land acquisition of around 58% of the required land (worth \$210 million) in order to get the project started. This illustrates the practical challenges in developing projects as PPPs in Indonesia as well as securing sufficient funding.</p>	

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Table 84 continued

Challenges	Planned Solutions
Foreign ownership of airports is not possible in Indonesia under Law No. 1/2009 on Aviation, which states that foreign investors cannot own a majority stake in an Indonesian airport. While there are ways of securing some level of foreign participation for infrastructure assets where this restriction applies, for example, by forming a joint venture with the national SOE as has been implemented in the port sector, there are no such examples in the airport sector. As airports require significant capital expenditure over a long-term period, the current lack of transparency and certainty with regard to operating in Indonesia as a foreign company as well as the fact that Angkasa Pura has full control over the country's major airports further limits the ability of Indonesia to put such partnerships into practice.	
Acquisition of new land for airport expansion is very slow and has significantly delayed or permanently stopped a number of airport projects. Example of the projects that continue to be delayed mainly due to land acquisition are the new airport in Bandung (Kertajati International Airport) as well as in Yogyakarta (New Yogyakarta International Airport), upgrading and expansion of a large number of other airports such as Semarang's Achmad Yani International Airport (Central Java), Surabaya's Juanda International Airport (East Java), and Banjarmasin's Syamsudin Noor International Airport.	
Physical constraint to airport expansion as a number of existing airports are surrounded by urban development and can therefore cannot be expanded any further.	

MOU = memorandum of understanding, PPP = public-private partnership, SOE = state-owned enterprise.

Source: Mott MacDonald.

3.6 Energy

3.6.1 Regulatory Framework

3.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	100%
Power transmission	100%
Power distribution	100%
Oil and gas	75%

The negative investment list (revised by Presidential Regulation No. 39 of 2014) imposes maximum limits of foreign ownership for various categories of business. Power generation projects above 10 MW can be 100% foreign owned over the duration of concession period provided projects use PPP scheme.

3.6.1.2 Government contracting agency

Electricity supply in Indonesia is controlled by the Government of Indonesia and provided through the national and regional governments and SOEs.

PT Perusahaan Listrik Negara (PLN) is the vertically integrated state-owned utility, which is responsible for the management and development of generation, transmission, and distribution in Indonesia. PLN controls about 70% of generating assets and is the sole owner of distribution and transmission assets of electricity in the country. Therefore, private sector participation is still limited to the power generation sector, when private companies contract with PLN to sell the generated electricity.

PLN also has the right of first refusal on all new generation capacity, is also the provider of electricity of last resort, and holds an Electricity Supply Business Permit. PLN is owned by the Government of Indonesia and supervised from a technical perspective by the MOEMRs and from a management perspective by the Ministry of SOEs and the MOF.

3.6.1.3 Sector-specific regulations

The power sector is regulated by the MOEMR and its subagencies; the Directorate General of Electricity; and the Directorate General of New and Renewable Energy and Energy Conservation.

The key sector regulations are 2009 Electricity Law (No.30/2009) together with implementing regulations on Electricity Business Provision (Government Regulation No. 14/2012 and amended by No.23/2014) that provide a greater role for regional governments to participate in the sector. Cross-Border Sale and Purchase (Governmental Regulation No.42/2012) and Electricity Support Business (Government Regulation No. 62/2012) are also supporting elements to the 2009 Electricity Law. Furthermore, use of Domestic Products in the Construction of Electricity Infrastructure is dictated by the Ministry of Industry Regulation No. 54/2012, as it stipulates the minimum percentage of local content, while the Ministry of Industry Regulation No. 48/2010 requires to prioritize the use of local content.

Geothermal energy sector is regulated by Geothermal Act No.27/2003 and Government Regulations No.59/2007 on Geothermal Business Activities.

3.6.1.4 Sector regulators

Details of energy sector regulatory agencies in Indonesia are shown in Table 85.

Table 85: Energy Sector Regulatory Agencies in Indonesia

Agency	Function
Ministry of Energy and Mineral Resources	Principal actor in the governance of the energy and mining sector. It oversees policy making, implementation, and technical policy; manages energy and mining assets; and evaluates the performance of the sector. Responsible for developing the National Electricity Plan and preparing laws and regulations related to electricity and national tariff and subsidy policies.
National Energy Council	Established in 2009 as the principal energy coordination body. It brings together the seven ministries indirectly involved in the energy sector.
MOF	Manages the state's fiscal and financial assets and properties, and formulates the state budget, taxation, customs, and excise policies. With regard to energy, the MOF is engaged in the management of energy subsidies; the setting of renewable energy tariffs; and the taxation of energy products, energy infrastructure, and operations.
Ministry of Environment	Establishes and enforces environmental standards and regulations. It sets the environmental standards for resource extraction in the coal mining, oil, and gas sectors.
Ministry of Forestry	Grants Forest Borrow Permit to power plant developer, if plant is to be located in the forest.
Commission VII of the Indonesian House of Representatives	Principal parliamentary body dealing with energy matters. It reviews and approves the National Energy Policy as well as any change in the level of Indonesia's electricity and fuel subsidy regimes.

MOF = Ministry of Finance

Source: Mott MacDonald.

3.6.1.5 Standard contracts

What standardized contracts are available and used in the market?		
PPA	✓	
Capacity take-or-pay contract	✓	
Fuel supply agreement	✓	
Transmission and use of system agreement	✗	
EPC contract	✓	

PLN does not use a standard form of PPA.⁷ Rather, the form of the PPA evolves from project to project, with most projects containing a generally similar risk allocation. Typical risk features of the PPA include (Norton Rose Fulbright 2015):

- take-or-pay,
- force majeure and change in law relief,
- termination payments for PLN default and political force majeure,
- international arbitration,
- assignment to lenders being permitted, and
- agreed form of direct agreement between lenders and PLN.

Many terms of the PPA have become fairly standard and nonnegotiable. However, key areas for negotiation are:

- components of termination payment,
- deemed commissioning (and any grace period given to PLN),
- deemed dispatch payments (and any grace period given to PLN),
- triggering events for cost increases (including change in law), and
- fuel cost pass-through.

3.6.2 Institutional Capacity for Implementation

3.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

In 2007, the government established a specific legal basis for national energy management, with the adoption of Energy Law No. 30/2007. The law spells out general principles for the management of energy resources and the government's basic targets for the future development of the energy mix. In particular, it laid the foundation for regulations on the development of renewable energy and energy conservation. Energy Law 30/2007 mandated the National Energy Council to draft a National Energy Policy (NEP) and update it every 4 to 5 years. Parliament adopted a revised NEP in 2014, which was signed on 17 October 2014 as The Government Regulation No.79/2014.

PLN procures new IPPs under a number of different strategic programs. The latest program, which covers the development of power generation in 2015–2019, was set at 35 gigawatts (GW) under the 2015–2024 Business Plan for the Provision of Electric Power (2015–2024 Rencana Usaha Penyediaan Tenaga Listrik [RUPTL]), as approved by the Minister of Energy and Mineral Resources. Nearly 30 GW of new capacity has been reserved for IPPs, including coal, gas, geothermal and hydro technologies. Around 5 GW of electricity

⁷ It is understood that the Ministry of Energy and Mineral Resources on 19 January 2017 issued Regulation No. 10/2017 on Principles of Power Purchase Agreements (MEMR Reg. 10), but it has not been available for review for this report.

is planned to be sourced from geothermal energy by 2025, which would require a capital investment of more than \$20 billion. Local investors are unlikely to have sufficient capital, so international support is needed.

PPP pipeline of energy projects is shown in Table 86.

Table 86: PPP Pipeline of Energy Projects

No.	Project Name
Thermal Generation	
Based on RUPTL (2015–2024)	
	Coal-fired power plants—42.1 GW
	Gas-fired power plants—5.0 GW
	Combined Cycle power plants—9.2 GW
Based on the 35 GW power development program (2015–2019)	
	Coal-fired power plants—18.1 GW
	Gas-fired power plants—6.6 GW
Renewable Generation	
	Matenggeng Dam—900 megawatts
	Geothermal energy—5.0 GW

GW = gigawatts, PPP = public–private partnership, RUPTL = Rencana Usaha Penyediaan Tenaga Listrik.

Sources: PT PLN(Persero). 2016. Rencana Usaha Penyediaan Tenaga Listrik 2016–2025. <http://www.djk.esdm.go.id/pdf/RUPTL/RUPTL%20PLN%202016-2025.pdf>; KPPIP. <https://kppip.go.id/> (accessed 18 February 2017).

Some of the recently announced projects are presented.

Table 87: PPP Pipeline of Energy Projects

No.	Project Name	Capacity (MW)	Value (\$ million)
1	Peaker Jawa-Bali 4 Gas -fired Power Plant PPP	450	n/a
2	Kalbar-2 Coal-fired Power Plant PPP	200	n/a
3	Sumsel 9-10 Coal-fired Power Plant PPP	1800	4000
4	Botang Oil Refinery PPP	n/a	n/a

MW = megawatt, PPP = public–private partnership.

Source: IJ Global database (accessed 18 February 2017).

3.6.2.2 Project preparation

Number of PPP projects in preparation	7
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3.6.2.3 Procurement

PPP projects procured through:	
Direct appointment	8
Unsolicited bids	3
Competitive bidding process	6
License scheme	5
PPP projects currently in procurement	9

IPP/PPP energy projects can be procured under one of three tender processes—direct appointment, direct selection, and public auction.⁸ Direct selection is limited to:

- mine-mouth, marginal gas, and hydro projects, to purchase excess power from mine-mouth, coal, gas and gas machine, and hydro power generators,
- situations where the local power system is in a critical condition, and
- to increase the capacity of existing power generators operating in the same location.

Under the competitive tender methods, the key bid parameter is the price at which generators are willing to sell the electricity generated. The request for proposals (RFPs) issued by PLN generally contains a draft form of PPA and other relevant project agreements such as a draft guarantee agreement (if the project is being tendered under a PPP program). Bidders are often able to make submissions on the PPA (and other drafts provided by PLN) form before submission of their bids. The winning bidder is expected to execute the PPA within 3 to 4 months of the date PLN confirms the winning bid in its letter of intent.

3.6.3 Features of Past PPP Projects

3.6.3.1 PPP projects that reached financial close

Energy Generation	Number	\$ million
Renewables energy generation	25	5,631
Solar	1	104
Wind	0	-
Hydro	12	1,423
Geothermal	11	4,099
Waste/Biomass	1	5
Thermal energy generation	35	21,886
Coal	24	20,839

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⁸ As per MOEMR Regulation No. 1/2006 on procedures for purchasing electricity and/or lease of grid for power supply in the public interest, as amended by MEMR Regulation No. 4 o/2007, and MOEMR Regulation No. 3 of 2015, on procedures for purchasing electricity and the base price for PLN to purchase electricity through direct selection and direct appointment.

Table continued

Energy Generation	Number	\$ million
Diesel	3	436
Natural gas	8	612
Total Energy Generation	60	27,517

Private sector participation is allowed through IPP arrangements.

In 2016, the first power projects implemented under PPP framework were the Central Java coal-fired power plant with a proposed capacity of $2 \times 1,000$ MW under a BOT structure on IIGF guarantee and Java-7 coal-fired power plant PPP.

3.6.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy Generation		
Renewables	20	80%
Thermal	19	54%

3.6.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	23
Projects on availability/performance-based payment basis	60

Typically, developers are expected to acquire all land needed for the plant site and the interconnection lines to the grid, which could be a long distance corridor. The latest PPP regulations (No. 38/2015) allow the government to procure land for certain PPP projects, including the energy sector. Recent example of increased government support in electricity IPP sector is Java-7 coal power plant project which achieved financial close in 2016, when PLN acquired the land for the project in return for an equity stake in the IPP.

There are two types of government guarantee applicable to power plant projects under PPP schemes, namely a business viability guarantee letter (BVGL) granted by the MOF and a guarantee agreement granted by the IIGF. The BVGL covers the risk of nonpayment and/or termination of the agreement. The BVGL may be granted for the period from preconstruction to construction and/or part or all of the operation period (Norton Rose Fulbright 2015). As for IIGF guarantees, the first and the only IPP project to date to receive

such guarantees has been 2,000 MW Central Java coal IPP, which achieved financial close in 2016.

3.6.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	0
Government-paid contracts	60

For IPPs, under the terms of the PPA, the seller is obliged to make available and PLN is obliged to purchase the net dependable capacity and the net electrical output from the plant. The seller receives revenue from PLN in the form of regular capacity payments based on declared net dependable capacity, plus payment for the net electrical output of the plant in accordance with a dispatch instruction from PLN. The plant is required for base load operation including variable operating modes as required by the dispatch center.

3.6.3.5 Tariffs

MOEMR Regulation No. 3/2015 regulates the benchmark purchase prices for various types of energy sources. For coal, gas, and large hydro plants, final prices are subject to negotiations and finalization of PPA and approval of MOEMR. The purchase price for hydro power plants with up to 10 MW capacity and biomass and biogas power plants is set by the MOEMR without the scope for negotiation. For geothermal power plants, the relevant MOEMR regulation only stipulates a ceiling purchase price.

The feed-in tariff (FIT) varies according to the unit capacity and the heat rate as follows:

Is there a system of FITs?			✓
Typical FIT levels ^a	Type	Price/kWh	
This FIT for wind is generally believed to be uncompetitive and under review by the MOEMR	Wind	Rp656–Rp1,004/kWh	
Hydro with a capacity greater than 10 MW	Hydro	\$8–\$9/kWh	
Up to 10 MW, dependent on location and whether connected to low or medium voltage network	Biomass	Rp1,150–Rp1,500/kWh X F	
Up to 10 MW, dependent on location and whether connected to low or medium voltage network	Biogas	Rp1,050–Rp1,400 / kWh X F	
Up to 10 MW, dependent on location and whether connected to low or medium voltage network	Municipal solid waste (zero waste)	Rp1,450–Rp1,798/kWh	
Up to 10 MW, dependent on location and whether connected to low or medium voltage network	Municipal solid waste (landfill gas)	Rp1,250–Rp1,598/kWh	

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Table continued

On 3 June 2014, MOEMR Regulation No.17/2014 was issued under which the ceiling price was based on three defined regions and the planned commercial operation of the power plant dates from 2015 to 2025.	Geothermal	11.8–29.6 US cents/kWh
Under the MOEMR Regulation No.17/2013, IPPs can bid for solar photovoltaic (PV) power projects if the PV module contains 40% or more of local components.	Solar PV	25–30 US cents/kWh
MOEMR Regulation No. 3/2015	Mine-mouth coal	6.9–8.2 US cents/kWh
	Nonmine-mouth coal	6.3–11.8 US cents/kWh
	Gas	7.3–8.6 US cents/kWh

MOEMR = Ministry of Energy and Mineral Resources.

^a It is understood that the Ministry for Energy and Mineral Resources in Indonesia in early 2017 has issued a new ruling on a new tariff scheme for renewable energy (solar, wind, biomass, and geothermal) which will place renewable energy in competition with average cost per systems. There will be also changes in the local content. These changes are detrimental to the sector for the most part.

Source: Ministry of Energy and Mineral Resources 2015. Regulation No. 3/2015 . <https://www.esdm.go.id/>

The FITs for biomass and biogas are set to be multiplied by an incentive factor (F) based on the region where the plant is installed as the following, F = 1 for Java; F = 1.15 for Sumatra; F = 1.25 for Sulawesi; F = 1.3 for Kalimantan; F = 1.5 for Bali, Bangka Belitung, and Lombok; and F = 1.6 for Riau, Papua, and other islands. Additionally, for power plants that operate on a load follower basis, and additional tariff supplement of Rp 80/kWh and Rp 100/kWh for medium voltage and low voltage grid, respectively.

3.6.3.6 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are shown in Table 88.

Table 88: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk		✓		
Tariff risk	✓			
Government payment risk		✓		
Environmental and social risk	✓			As projects require international finance, international environmental and social standards are to be followed. Social risks remain critical in geothermal projects.
Land acquisition risk			✓	
Permits	✓			

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Table 88 continued

Risk	Private	Public	Shared	Comment
Handover risk	✓			
Political risk		✓		The perception of political risk on independent power producer power projects remains relatively high, due to legal and regulatory risk and breach of contract risk and thus most players desire and seek viable government support/ political risk insurance cover through export credit agency.
Regulatory risk		✓		There are major concerns from the private sector on frequent changes of regulations relevant to several sectors notably the geothermal sector.
Interconnection risk	✓			
Brownfield risk: asset condition				n/a
Grid performance risk		✓		
Hydrology risk	✓			
Exploration and drilling risk	✓			This is a major expenditure for geothermal power and therefore a significant risk.

PPP = public-private partnership.

Source: Mott MacDonald.

3.6.4 Local Capabilities

Local companies involved in the energy sector have varying degrees of capability and in some cases provide to the project feedstock experience (as owners or operators), landownership capability, and domestic finance access. In the case of mine-mouth projects, a mine-mouth supplier must have a minimum of 10% equity interest in the IPP and must be a coal contract of work company, or hold an *izin usaha pertambangan* (mining business license), or *izin usaha pertambangan khusus* (special mining business license).

There is also an IPP Association (Asosiasi Produsen Listrik Swasta Indonesia) serving as a forum for Indonesian IPPs and is responsible for representing the interests of its 48 members, particularly in relation to issues such as renegotiation of tariffs and purchase power agreements. At the moment, all of the association's members are companies operating coal-fired power plants; however, it is looking to expand its membership to include companies involved with other energy sources, particularly those renewable.

3.6.5 Project Financing

PPP projects with foreign lending participation	24
PPP projects that received ECA/IFI financing	20

3.6.6 Challenges

A significant challenge for power plant projects in achieving financial close has been difficulties in acquiring necessary land for the project, as lenders expect all land to be acquired before the financing agreement can be signed. Notable example has been the 2,000 MW Central Java coal-fired IPP. The agreement with the winning bidder was signed in 2011; however, due to its inability to acquire all land because of local communal opposition on some parts of it, the project did not reach financial close until the end of 2016. The developer eventually had to declare force majeure, and by the court ruling, the Government of Indonesia forced the owners of the remaining land to clear.

Challenges for PPP progress in the energy sector are shown in Table 89.

Table 89: Challenges for PPP Progress in the Energy Sector

Challenges	Currently Implemented Tackling Measures
Extensive list of permits and licenses from a variety of central and regional government ministries and departments. Elongated application and approval period associated with permits.	Considering several recent projects as precedence, there is further clarity in the permits and process required that assists developers and owners in better understanding such aspects.
Land acquisition delays; local community objections for land acquisition.	Under new PPP regulations (PR 38/2015), energy independent power producer projects (that use a PPP scheme) can now qualify for government support for land procurement. Over the last 5 years, the government has introduced a series of laws aimed to speed up land acquisition process, but implementation of these measures in practice is yet to be proved.
A significant challenge for the energy distribution system due to the lack of transmission lines and supporting infrastructure. Private sector has no control over grid and transmission and distribution network, as this is a monopoly of Perusahaan Listrik Negara	
The lack of experience in private financing of (long-term) renewable energy projects hence remains a significant challenge for renewable project development.	
Challenges specific for geothermal projects: community perception and social acceptance of geothermal projects can be an issue, and lack of government guarantee for geothermal field development and resource confirmation.	
Frequent change of regulatory environment	

PPP = public-private partnership.

Source: Mott MacDonald.

3.7 Water and Wastewater

3.7.1 Regulatory Framework

3.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Bulk water supply and treatment	95%
Water distribution	n/a
Wastewater treatment	100%
Wastewater collection	100%

The current legal framework permits private sector provision of bulk water supply and treatment. The current legal framework does not permit private sector provision of water distribution services. Private sector provision is permitted in private estates, such as industrial estates and residential developments.

3.7.1.2 Government contracting agency

Various municipal water supply services are provided by *perusahaan daerah air minum* or PDAMs (public water utility departments), which are managed at the city government level or provincial government level. Sewerage service coverage in Indonesia, excepting Jakarta, is negligible in most conurbations.

The Jakarta Provincial Government (Daerah Khusus Ibukota) has delegated the provision of municipal water supply services to a public water utility department referred to as Pam Jaya. Similarly, the planning and provision of municipal wastewater collection and treatment services has been delegated to Dinas Sumber Daya Air, while the O&M of wastewater treatment facilities is delegated to the local government SOE PD PAL. Sewerage service coverage in Jakarta is only around 2%.

3.7.1.3 Sector-specific regulations

Can the private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on the release of treated effluents?	✓

Law No. 7/2004 on Water Resources gave flexibility for private sector involvement through Article 9 on commercial water rights and Article 40 clause 3 on participation in water supply delivery. The law considered water both a social and economic good which opened up the potential for private sector involvement. However, in March 2015, Indonesia's constitutional Court ruled that water privatization was unconstitutional. This revoked the

2004 law. In 2015, the Central Jakarta District Court ordered the Jakarta government to revert its control over water resources which is threatening to null the contracts between the administration and the private water companies. At the time of writing this report, the impact of these changes in law have not been fully defined nor have they been fully implemented and are expected to face further challenges from the private sector.

The following laws are in place for regulating raw water extraction:

- Law on Water Resources Development (Law No. 11 of 1974).
- Government Regulation No. 121 of 2015 on Water Resources Exploitation.

The following regulations are in place for regulating wastewater effluent release:

- Law No. 69 of 2013 on Wastewater Quality Standards for Industries (2013 Regulation).
- Governor Regulation No. 220 of 2010 on Waste Water Disposal Permits
- Decree of the State Minister of Population and Environment No. KEP-03/MENKLH/1991: Decree on Effluent Quality Standards for Existing Operations.

3.7.1.4 Sector regulators

Details of water sector regulatory agencies in Indonesia are shown in Table 90.

Table 90: Water Sector Regulatory Agencies in Indonesia

Agency	Function
Ministry of Public Works and Housing	In charge of dealing with tenders, contracts, and procurement processes, which are delegated to the directorate general that deals with the relevant sector. Define national-level water and wastewater sector policies, technical standards for both water and wastewater treatment, and technical assistance.
Directorate General of Water Resources	The main government agency that deals with the management and development of the water sector. This directorate holds the responsibility for formulating and implementing water sector policies and drinking water technical standards
Directorate General of Human Settlements	Involved in the water and wastewater sector through two directorates (see “The Drinking Water Development Directorate” and “The Environmental and Settlement Sanitation Directorate”).
Drinking Water Development Directorate	Holds the responsibility for formulating and implementing policies, as well as managing, monitoring, and facilitating the development of drinking water supply systems and infrastructure
Environmental and Settlement Sanitation Directorate	Holds the responsibility for formulating and implementing policies and technical standards in the wastewater and drainage sector

continued on next page

Table 90 continued

Agency	Function
Research and development board	Responsible for conducting water resource-related research and development activities through its Water Resources Research and Development Centre
Ministry of Home Affairs	Management of water and wastewater utilities, drinking water tariff guidelines, financial performance assessment, and monitoring
Ministry of Health	Setting drinking water quality standards and water and wastewater quality monitoring
Ministry of Finance	Funding allocation, loan agreement, management (multilateral) management of assets
Ministry of Environment	Water pollution control and other related environmental policies
Ministry of Energy and Mineral Resources	Exploration, development, and management of groundwater sources
Local government	Management of local government-owned public water utilities
Indonesian association of water utilities	Association of Indonesian drinking water and wastewater services. Provides the means for consumers to voice their grievances toward the municipal water and wastewater service providers

Source: Mott MacDonald.

3.7.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Bulk water supply agreement	✗
Performance-based O&M contract	✗
EPC contract	✓

Most projects proposed under the national PPP program are planned as BOT structures; however, there is no standardization of contracts. Concession structures have been used for Jakarta West Water Concession, Jakarta East Water Concession, and Tangerang City Water Concession.

3.7.2 Institutional Capacity for Implementation

3.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Traditionally, provincial governments have had insufficient budgets to make capital investments; therefore, capital works have generally been managed and financed through state funds through the provincial department of public works. However, state funding allocation has not kept pace with growth in demand for water utility services. Therefore, there is institutional appetite to procure water utility services through PPP.

Sector strategy and investment priorities are detailed in the National Long-Term Development Plan (RPJPN 2005–2025) and the National Medium Term Development Plan (RPJMN 2015–2019). PPP project pipeline is detailed in the BAPPENAS PPP book which is published every 1 to 2 years on the BAPPENAS website.

PPP pipeline of water projects is provided in Table 91.

Table 91: PPP Pipeline of Water Projects

No.	Project Name	Location	Capacity (m ³ /day)	Value (\$ million)
1	West Semarang Water Supply	Central Java	1,440	78
2	Pondok Gede Water Supply, Bekasi	West Java	432	32
3	Pekanbaru Water Supply	Riau	1,008	195
4	Jatiluhur–Jakarta Pipeline and Water Treatment Plant	West Java	1,296,000	600
5	Sindang Heula Water Treatment Plant	Banten, West Java	no data	17

m³/day = cubic meter per day, PPP = public–private partnership.

Sources: Mott MacDonald. BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>

3.7.2.2 Project preparation

Number of PPP projects in preparation	5
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3.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	4
Unsolicited bids	1
Competitive bidding process	3
PPP projects currently in procurement	1

3.7.3 Features of Past PPP Projects

3.7.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	14	1,312

3.7.3.2 Foreign investor participation

	Number	Share in Total Number of Water PPP Projects
PPP projects with foreign sponsor participation	3	71%

3.7.3.3 Government support

PPP projects that received government support:	Number
VGF	1
Government guarantees:	2
Projects availability/performance-based payment basis	no data

Umbulan Water Supply PPP project received both VGF and IIGF guarantees.

3.7.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	4
Government-paid contracts	10

3.7.3.5 Tariffs

Tariffs are set by provincial governments for public provision of municipal water services through PDAM operations, which result in different tariffs in different provinces. PDAMs are generally responsible for billing and revenue collection.

In theory, MOHA regulations state that PDAMs have to charge tariffs high enough to cover their operational costs. However, in practice, more than 50% of the PDAMs have tariff structures that are too low to recover their costs. Many local governments prefer to charge low tariff rates and avoid increasing them, particularly when close to an election. However,

laws are now changing and PDAMs who enter the government's debt-restructuring program are required to charge tariffs which recover the operational costs.

For water concessions, the private sector requests a contracting agency for the tariff to be increased; however, the decision is influenced at a governmental level. As an example in Jakarta, Aetra, or Palyja would request Pam Jaya to increase the tariff and Pam Jaya would discuss with the government before a decision is made. The tariffs usually set out rates for different customer categories. Tables 92 and 93 show the tariff rates for Jakarta and Bandung, respectively.

Table 92: Current Water Tariff in Jakarta, 2016

Volume	Water (\$/m ³)
Up to 10 m ³	0.55
10–20 m ³	0.60
Above 20 m ³	0.65

m³ = cubic meter.

Source: Aetra. 2016. Mott MacDonald.

Table 93: Current Water Tariff PDAM Tirtawening Kota Bandung, 2015

Volume	Water (\$/m ³)
Up to 10 m ³	0.18
10.01–20 m ³	0.32
20.01–30 m ³	0.52
Above 30.01 m ³	0.75

m³ = cubic meter, PDAM = Perusahaan Daerah Air Minum.

Source: IBNet. 2015. IBNET Database. <https://database.ib-net.org/DefaultNew.aspx>

For the wastewater tariff, there are two options:

- If the water and wastewater are billed together, the wastewater is charged as a surcharge in the range of 25%–30% of the water tariff
- If the wastewater charge is separate, customers are billed based on the customer type (e.g., household/industry) and the floor area of the connected building.

3.7.3.6 Risk allocation

Typical risk allocation arrangements in water concession contracts are shown in Table 94.

Table 94: Typical Risk Allocation Arrangements in Water Concession Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			Both Jakarta's water concessions and the Tangerang concession place demand risk and revenue collection risk on the private sector. This has incentivized concession companies to invest where volume and value customers can be connected.
Revenue collection risk			✓	
Tariff risk			✓	
Government payment risk	✓			While concession agreements generally have provision for index-linked tariff, this has been a major area of contention as public resistance and lack of political will has resulted in prolonged delays to tariff rebasing negotiations.
Environmental and social risk			✓	Generally sits with private sector; however, Indonesia Infrastructure Guarantee Fund has been exploring the provision of public sector guarantee against default of availability payments.
Land acquisition risk		✓		Land acquisition is a slow and complex process in Indonesia; the private sector has no appetite to take the land acquisition risk.
Interface risk			✓	
Handover risk			✓	
Political risk			✓	
Foreign exchange risk			✓	

Source: Mott MacDonald.

Typical risk allocation arrangements in bulk water supply PPP contracts are shown in Table 95.

Table 95: Typical Risk Allocation Arrangements in Water PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		BOT projects have generally been conceived as bulk water supply projects, with the local PDAM being the off-taker and distributor. Consequently, revenue collection risk generally sits with the PDAM.
Revenue collection risk		✓		
Tariff risk			✓	BOT project agreements have generally been drafted with provision for index-linked tariff.
Government payment risk	✓			Generally sits with private sector; however, Indonesia Infrastructure Guarantee Fund has been exploring the provision of public sector guarantee against default of availability payments.
Environmental and social risk			✓	
Land acquisition risk		✓		Land acquisition is a slow and complex process in Indonesia; the private sector has no appetite to take the land acquisition risk.
Interface risk			✓	
Handover risk			✓	
Political risk			✓	
Foreign exchange risk			✓	

BOT = build–operate–transfer, PDAM = Perusahaan Daerah Air Minum, PPP = public–private partnership.

Source: Mott MacDonald.

3.7.3.7 Nonrevenue water and infiltration

Nonrevenue water (%)	41.08
Nonrevenue water (m³/km/day)	no data
Infiltration	no data

Source: Mott MacDonald.

3.7.4 Local Capabilities

Consultants

Local consultants are active on smaller projects of up to 10,000 m³/day. International consultants are active on projects financed by multilateral donors (particularly Asian Development Bank and World Bank).

Contractors

Degremont is a well-established specialist international EPC contractor in Indonesia's water sector, with a strong track record of having built or being involved in most large-scale or complex projects. Often, plants built with bilateral funds will use contractors from the donor country sometimes with local sub-contractors.

Locally financed projects are predominantly carried out by local contractors. There are more than 30 companies that carry out EPC works. The leading EPC contractors are generally state-owned; these include PT Wijaya Karya (WIKA), PT Waskita Karya, and PT Nindya Karya.

Private operators

There are many leading international operators currently working in Indonesia and many others are interested.

Equipment

Basic equipment can be sourced locally, especially lower diameter plastic pipes or larger diameter steel pipes. Typically, specialist mechanical and electrical equipment and instrumentation and control systems are imported.

Generally, locally funded projects will procure equipment based on price, while internationally funded projects may use equipment sourced from the donor's country.

3.7.4.1 Project financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI support	4

3.7.4.2 Challenges

Bandar Lampung Bulk Water Supply PPP was intended as a path-finding pilot project. The tender process failed during a consultation period prior to the formal release of tenders. Various causes have been cited, including fatal flaws in the transaction structure and lack of political willingness to provide sufficient VGF to create a bankable transaction.

After the Asian financial crisis of 1998, both East and West Jakarta water concessions were close to default due in part to US dollar-denominated payments that became untenable with the subsequent exchange rates, and the contracts were renegotiated to avoid default.

Challenges for PPP progress in water sector are shown in Table 96.

Table 96: Challenges for PPP Progress in Water Sector

Challenges	Currently Implemented Tackling Measures
Poor governance and capacity issues likely to cause delays in PPP agreement.	Indonesia has an emerging PPP framework that is assigning roles and responsibilities to various public sector agencies. The procedures and approvals are still being developed in most public sector agencies and thus the project development pathway can be considered as untested.
Lack of centralized body to coordinate all water resource management-related issues; requires public sector project proponent and investors to manage multiple stakeholders.	
Natural challenges: lack of raw water resources. Rainfall patterns and population densities result in areas with very limited water resource.	The lack of sewerage and wastewater treatment is the most significant contributor to degraded surface water resources. Over abstraction of ground water is leading to falling water tables, ground subsidence, and degraded aquifers.
Allocation of responsibility for the “The Last Mile.” There is reluctance among a portion of private sector players to take responsibility for the construction of the “last mile” customer connections and for persuading potential customers to connect from groundwater or existing supplies to new supplies.	There are examples of good practice in Indonesia of tackling this, and documenting these case studies can increase confidence in this obligation.

PPP = public-private partnership.

Source: Mott MacDonald.

3.8 Information and Communication Technology

3.8.1 Regulatory Framework

3.8.1.1 Foreign investor participation restrictions

Maximum foreign ownership of equity in greenfield projects	
Fixed-line infrastructure	67%
Fixed-line services	49%
Wireless/mobile infrastructure	67%
Wireless/mobile services	49%

3.8.1.2 Government contracting agency

Ministry of Communication and Informatics.

3.8.1.3 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✓

3.8.2 Institutional Capacity for Implementation

3.8.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The Third National Medium Term Development Plan, 2015–2019 estimates investment needs in communication technology as \$21 billion, with around \$17 billion of it expected to come from the private sector. However, the latest PPP book 2017 identifies only one project.

PPP pipeline of ICT projects is shown in Table 97.

Table 97: PPP Pipeline of ICT Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	Government Multi-Function Satellite	Ministry of Communication and Information	318

ICT = information and communication technology, PPP = public–private partnership.

Source: BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>

3.8.2.2 Project preparation

Number of PPP projects in preparation	1
---------------------------------------	---

3.8.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	0
Competitive bidding process	1
License scheme	1
PPP projects currently in procurement	0

The information on the type of procurement used for past projects has only been available for two projects.

3.8.3 Features of Past PPP Projects

3.8.3.1 PPP projects that reached financial close

PPP projects that reached financial close	Number	\$ million
	8	2,178

3.8.3.2 Foreign investor participation

	Number	Share in Total Number of ICT PPP Projects
PPP projects with foreign sponsor participation	6	60%

3.8.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	3
Projects on availability/performance-based payment basis	3

Three contracts were signed in 2016 for the Palapa Ring broadband PPP projects for Western, Central, and Eastern Indonesia. Palapa Ring has become the first project in the telecommunication sector to use availability payment scheme introduced under 2015 PPP regulations. It also received guarantees from IIGF.

3.8.3.4 SOE participation

	Number	Share in Total Number of Energy PPP Projects
PPP projects with SOE participation:	0	–

3.8.3.5 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	10
Government-paid contracts	337

3.8.4 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI support	2

3.8.5 Challenges

Challenges for PPP progress in ICT sector are shown in Table 98.

Table 98: Challenges for PPP Progress in ICT Sector

Challenges	Currently Implemented Tackling Measures
Poor governance and capacity issues likely to cause delays in PPP agreement.	Indonesia has an emerging PPP framework that is assigning roles and responsibilities to various public sector agencies. The procedures and approvals are still being developed in most public sector agencies and thus the project development pathway can be considered as untested.

ICT = information and communication technology, PPP = public-private partnership.

Source: Mott MacDonald.

3.9 Social Infrastructure

3.9.1 Regulatory Framework

3.9.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects:	
Construction of health care facilities	67%
Services, including hospital management, specialist hospital/clinic, mental hospital, dental clinic, and laboratory and medical check-up services	67%
Private maternity hospital, clinic general medical services/public hospital/public medical clinic, residential health services, and basic health care services facility	0%
Construction of education facilities	67%
Nonformal education services (vocational training, computer education, and language education)	49%
Formal education services	with license
Government buildings	67%
Prisons and correction centers	67%
Social housing	67%

3.9.1.2 Government contracting agency

Various agencies, including responsible ministries, head of government agency, head of regional government, as well as state-owned or regional-owned enterprises could act as GCAs.

3.9.1.3 Sector-specific regulations

Can the private sector be given rights to provide education services?	✓
Can the private sector be given rights to provide health care services?	✓

According to Law No. 20/2003 regarding National Education System and its implementation regulations, special license is required to provide formal education services (primary, secondary, and tertiary education).

3.9.1.4 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✓

3.9.2 Institutional Capacity for Implementation

3.9.2.1 Project planning

Have sector strategy and investment priorities been defined?	no data
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of social infrastructure projects is shown in Table 99.

Table 99: PPP Pipeline of Social Infrastructure Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	Nusa Kambangan Correctional Institution, Central Java	Directorate General of Correctional Facility under the Ministry of Law and Human Rights	51.5
2	Sport Facility, Papua	Agency of Youth and Sport Papua Province under the governor of the Papua Province	39.0
3	Sam Ratulangi Teaching Hospital, North Sulawesi	University of Sam Ratulangi under the Ministry of Research, Technology and Higher Education	28.0
4	Bandung Street Lighting, West Java	Regional Road Offices under the mayor of Bandung	157.0

PPP = public–private partnership.

Source: BAPPENAS. 2016. *Public Private Partnerships, Infrastructure Projects Plan in Indonesia—PPP Book 2017*. <http://pkps.bappenas.go.id/attachments/article/1340/PPP%20BOOK%202017.pdf>

3.9.2.2 Project preparation

Number of PPP projects in preparation	4
---------------------------------------	---

3.9.2.3 Procurement

PPP projects currently in procurement	0
---------------------------------------	---

3.9.3 Features of Past PPP Projects

There have not been any past PPP projects in social infrastructure in Indonesia.

3.9.4 Challenges

Challenges for PPP progress in the social infrastructure sector are shown in Table 100.

Table 100: Challenges for PPP Progress in the Social Infrastructure Sector

Challenges	Currently Implemented Tackling Measures
Untested sector in Indonesia for private sector involvement.	Indonesia Infrastructure Guarantee Fund is currently launching an advisory framework to provide project preparation support for social infrastructure PPP projects

PPP = public-private partnership.

Source: Mott MacDonald.

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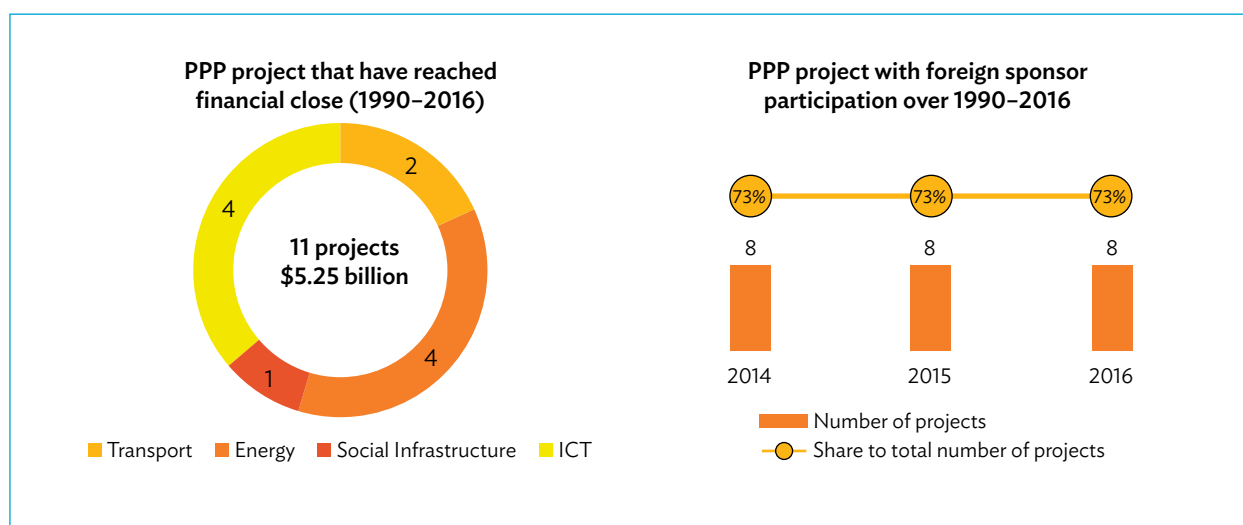
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4. KAZAKHSTAN

The first public-private partnership (PPP)-related law was the concession law, which was adopted in 2006 and covered build-transfer-operate projects. Amendments to this law in 2013 broadened its scope in terms of the types of projects covered. In 2015, the PPP law was introduced and is now applicable along with the concession law to enable a much wider range of PPP-type projects. Another improvement resulting from the adoption of the PPP law is that it specifically includes a range of provisions to mitigate private sector risks and requires more comprehensive project preparation and procurement processes.



From an institutional perspective, Kazakhstan benefits from the Kazakhstan PPP center, which undertakes research and reviews PPP projects, and the Kazakhstan Project Preparation Fund, which aims to promote infrastructure development through the provision of project development funding and services on structuring and support of infrastructure projects.

Land resettlement disputes continue to be an issue, which can cause delays to infrastructure projects, due to approaches that are not compliant with Equator Principles. Also, currently there is no formal published PPP pipeline. Other challenges tend to be more sector specific such as the low power and heating tariffs in the energy sector and the dominance of the national railway company Kazakhstan Temir Zholy (KTZ) in the development, operation, and maintenance of railway transport.

Prior to the adoption of the PPP law, approximately 11 PPP projects had reached financial close, many involving foreign investors. No further projects have reached financial close since then, but research has identified around 13 PPP projects, which are currently in development or procurement, mainly strategic transport initiatives or social infrastructure projects.

4.1 Country Profile

4.1.1 Regulatory Framework

4.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	×	✓	✓
Cumulative number of PPP projects implemented under the latest PPP law to date^a	0	0	0

^a Support in the form VGF is not available.

In 2015, a new law on PPP has been adopted in Kazakhstan to create a common legal framework to regulate PPP projects. The law entered into force on 22 November 2015.

Historically, a concession law was applicable exclusively to build–transfer–operate projects. Amendments were introduced in July 2014, which attempted to broaden the scope of application of the concession law.

Therefore, today, the PPP regulation framework includes the following two key legal acts:

Law No. 167-III ZRK on Concessions (the “concessions law”), and

Law No. 379-V ZRK on Public–Private Partnership, dated 31 October 2015 (the “PPP law”).

The following are the additional laws and codes:

- Commercial Code of Kazakhstan
- Law of Kazakhstan on State Property
- Tax Code of Kazakhstan
- Land Code of Kazakhstan
- Budget Code of Kazakhstan
- Law of Kazakhstan on Securities Market
- Law of Kazakhstan on Project Finance and Securitisation
- Law of Kazakhstan on Special Economic Zones
- Law of Kazakhstan on Natural Monopolies

The concession agreements are governed by the general provisions of the PPP law and in specific cases by the concession law, and the interaction between both laws remains to be clarified from the legal perspective (Dentons 2015, Grata Law Firm 2016).

4.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in PPP regulations	3	7	7

The PPP law expanded the list of PPP arrangements. There are now two ways to formalize a PPP:

- on an institutional basis (with the creation of a special purpose vehicle as a joint venture), or
- a contractual basis (without the creation of an special purpose vehicle).

The following types of contracts are also now included in the new PPP law:

- concession contract,
- rental/lease of state-owned property,
- trust management of state-owned property,
- finance lease contract,
- contracts for the development of technologies and preproduction prototypes, for conducting pilot tests, and for short-run production,
- after-sales service contracts, and
- life cycle contract.

Section 6 of Article 1 of the PPP law provides for an extremely broad concept of a PPP as a “form of cooperation between the public partner and a private partner that corresponds to the features defined by the law.” Such features include:

- building of relations between the state partner and a private partner through entering into a PPP contract,
- medium-term or long-term PPP project implementation (from 3 to 30 years depending on the particular features of the PPP project),
- joint participation of the state partner and a private partner in PPP project implementation, and
- combining resources of the state partner and a private partner for PPP project implementation.

4.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	Information and communication technology	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social infrastructure	✓	✓	✓

The law states that PPP can be used to implement projects in any sector of the economy. Declared priorities are education, health care, transport, power industry, and housing and public utilities.

However, the decree of the RK President “On List of Objects Which Cannot Be Transferred into Concession,” No. 294, dated 5 March 2007, defines some limits for concession projects in key sectors: certain types of property may not be PPP or concession assets, such as: land, water, property of national bodies, military equipment, backbone railway network, etc.

According to the decree:

- Water cannot be transferred into concession, but only as part of land use for the purposes of realization of a concession project.
- Health organizations acting in the area of blood supply service and prevention of HIV/AIDS and organizations of emergency medicine cannot be transferred through PPP.

It is not clear if this decree, which applied to the concession law, also applies to the new PPP law.

It should be noted that land not being an asset that can be transferred into PPP does not mean that private ownership is not allowed (see Section 4.1.1.6); however, PPPs cannot be used only for the purpose of buying land.

4.1.1.4 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	x	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	x	x	x
Swiss challenge	x	✓	✓
Compensation of the project development cost	x	✓	✓
Government support for land acquisition and resettlement cost	✓	✓	✓
Government support in the form of viability gap funding (VGF) and guarantees	✓	✓	✓ ^a

^a Support in the form VGF is not available.

Article 44 of the new PPP law stipulates that selecting a private partner through direct negotiations is possible: direct negotiations are allowed if the PPP project is initiated by a private partner that possesses the PPP facility, based on private ownership or long-term lease right.

A project initiated by the private partner will be subjected to an assessment, and the procurement authority may initiate a competitive PPP procurement procedure.

The projects realized from unsolicited bids were developed before the enforcement of the concession law, which did not allow unsolicited proposals.

4.1.1.5 State-owned enterprise participation

	2014	2015	2016
Is a state-owned enterprise (SOE) allowed to participate in a PPP as a counterparty to the government?	x	x	x
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	x	x	x
Cumulative PPP projects with SOE participation (number)	no data	no data	no data
Cumulative PPP projects with SOE participation (Share in Total Number of PPP Projects)	no data	no data	no data

4.1.1.6 Land rights

	2014	2015	2016
Which of the following is permitted to the private partner:			
Transfer land lease/use/ownership rights to the third party	✓	✓	✓
Use leased/owned land as collateral	no data	✓	✓
Mortgage leased/owned land	✗	✓ ^a	✓ ^b
Is there any legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than the government or the private partner?	✓	✓	✓
Is there a land registry/cadastre with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to the private partner:			
Appraisal of land value	no data	no data	no data
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✗	✗	✗
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

^a Mortgage is not possible if a PPP project is implemented through compensation of investment expenses.

^b The International Federation of Consulting Engineers (FIDIC) suite of contracts is regularly used for large infrastructure procurement projects.

Kazakhstan laws and regulations regarding land are derived from the Constitution, which states that land (surface and underground) is owned by the state, but can also be privately owned (Article 6.3 of Land Law 2003).

Land plots, except for land intended for the maintenance of commercial agricultural production and forestry, may be in the private ownership of foreign citizens, stateless person, and foreign legal entities (nongovernmental).

When land is private property, the state can only reclaim it for specific uses (e.g., road construction) and has to compensate the owner for the asset. This is because the land law covers the reservation of land for the state's needs. The date of the purchase should be at least 3 months after the date of the publication of the decision on purchase. In practice, land acquisition by the state and the compensation payable are the subject of frequent disputes in Kazakhstan and may be a cause of project delay and cancellation.

The mechanism of the land transfer into a PPP and back to the public sector at the end of a PPP project is not clear. However, there is an evidence of land being used as state contribution to a PPP project, and also an existing law forbids using a PPP as a mechanism to buy land.

4.1.1.7 Environmental and social issues

	2014	2015	2016
Is there a local regulation establishing process for environmental impact assessment?	✓	✓	✓
Is there a legal mechanism for the private partner to limit environmental liability for what is outside of its control or caused by third parties?	no data ^a	no data	no data
Is there a local regulation establishing process for social impact assessment?	✓	✓	✓
Is there involuntary land clearance for PPP projects?	✓	✓	✓ ^b

^a Environmental liability is regulated by laws, and there is almost no room to regulate it contractually.

^b Land users are required to restore the land to conditions suitable for further use after completion.

In Kazakhstan, the environmental legislation falls under the Environmental Code 2007. The environmental impact assessment is mandatory for facilities that can have an impact on the environment or human health (ICLG 2016).

It is to be noted that the PPP law does not require environmental or urban and zoning permits before calling for tenders.

Although there are regulations in relation to social impact assessment, the processes undertaken are often below the performance standards of multilateral banks and not compliant with Equator Principles. In particular, compensation for resettlement can be calculated by a range of methods, which may not reflect true market value. Compensation payments may appear arbitrary and are the subject of many disputes between the state and the landowners.

4.1.1.8 Foreign investor participation restrictions

	2014	2015	2016		2014	2015	2016
Maximum allowed foreign ownership of equity in greenfield projects							
Transport				Energy			
Roads	100%	100%	100%	Power generation	100%	100%	100%
Railways	100%	100%	100%	Power transmission	100%	100%	100%
Ports	100%	100%	100%	Power distribution	100%	100%	100%
Airports	100%	100%	100%	Oil and gas	100%	100%	100%
Water and wastewater				Municipal solid waste			
Bulk water supply and treatment	100%	100%	100%	Social infrastructure			
Water distribution	100%	100%	100%	Health care infrastructure	100%	100%	100%

continued on next page

Table continued

	2014	2015	2016		2014	2015	2016
Wastewater treatment	100%	100%	100%	Health care services	100%	100%	100%
Wastewater collection	100%	100%	100%	Education infrastructure	100%	100%	100%
Information and communication technology				Education services	100%	100%	100%
Fixed line infrastructure	49%	49%	49%	Government buildings	100%	100%	100%
Fixed line services	49%	49%	49%	Prisons and correction centers	100%	100%	100%
Wireless/mobile infrastructure	100%	100%	100%	Social housing	100%	100%	100%
Wireless/mobile services	100%	100%	100%	Sport and leisure facilities	100%	100%	100%
Cumulative PPP projects with foreign sponsor participation (number)					8	8	8
Cumulative PPP projects with foreign sponsor participation (Share in total number of PPP projects)					73%	73%	73%

Is there any restriction for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	no	no	no
Currency convertibility	yes	yes	yes

A general restriction exists for foreign entities to directly manage and operate a telecom trunk network. Unless approved by the government, foreign entities shall not own or operate more than 49% stake in a legal entity carrying out activities in the telecom industry. Otherwise, there are no sector restrictions for foreign investors to develop and operate PPP projects.

On land, foreign ownership is allowed. Only the use of agricultural lands by foreigners and legal entities where foreign shareholding is more than 50% is restricted.

Foreign workers in Kazakhstan need a work permit (except for citizens of countries of the Eurasian Economic Union). There are two types of work permits:

- a work permit issued to a foreign employee, and
- a permit issued to an employer for engaging foreign employees.

4.1.1.9 Dispute resolution and enforcement mechanism

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?	✗	✓	✓
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	✓	✓	✓
Has the country signed the New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓

The PPP law explicitly confirms that if a private sector partner under a PPP agreement is a nonresident, the parties shall have discretion to choose the applicable law of the PPP agreement. This was not the case in the concession law.

International arbitration has a yellow indicator in the table above to reflect the fact that although international arbitration is allowed, recognition and enforcement of foreign arbitral awards are not straightforward in Kazakhstan: pursuant to Article 57 of the PPP law, disputes relating to the execution and termination of a PPP contract shall be resolved in accordance with the legislation of the Republic of Kazakhstan and the PPP contract.

When the dispute cannot be resolved, the parties to the PPP contract have the right to settle the dispute in accordance with the requirements of the Republic of Kazakhstan legislation in the courts or in arbitration. Only PPP projects of *special importance* can benefit from the international arbitration clause in the PPP agreement provided that the private partner is a nonresident. Generally, a state-owned party needs special consent to agree to the arbitration clause.

For a project to be recognized as a project of *special importance*, it is required by the Schedule 4 of the Order 725, among others, to have an estimated total value for construction of not less than 4 million tenge (T), equivalent to about \$23 million based on the monthly calculated index in 2016.

4.1.1.10 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights?			
Security over the project assets	✗	✓	✓
Security over the land on which they are built (land-use right)	✗	✓	✓
Security over the shares of a PPP project company	✓	✓	✓
Can there be a direct agreement between the government and lenders	✗	✓	✓

continued on next page

Table continued

	2014	2015	2016
Do lenders get priority in the case of insolvency	x	x	x
Can lenders be given step-in rights	x	✓	✓

The Civil Code of Kazakhstan provides for the following types of security interests: penalty, pledge, retention of the debtor's property, suretyship, guarantee, deposit, and guarantee deposit.

In general, a separate agreement is necessary to establish a security over an asset, and a normal form of an asset security is a pledge. A pledge can be established over any property including assets and other property rights (rights of claims), except for goods prohibited for circulation (e.g., certain types of land, medals, and orders). Pledges over immovable property are subject to state registration.

4.1.1.11 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to the private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	x	x	x
Force majeure	x	✓	✓
Does the law enable the concept of economic/financial equilibrium?	x	x	x
Does the law enable compensation payment to the private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	x	x	x
Change in law	x	x	x

The regulatory framework expressly regulates the modification allowed or renegotiation of a PPP contract, particularly in the following:

- change in the investment plan or contract duration,
- in case of a force majeure event, and
- a material adverse action from the government.

According to the PPP law, the public partner can terminate the PPP agreement by court order only under the following instances:

- in case of material breach of the agreement by the private partner,
- if the private partner is in bankruptcy, and
- in the interest of society and the state.

Similarly, the private partner can terminate the agreement by the court's order, but only in case of material breach of the agreement by the public partner.

4.1.1.12 Government support

	2014	2015	2016
Is project development fund available?	✓	✓	✓
Land acquisition support from the government:			
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on time frame to complete land acquisition (days)	no data	no data	no data
Is there a dedicated agency to streamline land acquisition?	✓	✓	✓
Exemption from/reduction of land-use fees	✗	✗	✗
VGF:	✓	✓	✓
Limits to VGF as a percentage of projects capital cost	n/a	n/a	n/a
Government guarantees:			
Currency inconvertibility and transfer risk	✓	✓	✓
Foreign exchange risk	✓	✓	✓
War and civil disturbance risk	✗	✗	✗
Breach of contract risk	✗	✗	✗
Regulatory risk	✗	✗	✗
Expropriation risk	✓	✓	✓
Government payment obligation guarantee	✓	✓	✓
Credit guarantees	✓	✓	✓
Minimum demand/revenue guarantee	✓	✓	✓
Availability/performance-based payment contracts	✗	✓	✓
Tax subsidies	✗	✗	✗

Those indicators relating to guarantees and availability payments marked red in the above table reflect the fact that there is no specific law enabling such guarantees or availability payments to be provided, although it may be possible that some guarantees could be provided within an individual contract.

Details of available government support for PPP projects in Kazakhstan are shown in Table 101.

Table 101: Details of Available Government Support for PPP Projects in Kazakhstan

Government Support Type	Comments
Land acquisition and resettlement	A decree has to be published by the government or the <i>akimat</i> (local executive body) on the planned alienation of land, indicating the purpose, the location, the owner, and the date of the property.
Project development fund	Kazakhstan Project Preparation Fund has a role in providing funding for the development of project documentation and structuring of investment and infrastructure projects, including public-private partnership (PPP) projects, as well as the implementation of the developed project documentation.
Viability gap funding	This is no explicit provision in the regulations for this. However, there is possible support, referred to as “cofinancing” in the law, which is a grant that comes during the construction phase if the project is not sustainable on commercial terms
Government guarantees	The PPP law contemplates various measures of state support to encourage private investments. The total amount of state support and payment from the state budget cannot exceed the total capital expenditure of the project. The PPP law provides a nonexhaustive list of measures: <ul style="list-style-type: none"> • state sureties for infrastructure bonds (not necessarily placed on the Kazakhstan stock exchange); • state guarantees for loans; • transfer of the exclusive intellectual property rights owned by the state to the concessionary; • provision of “in-kind grants” (e.g., land, machinery); • cofinancing of concession projects by the state; and • guaranteed offtake by the state of a certain number of goods (works, services) to be produced by the concession facility.
Availability/performance-based payment mechanism	Both the Concession and the PPP laws provide the concept of “facility availability payment” and state subsidies as additional sources of income and reimbursement of expenses. Unlike the concession law however, the PPP law does not provide a requirement for the PPP project to be “socially important” to qualify for the availability payment.
Tax subsidies	Investment preferences such as tax subsidies are not applicable to PPP projects according to the “Law on Introduction of Changes to Certain Legislative Acts of the Republic of Kazakhstan on Improvement of Investment Climate” introduced in 2014

Source: Mott MacDonald.

According to the information collected by the World Bank and IJ Global, closed PPP projects received government support as follows:

	2014	2015	2016
Cumulative PPP projects that received government support (number)			
VGF	no data	no data	no data
Government guarantees	1	1	1
Availability/performance (payment basis)	1	1	1

Exhaustive data regarding PPP projects that received government support in the form of land acquisition and VGF have not been available. It is known that Shar-Ust-Kamenogorsk Railway Concession received debt guarantee, while Karaganda Kindergartens PPP was the project implemented on availability/performance (payment basis).

4.1.1.13 Standard contracts

	2014	2015	2016
What standardized contracts are available and used in the market?			
PPP/concession agreement	x	✓	✓
Power purchase agreement	no data	✓	✓
Capacity take-or-pay contract	x	x	x
Fuel supply agreement	x	x	x
Transmission and use of system agreement	✓	✓	✓
Performance-based operation and maintenance (O&M) contract	x	x	x
Engineering procurement and construction (EPC) contract	x	x	x

4.1.2 Institutional Capacity for Implementation

4.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP unit)?			
✓	✓	✓	✓
What roles does the PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, running project development fund)	✓	✓	✓
Appraisal of PPP project feasibility studies	✓	✓	✓
Approval of PPP projects	✓	✓	✓
Procurement	x	x	x
Managing, monitoring, and enforcing ongoing PPP contracts	x	x	x

Details of promoting institutions in Kazakhstan are shown in Table 102.

Table 102: PPP-Promoting Institutions in Kazakhstan

Institution	Role in Promoting PPP
Government of Kazakhstan	Approves the list of “PPP projects of special importance” and the list of PPP facilities that require closed competitive bidding process.
Ministry of National Economy	Responsible for the state policy and framework for implementation of PPP projects and coordination of the PPP activities within the country.
Ministry of Finance	Executes state guarantee agreements and state surety agreements on behalf of the state.
Each central government authority (Sector Ministry)	Responsible for country-scale PPP projects within its sectors of responsibility. Sector Ministry prepares concession proposals related to the national state property project, taking into account private initiative proposals, and organizes the tender.
Local governors (Akims)	Responsible for smaller-scale regional PPP projects in their respective regions. It prepares proposals related to projects that are municipal property and acts as organizer of the tender process or direct negotiations. The list of PPP projects has to be approved by the Local Parliament (Maslikhat).
Centre for Public-Private Partnership (the PPP Center)	The PPP center is a research and expertise center acting as an independent adviser on PPPs for the government of Kazakhstan.
Kazakhstan Project Preparation Fund	Established in 2014, jointly by the state-owned company Baiterek Holding and the Kazakhstan PPP Center, Kazakhstan Project Preparation Fund aims to promote infrastructure development through the provision of project development funding and services on structuring and support of infrastructure projects.

PPP = public-private partnership.

Source: Mott MacDonald.

4.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	x	x	x
Is preliminary selection of PPP projects consistent with public investment prioritization?	✓	✓	✓
Is there any screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	x	x	x

The PPP center advises the government on PPP projects and assesses the consistency of each project regarding the government development strategy. There is no information provided on the planned pipeline.

4.1.2.3 *Project preparation*

	2014	2015	2016
Number of project appraisal stages	0	4	8
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓
Financial feasibility	✓	✓	✓
Legal feasibility	✓	✓	✓
Environmental and social sustainability	✗	✓	✓
Value for money assessment	✗	✓	✓
Fiscal affordability assessment	✗	✓	✓
PPP structuring and risk allocation	✗	✓	✓
Initial market testing	✗	✓	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	no data	no data	no data
Is the approval from the Ministry of Finance or equivalent required before commencement of procurement?	✓	✓	✓
Is it a normal practice to appoint independent, international, and qualified advisers to assist the government with project preparation?	no data	✓	✓

4.1.2.4 *Risk allocation*

	2014	2015	2016
Preferred risk allocation matrix as reference	✗	✗	✗

Risk allocation is to be analyzed during project preparation. Pursuant to Article 14 of the PPP law, the list of risks arising in the various stages of a PPP is determined by the central authorized body on state planning.

4.1.2.5 *Procurement*

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	✓	✗	✗
In case of a competitive tender:			
Is prequalification required? ^a	✓	✓	✓
Minimum time allowed to submit prequalification/expressions of interest (days)	20	20	20

continued on next page

Table continued

	2014	2015	2016
Minimum time allowed to submit a bid:			
Domestic bidding (days)	no data	no data	no data
International bidding (days)	no data	no data	no data
Is negotiation available?	✓	✓	✓
Is there a process allowing unsuccessful bidders to challenge the award/make a complaint	✗	no data	no data
If yes, maximum time allowed to submit a complaint starting from announcement of the preferred bidder	no data	no data	no data
Maximum time limit from bid closing date till selection of the preferred bidder	no data	no data	no data
Maximum time limit from selection of the preferred bidder till signing the contract (days)	90	90	90
Transparency. Which of the following is published?			
Procurement notice	✓	✓	✓
Q&A during bid clarification stage	✗	✓	✓
Evaluation results to bidders	✓	✗	✗
Award notice	✓	✓	✓
Contract	✗	✗	✗
Confidentiality^b	✓	no data	no data

^a Prequalification is not compulsory, therefore marked in yellow.

^b Regulation silent on GCA's obligation to bidders in relation to confidentiality.

Unlike the concession law, the new PPP law provides for the possibility to select a private partner via various processes:

- a tender (open/closed, two-stage/simplified), or
- “direct negotiations” (see Article 31.1 of the PPP law).

The simplified tender procedure can be held for local projects that involve amounts not exceeding the statutory limit of T4 million (monthly indexed) and that are not natural monopolies projects.

The PPP law also provides for a “competitive dialogue procedure,” which allows the public partner to enter into a dialogue with prequalified bidders before finalizing the tender documentation.

4.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	11	11	11
PPP projects currently in preparation	n/a	n/a	13
PPP projects currently in procurement	n/a	n/a	3

Note: It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

The majority of the 13 projects in preparation or in procurement are currently in roads and social infrastructure sectors.

4.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	0	0	0
Cumulative PPP projects that received export credit agency (ECA)/international financing institution (IFI) financing	2	2	2
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Maximum tenor for local currency loan (years)	<5	<5	<5
Availability of interest rate swaps	no data	no data	no data
Forward duration of interest rate swap (years)	no data	no data	no data
Availability of currency swaps	✓	✓	✓
Forward duration of currency rate swap (years)	<5	<5	<5
Availability of project bond financing	✗	✗	✗
Availability of project financing from local public sector banks	✗	✗	✗
Maximum tenor for loan from local public sector banks (years)	n/a	n/a	n/a

4.2 Roads

4.2.1 Regulatory Framework

4.2.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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4.2.1.2 Government contracting agency

The Government of Kazakhstan, through the Ministry of Investments and Development, is the awarding authority for the road sector. Currently, the Committee of Roads of the ministry is the contracting agency for both the Almaty Ring Road (\$672 million) and the Bypass Road in Shymkent (\$65 million).

It can be noted that a memorandum of understanding was signed in November 2015 between the European Bank for Reconstruction and Development (EBRD) and the Ministry of Investments and Development to boost cooperation in the road sector (EBRD 2015): EBRD will support the national economic policy, which aims at investing in infrastructure.

4.2.1.3 Sector-specific regulations

Does the private partner have the legal right to charge users?	✓
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Construction and operation of the Bukhtarma Reservoir Bridge will be based on both compensation of investment from the government and profits from the toll road (PPP Centre Projects 2017).

4.2.1.4 Sector regulators

Kazakhstan has three road networks, each under the responsibility of different levels of government and their respective road organizations:

- National roads are under the responsibility of the Ministry of Transport and Communication and managed by the Committee of Roads.
- Local or rural roads are under provincial governments.
- Urban roads are under the municipality.

4.2.2 Institutional Capacity for Implementation

4.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓




The national “Kazakhstan-2030” strategy for development provides for the implementation of seven long-term priorities, including improving physical infrastructure (more particularly transport and communication). The latest will be carried out via the Nurdy Zhol infrastructure development plan.⁹

⁹ Government of Kazakhstan. 2017. *Strategy and Programs: The Strategy for Development of the Republic of Kazakhstan*. Almaty.

PPP pipeline of road projects is shown in Table 103.

Table 103: PPP Pipeline of Road Projects

No.	Project Name	Length (km)	Value (\$ million)	Status
1	Big Almaty Ring Road PPP (BAKAD)	66	680	To be redeveloped as simplified PPP
2	Bypass Road in Shymkent (BOT Project)	48	65	Under development of concession proposal
3	Bridge across the Bukhatarma reservoir in Kurchum District of East Kazakhstan	1.3	112	In preparation

km = kilometer, PPP = public–private partnership.

Sources: PPP Centre Projects. 2017. *PPP Projects in Kazakhstan*. <http://kzppp.kz/en/%d0%b3%d1%87%d0%bf-%d0%bf%d1%80%d0%be%d0%b5%d0%ba%d1%82%d1%8b-%d0%b2-%d0%ba%d0%b0%d0%b7%d0%b0%d1%85%d1%81%d1%82%d0%b0%d0%bd%d0%b5> (accessed 15 March 2017)

4.2.2.2 Project preparation

Number of PPP projects in preparation	2
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The Bypass Road Project in Shymkent (BOT) is part of the “Silk way” redevelopment in Kazakhstan. It aims to ensure transport development and increase transit potential and competitiveness of the international transit route in the country. Construction period is expected to last 5 years (48 kilometers [km]) for an initial investment of \$65 million, supported by the government.

The Big Almaty Ring Road project seeks to clear Almaty’s city roads from transportation traffic: It involved the construction of a six-lane ring road, including 21 bridges and 19 viaducts. The authorities selected this project as a pilot, to demonstrate the viability of PPP/concession funding structures in the Kazakh road sector. The original project was awarded but then stalled and is now being restructured.

4.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	no data
Competitive bidding process	no data
PPP projects currently in procurement	1

Construction and operation of a bridge across Bukhtarma Reservoir in Kurchum District is under revision of tender documentation by the PPP center.

4.2.3 Features of Past PPP Projects

There have been no PPP projects signed in the road sector so far.

4.2.4 Local Capabilities

Road and infrastructure improvements are a major component of the country's new *Nurly Zhol* economic policy. International multilateral organizations (World Bank, EBRD, Asian Development Bank) are expected to support the road network improvement by providing approximately \$4.2 billion (Astana Times 2014).

Since 2006, the government has been realigning road sector responsibilities to clearly divide between:

- The Ministry of Investments and Development, as the asset holder and client for the republican road network.
- The Committee of Roads, responsible for the development of policies and improvement of legal framework. At a local level, state institutions (called *zhollaboratories*) are formally responsible for the quality control of road works.
- The Joint Stock Company Kazavtozhol (100% state-owned entity), as the national operator and under agency service agreement with the Committee of Roads for management of roads, realization of investment projects on development of international and national highways, procurement and supervision of (re)construction and various repairs works, and the operation and maintenance of toll roads.

4.2.5 Challenges

Challenges for PPP progress in the road sector are provided in Table 104.

Table 104: Challenges for PPP Progress in the Road Sector

Challenges	Currently Implemented Tackling Measures
Road network and maintenance—Only 7% of the road sector budget is allocated to maintenance and the network is still incomplete.	
Cross-border management—Procedures for customs and frontier inspection are complicated and not aligned with international standards, provoking traffic delays.	

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Table 104 continued

Challenges	Currently Implemented Tackling Measures
Institutional and management gaps—While the Ministry has technical capacities to both plan and monitor projects, local administrations are less capable and need support. This gap is aggravated by the lack of experience in outsourcing works to the private sector.	

PPP = public–private partnership.

Source: Mott MacDonald.

4.3 Railways

4.3.1 Regulatory Framework

4.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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4.3.1.2 Government contracting agency

Because of the presence of initiatives aiming at making Kazakhstan a strategic hub connecting Asia and Europe, railways are considered a primary sector for PPP development. A national rail operator, KTZ, was established in 1997 to merge three state enterprises and optimize the management structure of the transportation process. However, in September 2016, the Ministry of Investments and Development announced that the government has prepared a draft resolution for the separation of Kazakhstan State Railways (KTZ) into infrastructure and operating companies (Barrow 2016).

According to Article 5 of the PPP law, “industry operators” (such as Kazakhstan Electricity Grid Operating Company [KEGOC; the national transmission grid operator] or KTZ in the railway sector) can be parties to a PPP agreement.

4.3.1.3 Sector-specific regulations

The tariffs for railway services on the main railway network are subject to government regulations. The remaining components of tariffs for railway services are determined by competition within the sector (Baigazina 2015).

4.3.1.4 Sector regulators

The railway sector is regulated by two state agencies:

- Committee of Transport of the Ministry of Investments and Development, responsible for the technical regulation, including issues related to security, access to infrastructure, and licensing, and

- Committee on Regulation of Natural Monopolies and Protection of Competition, responsible for tariff regulation of natural monopolies and companies occupying a dominant market position.

4.3.2 Institutional Capacity for Implementation

4.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The development of rail transport and enhanced logistical efficiency and transport capacity is a key element for the advancement of the Kazakhstan economy; indeed, the country has an export-oriented economy (oil, metal, and other materials) and is at a central point in the regional trades. Kazakhstan's rail network potentially represents an efficient corridor in the "Eurasian Land-Bridge" project connecting Asia with Europe.

An illustration of this strategy (Eurasian Development Bank 2015) is the joint venture, which was set up in 2010 between Alstom (a French company), Remlokomotiv (a subsidiary of the KTZ) and the Russian Federation company Transmahholding to build a state-of-the-art electric locomotive plant in Astana, financed by the Eurasian Development Bank (\$66 million). In 2016, Alstom became the main shareholder with a 50% holding.

PPP Pipeline of rail projects is provided in Table 105.

Table 105: PPP Pipeline of Rail Projects

No.	Project Name	Length (km)	Value (\$ million)	Status
1	Almaty Light Rail	23	300	Preparation
2	Almaty Railway Bypass	61	297	Preparation

km = kilometer, PPP = public-private partnership.

Sources: Infradeals. Infradeals Database. <http://www.infradeals.com/infradeals/global-transactions-database> (accessed 23 February 2017)

4.3.2.2 Project preparation

Number of PPP projects in preparation	2
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4.3.2.3 Procurement

PPP projects currently in procurement	1
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The one project currently in procurement involves construction and operation of a light railway line in Almaty. The projected length is 22.9 km, including railway stations. The aim is to reduce the traffic congestion and improve the quality of public transportation services and safety and security of transport in Almaty city. The EBRD will support the project with a 10-year \$39.3 million loan.

4.3.3 Features of Past PPP Projects

4.3.3.1 PPP projects that reached financial close

	Number	Million (\$)
PPP projects that reached financial close	1	231

There has been only one PPP project signed, namely development and operation of the Shar-Ust-Kamenogorsk Railway. The project was executed in 2005, prior to the establishment of the PPP center and the implementation of the concession law. The project was financed through the share capital of the project operator *Doszhan Temir Zholy* and a bond issue. The project was procured through a PPP mechanism, but in practice the lack of a legislative base was an issue for the project (Dyussenov 2015): For example, up to 2007, the state guarantee for *Doszhan Temir Zholy* bonds had been granted only for the period of construction, leaving bond holders unprotected against the concessioner default risk during the operating period. It is understood that in 2008 the project went bankrupt.

4.3.4 Local Capabilities

According to the World Bank, key reforms have been aimed at separating infrastructure from rail transport to provide a clear strategic direction in developing railway connectivity between Europe and Asia. The national rail operator KTZ has a strategic role as a key logistic provider for transit traffic between Asia and Europe. KTZ is one of the principal implementers of the New Silk Road initiative, a multinational initiative to establish a network of enhanced overland and maritime economic corridors extending between the People's Republic of China and Europe.

As a state-owned company, KTZ has the task to develop, operate, and maintain railway transportation in Kazakhstan. Despite the liberalization of some segments of the railway services market, KTZ and its subsidiaries are major players in their respective market segments and, as a result, are subject to state regulation on monopolies.

As stated in Section 4.3.2.1, an international player, Alstom, has entered Kazakhstan's railway market as a joint venture with KTZ.

4.3.5 Challenges

Shar-Ust-Kamenogorsk Railway went bankrupt in 2008. This bankruptcy is one of the main reasons why pension funds are not very keen on investing in infrastructure bonds in Kazakhstan.

Challenges for PPP Progress in the rail sector are provided in Table 106.

Table 106: Challenges for PPP Progress in the Rail Sector

Challenges	Currently Implemented Tackling Measures
The sector is dominated by a public-owned company	Key reforms of the transportation program for the railway sector aim at separating infrastructure from rail transport. However, the national railway company "Kazakhstan Temir Zholy" remains the main organization in the sector.

PPP = public-private partnership.

Source: Mott MacDonald.

4.4 Airports

4.4.1 Regulatory Framework

4.4.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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Airports can be owned by the state and/or private legal entities, including foreign legal entities (articles 5 and 64 of the aviation law).

4.4.1.2 Government contracting agency

The Ministry of Investments and Development has a Civil Aviation Committee in charge of the public procurement for civil aviation projects.

In addition, the Airport Management Group, as part of KTZ, is established for managing 11 state-run airports.¹⁰ KTZ signed a 7-year contract with Zurich Airport to support them in

¹⁰ Personal communication with Claude Badan, CEO of Airport Management Group, in 2015.

operational and commercial issues, and to share international experience and technologies with local staff.

4.4.1.3 Sector-specific regulations

Basic services of airports are qualified as natural monopolies and regulated by the natural monopolies law of Kazakhstan. This law is aimed at:

- determination of the legal framework for the state control and regulation of activities in the natural monopolistic spheres, including the airport sector, and
- achievement of a balance of interests of the consumers and holders of natural monopolies.

Air transportation and airport services are therefore subject to state tariff regulation.

In addition, the aviation law is the main legislative act regulating aviation in Kazakhstan and it sets out the norms relating to:

- state regulation and state control of airspace management and aviation operations,
- organization of airspace management, international flights, aircraft, aviation personnel, operators, airports, air services, and aviation work; and
- legal liability in the sphere of air services, actions, and activities that affect flight operating services, air accidents and their investigation, and rescue works in relation to aircrafts, their passengers, and crew members.

It is to be noted that generally either the airports' assets or share ownership in the airports is considered strategic objects (i.e., assets of socioeconomic significance for the development of Kazakh society, ownership of which may affect national security according to the Decree 2007 (Section 4.1.1.3 above), provided that the relevant airport is included in the list of strategic objects established by the Government of Kazakhstan. Transfer of ownership of airports that have been included in the strategic objects list is subject to the approval of the Government of Kazakhstan.

4.4.1.4 Sector regulators

Details of airport sector regulatory agencies in Kazakhstan are provided in Table 107.

Table 107: Airport Sector Regulatory Agencies in Kazakhstan

Agency	Function
Civil Aviation Committee (Ministry of Investments and Development)	Implements the regulative, realizable, and controlling functions, and takes part in implementation of the strategy functions of the ministry in the sphere of civil aviation. In charge of public procurement for civil aviation projects.

Source: Ministry of Investments and Development. <http://mid.gov.kz>

4.4.2 Institutional Capacity for Implementation

4.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	no data
Is there a PPP project pipeline developed and available?	no data

As the host country for the EXPO 2017, an international exposition, and a potential logistical hub of the New Silk Road, Kazakhstan is investing in modernizing its air traffic infrastructure, again aiming to enhance the country's intentions to become a major transportation hub in Central Asia.

No PPP airport projects are currently in preparation or procurement; however, it is worth noting that several projects are being implemented in the sector, as public investment:

- Astana Airport—redevelopment project supported by the EBRD (\$46 million)¹¹
- Kyzylorda Airport —redevelopment project (\$27 million)¹²
- Shymkent Airport—construction of a new multimodal terminal has been announced by Kazakhstan Railways (The Astana Times 2015).

4.4.3 Features of Past PPP Projects

4.4.3.1 PPP projects that reached financial close

	Number	Million (\$)
PPP projects that reached financial close	1	31

There has been only one PPP project signed, namely developing and operating the Aktau Airport Terminal. The project was executed in 2007, under the concession law. The ATM Group won a BOT contract for the operation of the airport and construction of a new terminal.

Aktau Airport Terminal	
PPP projects with foreign sponsor participation	Yes—the airport was awarded to a Turkish company, the ATM Group
Government support	no data
Tariffs	no data
Risk allocation	no data

¹¹ EBRD. 2015. *Astana Airport*. <http://www.ebrd.com/work-with-us/projects/psd/astana-airport-rehabilitation-html>

¹² Kazakhstan Project Preparation Fund.

4.4.4 Local Capabilities

The operation and management of airports is centralized in Kazakhstan. The Airport Management Group, as part of KTZ, manages 11 regional state-run airports. The main objective is to bring the flight and air safety into conformity with the international standards and to improve financial performance of the state-run airports. For that purpose, KTZ signed a 7-year contract with Zurich Airport aimed at sharing international experience and technologies.

However, construction and operation of other Kazakhstan major airports have been awarded to international companies, suggesting that private sector local capabilities are still limited:

- The Aktau Airport PPP project was awarded to a Turkish company.
- Astana Airport was awarded to a consortium of four international companies, including Marubeni Corporation (Japan), Siemens AG (Germany), John Laing PLC (United Kingdom), and Alsim Alarko AS (Turkey).
- The government is currently considering three proposals for redevelopment projects, all of them being led by international investment companies: Tengi Holding (People's Republic of China), Changi Airports International (Singapore), and Vinci Group (France).
- Almaty Airport is operated by a subsidiary of Venus Airport Investments, a company registered in Amsterdam.

4.4.5 Project Financing

Information not available.

4.4.6 Challenges

Challenges for PPP progress in the airport sector are provided in Table 108.

Table 108: Challenges for PPP Progress in the Airport Sector

Challenges	Currently Implemented Tackling Measures
Liberalization of the sector	The gradual liberalization of air transport regulation is planned.
International standards and safety requirements—Quality of the air transport infrastructure is one of the key challenges of the sector: in 2014, only 10 out of 25 airports were compliant with the International Civil Aviation Organization standards. According to the International Air Transport Association, urgent attention to safety.	

Sources: Mott MacDonald; World Bank Group. 2016. *Kazakhstan Partnership Program Snapshot*. <http://pubdocs.worldbank.org/en/220651460698981308/Kazakhstan-Snapshot-s2016-en.pdf>

4.5 Energy Sector

4.5.1 Regulatory Framework

4.5.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	100%
Power transmission	100%
Power distribution	100%
Oil and gas	100%

The 2003 law on investments established a single investment regime for domestic and foreign investors. There is no restriction on foreign investors' participation in the energy sector.

4.5.1.2 *Government contracting agency*

Immediately following the dissolution of the Soviet Union, Kazakhstan's power system remained organized administratively on two levels: a national system and multiple regional systems. Power sector restructuring, including the separation of assets and corporatization of the operating entities, began in early 1996 with the adoption of a series of government resolutions. In September 1996, the government spun off all the high-voltage network assets into a new state-owned corporation, KEGOC. KEGOC also was designated to sign contracts with the generators previously signed by National Energy System Kazakhstanenergo.

In 2013, an "Action Plan for the Development of Alternative and Renewable Energy in Kazakhstan 2013–2020" was approved to support the renewable energy sector.

The country has embarked on building a green economy, setting a clear target for 2030: reduce emissions by between 15% and 25%, compared with 1990 levels. Kazakhstan's strategy to reduce emissions is based on promoting a more decentralized and green energy supply system.

Key stakeholders of the sector are the Ministry of Energy, responsible for the projects' procurement and sector regulation, and KEGOC.

4.5.1.3 *Sector-specific regulations*

In 2013, the Ministry of Environment and Protection published a document titled "Transition of the Republic of Kazakhstan to Green Economy," which identified regulatory priorities as well as legislative opportunities for green growth.

An offtake of electric power is guaranteed by the law: the producer of renewable electricity may sell generated electricity using one of the following options:¹³

- to the Special Financial Settlement Centre at a fixed tariff indexed for inflation, and
- to customers at negotiable prices. In this case, the producer may not sell generated power through the first option.

Feed-in tariff

With the assistance of the EBRD, a feed-in tariff (FIT) was approved to attract new investors and a standard power purchasing agreement was designed. The tariff was updated in 2014 (Section 4.5.4.3).

The renewable energy source (RES) law provides two types of guarantees to energy investors:

- The RES law states that the output of renewable energy would be purchased at a fixed tariff existing at the date of conclusion of the power purchase agreement. Therefore, tariff changes will not be allowed in existing installations.
- The RES law recognizes the right of the Government of Kazakhstan to change the renewable energy tariff level, but this “does not apply to the existing power purchasing agreement.”

Nowadays, there is no adjustment mechanism provided by the legislation for fluctuations in exchange rate.

Access point

The RES law also guarantees RES facilities free and nondiscriminatory access to the nearest point of connection to electrical or thermal grids of transmission companies. The law however does not give a clear guidance on potential liability of the network operators in case they refuse or delay the conclusion of the transmission agreement.

Benefits for local companies

The commercial code (article 283) provides local companies that operate in eligible areas (including RES) with the following benefits:

- exemption from custom duties and value-added tax on imported equipment, components and raw materials;
- state in-kind grants (land plots, buildings, equipment, machinery, etc.) for a gratuitous use for the duration of the contract. The total amount of such in-kind grants shall not exceed 30% of the total investment;
- tax exemptions (corporate income tax 0% for 10 years, land-tax 0% for 10 years, property tax 0% for 8 years);

¹³ Grata Report—Renewable Energy Projects in Kazakhstan. 2016 http://www.gratanet.com/en/publications/details/renewable_kazakhstan_2016.

- investment subsidy of compensation by the government of up to 30% of the costs relating to construction, assembly, and acquisition of equipment; and
- stability of tax law and labor laws.

License

Starting from 2012, only the purchase of electricity for resale is subject to licensing. Production, transmission, distribution of electrical and thermal energy and operation of power plants and electrical grids are not subject to licensing.

Monopolies regulation

According to the law on natural monopolies of July 1998, the natural monopolies in Kazakhstan include services related to:

- oil/products transportation through trunk pipelines;
- marketable gas storage and transportation through connector pipelines, trunk pipelines, and/or gas distribution systems; storage tank system operation; and raw gas transportation through connector pipelines;
- transmission and distribution of electric power;
- production, transmission, distribution, and supply of heat energy;
- technical dispatch of electric power into grid and consumption of electric power; and
- balancing of production and consumption of electric power.

4.5.1.4 *Sector regulators*

Details of energy sector regulatory agencies in Kazakhstan are provided in Table 109.

Table 109: Energy Sector Regulatory Agencies in Kazakhstan

Agency	Function
Government of Kazakhstan	Approves the feed-in-tariffs (article 5 of the renewable energy sources law).
Ministry of Energy (MOE)	The MOE oversees national energy development, including electricity and renewable energy. Under the MOE, the Committee for Nuclear and Energy Supervision is the public authority for the state energy control. It is also responsible for supervision of the connection of renewable energy to electrical and thermal networks. In particular, the ministry keeps a list of eligible renewable energy producers/investors: to conclude an offtake agreement, such an investor has to be included into the list.
Agency for Regulation of Natural Monopolies	Regulates monopoly sectors. In the energy sector, it regulates transmission, distribution, and heat tariffs.
Kazakhstan Operator of Electric Energy and Power Market	Operates the centralized wholesale electricity trading market.

continued on next page

Table 109 continued

Agency	Function
Local Governments (Akimats)	Approval of construction projects with respect to renewable energy facilities, and reservation and allocation of land for the construction of the facilities (article 7 of the renewable energy sources law).

Source: Mott MacDonald.

Legal advisers have noted that there is no transparent procedure and timeframe to make such an application and be included in such a list of eligible suppliers (footnote 56).

4.5.1.5 Standard contracts

What standardized contracts are available and used in the market?		
PPP/concession agreement	✓	
Power purchase agreement	✓	
Capacity take-or-pay contract	✗	
Fuel supply agreement	✗	
Transmission and use of system agreement	✗	
Performance-based O&M contract	✓	
EPC contract	✓	

4.5.2 Institutional Capacity for Implementation

4.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✗

The government has officially committed to renewable targets in the Strategic Plan for the Republic of Kazakhstan Development by 2020 and Strategy Kazakhstan 2050. The energy from renewable sources should account for 1% of power production by 2014, 3% of power production by 2020, and 11% by 2030. For the longer term, according to the strategy, the country targets to increase the share of power production from renewable and alternative sources of power up to 50% by 2050.

The Ministry of Energy has provided a list of renewable energy projects for the 2013–2020. By 2020, the country should have 13 wind, 14 hydropower, and 4 solar power plants, as well as a nuclear power plant. However, the list does not specify which projects are PPP projects.

PPP pipeline of energy projects is provided in Table 110.

Table 110: PPP Pipeline of Energy Projects

No.	Project Name	Value (\$ million)
1	Gulshat PV Solar Plant (48 MW)	73
2	Kulan PV Solar Farm (29 MW)	51
3	Yereymentau Wind Farm (50 MW)	121
4	Burnoye Solar Plant	167

MW = megawatt, PPP = public-private partnership.

Sources: Ministry of Energy. <http://energo.gov.kz/index.php?id=2095>

4.5.2.2 Project preparation

Number of PPP projects in preparation	4
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4.5.3 Procurement

PPP projects procured through:	
Direct appointment	no data
Unsolicited bids	1
Competitive bidding process	no data
License scheme	0
PPP projects currently in procurement	no data

4.5.4 Features of Past PPP Projects

4.5.4.1 PPP projects that reached financial close

Energy Generation	Number	Million (\$)
Renewables energy generation:	2	128
Solar	1	105
Wind	0	–
Hydro	1	23
Geothermal	0	–
Waste/biomass	0	–
Thermal energy generation:	0	–
Coal	0	–

continued on next page

Table continued

Energy Generation	Number	Million (\$)
Diesel	0	–
Natural gas	0	–
Total Energy Generation	2	128
Energy transmission and distribution	2	no data
Total Energy Transmission and Distribution	2	no data

4.5.4.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation:		
Renewables	1	50%
Thermal	0	n/a
Energy transmission and distribution	2	100%

4.5.4.3 Government support

PPP projects received government support:	Number
VGF	no data
Government guarantees	no data
Projects on availability-/performance-based payment basis	no data

4.5.4.4 SOE participation

	Number	Share in Total Number of Energy PPP Projects
PPP projects with SOE participation	0	–

4.5.4.5 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	no data
Government-paid contracts	no data

4.5.4.6 Tariffs

Is there a system of FITs? ✓	
Type: ^a	Tenge/kWh (indexed)
Wind power	22.68
Solar power (with Kazakh silicon)	34.61
Solar power (with Kazakh modules)	70.00
Small hydro	32.23

kWh = kilowatt-hour.

^a V. Daviy. 2015. Renewable Energy in Kazakhstan. <https://www.linkedin.com/pulse/renewable-energy-kazakhstan-good-tariffs-stable-vitaliy-daviy>

As electric power transmission and distribution services in Kazakhstan belong to the sphere of natural monopolies, tariffs of the grid companies should provide compensation of costs necessary for the provision of regulated services, as well as the implementation of the investment program. The regulatory method's main drawback is the lack of incentives for cost optimization because the cost reduction leads to a reduction of the tariff in the next regulatory period.

The law to support the use of RESs was adopted on 4 July 2009, and then amended in 2013. The FIT scheme is targeted at an increase in renewable electricity generation that is in line with the targets from the green energy concept of supplying 3% of electricity by wind and solar in 2020. Renewable energy power plants are eligible for guaranteed power prices for 15 year period.

4.5.4.7 Risk allocation

Information of risk allocation for energy PPP projects was not available to make an assessment of a typical approach.

4.5.5 Local Capabilities

Kazakhstan has strict local content rules which oblige key players to procure goods, works, and services locally, which means that the best way of entering Kazakhstan market is to establish local presence or to find a local partner. The Government of Kazakhstan supports the cooperation of local energy companies with international financial institutions.

Kazakhstan is the most advanced country in Central Asia in terms of power sector reforms. Privatization began in 1996 and all large power plants have been either privatized or transferred to investors under concessionary agreements. Kazakhstan's electricity sector is legally and financially unbundled.

State-owned Samruk-Energy is one of the largest energy companies in Kazakhstan. Samruk-Energy operates in power generation, transmission, and distribution and coal

mining, as well as in the rehabilitation, expansion, and construction of power facilities. Samruk-Energy is managed by the Sovereign Wealth Fund, Samruk-Kazyna.

State-owned electricity companies, such as the KEGOC, Kazakhstan Wholesale Electric Power Market, and Samruk-Energo, are managed by the National Wealth Fund Samruk-Kazyna. Samruk-Energy is one of the largest energy companies in Kazakhstan. Samruk-Energy operates in power generation, transmission, and distribution and coal mining, as well as in the rehabilitation, expansion, and construction of power facilities. Samruk-Energy is managed by the Sovereign Wealth Fund Samruk-Kazyna.

4.5.5.1 *Electricity generation sector*

In 2015, electricity was produced by 102 different plants, including power plants of national or regional importance or plants within industrial complexes. According to KEGOC, power plants of national importance are principally thermal power plants, and power plants of industrial and regional importance are usually combined heat power plants.

4.5.5.2 *Electricity transmission sector*

Transmission is operated at two levels. The backbone grid in Kazakhstan is the National Power Grid providing connections between regions of the country and power systems of neighboring countries. It is managed by KEGOC. Regional electric networks provide electrical connections within regions and power transmission to retail consumers. They belong to the regional electric network companies.

4.5.5.3 *Electricity supply sector*

Power supply organizations purchase electricity directly from generators or at centralized auctions.

4.5.5.4 *Other activities in power industry*

Other entities play a key role in the development of the sector:

- Research and design institutes, such as KazNIPiEnergoProm, Energy KazNIPiITES, KazSelEnergoProyekt Institute, KazNIIenergetiki, and Kazakhstan institute of industry development, are engaged for research and development assignments in the energy sector.
- Kazakhstan Electricity Association (association of legal entities) participates in the development of the government programs, laws, and regulation and supports its member when the interests of the industry are at stake.
- KazEnergy is a voluntary nonprofit association established to create favorable conditions for dynamic and sustainable development of oil and gas and energy industries in Kazakhstan.
- Kazakhstan Electric Capacity Reserve Pool was established by the participants of Kazakhstan electricity market to provide contract-based capacity reserves to secure uninterrupted power supply to the consumers.

4.5.6 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI financing	no data

Together with Islamic Development Bank, the country has established a renewable energy fund of \$50 million, which hopes to attract strategic investment flows and expertise into the renewable energy sector, particularly wind, solar, biomass, and small hydro.¹⁴

4.5.7 Challenges

Challenges for PPP progress in the energy sector are provided in Table 111.

Table 111: Challenges for PPP Progress in the Energy Sector

Challenges	Currently Implemented Tackling Measures
Lack of state control over volume of the RES-generated Eclectic Power—The RES law does not provide a clear tool for the Government to control the volumes of renewable energy investments. An unexpected success of feed-in tariff schemes may result in a situation when the State is confronted with excessive volumes of renewable energy projects.	
Transparency of bids—Issues that relate to corruption and strong vested domestic interests have been considered reasons for low levels of interest from foreign investors.	The PPP law introduced a better-defined multistage open-tender process into the concession law, but this has yet to be fully tested.
Electric power supply and inefficient transmission infrastructure—The transmission system is owned and operated by the state-owned company KEGOC: network across the country is inefficient with losses estimated at 15%. The problem of electric power supply, particularly in South Kazakhstan, remains acute.	In January 2012, a law on energy savings and energy efficiency was passed along with a comprehensive action plan that targets a 25% reduction in energy use by 2020.
Low power and heating tariffs—Power and heating tariffs are still too low to incentivize private investors to finance infrastructure upgrading of the sector	
Resistance from some industries to green energy transition	

KEGOC = Kazakhstan Electricity Grid Operating Company, PPP = public-private partnership, RES = renewable energy source.

Sources: Mott MacDonald; M. Karatayev and M. I. Clarke. 2015. *A Review of Current Energy Systems and Green Energy Potential in Kazakhstan*. <http://www.milesecure2050.eu/documents/publications/en/a-review-of-current-energy-systems-and-green-energy-potential-in-kazakhstan>

¹⁴ Islamic Corporation for the Development of the Private Sector (ICD). 2012. ICD Launches Central Asia Renewable Energy Fund 10 October.

4.6 Social Infrastructure

4.6.1 Regulatory Framework

4.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Health care infrastructure	100%
Health care services	100%
Education infrastructure	100%
Education services	100%
Government buildings	100%
Prisons and correction centers	100%
Social housing	100%
Sport and leisure facilities	100%

4.6.1.2 Government contracting agency

Each Ministry is responsible for PPP projects in its sector. Local projects would be implemented by local governments.¹⁵

- Health care facilities in Kazakhstan are largely owned and operated by the public sector, represented by the Ministry of Health. According to a World Health Organization report (2012), the system and policy-making are highly centralized. However, healthcare provision and financing are devolved to the local government (*oblast*) administration and their health departments. The 14 oblasts and Almaty and Astana city health departments are the key bodies responsible for providing health services and run most hospitals and clinics. Currently, for instance, while the ministry has initiated a concession on construction and operation of two multifunctional hospitals in Kazakhstan, the Akimat of Eastern Kazakhstan region is planning to build a children's hospital in Semey.

It is to be noted that the role of professional associations and nongovernment organizations in the development of health policies and regulation is increasing.

- The Ministry of Education and Science and local governments are contracting agencies for education sector projects. The ministry is responsible for the governance and intersector coordination in the fields of education, science, protection of children's rights, and youth policy, and oblasts are responsible for the delivery of education services in schools.

¹⁵ Colibri Law Firm. 2016. *PPP Projects in Kazakhstan*. Almaty, Kazakhstan.

Kazakhstan has embarked on reforms to improve the quality of the education system. As an example, a transition to a 12-year education system with primary and secondary levels has been announced.

- The Ministry of Internal Affairs' Committee of Criminal and Correctional System supports region local administration to develop the correctional facilities, such as in Shymkent. Cooperation is based on allocation of the land, provision of the infrastructure, and communication for the project. On the Shymkent project, companies in the People's Republic of China, France, and Germany have already demonstrated their interest.

4.6.1.3 Sector-specific regulations

Social infrastructure sector regulatory agencies in Kazakhstan are shown in Table 112.

Table 112: Social Infrastructure Sector Regulatory Agencies in Kazakhstan

Agency	Function
Ministry of Internal Affairs	Responsible for the development of the prison infrastructure regulatory framework.
Ministry of Health and Social Development	Responsible for formulating policies on key aspects of the health system and for service delivery through national clinical centers. The government has launched a health care development program "Densaulyk," which aims at improving the health system. Through the Health Purchasing Committee, the Ministry of Health started to finance most hospitals in the country. Primary health care facilities (dispensaries, psychiatric hospitals, etc.) continue to be funded through oblast budget.
Ministry of Education and Science	Responsible for the governance in the field of education. The National Law on Education (2007) lays down the main foundations of the education system and ratifies the administrative and financial decentralization of education institutions.

Source: Mott MacDonald.

4.6.2 Institutional Capacity for Implementation

4.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of social infrastructure projects is shown in Table 113.

Table 113: PPP Pipeline of Social Infrastructure Projects

No.	Project Name	Sector	Status	Value (\$ million)
1	Temirtau Kindergartens PPP	Education	Tendering	no data
2	Correctional facility for 1,500 people in Shymkent	Prison	Under project preparation	98
3	Multidisciplinary Hospital in Aktau	Hospital	Under project preparation	72
4	Multidisciplinary Hospital in Oskemen	Hospital	Under project preparation	60
5	Children's City Hospital in Semey	Hospital	Under project preparation	39
6	Multidisciplinary Hospital in Almaty	Hospital	Under project preparation	61
7	Karaganda University Hospital	Hospital	Asian Development Bank signed a transaction advisory services agreement with the Ministry of Health	no data

PPP = public-private partnership.

Sources: PPP Centre Projects. 2017. *PPP Projects in Kazakhstan*. <http://kzppp.kz/en/%d0%b3%d1%87%d0%bf-%d0%bf%d1%80%d0%be%d0%b5%d0%ba%d1%82%d1%8b-%d0%b2-%d0%ba%d0%b0%d0%b7%d0%b0%d1%85%d1%81%d1%82%d0%b0%d0%bd%d0%b5;> (accessed 15 March 2017) Asian Development Bank.

4.6.2.2 Project preparation

Number of PPP projects in preparation	6
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4.6.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	0
Unsolicited bids	0
Competitive bidding process	0
PPP projects currently in procurement	1

After Karaganda, the local PPP authority is implementing the second part of the pilot kindergartens PPP program in Termirtau.

4.6.2.4 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✓
Performance-based O&M contract	×
EPC contract	×

4.6.3 Features of Past PPP Projects

4.6.3.1 PPP projects that reached financial close

PPP projects that reached financial close	Number	Million (\$)
Health care	0	–
Education	1	34

– = zero.

The Karaganda Kindergartens project is involved with building, financing, and maintenance of 11 kindergarten schools in Karaganda City for a period of 14 years. The project was signed in 2011 by the regional government of the Karagandinskaya oblast and awarded to the Turkish firm 7 Piramit.

4.6.3.2 Foreign investor participation

	Number	Share in Total Number of Social Infrastructure PPP Projects
PPP projects with foreign sponsor participation	1	100%

4.6.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	no data
Projects on availability-/performance-based payment basis	1

4.6.3.4 *Payment mechanism*

PPP projects by payment mechanism:		Number
User-paid contracts		0
Government-paid contracts		1

4.6.3.5 *Tariffs*

Information not available.

4.6.3.6 *Risk allocation*

Information not available.

4.6.4 *Local Capabilities*

Ministries will be responsible for implementing national-level projects, whereas local facilities, such as hospitals or schools, will be developed by oblasts.

4.6.5 *Project Financing*

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI support	no data

4.6.6 *Challenges*

The Termitau Kindergarten PPP project appears to have stalled during the procurement process, but information is not readily available.

Challenges for PPP progress in the social infrastructure sector are shown in Table 114.

Table 114: Challenges for PPP Progress in the Social Infrastructure Sector

Challenges	Currently Implemented Tackling Measures
Infrastructure conditions	
Lack of experience in social infrastructure PPP implementation	Projects in social infrastructure have been announced only recently. Except for one hospital, there is little local experience in implementing this type of project.
Regulatory framework transition	There are clear directions for the system transition both in health care and education sectors, but capacity to foster greater effectiveness seems limited.

PPP = public-private partnership.

Source: Mott MacDonald.

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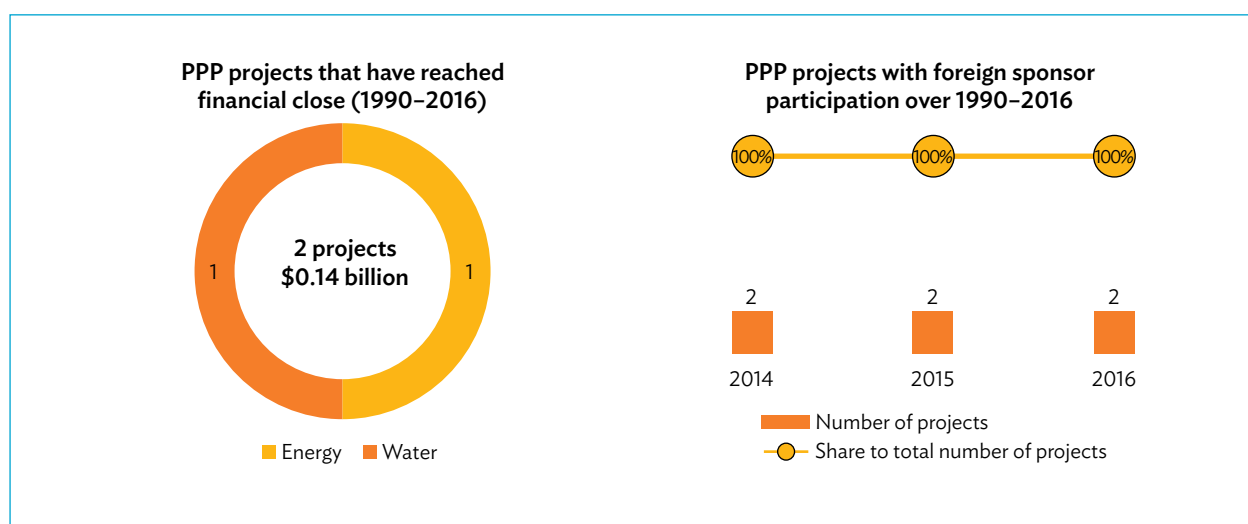
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5. PAPUA NEW GUINEA

To date, two public-private partnerships (PPPs) have been developed in Papua New Guinea (PNG), although both reached financial close long before the introduction of any PPP policy. The first was a diesel-fired power plant in 1996, and the second was the rehabilitation of a water treatment plant the following year. Both projects had the involvement of state-owned enterprises (SOEs) and involved foreign investors.



The National Public Private Partnership Policy 2008 (PPP Policy) sets out the definition of PPP, a governance framework, and processes for PPP project development, procurement, and implementation at a high level. The Public Private Partnership Act 2014 (PPP Act) was passed by the National Parliament in September 2014, but it has not yet been notified in the National Gazette by the head of state and is therefore not yet in operation. Thus, there is currently no PPP law enacted and any PPP contracts are being developed on an individual basis. Furthermore, there is currently no operational PPP Centre and despite the existence of a PPP project pipeline developed by the Department of Treasury in 2015, there is no institution tasked with managing the PPP project development process.

Consequently, the regulatory and institutional arrangements supporting PPP development require further development. There are few available risk mitigation instruments to protect the private sector, except what might be negotiated in an individual contract. The institutional capacity to develop, procure, and implement PPPs is limited, as is

government's ability to fund new infrastructure, both relying heavily on assistance from the international development banks, which has resulted in very few PPPs being developed to date. Nevertheless, three PPP projects are currently understood to be under preparation or in procurement, which, if procured through a transparent and competitive process, will constitute a major step forward for PPP in PNG.

5.1 Country Profile

5.1.1 Regulatory Framework

5.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects implemented under the latest PPP law	0	0	0

The indicator marked in yellow in the table above reflects the fact that while there is a dedicated PPP policy established, there is currently no legal instrument for PPP in place. Following the endorsement of the PPP Policy in 2008, PNG introduced its first PPP Act in 2014, which calls for institutions and processes to be established broadly in line with internationally accepted practice.¹⁶

The PPP Act 2014 was passed by the National Parliament on 2 September 2014 and certified by the Acting Clerk and the Speaker of the National Parliament on 21 October 2014. However, the PPP Act has not been notified in the National Gazette by the head of state and is therefore not yet in operation.

5.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in PPP regulations	no data	no data	no data

¹⁶ PPP Knowledge Lab. 2015. Papua New Guinea <https://pppknowledge.org/countries/papua-new-guinea>

5.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	Information and communication technology	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social infrastructure	✓	✓	✓

The indicators marked in yellow in the table above reflect the fact that while the eligible sectors are not specifically enshrined in PPP legislation, there is no indication that they are prohibited. The PPP Act specifies the infrastructure which may be the subject of PPP arrangements, but is not yet in force.¹⁷ It includes (i) assets, facilities, and services for the provision of power or electricity (including generation, transmission, distribution, and supply); (ii) gas transmission and distribution; (iii) transport (including airports, rail, roads, bridges, tunnels, ports, and dams); (iv) telecommunications; (v) water; (vi) real property; (vii) health (including hospitals); (viii) correctional management (including prisons); (ix) education; and (x) any other project or sector which may be notified by the responsible minister in the National Gazette.

The PPP Act specifically excludes arrangements of a size or value lower than any referral threshold which may be set in a regulation made under the PPP Act (Regulation), mining projects under the Mining Act 1992 (and associated development agreements), gas and petroleum projects under the Oil and Gas Act 1998 (and associated development agreements), and any infrastructure project in which the expenditure is predominantly comprised expenditure deemed to be income tax under Section 219C of the Income Tax Act 1959.¹⁸ The responsible minister may also exclude an arrangement or class of arrangements from being a PPP arrangement under the PPP Act by National Gazette notice.¹⁹

The two PPPs that were undertaken during the 1990s were in the power generation and water distribution sectors.

¹⁷ Sections 2 and 5 and Schedule 2 of the PPP Act.

¹⁸ Section 5 and Schedule 3 of the PPP Act.

¹⁹ Section 5(2) of the PPP Act.

5.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	no data	no data	no data
Project capital investment size	no data	no data	no data

5.1.1.5 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have			
Competitive advantage at bid evaluation	✗	✗	✗
Swiss challenge	✗	✗	✗
Compensation of the project development cost	✗	✗	✗
Government support for land acquisition and resettlement cost	✗	✗	✗
Government support in the form of viability gap funding (VGF) and guarantees	✗	✗	✗

The two PPPs that have reached financial close in PNG were unsolicited proposals. Notably however, those projects were closed in 1996 and 1997, prior to the existence of the PPP Act.

The PPP Act does not specify the preferential treatment that may be afforded to unsolicited bidders for having spent their own resources to develop a feasibility study or business case for such projects.

The PPP Policy contemplated that the process for consideration of an unsolicited bid, and the preferential treatment of unsolicited bidders, would be defined in due course.²⁰

5.1.1.6 SOE participation

	2014	2015	2016
Is SOE allowed to participate in PPP as a counterparty to the government?	✓	✓	✓
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firm) as a counterparty to the government?	✓	✓	✓
Cumulative PPP projects with SOE participation (number)	2	2	2
Cumulative PPP projects with SOE participation (share in total number of PPP projects)	100%	100%	100%

²⁰ Paragraph 13.2 of the PPP Policy.

To date, SOEs have played a big role in PPP development in PNG. Both projects implemented to date had SOE involvement. Currently, it is understood that some SOEs are individually creating pipelines for PPP projects in their respective sectors. The active SOEs include Kumul Consolidated Holdings, PNG Power Limited (PPL), National Airports Corporation, PNG Water, and PNG Ports.

5.1.1.7 Land rights

	2014	2015	2016
Which of the following is permitted to private partner?			
Transfer land lease/use/ownership rights to other third party	no data	no data	no data
Use leased/owned land as collateral	no data	no data	no data
Mortgage leased/owned land	✓	✓	✓
Is there legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than government or the private partner?	✓	✓	✓
Is there land registry/cadastre with public information on land plots?	×	×	×
Which of the following information on land plots is available to private partner?			
Appraisal of land value	×	×	×
Landowners	×	×	×
Land boundaries	×	×	×
Utility connections	×	×	×
Immovable property on land	×	×	×
Plots classification	×	×	×

Approximately 97% of land in PNG is held under customary ownership for which there is generally no recorded title. Only the state may acquire customary land from traditional owners. If a foreign person requires access to customary land, it would need to be acquired from the traditional owners by the state and leased from the state.

All other land in PNG is alienated land held by the state (i.e., land that at some time in the past has been acquired by the state). Alienated land is subject to the Land Act 1996.²¹ Alienated land can be held as freehold or leasehold from the state. Noncitizens are not permitted to own freehold land in PNG.

Most dealings in land are by way of leasehold from the state via state leases. State leases may be registered under the Land Registration Act (Chapter 191). Once registered, state leases generally give the leaseholder indefeasibility of title (subject to certain exceptions) and a certificate of title is issued. Encumbrances such as mortgages may be registered

²¹ The Land Act provides that all land in Papua New Guinea that is not customary land are the property of the state subject to any estates, rights, titles, or interests in force under any law.

on the title and take priority over unregistered dealings. Any dealing involving land being granted or transferred to a foreign person or a corporate entity requires ministerial approval.

PNG also has a lease-leaseback scheme that is designed for the owners of customary land to develop their land for special agricultural or other business projects. Under the Land Act, customary landowners (either in their own name or through a special purpose corporation or incorporated land group, which acts as an agent for the customary landowners) may dispose of their land to the state, which then grants a special agricultural or business lease back to one or more incorporated land groups in their capacity as agent for the customary landowners.

The country's 7 million citizens speak more than 840 distinct languages (this accounts for about 10% of the world's languages).

Indeed, indigenous individuals retain strong identity and kinship ties to some small clans and kinship networks, each with their own long-standing traditions, close connection to the land, and constitutional rights in PNG's National Constitution. The strong kinship ties have played an important role traditionally in building social capital and resilience within many communities.

However, lack of formal land registration and high granulation in social mapping makes the acquisition of—and compensation for—customary land a time-consuming, costly, and often contested process (Nelson and Valikai 2014).

Under the PPP Act, a relevant public body may grant, transfer, convey, or assign an interest in real or personal property or a leasehold interest owned or held by that relevant public body to a company to enable it to carry out its financing functions under the PPP arrangement, subject to certain ministerial approvals.²² A relevant public body may also take such steps as may otherwise be available to it to assist a partner to obtain rights related to land (and to enjoy those rights).²³

For the purposes of compliance with PNG's Constitution and the Land Act, the PPP Act deems the purpose and reason for which the PPP Act permits any compulsory acquisition of land (or rights in land) under PPP arrangements to be a reason which is reasonably justified in a democratic society that has a proper regard for the rights and dignity of mankind.²⁴

²² Sections 7(1) and 7(2) of the PPP Act.

²³ Section 7(4) of the PPP Act.

²⁴ Section 1(2) of the PPP Act.

5.1.1.8 Environmental and social issues

	2014	2015	2016
Is there local regulation establishing process for environmental impact assessment?	✓	✓	✓
Is there legal mechanism for private partner to limit environmental liability for what is outside of its control or caused by third parties?	✓	✓	✓
Is there local regulation establishing process for social impact assessment?	✓	✓	✓
Is there involuntary land clearance for PPP projects?	✓	✓	✓

The Environment Act 2000 provides the administrative mechanism to evaluate impacts on the environment through an environmental approval and permitting system.²⁵ Under the Environment Act, certain activities may not be undertaken without an environment permit. They include (i) construction of works, land clearance, demolition, excavation, or other works in relation to land or water; (ii) installation, operation, or maintenance of plant or equipment; (iii) activities for the purpose of extracting or harvesting natural resources; and (iv) release of contaminants to air, land, or water, in connection with any of these activities. In May 2010, the Act was amended, restricting landowners' rights in respect of projects ruled to be of national interest.

5.1.1.9 Foreign investor participation restrictions

	2014	2015	2016		2014	2015	2016
Maximum allowed foreign ownership of equity in greenfield projects							
Transport				Energy			
Roads	n/s	n/s	n/s	Power generation	n/s	n/s	n/s
Railways	n/s	n/s	n/s	Power transmission	n/s	n/s	n/s
Ports	n/s	n/s	n/s	Power distribution	n/s	n/s	n/s
Airports	n/s	n/s	n/s	Oil and gas	n/s	n/s	n/s
Water and wastewater				Municipal solid waste	n/s	n/s	n/s
Bulk water supply and treatment	n/s	n/s	n/s	Social infrastructure	n/s	n/s	n/s
Water distribution	n/s	n/s	n/s	Health care infrastructure	n/s	n/s	n/s
Wastewater treatment	n/s	n/s	n/s	Health care services	n/s	n/s	n/s
Wastewater collection	n/s	n/s	n/s	Education infrastructure	n/s	n/s	n/s

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²⁵ The REDD desk. 2017. *Environment Act 2000 (Amendment 2010)*. Papua New Guinea.

Table continued

	2014	2015	2016		2014	2015	2016
Information and communication Technology				Education services	n/s	n/s	n/s
Fixed line infrastructure	n/s	n/s	n/s	Government buildings	n/s	n/s	n/s
Fixed line services	n/s	n/s	n/s	Prisons and correction centers	n/s	n/s	n/s
Wireless/mobile infrastructure	n/s	n/s	n/s	Social housing	n/s	n/s	n/s
Wireless/mobile services	n/s	n/s	n/s	Sport and leisure facilities	n/s	n/s	n/s
Cumulative PPP projects with foreign sponsor participation (number)					2	2	2
Cumulative PPP projects with foreign sponsor participation (share in total number of PPP projects)					100%	100%	100%

Note: n/s indicates that no particular restrictions are specified in the regulations.

The indicators marked in yellow above reflect the fact that while there are no specific regulations confirming the level of foreign ownership permissible, the regulations do not specify any restrictions on foreign ownership in PPP arrangements.

Foreign investment in PNG is regulated by the Investment Promotion Act 1992. All foreign investors carrying on business in PNG must be registered with the Investment Promotion Authority. Foreign companies can be registered as either a branch of an overseas company or a PNG incorporated company. Under the Investment Promotion Act, foreign enterprises are prohibited from carrying on business in PNG unless they have been certified by the Investment Promotion Authority. A “foreign enterprise” is an enterprise, which is more than 50% owned or controlled by noncitizens.

Are there any restrictions for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	yes	yes	yes
Currency conversion	no	no	no

Foreign companies and individuals are not permitted to acquire customary land or freehold land in PNG. Any dealing involving land being granted or transferred to a foreign person or a corporate entity requires ministerial approval.

Foreign exchange controls in PNG have been largely deregulated in PNG. Foreign exchange transactions no longer require prior approval provided they are reported to the Bank of Papua New Guinea (BPNG). Controls remain in place in relation to foreign currency bank accounts held by residents. BPNG also maintains the ability to impose reporting and other administrative obligations, supervise tax clearance processes, regulate foreign currency accounts, and generally give directions in relation to foreign exchange. BPNG is also able to give specific directions about exchange control matters, or could reinstate exchange controls partially or wholly.

An employer must obtain an entry permit (visa) under the Migration Act (Chapter 16) and a work permit under the Employment of Non-Citizens Act 2007 for any noncitizens employed in PNG. These visas and work permits are particular to the employee, role, and employer. Employers must also maintain a register of all work permits.

5.1.1.10 *Dispute resolution and enforcement mechanism*

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?	✓	✓	✓
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	no data	no data	no data
Local arbitration	no data	no data	no data
International arbitration	no data	no data	no data
Has the country signed New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✗	✗	✗

A foreign choice of law will generally be upheld and recognized as valid in PNG. The National Court of Papua New Guinea is a court of unlimited jurisdiction and frequently determines commercial disputes. Domestic arbitration can be conducted under the Arbitration Act 1951, although it is not frequently used for commercial disputes. Arbitration Act makes no distinction between domestic and international arbitration. It does not outline the arbitration process and it also does not refer to disputes between states or investor and state. PNG is not a party to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards. A PNG court order would be needed to enforce any foreign arbitral award in PNG. Investor–state dispute settlement mechanisms may also be available if a free trade agreement or investment treaty which contains an investor–state dispute settlement mechanism exists among the relevant jurisdictions.

5.1.1.11 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights?			
Is there security over the project assets?	no data	no data	no data
Is there security over the land on which they are built? (land-use right)	no data	no data	no data
Is there security over the shares of PPP project company?	no data	no data	no data
Can there be a direct agreement between government and lenders?	x	x	x
Do lenders get priority in the case of insolvency?	no data	no data	no data
Can lenders be given step-in rights?	x	x	x

5.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to private partner in case of early termination due to the following?			
Public sector default or termination for reasons of public interest	x	x	x
Private sector default	x	x	x
Force majeure	x	x	x
Does law enable the concept of economic/financial equilibrium?	x	x	x
Does law enable compensation payment to private partner due to the following?			
Material adverse government action	x	x	x
Force majeure	x	x	x
Change in law	x	x	x

5.1.1.13 Government support

	2014	2015	2016
Is project development fund available?	no data	no data	no data
Land acquisition support from government			
Resettlement and/or compensation cost to residents at the project site	no data	no data	no data
Imposed limits on timeframe to complete land acquisition (days)	no data	no data	no data
Is there dedicated agency to streamline land acquisition?	no data	no data	no data
Exemption from/reduction of land-use fees	no data	no data	no data

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Table continued

	2014	2015	2016
VGF	no data	no data	no data
Limits to VGF as a percentage of projects capital cost	n/a	n/a	n/a
Government guarantees			
Currency inconvertibility and transfer risk	x	x	x
Foreign exchange risk	x	x	x
War and civil disturbance risk	x	x	x
Breach of contract risk	x	x	x
Regulatory risk	x	x	x
Expropriation risk	x	x	x
Government payment obligation guarantee	x	x	x
Credit guarantees	x	x	x
Minimum demand/revenue guarantee	x	x	x
Availability/performance-based payment contracts	x	x	x
Tax subsidies	no data	no data	no data

Those indicators marked in red in the above table reflect the fact that there is no specific law enabling such guarantees or availability payments to be provided, although it may be possible that some guarantees could be provided within an individual contract.

The PPP Policy 2008 stipulates that the treasury would manage any fiscal commitment from the government; however the PPP Act is not enforced yet.

5.1.1.14 Standard contracts

	2014	2015	2016
What standardized contracts are available and used in the market?			
PPP/concession agreement	x	x	x
Power purchase agreement (PPA)	x	x	x
Capacity take or pay contract	x	x	x
Fuel supply agreement	x	x	x
Transmission and use of system agreement	x	x	x
Performance-based operation and maintenance contract	x	x	x
Engineering procurement and construction (EPC) contract	x	x	x

5.1.2 Institutional Capacity for Implementation

5.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP Unit)?	x	x	x
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	n/a	n/a	n/a
Supporting (e.g., PPP project preparation, appointment of advisers, running project development fund)	n/a	n/a	n/a
Appraisal of PPP project feasibility studies	n/a	n/a	n/a
Approval of PPP project	n/a	n/a	n/a
Procurement	n/a	n/a	n/a
Managing, monitoring, and enforcing ongoing PPP contracts	n/a	n/a	n/a

Currently, there is no centralized government PPP authority. A PPP Center and PPP Steering Group are to be established under the PPP Act, which is not effective yet. PPP matters are currently being partially managed by the PPP Policy and Strategy Unit of Treasury.

5.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	x	x	x
Is preliminary selection of PPP projects consistent with public investment prioritization?	x	x	x
Is there screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	x	x	x

There does not appear to be any formally developed project pipeline database and information regarding screening processes and investment priorities are not readily available. It is understood that in the absence of a formal centralized PPP authority, a number of SOEs are individually creating potential pipelines of PPP projects.

5.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages	no data	no data	no data
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	x	x	x
Financial feasibility	x	x	x
Legal feasibility	x	x	x
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✓	✓	✓
Fiscal affordability assessment	x	x	x
PPP structuring and risk allocation	✓	✓	✓
Initial market testing	✓	✓	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	no data	no data	no data
Is the approval from Ministry of Finance or equivalent required before commencement of procurement?	x	x	x
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	no data	no data	no data

Those indicators shown in yellow in the table above reflects the fact that while the PPP Policy contemplates that such studies would be required as part of an outline business case, this is not yet a legal requirement.

5.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	x	x	x

Currently there is no reference risk allocation matrix, according to the PPP Policy 2008. Once the PPP Act is enforced, a preliminary identification and notional allocation of risks is expected to be prepared by the PPP Centre for the purposes of the project development prior to procurement. These risks will have to be agreed with the Treasury. The documents provided by the project bidders during the procurement phase will also need to address the proposed risk allocation, which will be used as a criterion for the evaluation of the bidder's proposal.

5.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	✓	✓	✓
In case of competitive tender			
Is prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expression of interest	no data	no data	no data
Minimum time allowed to submit a bid:			
Domestic bidding	no data	no data	no data
International bidding	no data	no data	no data
Is negotiation available?	no data	no data	no data
Is there a process allowing unsuccessful bidders to challenge the award/make complaint?	✗	✗	✗
If yes, maximum time allowed to submit a complaint starting from announcement of preferred bidder	n/a	n/a	n/a
Maximum time limit from bid closing date till selection of preferred bidder	no data	no data	no data
Maximum time limit from selection of preferred bidder till signing the contract	no data	no data	no data
Transparency: Which of the following is published?			
Procurement notice	no data	no data	no data
Question and answers during bid clarification stage	✗	✗	✗
Evaluation results to bidders	✗	✗	✗
Award notice	✗	✗	✗
Contract	✗	✗	✗
Confidentiality			

Indicators marked in yellow in the table above reflect the fact that these are contemplated in PPP Policy, but that such processes are not yet legally enforceable.

The features of the procurement process are presented in Table 115, as envisioned by the PPP Act. It should be noted that the procedure is only described in high level terms, with little detail offered over timelines or regarding actual procedures, and no PPP projects were implemented using this procedure. Also, the process assumes that the PPP Centre will have the role in steering the procurement process and provide advice and expertise to the National Executive Council in selecting the most economically favorable option, prior to concluding the PPP with the existing private counterpart. However, the PPP Act is not yet in force and the PPP Centre is not yet in operation.

**Table 115: PPP Procurement Process Envisioned in Papua New Guinea
(As Envisioned by the PPP Act)**

Procurement Steps	Description
Project announcement	The preparation stage will be concluded with the National Executive Council's (NEC) approval at which point the public-private partnership (PPP) Centre will sound out market appetite through a round of expression of interest. Prior to producing a shortlist and asking the selected entities to provide the bidding documentation, the PPP Centre will prepare the outline business case on behalf of the state.
Prequalification invitation documentation	Expressions of interest solicited by the government will serve to confirm the level of market interest in the potential PPP project, and at this stage the private proponent is not required to prepare detailed submissions.
Prequalification evaluation criteria	In soliciting expressions of interest, the government will develop an expression of interest document which provides clear guidance to potential private proponents on the information required for submission and how the government will evaluate this information.
Prequalification evaluation method	The evaluation of prequalification documents submitted by the bidders is to be carried out by the project committee which can be assisted by advisors appointed by the PPP Centre. It is the responsibility of the PPP Centre to ensure that a technically skilled team is involved during the evaluation stage. In creating a shortlist of investors, the project committee will ensure that it selects an optimal number of potential bidders. The PPP Centre can recommend that the project does not proceed to bidding stage if the results of the prequalification stage indicate a low level of interest.
Shortlist	The outline business case should already be fully developed, with NEC approval granted for the complete outline business case. This will form the basis for the PPP Centre preparing the bidding documents together with the relevant line agency (all national, provincial, and district government departments and entities that are charged with the mandate to deliver government services that can benefit from partnership with the private sector).
Request for proposal (RFP) documentation	All bidding documents should contain an Information Memorandum, or its equivalent in the RFP, as well as full drafts of all of the project agreements. Aside from the evaluation criteria to be used in determining the first-ranked bidder, the documents should allow the private proponent to understand the project background, output specifications, proposed risk allocation, any constraints, or a requirement arising from the legal or regulatory environment, as well as the expected support that government is willing to assume.
Methods of interactions with the bidders	Information not available
Evaluation of proposals	The criteria for evaluation of submitted bids will broadly cover the following: <ul style="list-style-type: none"> • “whole-of-life” costs, including value for money and risk allocation. • conformance to output specification. and • departure from revised draft project agreements, if permitted by the RFP documents.

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Table 115 continued

Procurement Steps	Description
Investor selection	Following approval of the Supervisory Committee, a full Business Case will be prepared, and a submission for final approval will be made to the NEC. Consideration by the NEC shall be based on analysis of how value for money is expected to be achieved by proceeding with the delivery of the PPP project by the preferred proponent. At this stage, the estimated net cost of the PPP can be confirmed with the submitted bid.
Contract negotiation	The draft project agreement is intended to be broadly nonnegotiable, and this forms the basis for the private proponent to submit a binding bid committing them to enter a contract to implement and operate the project.
Concession terms	The concession or partnership agreement will then be signed on a tri-partite basis involving the line agency, the Minister for Treasury, and the successful private sector proponent.
Contract signing	Subject to consistency with the government's existing policies on investment projects, approval by NEC will form the basis for the fiscal authority to commit to the project. The PPP Centre can, through the Project Committee, finalize Project Agreements with the awarded proponent.

Source: Government of Papua New Guinea. PPP Act 2014. <http://treasury.gov.pg/html/misc/Special%20Projects/PPP/PNG%20PPP%20Act%202014.pdf>

5.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	2	2	2
PPP projects currently in preparation	n/a	n/a	3
PPP projects currently in procurement	n/a	n/a	1

Note: It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

To date, two PPPs have been developed in PNG and both reached financial close in 1990s. The first was a diesel-fired power plant in 1996, and the second was the rehabilitation of a water treatment plant the following year.

As of February 2017, Ramu 2 hydroelectric power plant (HPP) PPP is currently under procurement. Three PPP projects are in preparation including Jackson airport, Nauro Broun HPP, and the new container terminal in Lae Port.

5.1.4 Financial Facilities

There is little project-specific information in the public domain regarding the financing of PPPs in PNG. There are limited domestic sources of finance and international development agencies contribute significantly to the funding of infrastructure projects.

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	✗	✗	✗
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Maximum tenor for local currency loan (years)	<5	<5	<5
Availability of interest rate swaps	no data	no data	no data
Forward duration of interest rate swap (years)	no data	no data	no data
Availability of currency swaps	✗	✗	✗
Forward duration of currency rate swap (years)	n/a	n/a	n/a
Availability of project bond financing	✗	✗	✗
Availability of project financing from local public sector banks	✗	✗	✗
Maximum tenor for loan from local public sector banks (years)	n/a	n/a	n/a

5.2 Ports

5.2.1 Regulatory Framework

5.2.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	n/s
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n/s indicates that no particular restrictions are specified in the regulations.

Although joint ventures with local partners are highly encouraged in PNG, many businesses are foreign owned and a 100% of foreign-owned enterprise within the port sector is allowed. The Department of Transport (DOT) has its own procedures for approving foreign investment in the port sector.

5.2.1.2 Government contracting agency

Where the relevant public body is the state, the appropriate minister, acting following the approval of the National Executive Council, has the power to execute an agreement for a PPP arrangement on behalf of the state.

5.2.1.3 Sector-specific regulations

Findings of the World Trade Organization Trade Policy Review of 2010 noted that coastal shipping has been restricted to domestic-flagged/licensed ships since the early 1960s to protect local shipping: that is, cabotage is not permitted as foreign vessels may unload cargo only to certain ports.

5.2.1.4 Sector regulators

Maritime shipping in PNG is regulated by the DOT, in conjunction with The National Maritime Safety Authority under the National Maritime Safety Authority Act of 2003. National Maritime Safety Authority is responsible for maritime safety, registration of domestic vessels, and marine pollution control.

Following a delegation from the DOT, the state-owned PNG Ports Corporation Limited (PNGPCL) regulates, manages, and controls 16 declared ports in PNG under the Harbors Act. The declared ports are regulated under the Independent Consumer and Competition Commissions (ICCC) Act of 2002 where ICCC has a regulatory contract with PNGPCL which relates to tariffs for essential port and stevedoring services. Charges are reviewed and approved annually.

Private ports, operated by companies for specific industries (e.g., mining) are regulated by the DOT.

Details of port sector regulatory agencies in Papua New Guinea are shown in Table 116.

Table 116: Port Sector Regulatory Agencies in Papua New Guinea

Agency	Function
National Maritime Safety Authority	Issue and effort pollution control standards following international agreements.
	Ensure that the vessels meet the safety standards required by Papua New Guinea's (PNG) legislation, regulations, and commitments under International Maritime Organization's conventions.
PNG Ports Corporation Limited	To control and regulate all waters and the use of all waters within a declared port.
	To act as a pilotage authority for the purposes of Part VIII of the Merchant Shipping Act (Chapter 242) where appointed as such under that Act.
	To erect and place in position buoys, markers, beacons and leads, and other things, that are necessary or desirable to facilitate navigation in or into a declared port.
	To dredge and maintain channels and berthing places.
	To build retaining walls for the purpose of reclaiming, and to claim and obtain title to land that is the bed of the declared port.
Kumul Consolidated Holdings (KCH)	KCH is a holding company with ownership in state-owned enterprises, including PNG Power Limited, and it maintains management oversight of the companies. It may also take operational actions in companies that require support. KCH participates in monthly review meetings in the energy sector and supports PNG Power Limited.

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Table 116 continued

Agency	Function
Independent Consumer and Competition Commissions	Any functions that a regulatory contract issued under the Independent Consumer and Competition Commission Act 2002, being a regulatory contract which relates to the essential port services industry, contemplates will be performed by the commission for the purposes of that regulatory contract.
	The licensing functions conferred by the Harbor Act
	Providing economic monitoring, control, inspection, and regulation of the essential port services industry.
	Consulting, where appropriate, commercial, industrial, and consumer organizations about any matter relating to the supply of essential port services.

Sources: National Maritime Safety Authority. *Functions and Responsibilities*. <http://www.nmsa.gov.pg/functions-Responsibilities.php>; Independent Consumer & Competition Commission. 2013. *Separation of PNG Ports Corporation's Regulated and Unregulated Businesses*. http://www.pngports.com.pg/docs/Public-notice/Issues-Paper_Separation-of-Regulated-and-Unregulated-Businesses.pdf; National Maritime Safety Authority Act. 2003. *Functions and Responsibilities*. <http://www.nmsa.gov.pg/functions-Responsibilities.php>

5.2.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
EPC contract	✗

5.2.2 Institutional Capacity for Implementation

5.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✗

The DOT is responsible for preparing the sector strategy for transport policy and infrastructure investment over the medium to long term. The National Transport Strategy (NTS) (2010–2030) sets priorities for transport expenditure and development. The Medium Term Transport Plan provides a short-to-medium term action plan (2014–2019) to ensure that upcoming investment projects are consistent with the NTS investment strategy.

Although the NTS encourages PPPs for the development of major new port facilities, the infrastructure investment within the port sector for the Medium Term Transport Plan (2014–2018) is heavily influenced by the Lae Port Development. Large capital commitment from PNGPCL will limit the extent to which other port projects can be funded and or

developed. Maintenance of existing port infrastructure is priority for funding followed by upgrading and new development (where funds are available).

Lae Port Redevelopment Phase 2 is expected to involve PPP partnership with an international operator. It is understood that PNGPCL is seeking qualified international container terminal operator to partner for operational concession for two terminals in Lae Port and Port Moresby. It should be noted that although it involves terminals in two different locations, it is intended as one concession.

PPP pipeline of maritime projects is shown in Table 117.

Table 117: PPP Pipeline of Maritime Projects

No.	Project Name	Location	Value (\$ Million)
1.	Lae Port Redevelopment Phase 2: Expansion of Lae Port Container Terminal and subsequent operation of the facilities bundled with operation of new Port Moresby container terminal	Marobe Province	250

PPP = public-private partnership.

Sources: Oxford Business Group. *New Ports and Upgrades Boost Papua New Guinea's Maritime Trade Potential*. <https://www.oxfordbusinessgroup.com/analysis/turning-tide-new-ports-and-upgrades-are-boosting-maritime-trade-potential>; PNGPCL. 2015. Papua New Guinea Container Terminal Concession Offer-Expression of Interest (EOI).

5.2.2.2 Project preparation

Number of PPP projects in preparation	1
---------------------------------------	---

5.2.2.3 Procurement

PPP projects procured through	
Direct appointment	0
Unsolicited bids	0
Competitive bidding process	0
PPP projects currently in procurement	
	0

5.2.3 Features of past PPP projects

As of end 2016, no port PPP projects have reached financial closure in PNG.

5.2.3.1 Tariffs

Does private sector have the freedom to set the tariff?

Terminal Handling Charges (THCs) are charges made by the terminal operators in respect of container movements and services performed at a terminal. For container terminals, THCs cover the movement of a container between the ship's hold and the exit-entry gate via the container terminal yard. The ICCC has approved the 2017 maximum tariffs for the regulated services representing two groups of declared ports.

For the ports of Moresby, Lae, Kimbe, Vnimo, and Samarai the maximum THCs for "Overseas Cargo—Inward" are \$217 per twenty-foot equivalent unit and \$434 per forty-foot equivalent unit. For the ports of Madang, Rabaul, Alotoa, Oro BAY, Kavieng, Daru, Buka, Aitape, Lorengua, and Wewak the maximum THCs are \$312 and \$624 per twenty-foot equivalent unit and forty-foot equivalent unit, respectively.

It should be noted that the THCs are the maximum allowed charges and that PNGPCL may choose to apply a lower tariff if it is deemed to be appropriate by management and consistent with the development goals of the port.

5.2.4 Local Capabilities

No available information.

5.2.5 Project Financing

No available information.

5.2.6 Challenges

Challenges for PPP progress in port sector are provided in Table 118.

Table 118: Challenges for PPP Progress in Port Sector

Challenges	Currently Implemented Tackling Measures
Monopoly of Papua New Guinea Ports Corporation Limited	
Absence of sound public-private partnership pipeline	
Cabotage policy	Gradual lifting of cabotage law

PPP = public-private partnership.

Source: Mott MacDonald.

5.3 Energy

5.3.1 Regulatory Framework

5.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	n/s
Power transmission	n/s
Power distribution	n/s
Oil and gas	n/s

n/s indicates that no particular restrictions are specified in the regulations.

5.3.1.2 Government contracting agency

The national state-owned corporatized power utility, PPL is the power authority that is responsible for the generation, transmission, distribution, and retailing of electricity throughout PNG. It has acted as Government Contracting Agency.

PPL services customers in almost all urban centers throughout the country encompassing industrial, commercial, government, and domestic sectors. Where possible, the services extend to rural communities adjacent to these urban centers.

PPL is also presently undertaking a regulatory role on behalf of the ICCC. These responsibilities include approving licenses for electrical contractors, providing certification for models of electrical equipment and appliances to be sold in PNG, and providing safety advisory services and checks for major installations.

PNG has about 580 megawatts (MW) of installed generation capacity, including hydropower (230 MW or 39.7%), diesel (217 MW or 37.4%), gas-fired (82 MW or 14.1%), and geothermal (53 MW or 9.1%). Private sector mines have installed 280 MW of these 580 MW capacities for their operations.

PNG has significant under-utilized indigenous energy sources such as hydropower, natural gas, geothermal, and solar.

It is understood that discussion is ongoing among the government to unbundle the current PPL into distinct entities operating in the generation, transmission, distribution, and retail and regulations.

5.3.1.3 Sector-specific regulations

PNG's governing laws on the industry include the Constitution of the Independent State of Papua New Guinea, Independent Consumer and Competition Commission Act 2002,

Electricity Industry Act 2002, Oil and Gas Act 1996, and the Mining Act 1992. There are other key supporting legislations though that provides a cumbersome and loose legal framework within which the energy sector operates.

The ICCC has published a Draft Third Party Access Code, which provides grid codes and open access rules for private entities to generate and supply electricity in PNG. When adopted, the code will enable open access on the PNG network and hopefully attract independent power producers to participate in the power market and improve supply reliability. But open access may be limited to areas not served by the grid, which may not be attractive to the private sector. Wheeling of power is not allowed at present, and PPL has exclusivity on consumers within a 10 kilometers radius of its grid. However, the private sector is free to develop projects and sell power directly to consumers with loads above 10 MW.

5.3.1.4 Sector regulators

Details of energy sector regulatory agencies in Papua New Guinea are shown in Table 119.

Table 119: Energy Sector Regulatory Agencies in Papua New Guinea

Agency	Function
Department of Petroleum and Energy	Department of Petroleum and Energy is the overarching agency responsible for energy sector policy and planning. It also heads the Electricity Management Committee, and is expected to oversee the technical regulation of the electricity sector (a function presently performed by Papua New Guinea Power Limited [PPL]).
Kumul Consolidated Holdings (KCH)	KCH is a holding company with ownership in state-owned enterprises, including PPL, and it maintains management oversight of the companies. It may also take operational actions in companies that require support. KCH participates in monthly review meetings in the energy sector and supports PPL.
Independent Consumer and Competition Commission (ICCC)	ICCC is the regulator for electricity tariffs, but has little capacity to carry out its mandate and cannot independently take decisions. ICCC employs a revenue cap regulation principle and sets license conditions for market participants, though PPL is the only regulated entity at present. The ICCC also issues licenses to independent power producers and mining companies that own generation and distribution facilities.
PPL	PPL is a state-owned, vertically integrated electricity utility that provides generation, transmission, distribution, and retail services in most grid-connected urban areas.
Western Province Power Limited	This is a wholly owned subsidiary of Papua New Guinea (PNG) Sustainable Development Program Limited and provides generation, distribution, and retail electricity services in the Western Province, principally through small-scale power projects.

Source: Mott MacDonald.

5.3.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
PPA	✗
Capacity take or pay contract	✗
Fuel supply agreement	✗
Transmission and use of system agreement	✗
Performance-based operation and maintenance contract	✗
EPC contract	✓

5.3.2 Institutional Capacity for Implementation

5.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	no data

Sector policies. The government has recognized the range of issues facing the energy sector and in response approved the Electricity Industry Policy (EIP) in 2011. The policy (i) encourages private sector participation in the energy sector by facilitating competition and developing a clearly defined access regime, (ii) transfers a range of regulation functions from PPL to the government, and (iii) increases rural electrification through government assistance. The EIP will support state financing of community service obligations through establishment of an electricity trust fund. The National Energy Policy 2016–2020 was adopted to ensure affordable, reliable, and accessible provision of energy in a manner that is competitive, sustainable, and environmentally friendly.

Strategies and plans. The government has included the energy sector as a key sector in the Papua New Guinea Development Strategic Plan, 2010–2030. The proposed development of the energy sector in each province is detailed in the PNG Power 10-year power development plan 2009–2018, which lists the status of current infrastructure and a plan of priority investments over a 10-year period. The National Energy Plan is approved along with the National Energy Policy. It promotes the development of appropriate regulatory guidelines including standards to meet the needs of producers, suppliers, and users. It promotes the National Electrification Roll-Out Plan for grid extension and off-grid stand-alone power supply system. It promotes 100% electricity usage from renewable energy sources by 2050.

Private sector. The government and PPL recognize that the private sector will play an important role in providing investment and management capacity for energy sector expansion. Once passed, the PPP Act will support development of private sector participation in the energy sector, along with the EIP.

Tariffs. The government has recognized the investment disincentive provided by the single national power tariff and proposes to address the issue by (i) allowing flexible tariff setting under the EIP, (ii) establishing a CSO policy to support government financing of power infrastructure that is not financially viable, and (iii) establishing an electricity trust fund under the draft EIP to finance such investments.

Institutional capacity is a constraint in PNG. The Department of Petroleum and Energy has inadequate trained staff to undertake all its intended functions and plans to substantially augment its staff. The ICCC is intended to be both the technical and economic regulator, but because it has inadequate technical capacity, the function of technical regulation currently resides with PPL, which itself is the regulated entity. ICCC receives tariff applications from PPL annually and tariffs are decided based on revenue requirements and price caps, but ICCC has no benchmarks for implementing price cap regulation. Nor does it have expertise in assessing demand projects and investment plans prepared by PPL. ICCC also does not review PPAs between PPL and independent power producers. ICCC is supposed to conduct hearings on tariff applications, but, due to lack of funds, it generally only posts information on its website and in newspapers. The license fee paid by entities reportedly covers only about 10% of the budget of ICCC, with the government providing the rest of its budget. While the ICCC is an independent entity, the government exercises control over the retail tariffs charged by PPL.

PPP pipeline of energy projects is shown in Table 120.

Table 120: PPP Pipeline of Energy Projects

No.	Project Name	Value (\$ million)
1	80 megawatts Naoro Brown hydroelectric plant	100
2	180 megawatts extension of the Ramu power station (Ramu 2)	813

PPP = public-private partnership.

Source: Developing Market Associates. Papua New Guinea's Deep Potential Starts to Emerge. <http://www.developingmarkets.com/perspectives/papua-new-guineas-deep-potential-starts-emerge>

5.3.2.2 Project preparation

Number of PPP projects in preparation	1
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PNG's Strategic Development Plan 2010–2030 forecasts that installed capacity in that period will need to nearly quadruple, from 500 to 1970 MW. Hydropower is to make up the bulk of this, rising from 215 to 1140 MW. Use of diesel in that period is expected to tail off, from 160 to just 30 MW, or 1.5% of total capacity, while other renewables (mainly geothermal) will swell to 380 MW, or 19.2%.

Several hydropower projects are in discussion: Hela 200-MW HPP in the highlands being one of them. Plans to build by far PNG's largest hydro project to date—a \$5 billion, 2500-MW plant on the Purari River—were put on hold, however, after developer Origin Energy announced in March 2014 it was shelving the plan. The plant's output would have been enough to power PNG several times over, and then sell the excess to Queensland, Australia, via undersea cable.

5.3.2.3 Procurement

PPP projects procured through	
Direct appointment	no data
Unsolicited bids	no data
Competitive bidding process	no data
License scheme	no data
PPP projects currently in procurement	1

5.3.3 Features of Past PPP Projects

5.3.3.1 PPP projects that reached financial close

Energy generation	Number	Million (\$)
Renewables energy generation		
Solar	0	–
Wind	0	–
Hydro	0	–
Geothermal	0	–
Waste/biomass	0	–
Thermal energy generation		
Coal	0	–
Diesel	1	65
Natural gas	0	–
Total energy generation	1	65

– = zero.

5.3.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation		
Renewables	0	–
Thermal	1	100%

5.3.3.3 Government support

No information available.

5.3.3.4 Tariffs

Is there a system of feed-in tariffs (FIT)?

✕

The uniform retail tariff is not cost reflective. While there is no explicit subsidy, the uniform tariff cross-subsidizes the cost of supply between the main grid-connected regions, which are powered by cheap hydropower, and the Highlands area, which is powered by expensive diesel generation. The uniform tariff serves as a disincentive for PPL to make investments for increasing electricity access in rural areas. Yet, it has been politically difficult to move away from uniform tariffs, though the EIP allows for flexible tariff setting.

Every year, PPL submits tariff calculations to the ICCC for approval before implementation.

PPL is regulated under a form of price control mechanism known as the maximum average price, thus for each of the tariffs that PPL charges to their different classes of consumers (industrial, general supply, domestic customers, and public lighting) the average price of those tariffs must not exceed the maximum average price that the ICCC determines.

These are the undertakings by PPL under the watchful eyes of ICCC in ensuring that the services provided and tariffs set are in line with the regulatory requirements.

The National Energy Policy (2016–2020) mentions that private sector will be encouraged through FIT to develop potential sites to generate electricity for their own consumption and for export of any surplus to the national grid and neighboring countries. Government will provide letters of comfort to investors which guarantee purchase of electrical energy on just and reasonable terms.

The specific details of FIT for renewable energy resources will be captured in the Renewable Energy Policy to be produced by the institution mandated to draw up this sectoral policy.

5.3.3.5 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are shown in Table 121.

Table 121: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk		✓		
Tariff risk	✓			
Government payment risk		✓		
Environmental and social risk	✓			
Land acquisition risk			✓	
Permits	✓			
Handover risk	✓			
Political risk		✓		
Regulatory risk		✓		
Interconnection risk			✓	
Brownfield risk: asset condition				n/a
Grid performance risk	✓			
Hydrology risk	✓			
Exploration and drilling risk	✓			

PPP = public–private partnership.

Source: Mott MacDonald.

5.3.4 Local Capabilities

There are many local construction companies; however there is an opinion that their technical and commercial delivery capability is often limited for hydropower projects.

The government of PNG is keen for local businesses to participate in future foreign direct investment projects. Peter O'Neill, the Prime Minister of PNG, has urged foreign companies “to look at taking on board PNG investors and partners from the outset. We have successful contractors, transport operators, engineers and other professionals, retailers, farmers, manufacturers, and processors—all with funds or access to funds that can be used to participate directly in the next phase of the development of the resources sector.”

5.3.5 Project Financing

PPP projects with foreign lending participation	no data
PPP projects received export credit agency/international financing institution	no data

5.3.6 Challenges

Challenges for PPP progress in energy sector are listed in Table 122.

Table 122: Challenges for PPP Progress in Energy Sector

Challenges	Currently Implemented Tackling Measures
Private sector investments are critical for the country, but attracting increased private investment will require enabling policies, such as the planned public–private partnership policy, and risk mitigation instruments to overcome the perception of country and utility risk. While there are draft policies on open access, the utility in Papua New Guinea (PNG) remains vertically integrated and PNG Power Limited (PPL) is a single buyer for supply to the three main grids serving the urban areas. This too poses a risk for private investments.	
Low electrification ratio, energy shortages, and supply disruptions coupled with high cost remains serious obstacles to economic activity and growth in PNG.	These are now being addressed through a number of measures to modernize the transmission and distribution networks.
The government has recognized the investment disincentive provided by the single national power tariff.	Government proposes to address the issue by (i) allowing flexible tariff setting under the Electricity Industry Policy, (ii) establishing a CSO policy to support government financing of power infrastructure that is not financially viable, and (iii) establishing an electricity trust fund under the draft Electricity Industry Policy to finance such investments.
Diversifying the economy and increasing employment.	
Insufficient data and analytical tools to inform the level of tariffs for different technologies for feed-in tariffs.	The government wants to undertake a study on the capital expenditures and the operating costs on the different types of technologies and develop sufficient analytical tools to inform the level of tariffs for different technologies.

PPP = public–private partnership.

Source: Mott MacDonald.

5.4 Other Sectors

Potential PPP projects for sectors not covered in the sections above are presented below.

PPP pipeline of projects from other sectors is shown in Table 123.

Table 123: PPP Pipeline of Projects from Other Sectors

No.	Project Name	Value (\$ million)
1	Port Moresby International (Jacksons) Airport PPP	To be decided

PPP = public–private partnership.

Source: Infradeals, Infradeals Database. <http://www.inframotiongroup.com/infradeals/global-transactions-database> (accessed February 2017).

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5.5.2 Papua New Guinea

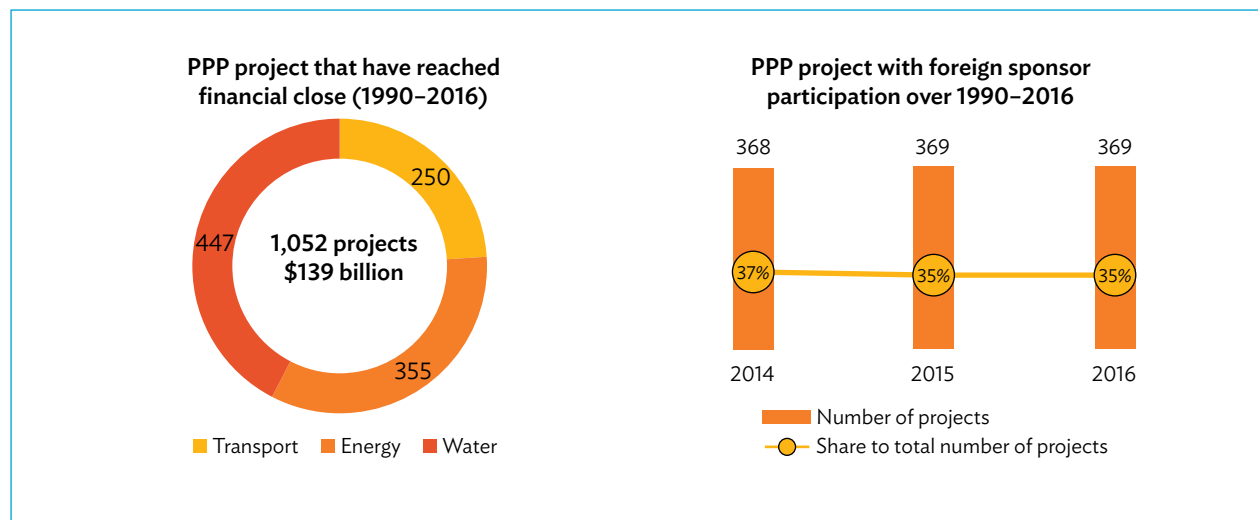
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6. PEOPLE'S REPUBLIC OF CHINA

Public-private partnerships (PPPs) in a broad sense have existed in practice in the People's Republic of China (PRC) since the 1980s, featuring build-own-transfer (BOT), concessions, and other forms of cooperation between local governments and nongovernment investors, referred to as “Social capital.” In 2014, to encourage the use of PPP in infrastructure, the Ministry of Finance (MOF) issued Operational Guidance on the Modes of Cooperation by Governments and Social Capital (for trial implementation). This was the first national-level PPP guidance and several guiding policies have been published since then.



However, there are no PPP-specific laws yet in place in the PRC although there are administrative measures. In general, provisions which would encourage the private sector to participate in PPP projects that are not legally prohibited, nor legally required, but may be negotiated on an individual contract basis.

The institutional framework supporting PPPs is not yet fully integrated, and there are a range of government authorities who may be involved in preparing, approving, and procuring PPPs across sectors and provinces. The MOF and the National Development and Reform Commission (NDRC) are the main bodies responsible for PPP regulation and oversight and both issue PPP guidelines and lists of PPP projects.

In December 2014, the MOF formally established the “China PPP Center,” responsible for policy research, advice, and training, but with no formal role in the screening, preparation, or procurement of PPPs. The local departments of the NDRC (DRCs [Development and Reform Commission]) at different levels are responsible for PPP project approval and feasibility study ratification. In 2015, guidelines issued by MOF clarified certain procedures in relation to value for money (VFM) assessment and fiscal affordability verification and required all PPP projects to be listed on a data platform managed by the PPP center.

The complex land issues associated with the PRC’s infrastructure, particularly the restrictions on the government’s ability to help “social capital” (private businesses and state-owned enterprises [SOEs]) cover the cost of land, is often a key factor affecting the feasibility and financial viability of PPP projects. There are also complications arising from the fact that land usage by the private sector (including SOEs) generally requires an open bidding process, which is undertaken separately from the PPP bidding process, although some provinces are working on ways to coordinate the two. In addition, the inability of government organizations to provide guarantees under Chinese law, and restrictions on providing long-term payment commitments, also presents challenges to the PPP market.

In terms of PPP pipelines, batches of demonstration projects have been announced by the MOF each year since 2014, with the latest batch comprising 516 projects, including projects in energy, transport, water, agriculture, and social infrastructure sectors. The projects listed represent a selection of those submitted by each province as demonstration projects. However, in addition, ministries and other government authorities have PPP pipelines in their own sectors or geographic jurisdictions and the NDRC also promotes a large list of PPP projects, comprising those proposed by subordinate DRCs.

6.1 Country Profile

6.1.1 Regulatory Framework

6.1.1.1 *PPP law*

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	x	x	x
Cumulative number of PPP projects implemented under the latest PPP law	n/a	n/a	n/a

PPPs in a broad sense have existed in practice in the PRC since the 1980s, featuring BOT, concessions, and other forms of cooperation between local governments and nongovernment investors, referred to as “Social capital.” “Social capital” includes SOEs, companies with significant government ownership, private companies, and other organizations, potentially including foreign investors. In 2014, to encourage the use of PPP

in infrastructure, the MOF issued Operational Guidance on the Modes of Cooperation by Governments and Social Capital (for trial implementation) [MOF PPP guidelines]. This was the first systematic PPP mechanism at the national level. A number of guiding policies have been published since then, including:

- 18 May 2014, NDRC, Notice to Encourage Private Capital to Invest in the First Batch of Infrastructure Projects
- 21 September 2014, State Council, Opinions of the State Council on Strengthening the Management of Local Government Debt
- 23 September 2014, MOF, Notice on Questions Relating to Expanding the Use of PPPs
- 16 November 2014, State Council, Guiding Opinions on the Innovative Investment Mechanism and Encouraging Social Investment in Key Sectors
- 29 November 2014, MOF, Circular on Issuing the Operational Guidance on the Modes of Cooperation by Governments and Social Capital (for trial implementation)
- 30 November 2014, MOF, Circular on Issues concerning the Implementation of the Demonstration Projects of Public-Private Partnership
- 2 December 2014, NDRC, Guiding Opinions of the National Development and Reform Commission on Launching the Cooperation between Governments and Social Capitals
- 30 December 2014, MOF, Notice on Regulating Government and Social Capital Cooperation Contract Management and Guidelines on PPP Contracts (for trial implementation) (MOF PPP Contract Guidelines)
- 31 December 2014, MOF, Measures for Administration of Government Procurement in PPP Projects
- 31 December 2014, MOF, Circular on Issuing the Interim Measures for the Administration of Government Procurement through the Competitive Consultation Procurement Method
- 10 March 2015, NDRC, MOF, Circular of the National Development and Reform Commission and the China Development Bank on Promoting the Support of Development Financing for Public Private Partnerships and Related Work
- 7 April 2015, MOF, Guidance on Financial Affordability Assessment of PPP Projects
- 21 April 2015, NDRC, MOF, Circular on Using Government Investment to Support Social Investment Projects
- 19 May 2015, MOF, NDRC, People's Bank of China, Guidelines on Promoting PPP in Public Service
- 1 June 2015, NDRC, MOF, MOHURD, Ministry of Water Resources, People's Bank of China, Measures for the Administration of Concession for Infrastructure and Public Utilities
- 25 June 2015, MOF, Circular on Further Implementing the Demonstration Work relating to Public-Private Partnership Projects
- 2 July 2015, NDRC, Circular on Measures Implementing Administrative Measures for the Franchising of Infrastructure and Public Utilities
- 8 December 2015, MOF, Notice on Implementing the Policy of Replacing Subsidies with Reward
- 18 December 2015, MOF, Circular on Issuing PPP Value for Money Assessment Guidelines (for trial implementation)
- 18 December 2015, MOF, Notice on Regulating the Operation of PPP Information Platform
- 10 August 2016, NDRC, Notice on Implementation of PPP in Traditional Infrastructure

- 24 September 2016, MOF, Notice on Measures for Financial Administration of PPP Projects

PPP is being promoted and developed both in practice and through development of the regulatory framework. Although no law specifically governing PPP has been passed yet, dozens of guidelines and other documents at the ministry and local level now facilitate PPP implementation, and a PPP law is expected to be passed in the next few years.

Following State Council approval, the concession measures, which came into force on 1 June 2015, expanded the existing concession regulation that only applied to urban utilities. These are the most comprehensive, and arguably most authoritative, statement of PPP law in the PRC to date. The concession measures aim to guide and encourage commercial participation in the construction and operation of infrastructure and utility projects, including energy, transportation, water resources, environmental protection, and municipal works projects.

These various guidance documents and regulations have the following provisions:

- The contracting party for a PPP project must be selected in accordance with the Government Procurement Law.
- Government's payment obligation in a PPP project should be incorporated into the government budget at the same level and government consolidated financial report in accordance with the Budget Law.
- Both government and social capital parties to PPP contracts can seek adjustment to and protection of their rights and obligations according to the Contract Law.
- Land acquisition methods and procedures in PPP projects are stipulated by the Land Administration Law and related regulations.
- Laws and regulations on project planning, approval, feasibility study, environmental impact assessment, and design must be followed for preliminary planning and approval of a project.
- Relevant environmental, safety, and industry monitoring laws and regulations, such as the Environmental Protection Law and Safe Production Law must also be followed by PPP projects.

6.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in PPP regulations	7	7	7

The principal types of PPP mentioned in the MOF PPP guidelines are operation and maintenance (O&M), management contract, BOT, build-operate-own, transfer-operate-transfer, and rehabilitate-operate-transfer (ROT). Other guidelines also mention build-own-operate-transfer.

According to the MOF PPP guidelines, the type of PPP should be determined based on the pricing mechanism, the level of project investment income, the basic framework of risk

allocation, financing requirements, expansion requirements, and disposition at the end of the project's life. In fact, neither the MOF PPP guidelines nor other government guidelines prohibit other types of PPP.

6.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	ICT	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social infrastructure^a	✓	✓	✓

^a Guidelines mention Municipal Infrastructure rather than Social Infrastructure.

There are no specific legal regulations specifying the sectors eligible for PPP, but the MOF PPP guidelines explicitly stipulates that the MOF (PPP center) is responsible for collecting and identifying potential PPP projects from authorities supervising sectors such as transportation, housing, environment, energy, education, health care, sports, and cultural facilities. However, PPPs in other sectors are all eligible in practice, with the exception of airports where PPPs may be possible in some cases, but the sector is considered sensitive.

6.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	×	×	×
Project capital investment size	No value thresholds	No value thresholds	No value thresholds
Contract term	×	According to the concession measures, the term of concession shall not exceed 30 years, but exceptionally for projects with large investment and long return cycle, a longer concession term is permitted. Currently there is no mandatory requirement for the minimum term of PPP. We note that according to the PPP law (draft for comments), the minimum term of PPP will be no less than 25 years.	According to the concession measures, the term of concession shall not exceed 30 years, but exceptionally for projects with large investment and long return cycle, a longer concession term is permitted. Currently there is no mandatory requirement for the minimum term of PPP. We note that according to the PPP law (draft for comments), the minimum term of PPP will be no less than 25 years.

6.1.1.5 *Unsolicited bids*

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	✗	✗	✗
Swiss challenge	✗	✗	✗
Compensation of the project development cost	✗	✗	✗
Government support for land acquisition and resettlement cost	✗	✗	✗
Government support in the form of viability gap funding (VGF) and guarantees	✗	✗	✗

6.1.1.6 *SOE participation*

	2014	2015	2016
Is an SOE allowed to participate in a PPP as a counterparty to the government?	✓	✓	✓
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	✓	✓	✓
Cumulative PPP projects with SOE participation (number)	13	14	14
Cumulative PPP projects with SOE participation (share in total number of PPP projects)	1%	1%	1%

A significant portion of infrastructure construction and utility companies are SOEs, and many of them have agreements similar to a PPP structure with local governments.

6.1.1.7 *Land rights*

	2014	2015	2016
Which of the following is permitted to the private partner:			
Transfer land lease/use/ownership rights to the third party	✓	✓	✓
Use leased/owned land as collateral	✓	✓	✓
Mortgage leased/owned land	✓	✓	✓
Is there any legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than government or the PPP counterparty?	✓	✓	✓
Is there any land registry/cadastre with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to the private partner:			

continued on next page

Table continued

	2014	2015	2016
Appraisal of land value	✗	✗	✗
Land users	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✓	✓	✓
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

Considering the state ownership and collective ownership of land in the PRC, PPP projects would acquire land through obtaining a state-owned land-use right by either free allocation or compensated transfer. In practice, there are complex land issues associated with the PRC infrastructure law, particularly the restrictions on the government's ability to help the private sector cover the cost of land. This is often a key factor affecting the feasibility and financial viability of PPP projects. In addition, there can also be.

6.1.1.8 Environmental and social issues

	2014	2015	2016
Is there any local regulation establishing process for environmental impact assessment?	✓	✓	✓
Is there any legal mechanism for the private partner to limit environmental liability for what is outside of its control or caused by third parties?	✓	✓	✓
Is there any local regulation establishing process for social impact assessment?	✗	✗	✗
Is there involuntary land clearance for PPP projects?	✓	✓	✓

The PRC has a complex institutional framework for environmental protection and specifically for impact assessment. In 2002, the Government of the PRC approved a new environmental impact assessment law: The Law of the PRC on Environmental Impact Assessment, which was passed in October 2002.

The practice of social impact assessment is expanding in the PRC. However, while certain guidelines by various authorities mention social impact assessments, and there are some requirements under NDRC project application and verification measures for analysis of economic and social effects of a project, there are not known to be any formal legal requirements in relation to social impact assessments, comparable to what is found in some other jurisdictions.

6.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads	49%	49%	49%	Power generation	100%	100%	100%	
Railways	100%	100%	100%	Power transmission	49%	49%	49%	
Ports	100%	100%	100%	Power distribution	49%	49%	49%	
Airports	49%	49%	49%	Oil and gas	99%	99%	99%	
Water and wastewater				Municipal solid waste	100%	100%	100%	
Bulk water supply and treatment	100%	100%	100%	Social infrastructure				
	2014	2015	2016		2014	2015	2016	
Water distribution	100%	100%	100%	Health care infrastructure	70%	70%	70%	
Wastewater treatment	100%	100%	100%	Health care services ^a	no data	no data	no data	
Wastewater collection	100%	100%	100%	Education infrastructure	no data	no data	no data	
ICT				Education services ^b	49%	49%	49%	
Fixed-line infrastructure	49%	49%	49%	Government buildings	no data	no data	no data	
Fixed-line services	49%	49%	49%	Prisons and correction centers	no data	no data	no data	
Wireless/mobile infrastructure	49%	49%	49%	Social housing	no data	no data	no data	
Wireless/mobile services	49%	49%	49%	Sport and leisure facilities ^c	no data	no data	no data	

^a Can depend on regulations for certain regions.

^b Except for vocational training services which can be 100% foreign owned.

^c Certain types of facilities have specific restrictions such as 49% for movie theaters.

Is there any restriction for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors ^a	yes	yes	yes
Currency conversion	yes	yes	yes

^a Can depend on the nature of the buyer/owner and the proposed use of the land.

	2014	2015	2016
Cumulative PPP projects with foreign sponsor participation (number)	368	369	369
Cumulative PPP projects with foreign sponsor participation (share in total number of PPP projects)	37%	35%	35%

Except for sectors in which foreign investment is explicitly prohibited, foreign enterprises and Sino-foreign joint ventures can participate in PPP projects. Specific limits on foreign ownership may apply in certain sectors as indicated in the table above.

6.1.1.10 *Dispute resolution and enforcement mechanism*

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?^a	✓	✓	✓
Do government and the private sector partner(s) have equal legal status on matters in the PPP agreement?	✓	✓	✓
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration ^b	✓	✓	✓
Has the country signed New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓
Average duration of arbitration proceedings (days)	182 or 217	no data	no data
Average duration of recognition and enforcement proceedings	no data	no data	no data

^a Depends on specific circumstances.

^b It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

For project contract disputes, which relate to the civil relationship between equal parties, these could be settled by civil action or civil arbitration.

As for project approval and administrative regulation disputes that relate to the administrative acts of administrative organs or their personnel, these may be settled by administrative reviews or administrative litigation.

However, in practice, the distinctions may not be so clear and enforcement of dispute resolution provisions in contracts may face challenges. For example, Article 12 of the new Administrative Litigation Law provides that courts shall accept cases where the administrative organs fail to perform in accordance with an agreement or illegally change or terminate government concession agreements.

On average, it takes around 26 weeks to enforce an arbitration award rendered in the PRC, from filing an application to a writ of execution attaching assets (assuming there is no appeal), and 31 weeks for a foreign award. One significant difference between the recognition or enforcement of domestic and international arbitration decisions is that a court's refusal to enforce a foreign arbitral must be approved by the Supreme People's Court, reflecting the pro-arbitration stance of Chinese law.

The China International Economic and Trade Arbitration Commission is one of the major permanent arbitration institutions in the world. The PRC made the following reservations to the New York Convention toward the Recognition and Enforcement of Foreign Arbitral Awards:

- (i) The PRC will apply the convention, only on the basis of reciprocity, to the recognition and enforcement of arbitral awards made in the territory of another contracting state;
- (ii) The PRC will apply the convention only to differences arising out of legal relationships, whether contractual or not, which are considered as commercial under the national law of the PRC.

It should be noted that the position of the Government of the PRC is very powerful in relation to a civil contract and, in reality, may not be controllable under civil law in the same way as the systems in most countries. A legal dispute between a foreign party and the Government of the PRC is a complex problem.

6.1.1.11 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights?			
Security over the project assets	✓	✓	✓
Security over the land on which they are built (land-use right)	✓	✓	✓
Security over the shares of PPP project company	✓	✓	✓
Can there be a direct agreement between government and lenders ^a	✓	✓	✓
Do lenders get priority in the case of insolvency	✗	✗	✗
Can lenders be given step-in rights	✓	✓	✓

^a May depend on the type of government agency.

There are no specific provisions in the PPP regulations governing lenders' security rights, but Chinese law allows for security over these types of assets generally, although while lenders get priority in the case of liquidation or bankruptcy, this is not the case for insolvency only. In terms of step-in rights, it may be possible for lenders to negotiate this on an individual contract basis, but in practice it is not common.

6.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✓	✓	✓
Force majeure	✓	✓	✓
Does the law enable the concept of economic/financial equilibrium?	✓	✓	✓
Does the law enable compensation payment to private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	✓	✓	✓
Change in law	✓	✓	✓

The yellow indicators above reflect the fact that the law does not prohibit the parties from agreeing to such compensation but does not specifically refer to these causes for termination and requires compensation in such events and therefore they may be possible to negotiate on an individual contract basis.

Based on Article 24 of the MOF PPP guidelines, in case of force majeure or systemic financial risks, the procurement authority and private operator/project company can negotiate amendments to the agreed terms of the contract while under Article 11 of the MOF PPP guidelines, risks of natural disasters and other force majeure events shall be jointly assumed by both parties—the government shall bear the risks in relation to policy and law, and the private operator shall bear commercial risks in relation to project design, construction, finance, and operation and maintenance. Additionally, according to the concession measures, where the anticipated profits of concessionaires are damaged due to amendments to laws and administrative regulations, policy adjustments, or where concessionaires are required to provide products or services other than those stipulated in the agreements according to the needs of public interests, concessionaires shall be compensated.

6.1.1.13 Government support

	2014	2015	2016
Is project development fund (PDF) available?	×	✓	✓
Land acquisition support from the government			
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on timeframe to complete land acquisition (days)	no data	no data	no data

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Table continued

	2014	2015	2016
Is there dedicated agency to streamline land acquisition?	x	x	x
Exemption from/reduction of land-use fees ^a	✓	✓	✓
VGF	✓	✓	✓
Limits to VGF as a percentage of projects capital cost	none	none	none
Government guarantees:			
Currency inconvertibility and transfer risk	x	x	x
Foreign exchange risk	x	x	x
War and civil disturbance risk	x	x	x
Breach of contract risk	x	x	x
Regulatory risk	x	x	x
Expropriation risk	x	x	x
Government payment obligation guarantee	✓	✓	✓
Credit guarantees	x	x	x
Minimum demand/revenue guarantee	✓	✓	✓
Availability/performance-based payment contracts^b	✓	✓	✓
Tax subsidies	✓	✓	✓

^a While the government support with land acquisition costs may be available, it is not a legal requirement and would need to be negotiated on an individual contract basis.

^b These are mentioned in PPP guidelines but not specifically in the PPP law, so may be possible to negotiate on an individual contract basis. Traditionally, this is the case for power and water projects.

Details of available government support for PPP projects in the PRC are shown in Table 124.

Table 124: Details of Available Government Support for PPP Projects in the PRC

Government Support Type	Comments
Land acquisition and resettlement	Considering the state ownership and collective ownership of land in the PRC, PPP projects would acquire land by free allocation, leasing or compensated transfer. The MOF PPP contract guidelines indicate that the government should assist the project company in land acquisition and bear the related costs. However, it is not legally enforceable and in practice the support from the government in relation to land acquisition and resettlement would depend on individual contract negotiation.

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Table 124 continued

Government Support Type	Comments
VGF	The concession measures also provide that the payment or subsidy by the government in VGF concession projects shall be linked to the government's annual budget and midterm fiscal planning to ensure the requirements of fund appropriation. In practice, the VGF can take different forms such as investment subsidies, equity investment, concessional loans, and grant of other developing and operating rights and interests related to concession projects. In some projects applying the VGF mechanism, the government takes partial payment responsibility during the operation period.
Government guarantees	According to Chinese law, the state organizations are not permitted to provide guarantees, except in the case of securing loans, for on-lending, from a foreign government or an international economic organization as approved by the State Council. In practice, minimum offtake undertakings are prevailing in energy and water sectors. The payment made by the government is subject to the government fiscal budget. Historically, the most popular method of local government to provide comfort on payment to the private investor under a PPP contract is to confirm to the private investor that the expenditure of the PPP project will be listed in the local annual budget of the payment year. However, this does not constitute any legally enforceable guarantee. According to the Guidelines on Promoting PPP in Public Service, the PRC will set up systems to guarantee sustained and healthy development of the PPP model by including operating subsidies, correct operating charges, and other considerations in the annual budget and medium-term financial planning; it will reflect and manage the same in the government's financial reports, and report to the People's Congress at the same level or to its standing committee. However in past projects, revenue guarantees were provided for certain road and railway PPP projects, and payment and tariff rate guarantees, as well as revenue subsidies were provided for renewable energy and water projects.
Availability/performance-based payment mechanism	According to the MOF PPP contract guidelines, the government may consider availability/performance-based payment if PPP projects comply with the following terms: Relative to the actual use of the facility or service, the government is more concerned about the availability of the facility or service, for example, the Olympic Stadium. Compared with the project company, the government has more control over the demand of the project facility or service, which requires the government to bear the demand risk.
Tax subsidies	Fiscal subsidy is mentioned by many of the regulations. Guidelines on Promoting PPP in Public Service mentioned tax policy as a potential government support for PPP, although this is not a legal requirement. PPPs are often eligible for industry-based tax rebate.

MOF = Ministry of Finance, PPP = public-private partnership, PRC = People's Republic of China, VGF = viability gap funding.

Source: Mott MacDonald.

Cumulative PPP projects received government support to date	2014	2015	2016
VGF	no data	no data	no data
Government guarantees	85	85	85
Availability/performance-based payment basis	319	351	355

6.1.1.14 Standard contracts

What standardized contracts are available and used in the market?	2014	2015	2016
PPP/concession agreement	x	x	x
Power purchase agreement	x	x	x
Capacity take-or-pay contract	x	x	x
Fuel supply agreement	x	x	x
Transmission and use of system agreement	x	x	x
Performance-based O&M contract	x	x	x
Engineering procurement and construction (EPC) contract	x	x	x

There are no standard contracts issued by the government pursuant to the PPP regulations other than the contract guidelines. However, there are many industry-specific contracts available that may be used in certain sectors and provinces.

6.1.2 Institutional Capacity for Implementation

6.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., a PPP unit)?	✓	✓	✓
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, and running PDF)	x	x	x
Appraisal of PPP project feasibility studies	✓	✓	✓
Approval of PPP project	x	x	x
Procurement	x	x	x
Managing, monitoring, and enforcing ongoing PPP contracts	✓	✓	✓

Details of PPP promoting institutions in the PRC are shown in Table 125.

Table 125: PPP Promoting Institutions in the PRC

Institution	Role in Promoting PPP
MOF	The MOF of the PRC leads the effort to organize and coordinate PPP work and is responsible for developing PPP-related policies and carrying out planning and administration on PPP with other departments as NDRC, Ministry of Housing and Urban-Rural Development, Ministry of Environmental Protection, People's Bank of China, China Banking Regulatory Commission, etc. Financial departments at all levels are responsible for PPP project collecting and screening, budget management, fiscal capacity appraisal, cost-effective evaluation, government debt management, and procurement management.
NDRC	The PRC's NDRC participates in PPP policy-making, planning, and administration; its subordinate departments at different levels are responsible for PPP project approval and feasibility study ratification.
PPP Center (under MOF)	Carries forward PPP-related policy research, consultation and training, statistics and international communication, etc.

MOF = Ministry of Finance, NDRC = National Development and Reform Commission, PPP = public-private partnership, PRC = People's Republic of China.

Source: Mott MacDonald.

The MOF and the NDRC have emerged as the main bodies responsible for PPP regulation and oversight, with the MOF retaining primary responsibility for PPP-related regulation and implementation. In December 2014, the MOF formally established a central government "China PPP Center," responsible for policy research, advice, and training. The MOF and NDRC have also released several key documents, including various guidelines, a circular on assessing fiscal affordability for PPP projects, and a notice on carrying out PPPs for demonstrative purposes.

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✓	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	✓	✓	✓
Is there screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	✗	✗	✗

In order for a project to be selected for development under PPP form, it must be in an eligible sector for PPP; must be consistent with the development master plan and sectoral and regional development plans and with the local socioeconomic development plan; and must be prioritized by the ministry, ministerial-level agencies, or provincial people's committee.

In December 2014, the MOF announced 30 pilot (demonstration) PPP projects, representing a total investment of 180 billion yuan (CNY) (MOF 2014). Among these 30 projects, 8 are new, and 22 are being transferred from local financing platforms. These projects concern water and heat supply, wastewater treatment, waste management, transport, new energy vehicles, environmental restoration, pipe networks, and health care and sport facilities.

In 2015, the MOF issued a notice, confirming that the PPP center under the MOF is in charge of developing, operating, and managing a national platform for PPP project information, and all PPP projects should be listed in this platform.

Since then, two further batches of pilot PPP projects have been announced, the latest with 516 projects. These projects are selected from PPP projects proposed by each province as being deemed the most suitable for demonstration of PPP projects.

However, in general, there is no coordinated screening and prioritization approach for all PPPs. Each ministry additionally publishes lists of projects in the sector that it governs and local people's committees and local departments of planning and investment also publish lists of projects in their governing area. The NDRC has also offered batches of PPP projects, comprising those proposed by subordinate DRCs.

6.1.2.2 Project preparation

	2014	2015	2016
Number of project appraisal stages^a	3	3	3
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓
Financial feasibility	✓	✓	✓
Legal feasibility	✓	✓	✓
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✗	✓	✓
Fiscal affordability assessment	✗	✓	✓
PPP structuring and risk allocation	✓	✓	✓
Initial market testing	✗	✗	✗
Number of approvals to be obtained by the public sector to get the final go-ahead to commence PPP project procurement	2	2	2
Is the approval from the MOF or equivalent required before commencement of procurement?	✗	✗	✗
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	✗	✗	✗

^a This may vary depending on the type of project.

The indicators marked in yellow in the table above reflect the fact that while the MOF guidelines state the need for a full range of feasibility studies to be conducted, there is no overarching legal requirement for these to be undertaken prior to a PPP project being approved.

The PRC's State Council and governments at all levels have circulated a series of policy documents to promote a wide use of PPP. The MOF has introduced the MOF PPP guidelines and MOF PPP contract guidelines, and has proclaimed special financial subsidy policies targeting sponge cities and underground utility tunnel projects. Currently, the MOF is engaged in developing guidelines on financial support to PPP projects.

In 2015, the MOF also issued both guidelines for verification of fiscal capacity relating to PPP projects and guidelines for VFM assessment. A project must pass a VFM assessment and fiscal capacity verification in order for the PPP mode to be applied.

While not a legal requirement, according to the MOF guidelines, there are three project appraisal stages before being selected as a PPP project (although, these will not necessarily apply to concession projects under the concession measures):

- (i) The PRC's finance departments (PPP centers where applicable) at different levels of government confers with relevant administrative departments to appraise potential PPP projects and determine feasible ones.
- (ii) Finance departments confer with relevant administrative departments to carry out cost-effectiveness evaluation.
- (iii) Finance departments (PPP centers where applicable) conduct fiscal capacity appraisal to assess affordability.

6.1.2.3 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	✓	✓	✓

The MOF PPP guidelines include general risk allocation principles, but these are not legally enforceable and the parties may provide a specific risk allocation mechanism in negotiating the PPP contract. According to the MOF PPP guidelines, risks shall be allocated among the government and the private capital according to the principle of risk allocation optimization, risk return equivalence, and risk controllable, and upon overall consideration of the management capability on government risk, the project return mechanism, and the management capability on market risk. According to the guidelines, in principle, the commercial risks including design, construction, finance, and operation and maintenance of the project shall be borne by the private sector, and the risk of laws, policies, and minimum requirements shall be borne by the government. Force majeure and other risks shall be borne by the parties jointly on a reasonable basis. NDRC also provided a similar risk allocation principle and arrangement in the Guiding Opinions of the NDRC on launching the cooperation between governments and social capitals promulgated by it.

6.1.2.4 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	x	x	x
In case of competitive tender:			
Is prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expression of interest (days)	15	15	15
Minimum time allowed to submit a bid:			
Domestic bidding (days)	20	20	20
International bidding (days)	no data	no data	no data
Is negotiation available?	✓	✓	✓
Is there any process allowing unsuccessful bidders to challenge the award/complain?	✓	✓	✓
If yes, maximum time allowed to submit a complaint starting from announcement of the preferred bidder	7 days	7 days	7 days
Maximum time limit from bid closing date till selection of the preferred bidder	no data	no data	no data
Maximum time limit from selection of the preferred bidder till signing the contract	30	30	30
Transparency. Which of the following is published?			
Procurement notice	✓	✓	✓
Q&A during bid clarification stage	x	x	x
Evaluation results to bidders	✓	✓	✓
Award notice	✓	✓	✓
Contract	✓	✓	✓
Confidentiality	✓	✓	✓

The indicators marked in yellow in the table above reflect the fact that there are guidelines advocating these procedures, but they are not legally required.

The features of the procurement process are presented below:

Theme	Description
Responsible agency	According to the MOF PPP guidelines, local government authorities (e.g., county or municipal), departments, or nonprofit institutions appointed by the local government can prepare and procure an individual PPP project.

continued on next page

Table continued

Theme	Description
Project announcement	Per the administrative measures for the government Procurement under public-private partnership projects; prequalification shall apply to PPP project procurement. An announcement of prequalification shall be released via the government procurement information release media designated by the relevant finance department of the people's government at or above the provincial level. The time period for submission of application documents for prequalification shall not be less than 15 working days from the date of release of the announcement. The announcements will all be published on the PRC PPP center website: http://www.cpppc.org/
Prequalification invitation documentation	<ul style="list-style-type: none"> • Evaluation method and criteria, draft contracts, and other legal instruments. • The procurement documents shall point out the variable details of the project contract during the negotiation for confirming procurement results. • The PPP procurement documents shall also expressly state that the project contract must be submitted to the people's government at the corresponding level for approval and shall not take effect until it is approved.
Prequalification evaluation criteria	Not specified
Prequalification evaluation method	Not specified
Short list	
Request for proposal documentation	Not specified
Methods of interactions with the bidders	<ul style="list-style-type: none"> • Question and answers in writing • Pre-bid conferences
Evaluation of technical proposals	Not specified
Evaluation of financial proposals	Not specified
Investor selection	
Contract negotiation	Preferred bidder is invited for negotiations
Investment agreement signing	Following negotiation, the project implementing agency shall sign the confirmation of negotiation memorandum and publicize the procurement result along with procurement documents, correspondence documents, addenda, and the contract drafted in the confirmation of negotiation memorandum. Key promises and technical documents submitted by the private party shall be attached in the contract.
Application for and issuance of an investment registration certificate and establishing the project enterprise	
Contract signing	

The above provisions apply to PPP projects under the Circular on Issuing the Administrative Measures for Government Procurement under Public-Private Partnership Projects. However, it is not clear whether these requirements will all apply, for example, to “concession” projects under the concession measures.

6.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	995	1,047	1,052
PPP projects currently in preparation	n/a	n/a	12
PPP projects currently in procurement	n/a	n/a	13

Note: It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

6.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	9	10	14
Cumulative PPP projects that received export credit agency (ECA)/ international financing institution (IFI) financing	24	25	25

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	no data	no data	no data
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Max tenor for local currency loan (years)	5-9	5-9	5-9
Availability of interest rate swaps	no data	no data	no data
Forward duration of interest rate swap (years)	no data	no data	no data
Availability of currency swaps	✓	✓	✓
Forward duration of currency rate swap (years)	no data	no data	no data
Availability of project bond financing	✓	✓	✓
Availability of project financing from local public sector banks	✓	✓	✓
Max tenor for loan from local public sector banks (years)	no data	no data	no data

The PRC is speeding up legislation process to create an enabling legal environment; strengthening policy support to provide stable policy expectations; developing regulations including PPP project cost-effectiveness evaluation, PPP project fiscal capacity appraisal,

and PPP project budget expenditure management; and bringing the government's payment obligation into budgetary management to ensure government's performance capacities.

The PRC has also been proactively promoting financial innovation to improve investment climate by means of developing long-term loan products, setting up governmental guiding fund and industrial investment fund.

In February, the People's Republic of China's State Administration of Foreign Exchange announced that it would allow foreign institutions investing in the People's Republic of China's interbank bond market to purchase currency forwards and currency swaps.²⁶

6.2 Roads

6.2.1 Regulatory Framework

6.2.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	49%
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6.2.1.2 Government contracting agency

Ministry of Transport.

6.2.1.3 Sector-specific regulations

Does the private partner have any legal right to charge users?	✓
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6.2.1.4 Sector regulators

The Ministry of Transport (MOT) of the PRC is an executive agency under the State Council responsible for road, water, and air transportation. Under the MOT, there are 10 functional divisions.

The main duties of the ministry are to formulate and implement development plans, policies, and standards of industries of road, water, and air transportation; take charge of planning and coordination related to the integrated transport system; promote connection of various modes of transportation; optimize the layout of transportation; and give full play to comprehensive advantages and efficiency of integration, so as to establish a convenient, smooth, effective, safe, and integrated transport system.

²⁶ Asian Development Bank. 2017. *Asia Bond Monitor*. Manila.

6.2.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Power purchase agreement	✗
Capacity take-or-pay contract	✗
Fuel supply agreement	✗
Transmission and use of system agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

6.2.2 Institutional Capacity for Implementation

6.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

On 13 October 2016, the PRC's MOF published a new group of PPP projects with a total investment value of CNY1.17 trillion.

This is the third batch of such demonstration projects following the introduction of PPP in 2014 with 30 pilot PPP projects totaling CNY178.6 billion. The second batch of 206 PPP projects came out in 2015, valued at CNY658.9 billion.

Overall, the 516 newly announced projects cover energy, transport, water conservation, agriculture, education, etc. A total of 62 transport projects valued at CNY 506.59 billion represent 43.3% of the total investment. Among the transport projects, there are 26 motorway projects valued at CNY 368.94 billion and 16 "Grade A" highways valued at 50.11 billion.

A full list of the PPP pipeline projects including road projects can be downloaded at: <http://www.cpppc.org/zh/zyxmqd/4125.jhtml>

6.2.2.2 Project preparation

Number of PPP projects in preparation	0
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6.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	13
Unsolicited bids	0
Competitive bidding process	10
PPP projects currently in procurement	0

6.2.3 Features of Past PPP Projects

6.2.3.1 PPP projects that reached financial close

	Number	Million (\$)
PPP projects that reached financial close	136	32,163

6.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	92	68%

6.2.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	
Minimum traffic/revenue guarantees	3
Projects on availability/performance-based payment basis	0

6.2.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	8
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✓
Advertising	✓

6.2.3.5 Tariffs

Provinces have financed the majority of the capital cost from borrowing (and some budget funds). Special purpose companies are formed or selected by provinces to construct and operate the roads, usually on a case-by-case basis (i.e., with each company responsible for a specific Expressway section). The companies have also raised capital through direct investment, public listing, and securitized lending. Road tolls have been widely used to help contribute to or to recover financing costs (and costs of operation and maintenance). As a result, most expressways are tolled.

Toll collection is currently decentralized based on the tolls established by individual companies or in some cases based on a provincial system under which tolls are collected by the province and reallocated to the companies operating in the provinces. Toll rates are set provincially by each Provincial Pricing Commission based on applications submitted by toll companies. Toll rates typically take into account the rates in adjacent provinces. However, because of the large number of provinces and companies involved, there is considerable variability.

6.2.3.6 Risk allocation

Typical risk allocation arrangements in road PPP contracts are provided in Table 126.

Table 126: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk			✓	
Collection risk	✓			
Competition risk			✓	
Government payment risk		✓		
Environmental and social risk			✓	
Land acquisition risk		✓		
Permits		✓		
Geotechnical risk		✓		
Brownfield risk: inventories studies, property boundaries, project scope		✓		
Political risk		✓		
Foreign exchange risk			✓	

PPP = public-private partnership.

Source: Mott MacDonald.

6.2.4 Local Capabilities

There is strong local capability.

6.2.5 Project Financing

PPP projects with foreign lending participation	2
PPP projects that received ECA/IFI support	0

6.2.6 Challenges

Challenges for PPP progress in road sector are shown in Table 127.

Table 127: Challenges for PPP Progress in Road Sector

Challenges	Currently Implemented Tackling Measures
Revenues of operating toll roads not able to cover the investment from private party	Government compensation on land and subsidies allow project company to develop land along the roads
There are historic projects where highway concessions have been overruled post-contract	Government is introducing PPP law and guidance to avoid such risk in the future
In development areas of the People's Republic of China, there is often uncertainty about the urbanization planning along transport corridors, and the timing of this development brings uncertainty into the prediction of traffic flows, which in turn drives the business case	Regional development plans can be challenged and interrogated, but there is not much to firm up long-term plans

PPP = public-private partnership.

Source: Mott MacDonald.

6.3 Railways

6.3.1 Regulatory Framework

6.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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6.3.1.2 Government contracting agency

No specific government contracting agency is designated for the railways sector in the PRC. China Railway Corporation as the only national railway operator of the PRC normally allies with the local governments and establishes a project company, through which the contracts are signed.

6.3.1.3 Sector regulators

The MOT is the agency currently responsible for railway regulations. It is a member of the State Council of the People's Republic of China.

6.3.1.4 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Power purchase agreement	✗
Capacity take-or-pay contract	✗
Fuel supply agreement	✗
Transmission and use of system agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

6.3.2 Institutional Capacity for Implementation

6.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of railway projects is shown in Table 128.

Table 128: PPP Pipeline of Railway Projects

No.	Project Name	Location	Value (\$ million)
1	Ma'anshan Zhengpugang Special railway line PPP project	Ma'anshan, Anhui Province	285
2	Dongying port Shugang Railway PPP project, Dongying, Shandong	Dongying, Shandong Province	824
3	Newly built Weng'an to Machangping railway line, Guizhou Province	Weng'an, Guizhou Province	724

PPP = public-private partnership.

Source: China Public Private Partnerships Center. 2016. *3rd Batch of Demonstration PPP Projects*. <http://www.cpppc.org/zh/zyxmqd/4127.jhtml> (accessed 13 March 2017)

On 13 October 2016, the PRC's MOF published a new group of PPP projects with a total investment value of CNY1.17 trillion.

This is the third batch of such demonstration projects following introduction of PPP in 2014 with 30 pilot PPP projects totaling CNY178.6 billion. The second batch of 206 PPP projects came out in 2015 valued at CNY 658.9 billion.

The 516 newly announced projects cover energy, transport, water conservation, agriculture, education, etc. A total of 62 transport projects valued at CNY506.59 billion represent 12% in quantity and 43.3% in total investment. Among the transport projects, a total of 3 railway (excluding rail transit) projects valued at CNY12.641 billion represent 2% of the total investment.

6.3.2.2 Project preparation

Number of PPP projects in preparation	0
---------------------------------------	---

6.3.2.3 Procurement

PPP projects currently in procurement	0
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6.3.3 Features of Past PPP Projects

6.3.3.1 PPP projects that reached financial close

	Number	Million (\$)
PPP projects that reached financial close	23	34,470

6.3.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	5	21.7%

6.3.3.3 Government support

PPP projects that received government support:	Number
VGF	0
Government guarantees:	
Minimum traffic/revenue guarantees	3
Projects on availability/performance-based payment basis	0

6.3.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	7
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights (transit-oriented development)	✓
Advertising	✓
Track access charges	✓

6.3.3.5 Risk allocation

Typical risk allocation arrangements in road PPP contracts are shown in Table 129.

Table 129: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk			✓	
Revenue collection risk			✓	
Tariff risk			✓	
Competition risk			✓	
Government payment risk		✓		
Environmental and social risk			✓	

continued on next page

Table 129 continued

Risk	Private	Public	Shared	Comment
Land acquisition risk		✓		
Utilities relocation risk		✓		
Interface with other transport		✓		
Permits		✓		
Geotechnical risk			✓	
Regulatory risk		✓		
Political risk		✓		
Foreign exchange risk			✓	
Early termination risk			✓	

PPP = public–private partnership.

Source: Mott MacDonald.

6.3.4 Local Capabilities

There is a strong local presence in the rail market, so the construction work will be undertaken by some major SOEs. Design work and operation is also done locally. Foreign corporations are mostly involved with a supervisory or management role, particularly in high-speed railway projects.

6.3.5 Challenges

Challenges for PPP progress in rail sector are shown in Table 130.

Table 130: Challenges for PPP Progress in Rail Sector

Challenges	Currently Implemented Tackling Measures
Lack of comprehensive sector regulations and practical experience	This may be covered by the PPP law and guidance when provided, but the rail sector in any country is quite special and specific and the general guidance may not be appropriate enough
The rail sector in the People's Republic of China is almost entirely state-owned and operated with direct control from national government, so outsourcing and private partnership is not common and has few precedents	

PPP = public–private partnership.

Source: Mott MacDonald.

6.4 Ports

6.4.1 Regulatory Framework

6.4.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	100%
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6.4.1.2 Government contracting agency

This would normally be the local port authority.

6.4.1.3 Sector-specific regulations

The Port Law of the PRC is applicable to the planning, construction, maintenance, operation, and administration of ports and other relevant activities.

Provisions on the Administration of Port Operations (2009) regulate the operation of ports.

6.4.1.4 Sector regulators

Port sector regulatory agencies in the PRC are shown in Table 131.

Table 131: Port Sector Regulatory Agencies in the PRC

Agency	Function
Ministry of Transport	Administrates all ports in the PRC
Local authority	Administrates all ports within jurisdiction

PRC = People's Republic of China.

Source: <http://zhengce.chinabaogao.com/gonggongfuwu/2016/0252345492016.html>

6.4.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	×
Power purchase agreement	×
Capacity take-or-pay contract	×
Fuel supply agreement	×

continued on next page

Table continued

Transmission and use of system agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

6.4.2 Institutional Capacity for Implementation

6.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of maritime projects is shown in Table 132.

Table 132: PPP Pipeline of Maritime Projects

No.	Project Name	Location	Value (\$ million)
1	Huanghua port breakwaters extension and port construction project	Cangzhou, Hebei Province	366
2	Pizhou port relocation PPP project	Xuzhou, Jiangsu Province	210
3	Suqian canal Suqian port Yangbei work zone port project	Suqian, Jiangsu Province	145

PPP = public-private partnership.

Source: China Public Private Partnerships Center. 2016. *3rd Batch of Demonstration PPP Projects*. <http://www.cpppc.org/zh/zyxmqd/4127.jhtml> (accessed 13 March 2017)

On 13 October 2016, the PRC's MOF published a new group of (PPP projects with a total investment value of CNY1.17 trillion.

This is the third batch of such demonstration projects following the introduction of PPP in 2014 with 30 pilot PPP projects totaling CNY178.6 billion. The second batch of 206 PPP projects came out in 2015 valued at CNY658.9 billion.

The 516 newly announced projects cover energy, transport, water conservation, agriculture, education, etc. A total of 62 transport projects valued at CNY506.59 billion represent 43.3% in total investment. Among the transport projects, a total of three port projects were identified. These are valued at CNY4.97 billion representing 0.4% of the total investment.

6.4.2.2 *Project preparation*

Number of PPP projects in preparation	0
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6.4.2.3 *Procurement*

PPP projects procured through:	Number
Direct appointment	25
Unsolicited bids	1
Competitive bidding process	11
PPP projects currently in procurement	0

6.4.3 *Features of Past PPP Projects*

6.4.3.1 *PPP projects that reached financial close*

	No	Million (\$)
PPP projects that reached financial close	79	14,677

6.4.3.2 *Foreign investor participation*

	Number	Share in Total Number of Port PPP Projects
PPP projects with foreign sponsor participation	57	72%

6.4.3.3 *Government support*

PPP projects that received government support:	Number
Government guarantees	2
Projects on availability/performance-based payment basis	0

6.4.3.4 Payments mechanism

What additional revenue streams are allowed?	
Land-use development rights	✓
Wharf charge	✓
Navigation charge	✓
Pilotage charge	✓
Channel access charge	✓

6.4.3.5 Risk allocation

Typical risk allocation arrangements in port PPP contracts are shown in Table 133.

Table 133: Typical Risk Allocation Arrangements in Port PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			
Competition risk (exclusivity)		✓		
Tariff			✓	
Environmental and social risk			✓	
Land acquisition risk			✓	
Permits		✓		
Geotechnical risk		✓		
Foreign exchange risk			✓	
Political risk		✓		

PPP = public-private partnership.

Source: Mott MacDonald.

6.4.4 Local Capabilities

Known as a large import and export economy, the PRC has built a considerable number of ports and port clusters along its coastline, boosting sea-trade industry. There is a strong local presence in ports industry; some of the largest port enterprises are Shanghai International Port Group, Shenzhen Yantian Port Holdings, Tianjin Port Holdings, Yingkou Port Liability, Jiangsu Lianyungang Port, etc. Other major PRC industry players include China COSCO Shipping Corporation Limited, Hutchison Ports, and China Merchants Holdings (International) Information Technology. It is worth noting that China COSCO Shipping Corporation Limited is the merged entity of the two largest port operators—China Ocean Shipping (Group) Company (COSCO) and China Shipping (Group) Company (China Shipping), an SOE headquartered in Shanghai, following the approval from the State Council on 4 January 2016.

6.4.5 Project Financing

	Number
PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI financing	4

6.4.6 Challenges

Challenges for PPP progress in the port sector are shown in Table 134.

Table 134: Challenges for PPP Progress in the Port Sector

Challenges	Currently Implemented Tackling Measures
Strong competition induced by excessive supply and regional ports expansion	

PPP = public–private partnership.

Source: Mott MacDonald.

6.5 Airports

6.5.1 Regulatory Framework

6.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	49%
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6.5.1.2 Government contracting agency

Various but mostly local authorities.

6.5.1.3 Sector regulators

Airport sector regulatory agencies in the PRC are shown in Table 135.

Table 135: Airport Sector Regulatory Agencies in the People's Republic of China

Agency	Function
MOT	MOT is the agency responsible for railway, road, air, and water transportation regulations.
CAAC	Oversees civil aviation and investigates aviation accidents and incidents. As the aviation authority responsible for the PRC, it concludes civil aviation agreements with other aviation authorities, including those of the special administrative regions of the PRC which are categorized as "special domestic." The agency is headquartered in Dongcheng District, Beijing.

CAAC = Civil Aviation Administration of China, MOT = Ministry of Transport, PRC = People's Republic of China.

Source: Mott MacDonald.

6.5.1.4 Standard contracts

What standardized contracts are available and used in the market?		
PPP/concession agreement	x	
Power purchase agreement	x	
Capacity take-or-pay contract	x	
Fuel supply agreement	x	
Transmission and use of system agreement	x	
Performance-based O&M contract	x	
EPC contract	x	

6.5.2 Institutional Capacity for Implementation

6.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of airport projects is shown in Table 136.

Table 136: PPP Pipeline of Airport Projects

No.	Project Name	Value (\$ million)
1	Hohhot new airport	2,947

PPP = public-private partnership.

Source: China Public Private Partnerships Center. 2016. *3rd Batch of Demonstration PPP Projects*. <http://www.cpppc.org/zh/zyxmqd/4127.jhtml> (accessed 13 March 2017)

Hohhot airport is the only airport project listed in the third batch of 516 demonstration PPP projects published by MOF in 2016.

6.5.2.2 *Project preparation*

Number of PPP projects in preparation	0
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6.5.2.3 *Procurement*

PPP projects procured through:	Number
Direct appointment	2
Unsolicited bids	0
Competitive bidding process	1
PPP projects currently in procurement	0

6.5.3 *Features of Past PPP Projects*

6.5.3.1 *PPP projects that reached financial close*

	Number	Million (\$)
PPP projects that reached financial close	12	1,393.34

A total of eight out of 12 airport PPP projects used the BOT model, and one project was realized through the ROT model. A total of nine out of the 12 projects are greenfield projects.

6.5.3.2 *Foreign investor participation*

	Number	Share in Total Number of Airport PPP Projects
PPP projects with foreign sponsor participation	5	42%

6.5.3.3 *Government support*

PPP projects that received government support:	Number
VGF	no data
Government guarantees	0
Projects on availability/performance-based payment basis	0

6.5.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	4
Government-paid contracts	0
What aeronautical revenue streams are allowed?	
Landing fees	✓
Aircraft parking fees	✓
Boarding bridge fees	✓
Terminal service fees	✓
What nonaeronautical revenue streams are allowed?	
Commercial	✓
Ancillary	✓

6.5.3.5 Risk allocation

Typical risk allocation arrangements in airport PPP contracts are shown in Table 137.

Table 137: Typical Risk Allocation Arrangements in Airport PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk			✓	
Competition risk (exclusivity)	✓			
Environmental and social risk			✓	
Land acquisition risk		✓		
Permits		✓		
Handover risk			✓	
Political risk		✓		
Foreign exchange risk			✓	

PPP = public-private partnership.

Source: Mott MacDonald.

6.5.4 Local Capabilities

Following the localization reform of the civil airports, all airports are managed by local authorities with the exception of the Beijing Capital Airport and airports in Tibet Autonomous Region, which are governed by Civil Aviation Administration and China Civil Aviation Tibet Autonomous Region Authority, respectively. Exceptions are some smaller airports, where private sector participation may be involved. However, currently there is limited local private sector experience in this market.

6.5.5 Project Financing

	Number
PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI financing	0

6.5.6 Challenges

Challenges for PPP progress in the airport sector are provided in Table 138.

Table 138: Challenges for PPP Progress in the Airport Sector

Challenges	Currently Implemented Tackling Measures
Nonaeronautical revenue streams not fully tapped	
Airports and other related activities are usually linked with civil defense and security activity and so are sensitive and are exposed to a high degree of government supervision, making private sector involvement in core aviation activity sensitive.	

PPP = public–private partnership.

Source: Mott MacDonald.

6.6 Energy

6.6.1 Regulatory Framework

6.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	100%
Power transmission	49%
Power distribution	49%
Oil and gas	99%

6.6.1.2 Government contracting agency

Following the structural reform, energy industry in the PRC has been fully marketized. Power generation, power transmission and distribution and grid system as well as contracting issues are mostly undertaken by large SOEs (quasi government).

6.6.1.3 Sector regulators

Details of energy sector regulatory agencies in the PRC are shown in Table 139.

Table 139: Energy Sector Regulatory Agencies in the PRC

Agency	Function
State Council	<ul style="list-style-type: none"> Overall regulator for all ministries Formulates and implements administrative orders and regulations
National Energy Administration (under NDRC)	<ul style="list-style-type: none"> Responsible for formulating and implementing energy development plans and industrial policies; promoting institutional reform in the energy sector; administering energy sectors, including coal, oil, natural gas, power (including nuclear power), new and renewable energy, etc.; taking charge of energy conservation, comprehensive utilization of resources in the energy sector; guiding scientific and technological advancement; organizing and carrying out the research and development of important equipment and guiding the assimilation and innovation of imported complete sets of major equipment; organizing and coordinating key energy-related demonstration projects and promoting the deployment of new products, new technologies, and new equipment; approving, reviewing, or examining fixed asset investment projects of the energy sector within national plans and the scale of annual plans in accordance with the authority stipulated by the State Council; conducting energy forecasting and precaution and participating in energy operation coordination and emergency preparedness; formulating and implementing national oil reserve plans and policies; taking the lead in launching international energy cooperation; participating in the formulation of policies related to energy such as resources, finance and taxation, environment protection, and addressing climate change; making recommendations on energy price adjustment and imports and exports aggregate; and undertaking the daily work of the National Energy Commission.
State Electricity Regulatory Commission	<ul style="list-style-type: none"> Regulating the development of electricity markets Advising the NDRC on the setting of tariffs
State-Owned Assets Supervision and Administration Commission	<ul style="list-style-type: none"> Supervises power corporations

NDRC = National Development and Reform Commission, PRC = People's Republic of China.

Source: Mott MacDonald.

6.6.1.4 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Power purchase agreement	✗
Capacity take-or-pay contract	✗
Fuel supply agreement	✗
Transmission and use of system agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

6.6.2 Institutional Capacity for Implementation

6.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

On 13 October 2016, the PRC's MOF published a new group of PPP projects with a total investment value of CNY1.17 trillion.

This is the third batch of such demonstration projects following the introduction of PPP in 2014 with 30 pilot PPP projects totaling CNY178.6 billion. The second batch of 206 PPP projects came out in 2015 valued at CNY658.9 billion.

The 516 newly announced projects cover energy, transport, water conservation, agriculture, education, etc. A total of 18 energy-related projects valued at CNY12.64 billion. Among the energy projects, a total of 12 waste-to-energy projects valued at CNY10.62 billion represent 84% of the total investment in energy. A photovoltaic PPP project in Tianjin is the only one of its kind in the list.

A full list of the PPP pipeline projects including energy projects can be downloaded at: <http://www.cpppc.org/zh/zyxmqd/4125.jhtml>

6.6.2.2 Project preparation

Number of PPP projects in preparation	10
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6.6.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	38
Unsolicited bids	0
Competitive bidding process	13
License scheme	29
PPP projects currently in procurement	9

6.6.3 Features of Past PPP Projects

6.6.3.1 PPP projects that reached financial close

Energy Generation	Number	Million (\$)
Renewables energy generation		
Solar	106	12,442
Wind	84	9,714
Hydro	31	15,555
Geothermal	0	0
Waste/biomass	105	6,465
Thermal energy generation		
Coal	47	18,492
Diesel	22	2,210
Natural gas	5	428
Total energy generation	400	65,306

6.6.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation		
Renewables	47	11.7%
Thermal	40	10%
Energy transmission and distribution	0	0%

6.6.3.3 Government support

PPP projects received government support:	Number
VGF	0
Government guarantees	28
Projects on availability/performance-based payment basis	0

6.6.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	no data
Government-paid contracts	266

6.6.3.5 Tariffs

Is there a system of feed-in tariffs (FIT)? ^a		
✓		
Typical FIT levels	Type	US cent/ kWh
	Wind	8–10
	Hydro	3–12
	Biomass	12
	Solar PV	14–16

PRC = People's Republic of China.

^a FIT rates in the PRC vary with the location of the site of power generation. The above figures represent a general estimation of the range of tariff rates collected at the time of preparation of this document.

Source: Winston and Strawn. 2014. Feed-In Tariff Handbook for Asian Renewable Energy Systems. <http://cdn2.winston.com/images/content/9/1/v2/91697/Feed-In-Tariff-Handbook-for-Asian-Renewable-Energy-Systems.pdf>
<http://bgt.ndrc.gov.cn/zcfb/200907/W020120820329193612794.pdf>

6.6.3.6 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are shown in Table 140.

Table 140: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk			✓	
Revenue collection risk			✓	
Tariff risk			✓	
Government payment risk		✓		

continued on next page

Table 140 continued

Risk	Private	Public	Shared	Comment
Environmental and social risk			✓	
Land acquisition risk		✓		
Permits		✓		
Handover risk			✓	
Political risk		✓		
Regulatory risk		✓		
Interconnection risk			✓	
Brownfield risk: asset condition			✓	
Grid performance risk	✓			
Hydrology risk			✓	
Exploration and drilling risk	✓			

PPP = public-private partnership.

Source: Mott MacDonald.

6.6.4 Local Capabilities

The PRC has a very strong local capability in the energy sector, particularly the renewables. Currently, the PRC is the world's largest producer of photovoltaic power, accounting for more than 60% of the world's solar photovoltaics output. The PRC also led the world in the production and use of wind power and smart grid technologies. It has also become the world's largest maker of wind turbines.

Most of the large power enterprises are SOEs; the major power generation SOEs are: China Datang Corporation, China Yangtze Power Corporation, China Guodian Corporation, China Light and Power Company Syndicate, and China Huaneng Group. Two major grid SOEs are State Grid and China Southern Power Grid.

6.6.5 Project Financing

	Number
PPP projects with foreign lending participation	10
PPP projects that received ECA/IFI financing	16

6.6.6 Challenges

Challenges for PPP progress in the energy sector are shown in Table 141.

Table 141: Challenges for PPP Progress in the Energy Sector

Challenges	Currently Implemented Measures
Transmission capacity of the grid hasn't kept up with the growth of the PRC's wind farms. Limited connection to the state grid leads to large amount of wind power curtailment	There has been significant investment into the interconnection of the electricity grid to enable more connection and distribution (power flows) from the North West to South East PRC
Overcapacity in power sector prevails	

PPP = public-private partnership, PRC = People's Republic of China.

Source: Mott MacDonald.

6.7 Water and Wastewater

6.7.1 Regulatory Framework

6.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Bulk water supply and treatment	100%
Water distribution	100%
Wastewater treatment	100%
Wastewater collection	100%

6.7.1.2 Government contracting agency

There are various contracting bodies in practice, including water companies, local Construction Bureau, Construction Committee, Water Authority and Administration Committee of Economic Development Zone, etc.

6.7.1.3 Sector-specific regulations

Can private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on the release of treated effluents?	✓

Water abstraction is governed by a "water abstraction permit system," provided by the 2002 Water Law and the 2006 Regulations on the Administration of Water Abstraction Licensing and Collection of Water Resources Charges. Permits are regulated on an annual basis and must relate to applicable annual water resources regulation plans.

Wastewater discharge is managed through an “urban drainage permit system” under the 2007 Methods on Urban Drainage Permit Management. The quality of the effluent should meet the standards in the 1996 Comprehensive Standard of Sewage Drainage. If wastewater is discharged directly to a watercourse, approval is required under the 2008 Law on the Prevention and Control of Water Pollution from the local environmental protection department.

6.7.1.4 Sector regulators

Water sector regulatory agencies in the PRC are shown in Table 142.

Table 142: Water Sector Regulatory Agencies in the People's Republic of China

Agency	Function
The State Council	<ul style="list-style-type: none"> Overall regulator for all ministries Formulates and implements administrative orders and regulations
The National People's Congress	<ul style="list-style-type: none"> Responsible for legislation, law enforcement, and supervision
State-Owned Assets Supervision and Administration Commission	<ul style="list-style-type: none"> Manages state-owned enterprises
The National Development and Reform Commission	<ul style="list-style-type: none"> Plans the development of fixed assets and allocates capital investment funds Formulates water pollution levy policies and industrial policies affecting wastewater discharge and treatment Formulates wastewater and water pricing policy
The Ministry of Water Resources	<ul style="list-style-type: none"> Manages water resources in the PRC, including flood control and drought relief, water resource protection, and conservation planning Monitors water quality in rivers and lakes Issues water extraction permits
The Ministry of Environmental Protection	<ul style="list-style-type: none"> Supervises and enforces water pollution laws, regulations, water-use planning, watershed, and planning to prevent drinking water sources pollution
The Ministry of Housing and Urban-Rural Development	<ul style="list-style-type: none"> Guides urban planning, infrastructure construction, and development projects, including improvements in urban water supply and urban wastewater treatment facilities
The Ministry of Finance	<ul style="list-style-type: none"> Manages budget allocation, pollution levies, wastewater treatment charges, and water resources fees
The Ministry of Land and Resources	<ul style="list-style-type: none"> Responsible for the planning, administration, protection, and utilization of groundwater
The State Forest Administration	<ul style="list-style-type: none"> Oversees the management of state forest resources in relation to controlling water and soil erosion
The Ministry of Transportation	<ul style="list-style-type: none"> Responsible for water pollution control within the transportation sector

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Table 142 continued

Agency	Function
The State Oceanic Administration	<ul style="list-style-type: none"> Manages sea area use and protection Supervises desalination projects
The Ministry of Health	<ul style="list-style-type: none"> Regulates drinking water standards

PRC = Peoples' Republic of China.

Source: Mott MacDonald.

There are five levels of administration in the PRC: central government, provincial government, prefectural government, county-level government, and townships. In addition, provinces are permitted to pass their own water laws provided they do not conflict with the national law.

Furthermore, since the PRC's fiscal system is decentralized, governments at provincial level and below have their own revenue streams and are mostly responsible for all public expenditure including water supply, environmental protection, and urban maintenance. Provincial governments have a wide range of responsibilities, such as regulating utilities, approving municipal tariffs, monitoring compliance with environmental and other standards, and approving the construction of water and wastewater infrastructure projects.

The overall governance is complicated and inefficient, as there are overlaps in function and authority and competition for limited budgets and power. Coupled with corruption, decision-making processes may be for personal interest and well-meaning policies put in place may not be successfully implemented.

6.7.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Power purchase agreement	✗
Capacity take-or-pay contract	✗
Fuel supply agreement	✗
Transmission and use of system agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

6.7.2 Institutional Capacity for Implementation

6.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There are various strategies that address the water sector, such as:

- No. 1 Document
 - Published yearly to highlight issues of top priority to the government
 - 2016 No. 1 Document focuses on rural issues, and includes water resources management
- Twelfth five-year plan from 2011 to 2015 and Thirteenth five-year plan from 2016 to 2020
 - Water Development Plan 2011–2015 was issued in line with twelfth five-year
 - Stricter punishments under the revised environmental protection law in thirteenth five-year plan
- Water Pollution Prevention and Control Action Plan, also known as Water Ten Plan
 - Launched on 16 April 2015
 - Covers 10 general measures, with 38 sub-measures
 - Total of 238 specific actions to be achieved by 2020

While there are ambitious targets set, there does not seem to be documents outlining the amount of investment required or plans to procure the funding required to achieve these targets.

For PPP projects, there is a China PPP Center established to provide technical and organizational support for the advancement of PPP, and promote the development of PPP in a coordinated manner.

On 13 October 2016, the PRC's MOF published a new group of PPP projects with a total investment value of CNY1.17 trillion.

This is the third batch of such demonstration projects following the introduction of PPP in 2014 with 30 pilot PPP projects totaling CNY178.6 billion. The second batch of 206 PPP projects came out in 2015 valued at CNY658.9 billion.

The 516 newly announced projects cover energy, transport, water conservation, agriculture, education, etc. A total of 64 water and wastewater projects valued at CNY33.4 billion represent 2.8% of the total investment. Among the water and wastewater projects, a total of 40 wastewater projects valued at CNY18.14 billion represent 54% of the total water and wastewater investment and 24 water supply projects valued at CNY15.26 billion represent 46% of the total water and wastewater investment.

A full list of the PPP pipeline projects including energy projects can be downloaded at: <http://www.cpppc.org/zh/zyxmqd/4125.jhtml>

6.7.2.2 Project preparation

Number of PPP projects in preparation
0

6.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	83
Unsolicited bids	0
Competitive bidding process	200
PPP projects currently in procurement	4

6.7.3 Features of Past PPP Projects

6.7.3.1 PPP projects that reached financial close

	Number	Million (\$)
PPP projects that reached financial close	447	11,726

6.7.3.2 Foreign Investor Participation

	Number	Share in Total Number of Water PPP Projects
PPP projects with foreign sponsor participation	123	27.5%

6.7.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	49
Projects on availability/performance payment basis	0

6.7.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	26
Government-paid contracts	309

6.7.3.5 Tariffs

Water prices have historically been low in the PRC, despite legislation to set tariffs at cost-recovery levels. Water supply is a reasonably mature market in the PRC, whereas the wastewater market is largely reliant on government subsidies due to its low price. Contrary to the pricing mechanism in traditionally mature water markets, where the wastewater usually costs more than water supply, the wastewater price is only approximately half of the price for water supply in the PRC.

6.7.3.6 Risk allocation

Typical risk allocation arrangements in water PPP contracts are shown in Table 143.

Table 143: Typical Risk Allocation Arrangements in Water PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk			✓	
Tariff risk		✓		
Government payment risk			✓	
Environmental and social risk			✓	Environment risk of sludge is unclear and weak
Land acquisition risk		✓		
Interface risk			✓	
Handover risk				Should be monitored in the future as most of the water PPP projects haven't entered this stage yet
Political risk		✓		
Foreign Exchange risk			✓	

PPP = public-private partnership.

Source: Mott MacDonald.

6.7.4 Nonrevenue Water and Infiltration

Nonrevenue water (%)	20.54
Nonrevenue water (m³/km/day)	36.96
Infiltration	no data

km = kilometer, m³ = cubic meter.

Source: IBNet. 2012. *Country Profile China—Quick Outlook*. https://database.ib-net.org/country_profile?ctry=83

6.7.5 Local Capabilities

There is strong local presence in the PRC, including local utility operators, contractors, or suppliers.

6.7.6 Project Financing

	Number
PPP projects with foreign lending participation	2
PPP projects that received ECA/IFI support	5

6.7.7 Challenges

Challenges for PPP Progress in the water sector are provided in Table 144.

Table 144: Challenges for PPP Progress in the Water Sector

Challenges	Currently Implemented Tackling Measures
Uncertain government policies due to change of major government leaders	
Major asset replacement phase is quite short	

PPP = public–private partnership.

Source: Mott MacDonald.

6.8 Social Infrastructure

6.8.1 Regulatory Framework

6.8.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Health care infrastructure	70%
Health care services	no data
Education infrastructure	no data
Education services	49%
Government buildings	no data
Prisons and correction centers	no data
Social housing	no data
Sport and leisure facilities	no data

6.8.1.2 Government contracting agency

Various national or local Health and Family Planning Commissions, NDRC as well as local authorities and local DRC.

6.8.1.3 Sector-specific regulations

Can private sector be given rights to provide education services?	✓
Can private sector be given rights to provide health care services?	✓

6.8.1.4 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

6.8.2 Institutional Capacity for Implementation

6.8.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

On 13 October 2016, the PRC's MOF published a new group of PPP projects with a total investment value of CNY1.17 trillion.

This is the third batch of such demonstration projects following the introduction of PPP in 2014 with 30 pilot PPP projects totaling CNY178.6 billion. The second batch of 206 PPP projects came out in 2015, valued at CNY658.9 billion.

Of the 516 newly announced projects, a total of 16 hospital projects have been announced, valued at CNY9.5 billion which represents 0.8% of the total investment. In addition, 16 education projects valued at CNY9.1 billion are also included in the third batch of demonstration projects.

A full list of the PPP pipeline projects including road projects can be downloaded at: <http://www.cpppc.org/zh/zyxmzd/4125.jhtml>

6.8.3 Challenges

Challenges for PPP progress in social infrastructure sector are presented in Table 145.

Table 145: Challenges for PPP Progress in Social Infrastructure Sector

Challenges	Currently Implemented Tackling Measures
Wholly foreign owned hospitals are not included in the national health care system and therefore revenue relies solely on patients' out-of-pocket fees. It is not clear whether PPPs could be included in the national health care system.	
For foreign investors, there are no favorable policies in terms of land, electricity, water, gas, etc.; operating costs much higher than local competitors.	
Financial Viability—Hospital revenue relates to patient use and relies heavily on the national health care system and patient fees, with limited government subsidy. It also incentivizes over-prescription. Except for larger hospitals in the major cities, where demand from more affluent patients is high, operational budgets for hospitals may be insufficient without significantly higher government subsidy or improved health care system coverage.	
Lack of patient referral schemes result in little control over patient attendances at different health care facilities.	

Source: Mott MacDonald.

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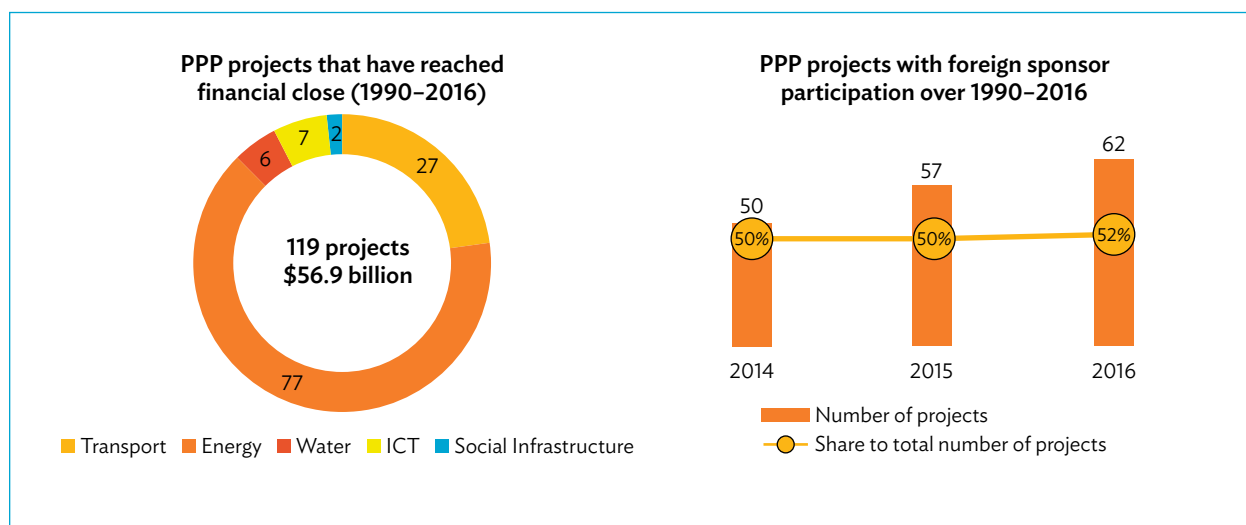
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7. PHILIPPINES

The Philippines was the first country in Asia to institutionalize private sector participation in infrastructure and development projects by enacting the build–operate–transfer (BOT) law in 1990. In 2010, the government announced public–private partnerships (PPPs) as a key component of its overall strategy for inclusive growth and initiated governance reforms to the BOT framework. These reforms included establishing the PPP Governing Board (PPPGGB), a PPP Center, and a project development and monitoring facility to provide financial support for preparing PPP projects. In 2016, the new government included the PPP program in its 10–point economic program highlighting the Philippines’ commitment to facilitating private participation in infrastructure investment.



The PPP Center has proved to work efficiently in facilitating PPP project preparation and development, building capacity of government contracting agencies (GCAs), advocating policy reforms, monitoring implementation of PPP projects, and building up a PPP knowledge system.

The PPP Center, with the Asian Development Bank (ADB) technical assistance financed by the Australian and the Canadian governments, is in operation and project preparation, and bidding is generally carried out using experienced, international transaction advisers from the Project Development and Monitoring Facility.

Key developments over 2014–2016 include:

- Issuance of PPPGB Policy Circular No. 06-2015 on Termination Payment for PPP Projects, which introduced detailed regulation of events that trigger termination and compensation payment, including compensation due to force majeure and private sector default.
- Issuance of PPPGB Policy Circular No. 02-2015 on PPP Pipeline, which aims to institutionalize the criteria and process in the identification, selection, and prioritization of PPP projects using multicriteria analysis.
- Issuance of PPPGB Policy Circular No. 01-2015 updated by 01A-2016 on Guidelines and Procedures for the Appraisal of PPP Projects, which establishes details of the methodology for the required feasibility analyses to be undertaken by GCAs.
- Crafting of amendments to the BOT law through a PPP act, which will further improve the enabling environment for PPPs.
- Approval by the Securities and Exchange Commission (SEC) of the listing of PPP companies in the stock exchange, which will widen the source of equity funding for PPPs.

While much has been achieved in developing the PPP market in the Philippines, there remain challenges. One challenge is the current limit of 40% of foreign ownership in the PPP project company in infrastructure projects where the operation requires a public utility franchise. This may restrict competition and, in some ways, can inhibit Philippine infrastructure development.

The government and the PPP Center are taking steps to address other challenges affecting the pace of PPP project completion, such as coordinating multiple government authorities for decision making, delays in project procurement, changes in project structure and source of funding during the tender process, and engaging local governments to PPPs.

7.1 Country Profile

7.1.1 Regulatory Framework

7.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects that reached financial close under the latest PPP law	101	113	119

The key general PPP regulation in the Philippines is Republic Act No. 6957 (1990) as amended by Republic Act No. 7718 (1994), named Build–Operate–Transfer Law

(thereinafter the BOT Law), supported by revised Implementing Rules and Regulations of Republic Act No. 6957, as amended by Republic Act No. 7718 (thereinafter the IRR).

There is also a number of supporting republic acts, executive orders, and policy circulars to strengthen the policy and institutional environment for PPPs.

7.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in the PPP regulations	9	9	9

The following types of PPP arrangement are legally defined:

- build-operate-transfer (BOT)
- build-transfer-operate (BTO)
- build-transfer
- build-own-operate (BOO)
- build-lease-transfer (BLT)
- contract-add-operate (CAO)
- develop-operate-transfer (DOT)
- rehabilitate-operate-transfer (ROT)
- rehabilitate-own-operate (ROO)

Other contract variations are possible but must be approved by the President.

7.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas ^a	✗	✗	✗
Water and wastewater	✓	✓	✓	Information and communication technology	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social infrastructure	✓	✓	✓

^a Oil and gas is not expressly included in the enumeration in the BOT Law. Nevertheless, the BOT Law provides that other infrastructure and development projects as may be authorized by the appropriate agencies may also be proposed.

The IRR lays out a broad range of eligibility criteria for PPP infrastructure facilities, including the following:

- highways, including expressways, roads, bridges, interchanges, tunnels, and related facilities;
- railways or rail-based projects that may or may not be packaged with commercial development opportunities;
- nonrail-based mass transit facilities, navigable inland waterways, and related facilities;
- port infrastructures such as piers; wharves; quays; storage, handling, and ferry facilities, and related facilities;
- airports, air navigation, and related facilities;
- power generation, transmission, subtransmission, distribution, and related facilities;
- telecommunications, backbone network, terrestrial and satellite facilities, and related service facilities;
- information technology and data base infrastructure, including modernization of information technology, geospatial resource mapping, and cadastral survey for resource accounting and planning;
- irrigation and related facilities;
- water supply, sewerage, drainage, and related facilities;
- education and health infrastructure;
- land reclamation, dredging, and other related development facilities;
- industrial and tourism estates or townships, including ecotourism projects such as terrestrial and coastal/marine nature parks, and related infrastructure facilities and utilities;
- government buildings and housing projects;
- markets, slaughterhouses, and related facilities;
- warehouses and postharvest facilities;
- public fish ports and fishponds, including storage and processing facilities;
- environmental and solid waste management-related facilities such as, but not limited to, collection equipment, composting plants, landfill, and tidal barriers; and
- climate change mitigation and adaptation infrastructure projects and related facilities.

7.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	In case the project requires a public utility franchise, and the project is financed by official development assistance foreign governments or institutions, the share of official development assistance funding shall not exceed 50% of the project cost, and the balance to be provided by the project proponent.		
Project capital investment size	none	none	none

7.1.1.5 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of the project proponent to have:			
Competitive advantage at bid evaluation	✗	✗	✗
Swiss challenge	✓	✓	✓
Compensation of the project development cost	✗	✗	✗
Government support for land acquisition and resettlement cost	✗	✗	✗
Government support in the form of viability gap fund (VGF) and guarantees	✗	✗	✗

Unsolicited proposals are generally accepted, provided certain conditions are met:

- Project involves new concept or technology and/or is not part of the list of priority projects.
- No direct government guarantee, subsidy, or equity is required.
- The implementing authority/local government units (LGUs) have been invited by publication, for three consecutive weeks, in a newspaper of general circulation, comparative or competitive proposals.

Projects included in the government list of priority projects are not eligible for unsolicited bids unless they involve a new concept or technology.

7.1.1.6 State-owned enterprise participation

	2014	2015	2016
Is a state-owned enterprise (SOE) allowed to participate in PPP projects as a counterparty to the government?	✗	✗	✗
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	✗	✗	✗
Cumulative PPP projects with SOE participation (number)	0	0	0
Cumulative PPP projects with SOE participation (share in total number of PPP projects)	0	0	0

Section 2.1 of the IRR defines the role of government-owned and/or -controlled corporations (GOCCs) as the GCA.

7.1.1.7 *Land rights*

	2014	2015	2016
Which of the following is permitted to the private partner:			
Transfer land lease/use/ownership rights to third party	✓	✓	✓
Use leased/owned land as collateral	✓	✓	✓
Mortgage leased/owned land	✓	✓	✓
Is there a legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than the government or the private partner?	✓	✓	✓
Is there a land registry/cadastre with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to the private partner:			
Appraisal of land value	✓	✓	✓
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	x	x	x
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

Republic Act No. 8974 (2000) and No.10752 (2016) facilitate the acquisition of right-of-way, site, or location for national government infrastructure projects. For PPP projects, private sector might be requested to either finance the right-of-way cost, which can be recovered partly or fully by the investor from the tolls, fees, or tariffs to be charged to the users of the completed project; or advance the funds covering the cost of the right-of-way cost, which will be reimbursed later by the implementing agency, with the exception of unsolicited proposal.

According to the 1987 Constitution, private ownership of the land is only allowed for corporations with at least 60% ownership by Filipino citizens and is only applicable for private land. Public land cannot be owned irrespective of company ownership structure and can only be leased from the government. Therefore, indicator regarding private ownership of the land is marked yellow in the table above.

7.1.1.8 *Environmental and social issues*

	2014	2015	2016
Is there a local regulation establishing process for environmental impact assessment (EIA)?	✓	✓	✓
Is there a legal mechanism for the private partner to limit environmental liability for what is outside of its control or caused by third parties?	✓	✓	✓
Is there a local regulation establishing process for social impact assessment?	✓	✓	✓
Is there involuntary land clearance for PPP projects?	✓	✓	✓

The project implementation is subject to the implementing rules and regulations of PD No. 1586, otherwise known as the Philippine Environmental Impact Statement system. PD No. 1586 requires a project proponent to conduct an environmental impact assessment (EIA) to ensure that all possible environmental effects of the project are addressed, in line with the country's overall goal of sustainable development. The Environmental Management Bureau of the Department of Environment and Natural Resources (EMB-DENR) shall conduct a review of the EIA, the environmental risk analysis, and the proposed mitigation measures. The review shall also cover the integration of climate change adaptation measures and disaster risk reduction, if any, as well as a review of the environmental monitoring and management plan for the project. The DENR then issues the environmental clearance certificate, which is necessary to obtain before the commencement of project construction.

The process for social compliance is regulated by a number of regulations among those including the Right-Of-Way Act No. 10752 (2016) and PPPGB Policy Circular No. 10-2016 on public consultations and engagement for PPP projects.

The land can be expropriated. The property owner is given 30 days to decide whether to accept the offer as payment for his property. Upon refusal or failure of the property owner to accept such an offer, expropriation proceedings can be initiated.

7.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads	40%	40%	40%	Power generation	40%	40%	40%	
Railways	40%	40%	40%	Power transmission	40%	40%	40%	
Ports	40%	40%	40%	Power distribution	40%	40%	40%	
Airports	40%	40%	40%	Oil and gas	40%	40%	40%	
Water and wastewater				Municipal solid waste	40%	40%	40%	
Bulk water supply and treatment	40%	40%	40%	Social infrastructure				
Water distribution	40%	40%	40%	Health care infrastructure	40%	40%	40%	
Wastewater treatment	40%	40%	40%	Health care services	40%	40%	40%	
Wastewater collection	40%	40%	40%	Education infrastructure	40%	40%	40%	
Information and communication technology				Education services	0%	0%	0%	
Fixed line infrastructure	40%	40%	40%	Government buildings	no data	no data	no data	

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Table continued

	2014	2015	2016		2014	2015	2016
Fixed line services	40%	40%	40%	Prisons and correction centers	no data	no data	no data
Wireless/mobile infrastructure	40%	40%	40%	Social housing	no data	no data	no data
Wireless/mobile services	40%	40%	40%	Sport and leisure facilities	no data	no data	no data

Is there any restriction for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	yes	yes	yes
Currency conversion	no	no	no

In case an infrastructure facility's operation requires a public utility franchise, the facility operator must be a Filipino, or if a corporation, it must be duly registered with the SEC and owned up to at least 60% by Filipinos. In the case of foreign contractors, Filipino labor shall be employed or hired in the different phases of construction where Filipino skills are available.

	2014	2015	2016
PPP projects with foreign sponsor participation to date (number)	50	57	62
PPP projects with foreign sponsor participation to date (share in total number of PPP projects)	50%	50%	52%

7.1.1.10 Dispute resolution and enforcement mechanism

	2014	2015	2016
Can a foreign law be chosen to govern PPP contracts?	x	x	x
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	✓	✓	✓
Has the country signed New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓

Although the dispute resolution mechanism is transparent, it is still considered as not efficient and time consuming, aside from costly court processes. Typically, the resolution of disputes is left to the discretion of parties, including the use of alternative dispute resolution with agreements citing international arbitration as a mechanism of choice. Executive Order No. 78 of 6 July 2012 mandates alternative dispute resolutions on all PPP contracts.

In the Philippines, the Alternative Dispute Republic Act 9285/2004 provides that international commercial arbitration shall be governed by the UNCITRAL Model Law (Chapter 4, Section 19) and contains provisions on international commercial arbitration (Sections 19 to 31). Domestic arbitration is governed by the Arbitration Law Republic Act 876/1953, and by certain provisions of the UNCITRAL Model Law.

The Philippines ratified the NY Convention with the reservation that it does so on the basis of reciprocity, and will apply the convention to the recognition and enforcement of awards made only in the territory of another contracting state and only to differences arising out of legal relationships, whether contractual or not, which are considered as commercial under the national law of the state making such a declaration.

Neither online alternative dispute resolution nor fast-track arbitration is currently available in the Philippines.

Strictly speaking, there is no consolidated law encompassing all aspects of commercial mediation or conciliation in the Philippines. Commercial mediation in the Philippines generally consists of two kinds: (a) voluntary mediation and (b) compulsory or court-annexed mediation.

7.1.1.11 Lender's security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights?			
Security over the project assets	✓	✓	✓
Security over the land on which they are built (land-use right)	✓	✓	✓
Security over the shares of a PPP project company	✓	✓	✓
Can there be a direct agreement between the government and lenders?	✓	✓	✓
Do lenders get priority in the case of insolvency?	✗	✗	✗
Can lenders be given step-in rights?	✓	✓	✓

Security over the shares of a PPP project company and possibility of a direct agreement between the government and project lenders are not explicitly stated in the regulations; however, it is possible on a contract case-by-case basis.

Domestically owned companies can get security over land on a case by case basis.

7.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to the private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✗	✓	✓
Force majeure	✗	✓	✓
Does the law enable the concept of economic/financial equilibrium?	✓	✓	✓
Does the law enable compensation payment to the private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	✗	✓	✓
Change in law	✓	✓	✓

PPPGB Policy Circular No. 06-2015 on Termination Payment for PPP Projects introduced regulation of events that trigger termination and compensation payment, among these including force majeure and private sector default. Until then, regulations allowed compensation payable to private sector only in case of adverse public sector actions or public sector defaults.

7.1.1.13 Government support

	2014	2015	2016
Is project development fund (PDF) available?	✓	✓	✓
Land acquisition support from the government:			
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on timeframe to complete land acquisition (days)	✗	✗	✗
Is there dedicated agency to streamline land acquisition?	✗	✗	✗
Exemption from/reduction of land-use fees	✗	✗	✗
VGF	✓	✓	✓
Limits to VGF as a percentage of projects capital cost	50%	50%	50%
Government guarantees:^a			
Currency inconvertibility and transfer risk	✗	✗	✗
Foreign exchange risk	✗	✗	✗
War and civil disturbance risk	✗	✗	✗
Breach of contract risk	✓	✓	✓
Regulatory risk	✗	✗	✗
Expropriation risk	✗	✗	✗

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Table continued

	2014	2015	2016
Government payment obligation guarantee	✓	✓	✓
Credit guarantees	✓	✓	✓
Minimum demand/revenue guarantee	✗	✗	✗
Availability-/performance-based payment contracts	✓	✓	✓
Tax subsidies	✓	✓	✓

^a Section 13.3 of the BOT Law IRR explicitly states what type of guarantees could be provided (marked as green in the table). Where regulation is silent on the respective type of guarantee and precedents in practice are unknown, the indicator is marked as red.

Details of available government support for PPP projects in the Philippines are provided in Table 146.

Table 146: Details of Available Government Support for PPP Projects in the Philippines

Government Support Type	Comments
Project development fund	PDMF was established with assistance from development partners, the Australian Agency for International Development and the Asian Development Bank. The fund is managed by the PDMF committee (National Economic and Development Authority, Department of Finance, Department of Budget and Management, and the PPP Center) with an aim to develop a robust pipeline of properly prepared and well-structured PPP projects. It can be tapped to finance preinvestment studies, to prepare tender documents and draft contracts, bidding processes, and contract negotiations to bid award stage as well as to ensure effective monitoring of project implementation. External advisers from a PDMF panel of prequalified consulting firms may assist in the structuring of PPP projects, conducting business case or prefeasibility studies or feasibility studies for PPPs, and preparing detailed engineering. As a revolving fund, reimbursement of the PDMF support is a condition precedent for contract award to the winning project proponent.
Land acquisition and resettlement	Support for land acquisition and resettlement cost could be provided by the implementing agency/local government unit on a case-by-case basis only for solicited projects.
VGF	Government can provide VGF through the SSF. Under the SSF, the government provides a lump sum appropriation in the annual budgets of implementing agencies engaged in PPPs to fund the government's share for PPP project components. The budget will be used for right-of-way acquisition, resettlement, government's counterpart fund for the construction, and other related costs. In addition, in 2015, the government-institutionalized provision of VGF through PPP Governing Board Policy Circular 04-2015 on VGF.
Government guarantees	May be provided in the form of credit enhancement, covering contingent liabilities in particular government contracting agencies obligations under PPP contracts. Few past Investment Priorities Plan contracts also received tariff rate guarantees.

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Table 146 continued

Government Support Type	Comments
Availability- / performance-based payment contracts	Availability- and performance-based payment schemes are allowed under build-transfer-operate arrangement, and have been implemented in practice in Investment Priorities Plan projects, bulk water supply, and social infrastructure projects.
Tax subsidies	There are investment incentives as established under Omnibus Investment Code of 1987, subject to the compliance of the project with the criteria, as may be set by the Board of Investment. Renewable energy projects receive special incentives under Republic Act No. 9513, otherwise known as the “Renewable Energy Act of 2008,” and Republic Act No. 7156, otherwise known as the “Mini-Hydroelectric Power Incentives Act.”

PDMF = Project Development and Monitoring Facility, PPP = public-private partnership, SSF = strategic support fund, VGF = viability gap funding.

Source: Mott MacDonald.

Cumulative PPP projects that received government support	2014	2015	2016
VGF	2	2	2
Government guarantees	15	16	16
Availability-/performance-based payment basis	66	76	80

Exhaustive data regarding PPP projects that received government support in the form of land acquisition and VGF have not been available; however, it is known that the Mactan-Cebu Airport PPP project received land acquisition support, while Tarlac-La Union Toll Expressway and Daang Hari-SLEX Link Road projects received VGF. As for projects that received government guarantees, these are all energy generation projects with the exception of MRT Line 3 project.

Energy generation projects constitute 95% of projects on availability-/performance-based payment basis, with the remaining being in rail, water, and social infrastructure sectors.

7.1.1.14 Standard contracts

What standardized contracts are available and used in the market?	2014	2015	2016
PPP/concession agreement	x	x	x
Power purchase agreement	x	x	x
Capacity take-or-pay contract	x	x	x
Fuel supply agreement	x	x	x
Transmission and use of system agreement	x	x	x
Performance-based operation and maintenance (O&M) contract	x	x	x
Engineering procurement and construction (EPC) contract	x	x	x

It is understood that the PPP Center is currently developing a standard PPP concession agreement.

7.1.2 Institutional Capacity for Implementation

7.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP unit)?	✓	✓	✓
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, running PDF)	✓	✓	✓
Appraisal of PPP project feasibility studies	✓	✓	✓
Approval of PPP projects	✓	✓	✓
Procurement	✗	✗	✗
Managing, monitoring, and enforcing ongoing PPP contracts	✓	✓	✓

PPP promoting institutions in the Philippines are listed in Table 147.

Table 147: PPP-Promoting Institutions in the Philippines

Institution	Role in Promoting PPP
PPP Governing Board	Overall policy-making body for all PPP-related matters, including the Project Development and Monitoring Facility. It is responsible for setting the strategic direction of the PPP program and creating an enabling policy and institutional environment for PPPs
PPP Center under National Economic and Development Authority	Acts as a secretariat of the PPP Governing Board with the functions: <ul style="list-style-type: none"> conduct project facilitation and assistance to the national implementing agencies, including government corporations, and LGUs in addressing impediments or bottlenecks in the implementation of PPP programs and projects; provide advisory services, technical assistance, trainings, and capacity development to agencies/LGUs in PPP project preparation and development; recommend plans, policies, and implementation guidelines related to PPPs in consultation with appropriate oversight committees, implementing agencies, LGUs, and private sectors; manage and administer a revolving fund to be known as the Project Development and Monitoring Facility for the preparation of business case, prefeasibility and feasibility studies, and tender documents of PPP programs and projects;

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Table 147 continued

Institution	Role in Promoting PPP
PPP Center under National Economic and Development Authority	<ul style="list-style-type: none"> monitor and facilitate the implementation of the priority PPP programs and projects of the agencies/LGUs, which shall be formulated by respective agencies/LGUs in coordination with the National Economic and Development Authority secretariat; establish and manage a central database system of PPP program and projects; recommend improvements to timelines in processing PPP programs and project proposals, and monitor compliance of all agencies/LGUs; and prepare reports on the implementation of the PPP programs and projects of the government for submission to the President at the end of each year

LGU = local government unit, PPP = public-private partnership.

Source: Public-Private Partnership Center. <http://ppp.gov.ph/>

7.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✓	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	✓	✓	✓
Is there screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	✗	✓	✓

The PPP Center manages and updates a PPP project pipeline, and it is available online.

Implementing agencies and LGUs have to prepare infrastructure or development programs to identify specific priority projects that may be implemented as a PPP, and to submit them for approval to the National Economic and Development Authority (NEDA) Board or Investment Coordination Committee (ICC). The list of priority projects shall be consistent with the Philippines' Development Plan and Provincial Development and Physical Framework Plan.

In 2015, the PPPGB issued Policy Circular 02-2015 for implementing agencies to use multicriteria analysis to identify and prioritize PPP projects from the list of priority projects.

7.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages	2	2	2
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓
Financial feasibility	✓	✓	✓

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Table continued

	2014	2015	2016
Legal feasibility	✓	✓	✓
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✓	✓	✓
Fiscal affordability assessment	✓	✓	✓
PPP structuring and risk allocation	✓	✓	✓
Initial market testing	✓	✓	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	1/2 ^a	1/2	1/2
Is the approval from the Ministry of Finance or equivalent required before commencement of procurement?	✓	✓	✓
Is it a normal practice to appoint independent, international, and qualified advisers to assist the government with project preparation?	✓	✓	✓

^a One approval for national projects costing up to P300 million. Two approvals for national projects costing more than P300 million, one approval for local projects.

Over 2015–2016, the PPPGB issued a number of policy circulars on PPP project preparation and appraisal with the aim to provide greater details and clarity on the required feasibility analyses, which are aimed at all GCAs. Until then only internal NEDA guidelines existed for projects prepared by the PPP Center.

The PPP Center through the Project Development and Monitoring Facility manages a panel of independent international advisers that assist in the structuring of PPP projects, conducting business case or prefeasibility studies or feasibility studies for PPPs.

National PPP projects with the total value greater than P300 million (around \$6 million) must be approved by the NEDA Board in addition to approval of the ICC. On average, the process of obtaining necessary approvals takes 182 calendar days.²⁷

7.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	✓	✓	✓

The Generic Preferred Risk Allocation Matrix was adopted by the ICC–Cabinet Committee on 7 December 2010 and published and updated by the PPP Center. It is intended to be recommendatory and envisioned to serve as reference of the ICC and the proponent agencies in the ICC review of PPP projects.

²⁷ World Bank. 2017. *Benchmarking PPP Procurement in Philippines*. https://library.pppknowledgehub.org/documents/4062/download?ref_site=kl

7.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	x	x	x
In case of competitive tender:			
Prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expression of interest (days)	15	15	15
Minimum time allowed to submit a bid:			
Domestic bidding (days)	60	60	60
International bidding (days)	60	60	60
Is negotiation available?	x	x	x
Is there a process allowing unsuccessful bidders to challenge the award/make complain?	✓	✓	✓
If yes, maximum time allowed to submit a complaint starting from announcement of a preferred bidder	15	15	15
Maximum time limit from bid closing date till selection of a preferred bidder	146	146	146
Maximum time limit from selection of a preferred bidder till signing the contract	37	37	37
Transparency: Which of the following is published?			
Procurement notice	✓	✓	✓
Q&A during bid clarification stage	✓	✓	✓
Evaluation results to bidders	✓	✓	✓
Award notice	✓	✓	✓
Contract	x	x	x
Confidentiality	✓	✓	✓

The features of the procurement process are presented in Table 148.

Table 148: PPP-Procurement Process in the Philippines

Theme	Description
Responsible agency	<p>Host agency or LGU refers to any department, bureau, office, commission, authority, or agency of the national government, including government-owned and/or -controlled corporations, government financial institutions, and state universities and colleges authorized by law or their respective charters to contract for or undertake infrastructure or development projects.</p> <p>Following project and contract approval, the host agency/LGU must set up a prequalification, bids, and awards committee consisting of at least a third ranking regular official of the host agency as chairperson, a legal officer, a technical officer knowledgeable of the technical aspects of the project, a finance officer, a management/operation officer, two representatives from the private sector (one from recognized contractor associations, and the other from either facility users or recognized accounting associations), a representative from the Commission on Audit, a PPP Center for national projects representative, a local government office representative (LGU projects only). The committee shall be responsible for all aspects of the prebidding and bidding processes.</p>
Project Announcement	<p>Announcement of a project's invitation to tender or request for proposal is organized by the responsible agency—both on its website and in local newspapers. For project values of at least P500 million, publication on at least one international newspaper is required. After obtaining approval for the project, project announcement must be made once every week for three consecutive weeks, in at least two newspapers of general circulation, and in at least one local newspaper of general circulation in the region, province, city, or municipality in which the project is to be implemented.</p>
Prequalification invitation documentation	<p>Guiding information for the investors</p> <ul style="list-style-type: none"> • General requirements for the investors • Requirements on investors' qualifications and experience regarding project implementation and financial-commercial capability. <p>Note: In the exigence of service, the host agency may opt to do a simultaneous qualification instead of a prequalification of proponents. In this case, the bidders shall be asked to submit their proposal in three envelopes: the qualification documents corresponding to the requirements, the technical proposal, and the financial proposal. The period for the preparation of the qualification documents shall be subsumed under the time allotted for bid preparation.</p>
Prequalification evaluation criteria	<p>Legal requirement (local/foreign-owned entity), experience, or track record in terms of the firm's experience, key personnel experience, and financial capability in terms of debt and equity.</p>
Prequalification evaluation method	<p>The prequalification evaluation method is not defined.</p>
Shortlist	<p>Shortlist is announced.</p> <p>In case only one investor registers and satisfies the requirements of the invitation for prequalification or only one investor passes the prequalification, direct negotiation is possible.</p>

continued on next page

Table 148 continued

Theme	Description
Request for proposal documentation	<ul style="list-style-type: none"> • Instructions to bidders, including <ul style="list-style-type: none"> – general project description and objectives, – contractual arrangements, – bid submission procedures and requirements, – investment incentives and government undertakings, – bid security and bid security validity period, – milestones, – evaluation methods and criteria, – minimum equity amount, – formula and appropriate indices to be used in the adjustments of tolls/fees/rentals/charges, when applicable – requirements and timelines/milestones of concerned agencies in granting of franchise, if applicable – requirements of concerned regulatory bodies, – current rules and regulations of the Bangko Sentral ng Pilipnas (BSP) – revenue sharing arrangements, – expected commissioning date, and – national and ownership requirements • Minimum design, performance specifications, and economic parameters • Draft contract • Bid forms • Forms of bid and performance securities • Other documents as may be deemed necessary by the agency/LGU concerned
Methods of interactions with the bidders	<ul style="list-style-type: none"> • Extension and award notices in writing • Bid conferences
Evaluation of technical proposals	<ul style="list-style-type: none"> • Technical soundness (preliminary engineering design)—The basic engineering design of the project should conform to the minimum design and performance standards and specifications set by the agency/LGU concerned as prescribed in the bidding documents. The engineering surveys, plans, and estimates should be undertaken within $\pm 20\%$ of the final quantities. The construction methods and schedules should also be presented and shown to be feasible or “doable.” • Operational feasibility—The proposed organization, methods, and procedures for operating and maintaining the completed facility must be well defined, should conform to the prescribed performance standards, and should be shown to be workable. Where feasible, it should provide for the transfer of technology used in every phase of the project. • Environmental standards—The proposed design and the technology of the project to be used must be in accordance with the environmental standards set forth by the Department of Environment and Natural Resources, as indicated in the bid documents. Any adverse effects on the environment as a consequence of the project as proposed by the prospective project proponent must be properly identified, including the corresponding corrective/mitigating measures to be adopted. • Project financing—The proposed financing plan should positively show that the same could adequately meet the construction cost as well as the operating and maintenance costs requirements of the project. The agency/LGU concerned shall assess the financing proposals of the bidders if the same matches and adequately meets the cost requirements of the project under bidding.

continued on next page

Table 148 continued

Theme	Description
Evaluation of financial proposals	<p>Evaluation of financial proposals is carried out only for investors who satisfy the above technical requirements. Evaluation can be done based on any one or more of the following methods:</p> <ul style="list-style-type: none"> • lowest proposed toll, fee, rental, or charge at the start of project operation, if a pre-agreed parametric tariff adjustment formula is prescribed in the bid document, • lowest present value of the government subsidy to be provided for the period covered by the contract, • highest present value of proposed payments to the government, such as concession fees, lease/rental payments, fixed/guaranteed payments, and/or variable payments/percentage shares of revenue for the period covered by the contract; or • any other appropriate financial bid parameter as may be approved by the approving body. <p>In the case of the build-and-transfer and build-lease-and-transfer schemes, a Filipino project proponent who submits an equally advantageous bid with exactly the same price and technical specifications as that of a foreign project proponent shall be given preference.</p>
Investor Selection	
Contract negotiation	<p>Negotiated contracts are allowed under direct negotiation when there is only one complying bidder or unsolicited proposals.</p> <p>For negotiated projects for solicited proposals, a reasonable rate of return shall be determined prior to negotiation.</p> <p>In so far as applicable, the same rules provided for the evaluation of the technical and financial aspects of bid proposals shall be applied in the evaluation of negotiated contracts.</p>
Contract Signing	<p>Upon the head of agency/LGU's approval of the recommendation to award to the winning bidder, and within 5 days of the receipt by the winning bidder of the notice from the agency/LGU that all conditions stated in the Notice of Award have been complied, the winning bidder and the head of agency/LGU shall execute and sign the contract for the project.</p>

LGU = local government unit, PPP = public-private partnership.

Source: Government of the Republic of the Philippines. 2012. The Philippine Amended BOT Law R.A.7718 and Its Revised Implementing Rules and Regulations (IRR). Manila.

7.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	101	113	119
PPP projects currently in preparation	n/a	n/a	17
PPP projects currently in procurement	n/a	n/a	25

Note: It should be noted that the research relied primarily on information reported in public sources that may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

7.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	20	24	25
Cumulative PPP projects that received export credit agency (ECA)/ international financing institution (IFI) financing	18	19	22

In 2016, ADB provided support for the issuance of the Philippines' first peso-denominated green project bond for the refinancing of the Tiwi and Makiling-Banahaw (Tiwi-MakBan) geothermal facilities.

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Max tenor for local currency loan (years)	10+	10+	10+
Availability of interest rate swaps	✓	✓	✓
Forward duration of interest rate swap (years)	no data	no data	20
Availability of currency swaps	✓	✓	✓
Forward duration of currency rate swap (years)	no data	no data	5-9
Availability of project bond financing	✓	✓	✓
Availability of project financing from local public sector banks	✓	✓	✓
Max tenor for loan from local public sector banks (years)	10+	10+	10+

Indicative project finance hard currency loan terms in the Philippines are shown in Table 149.

Table 149: Indicative Project Finance Hard Currency Loan Terms in the Philippines

Term	Value
Maximum tenor	15–20 years for a well-structured project with strong support
Upfront arrangement fee	100–300 bps
Floor rate (reference rate)	LIBOR
Margin rate	100–500 bps
Political risk cover premium	no data
Interest rate swap fee	no data
Currency conversion swap fee	no data

bps = basis points.

Note: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Sources: HSBC Report 2017; consultations with banks.

Indicative project finance local currency loan terms are shown in Table 150.

Table 150: Indicative Project Finance Local Currency Loan Terms in the Philippines

Term	Value
Maximum tenor	> 10 years
Upfront arrangement fee	no data
Floor rate (reference rate)	PHIBOR
Margin rate	no data
Political risk cover premium	no data
Interest rate swap fee	25 bps
Currency conversion swap fee	50–75 bps

Note: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Sources: HSBC Report 2017. consultations with banks.

It is noteworthy that the SEC approved the listing of PPP projects (Philippine Stock Exchange) in November 2016.

In late 2016, the Bangko Sentral ng Pilipinas announced an end to the temporary single borrowing limit relief that had been available to companies involved in PPP projects. This relief was originally established in 2010 to facilitate lending on PPP projects. The termination of this relief will lower the single borrowing limit available for a particular company in PPP projects, which is likely to restrict the extent to which the PPP market can be dominated by a few companies and will provide opportunities for a wider field of companies, including foreign companies, to engage in PPPs in the Philippines.

7.2 Roads

7.2.1 Regulatory Framework

7.2.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	40%
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7.2.1.2 *Government contracting agency*

Most road projects are implemented by the Department of Public Works and Highway (DPWH). However, the Toll Regulatory Board (TRB) was the implementing agency for the Metro Manila Skyway Stage 3 project.

7.2.1.3 Sector-specific regulations

Does the private partner have legal right to charge users?	✓
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7.2.1.4 Sector regulators

The TRB is the main regulatory body for road sector PPP projects, and the DPWH sets up technical standards.

7.2.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

Although the market views that no standardized PPP contracts used in the road sector, guidance on PPP contract design is included in the National Government Agency Public Private Partnership Manual (Public–Private Partnership Center 2014).

7.2.2 Institutional Capacity for Implementation

7.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The DPWH developed a master plan 2020 and 2030 for high-standard highways and expressways to be developed as PPP. The PPP Center tracks progress of a pipeline of PPP projects in the Philippines, which is updated regularly and publicized on the PPP Center website. PPP pipeline of road projects is listed in Table 151.

Table 151: PPP Pipeline of Road Projects

No	Project Name	Length (km)	Value (\$ million)
1	NLEX–SLEX Connector Road PPP	8	467
2	Plaridel Bypass Toll Road Expansion PPP	24.6	200
3	Central Luzon Link Expressway Phase 2 PPP	35.7	304
4	Cavite–Laguna Expressway PPP	44.6	1,184
5	Laguna Lakeshore Expressway Diike PPP	47	2,660
6	Manila Bay Integrated Flood Control, Coastal Defence and Expressway Project	no data	TBD
7	Camarines Sur Expressway Project	no data	TBD
8	NLEX East Expressway	91	TBD
9	Manila–Taguig Expressway Project	17.8	815
10	Operation, Maintenance and Improvement of Kennon Road and Marcos Highway	80	TBD
11	Canlubang–Bay Bypass Road Project	22.1	722
12	Manila–Quezon Expressway	102.3	TBD
13	Delpa–Pasig–Marikina Expressway	26.8	TBD
14	Tarlac–la Union Toll Expressway Extension	54	TBD
15	Davao–Digos Expressway	60	TBD
16	Davao City Expressway	23.3	481
17	Batangas City–Bauan Toll Road Project	10	TBD
18	Quezon–Bicol Expressway	80	TBD
19	Davao–Samal Bridge	n/a	120
20	Mindoro Batangas Super (Floating) Bridge	15	1,129

km = kilometer, PPP = public–private partnership, TBD = to be determined.

Sources: IJ Global. <http://www.ijglobal.com> (accessed 13 February 2017); PPP Center. 2017. Pipeline of Projects. http://ppp.gov.ph/?page_id=26075; Department of Public Works and Highways (DPWH). <http://www.dpwh.gov.ph/dpwh/> (accessed 13 February 2017); Infradeals Database. <http://www.infradeals.com/infradeals/global-transactions-database> (accessed 15 February 2017)

7.2.2.2 Project preparation

Number of PPP projects in preparation	8
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Currently eight projects are under various levels of preparation:

- Plaridel Bypass Toll Road Expansion PPP
- Central Luzon Link Expressway Phase 2 PPP
- Laguna Lakeshore Expressway Diike PPP
- Manila Bay Integrated Flood Control, Coastal Defence and Expressway Project
- Camarines Sur Expressway Project
- NLEX East Expressway

- Manila-Taguig Expressway Project
- Operation, Maintenance and Improvement of Kennon Road and Marcos Highway

7.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	3
Unsolicited bids	2
Competitive bidding process	3
PPP projects currently in procurement	0

7.2.3 Features of Past PPP Projects

7.2.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	11	2,927

As of February 2017, two more road PPP projects have been awarded in 2015–2016 (NLEX–SLEX Connector Road and Cavite–Laguna Expressway). However, financial close has not been achieved yet.

7.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	6	60%

Earlier PPP projects had more foreign sponsor participation. In recent years, foreign sponsor participation has noticeably reduced.

7.2.3.3 Government support

PPP projects received government support:	Number
VGF	2
Government guarantees:	0
Minimum traffic/revenue guarantees	0
Projects on availability-/performance-based payment basis	0

7.2.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	10
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✓
Advertising	no data

7.2.3.5 Tariffs

The TRB sets the rates of tolls that will be charged on national highways, roads, and bridges. LGUs can set toll fees or charges to any regional public road, bridge, pier, waterway, ferry, or telecommunication system that the LGU has funded and constructed.

For BOT projects, contractors may charge and collect reasonable toll fees and charges for the use of the project facility not exceeding those proposed in the bid and incorporated in the contract. These fees and charges are to be approved by LGUs. The LGU is responsible for the adjustment of the fees and charges over time that responds to the macroeconomic variables.²⁸

However, evidence was found of an apparent uncertainty in how the regulatory boards (TRB and LGU) approve toll rate increases, which has caused delays to the approval of toll adjustments.²⁹

Examples of current toll rates in the Philippines are shown in Table 152.

Table 152: Examples of Current Toll Rates in the Philippines

Road	Toll Type	Class 1: Cars, Jeepneys, Pick-ups, Vans	Class 2: Light Trucks, Tourist and School Buses, Class 1 > 7 feet in Height	Class 3: Heavy and Multi-axled Trucks, Trailers
NAIAX Expressway	Open (peso per trip)	45	90	134
STAR Tollway	Close (peso per km)	1–4	1.9–2.1	1.24–3.1

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²⁸ Asian Development Bank. 2016. *Philippines: Public-Private Partnerships by Local Government Units*. <https://www.adb.org/sites/default/files/publication/213606/philippines-ppp-lgus.pdf>

²⁹ R. Francisco. *Philippine Reforms Spark Regulatory Tussles Over Infrastructure*. <http://www.reuters.com/article/philippines-infrastructure-idUSL3N10A18F20150730>

Table 152 continued

Road	Toll Type	Class 1: Cars, Jeepneys, Pick-ups, Vans	Class 2: Light Trucks, Tourist and School Buses, Class 1 > 7 feet in Height	Class 3: Heavy and Multi-axled Trucks, Trailers
SLEX, Skyway, MCX Expressway	Close (peso per km)	7–12.6	14–25.4	21–38.2
NLEX, SCTEX Expressway	Close (peso per km)	2.4–3.8	6.0–8.8	7.16–11.3

km = kilometer, MCX = Muntinlupa-Cavite Expressway, NLEX = North Luzon Expressway, SCTEX = Subic-Clark-Tarlac Expressway, SLEX = South Luzon Expressway.

Note: Rates are effective from 2016.

Source: Department of Transportation Toll Regulatory Board. <http://trb.gov.ph> (accessed 25 February 2017).

7.2.3.6 Risk allocation

Typical risk allocation arrangements in road PPP contracts are shown in Table 153.

Table 153: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Collection risk	✓			
Competition risk	✓			
Government payment risk				There are no road performance paid contracts
Environmental and social risk	✓ (unsolicited)		✓ (solicited)	
Land acquisition risk	✓ (unsolicited)	✓ (solicited)		
Permits			✓	
Geotechnical risk	✓			
Brownfield risk: inventories studies, property boundaries, project scope			✓	
Political risk			✓	
Foreign exchange risk	✓			
Construction risk	✓			

PPP = public-private partnership.

Source: Mott MacDonald.

7.2.4 Local Capabilities

Developing and operation of PPP road projects in the Philippines is dominated by few conglomerates. Typical firms are listed below.

Metro Pacific Investment Corporation is one of the largest players in the Philippine PPP road sector. It is one of the largest infrastructure companies in the Philippines with investments in toll roads, rail water utilities, power distribution and generation, and hospitals. Metro Pacific Investment Corporation's subsidiaries operate three toll roads in Luzon and have also won two unsolicited projects under the previous government.³⁰

San Miguel Corporation is another big player in the Philippine PPP road sector. The company subsidiaries currently sponsor the South Luzon Expressway; Skyway Stage 1, 2, and 3; Southern Tagalog Arterial Road; Tarlac–Pangasinan–La Union Expressway; and Ninoy Aquino International Airport Expressway.³¹

Ayala Corporation is the concessionaire for the Daang Hari–SLEX Link Road PPP, and typically bids for the road projects.

7.2.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI support	2

The North Luzon Expressway project received loans from ADB and the International Finance Corporation and was refinanced in 2006 with the Mizuho Corporate Bank acting as the mandated lead arranger. The South Luzon Tollway project also received loans from the International Finance Corporation.

7.2.6 Challenges

The Laguna Lakeshore Expressway Dike PPP project, one of the largest PPP deals administered by the DPWH, was declared a failed bid in March 2016. Failure to procure was due to all three selected bidders deciding to not submit proposals. Reasons stated by the selected bidders included key risks such as road connectivity issues not being resolved, challenging government's initial cost estimates given the country's largest and most complex PPP to date. The project is currently undergoing further conceptualization and development.

Challenges for PPP progress in the road sector are provided in Table 154.

³⁰ M. Jamwal. 2016. Metro Pacific Moves Forward with Expansion Plans. *Infra-Asia*. <https://www.infra-asia.com/.../metro-pacific-moves-forward-with-expansion-plans.shtml>

³¹ San Miguel Corporation. <http://www.sanmiguel.com.ph/article/infrastructure>

Table 154: Challenges for PPP Progress in the Road Sector

Challenges	Currently Implemented Tackling Measures
Foreign investment and ownership is currently limited to 40% of the venture. This limitation is considered to hinder the competition and inhibits Philippine infrastructure developments.	Foreign investment negative list is currently under review and is due by May 2017.
Ambiguous rules or application of toll approval procedures by the national and local regulators.	The issue appears to be recognized by the PPP Center. Some solutions might have to be project specific. However, a greater clarity of rules and timelines for toll adjustments would be welcomed by the market. In some markets, there is a cut-off period for regulators to make a decision with a formula applying should no decision be made.
Investors typically perceive high level of government payment risk and tariff adjustment risk.	Local firms that have diversified business may look to attenuate these risks by relying on third-party revenues, such as real-estate developments.
Land acquisition delays. Often, the PPP was awarded before right-of-way is procured.	
Frequent delays during the tender process. Lack of adequate time at the outset to prepare bids. Change of the project structure by the government during the tender process. Limited opportunity to negotiate a contract and key risk allocation. Increased cost of bid preparation for the investors due to government often decides to re-tender push away some investors from participating in the bidding.	

PPP = public-private partnership.

Source: Mott MacDonald.

7.3 Railways

7.3.1 Regulatory Framework

7.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	40%
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7.3.1.2 Government contracting agency

Various government agencies and SOEs could act as GCAs, including the Light Rail Transit Authority, Department of Transport and Communications (DOTC), Department of Transportation (DOTR), and Philippine National Railways.

7.3.1.3 Sector-specific regulations

Does the private partner have legal right to charge users?	✓
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The government is currently implementing decommissioning of the old magnetic-based ticketing system and replacing the same with contactless-based smart card technology on operational LRT Line 1 and 2 and MRT Line 3, with the introduction of a centralized back office that will perform apportionment of revenues to the operators.

7.3.1.4 Sector regulators

The Land Transportation Franchising and Regulatory Board (under the DOTC) sets routes, regulates fares, and oversees licensing requirements for land-based transportation services.

7.3.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	no data
EPC contract	✗

7.3.2 Institutional Capacity for Implementation

7.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The PPP Center tracks progress of a pipeline of PPP projects in the Philippines, which is updated regularly and publicized on the PPP Center website.

PPP pipeline of railways projects is provided in Table 155.

Table 155: PPP Pipeline of Railways Projects

No	Project Name	Length (km)	Value (\$ million)	Lead Agency
1	North-South Railway	653	4,301	DOTR and PNR
2	Manila Light Rail Transit System Line 2 (LRT-2) Masinag Extension and O&M of all LRT-2	–	–	DOTR and LRTA
3	Manila Light Rail Transit System Line 6 (LRT-6)	19	1,307	DOTR
4	Manila Light Rail Transit System Line 4 (LRT-4)	11	908	DOTC
5	Manila-East Rail Transit System Project	no data	TBD	DOTC
6	East-West Rail Project	9.4	TBD	PNR
7	Mindanao Railway	2000	2,540	Government of the Philippines
9	Integrated Transport System Project North Terminal	n/a	TBD	DOTC

DOTC = Department of Transport and Communications, DOTR = Department of Transportation, LRTA = Light Rail Transit Authority, PNR = Philippine National Railways, PPP = public-private partnership, TBD = to be decided.

Sources: IJ Global. <http://www.ijglobal.com> (accessed 17 February 2017); PPP Center. 2017. *Pipeline of Projects*. http://ppp.gov.ph/?page_id=26075 (accessed 17 February 2017)

7.3.2.2 Project preparation

Number of PPP projects in preparation	4
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Currently four projects (Nos. 1, 4, 5, and 6 in the table above) are under various stages of preparatory activities.

7.3.2.3 Procurement

PPP projects currently in procurement	2
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Manila LRT-2 and LRT-6 are currently in procurement.

7.3.3 Features of Past PPP Projects

7.3.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	3	3,792

To date, three rail projects reached financial close: MRT Line 3 in 2009 and LRT-1 Extension and MRT Line 7 in 2016.

7.3.3.2 Foreign investor participation

	Number	Share in Total Number of Rail PPP Projects
PPP projects with foreign sponsor participation	1	33%

Typically foreign sponsors' role is limited to providing equity financing and constitutes a minority stake in the project company.

7.3.3.3 Government support

PPP projects received government support:	Number
VGF	no data
Government guarantees	1
Projects on availability-/performance-based payment basis	1

For the MRT Line 3 project, private investors were explicitly guaranteed a 15% return on equity, and the government pays the annual subsidy during the operation of the concession.

7.3.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	2
Government-paid contracts	1
What additional revenue streams are allowed?	
Land-use development rights	✓
Advertising	no data

7.3.3.5 Tariffs

Currently operational MRT Line 3 employs distance-based fare structure, with fares ranging from ₱13 to ₱28 pesos (\$0.26–\$0.56), depending on the number of stations traveled. It is understood that tariffs are not being revised and escalated on a regular basis.

7.3.3.6 Risk allocation

Typical risk allocation arrangements in railways PPP contracts are provided in Table 156.

Table 156: Typical Risk Allocation Arrangements in Railways PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓	✓		For MRT-3 Line, the government assumed the risk; however, preferred risk allocation is private. So, for LRT-1 extension the private party bears the risk.
Revenue collection risk	✓			
Tariff risk	✓			
Competition risk	✓			
Government payment risk	✓			
Environmental and social risk			✓	
Land acquisition risk		✓		
Utilities relocation risk			✓	
Interface with other transport/operators			✓	
Permits			✓	
Geotechnical risk	✓			
Regulatory risk			✓	
Political risk			✓	
Foreign exchange risk		✓		For MRT-3 Line government assumed the risk, however preferred risk allocation is private.
Early termination risk			✓	

PPP = public-private partnership.

Sources: Mott MacDonald; Public-Private Partnership Center. 2016. *Generic Preferred Risks Allocation Matrix (as of 02 August 2016)*. https://ppp.gov.ph/wp-content/uploads/2017/02/GPRAM_2Aug2016.pdf

7.3.4 Local Capabilities

Similar to the road sector, development of rail PPP projects in the Philippines is dominated by few big conglomerates, including Ayala Corporation, Metro Pacific, and San Miguel Corporations.

7.3.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI financing	2

Construction of two of the three rail PPP projects has been funded by government-backed development agencies, such as Japan International Cooperation Agency and Czech Import Export Bank.

7.3.6 Challenges

For the Manila–Makati–Pasay–Paranaque Mass Transit System PPP project, the government appointed advisers in 2013, but eventually the project got mothballed. Similarly, the government intended to tender operation and maintenance of Manila LRT Line 1 and MRT Line 3, but the tender got suspended.

San Miguel secured the mandated for LRT-7, which delayed initially due to land acquisition issues, then as project prolongation had extended beyond prescribed deadlines, the project had to be taken back through process for government approvals. San Miguel subsequently has sought to restructure its consortium and financing. Although it is not considered a failure, but indicates difficulties in rail PPP development:

LRT-6 projects did not attract sufficient market interest due to project feasibility challenges. Feasibility and alignment studies are currently being revisited.

Challenges for PPP progress in the rail sector are provided in Table 157.

Table 157: Challenges for PPP Progress in the Rail Sector

Challenges	Currently Implemented Tackling Measures
Foreign investment and ownership is currently limited to 40% of the venture. This limitation is considered to hinder the competition and inhibits sector development.	Foreign investment negative list is currently under review and is due by May 2017.
Frequent delays during the tender process. Lack of adequate time at the outset to prepare bids. Change of the project structure by the government during the tender process. Limited opportunity to negotiate a contract and key risk allocation. Increased cost of bid preparation for the investors due to government often decides to re-tender push away some investors from participating in bidding.	

PPP = public–private partnership.

Source: Mott MacDonald.

7.4 Ports

7.4.1 Regulatory Framework

7.4.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	40%
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7.4.1.2 Government contracting agency

The state agency DOTC and the SOE Philippines Port Authority (PPA) are the key GCAs.

7.4.1.3 Sector-specific regulations

It is noteworthy that the Philippines has a cabotage policy where Republic Act 9295 (Domestic Shipping Development Act of 2004) restricts foreign-owned vessels to transport goods or passengers. Foreign vessels can apply for a special permit to transport passengers or cargo within the Philippine territorial waters where no domestic vessel is available or suitable to provide the needed shipping service.

7.4.1.4 Sector regulators

The PPA, a GOCC, has both development and regulatory powers. The PPA sets port charges and cargo-handling rates and awards contracts to private terminal operators. Executive Order No. 159 of 1987 granted the PPA financial autonomy.

The PPA also regulates private ports in the form of issuance of permits to construct and operate ports, approval of increases in cargo-handling rates, and collecting shares from port dues (50%). Six independent port authorities operate outside the control of the PPA. The independent port authorities can set their own rates for port charges, but normally follow the lead of the PPA.

The Maritime Industry Authority, attached to the DOTC, was created in 1974. The government agency regulates domestic and overseas shipping, shipbuilding, ship repair, and the maritime workforce. The Maritime Industry Authority is not involved in ship operating activities.

Details of port sector regulatory agencies in the Philippines are shown in Table 158.

Table 158: Port Sector Regulatory Agencies in the Philippines

Agency	Function
Maritime Industry Authority	<ul style="list-style-type: none"> Develop and formulate plans, policies, programs, projects, standards, specifications, and guidelines geared toward the promotion and development of the maritime industry, the growth and effective regulation of shipping enterprises, and for the national security objectives of the country Establish, prescribe, and regulate routes, zones, and/or areas of operation of particular operators of public water services Issue certificates of public convenience for the operation of domestic and overseas water carriers Register vessels as well as issue certificates and licenses or document necessary or incident thereto Undertake the safety regulatory functions pertaining to vessel construction and operation including the determination or manning levels and issuance of certificates of competency to seamen Enforce laws and prescribe and enforce rules and regulations, including penalties for violations thereof, governing water transportation, and the Philippine merchant marine, and deputize the Philippine Coast Guard and other law enforcement agencies to effectively discharge these functions Undertake the issuance of license to qualified seamen and harbor, bay, and river pilots Determine, fix, and/or prescribe charges and/or rates pertinent to the operation of public water transport utilities, facilities, and services except in cases where charges or rates are established by international bodies or associations of which the Philippines is a participating member or by bodies or associations recognized by the Philippine government as the proper arbiter of such charges or rates
Maritime Industry Authority	<ul style="list-style-type: none"> Accredit marine surveyors and maritime enterprises engaged in shipbuilding, ship repair, ship breaking, domestic and overseas shipping, ship management Issue and register the continuous discharge book of Filipino seamen Establish and prescribe rules and regulations, and standards and procedures for the efficient and effective discharge of the above functions Perform such other functions as may now or hereafter be provided by law
PPA	<ul style="list-style-type: none"> To formulate in coordination with the National Economic and Development Authority a comprehensive and practicable port development for the state, and to program its implementation and to renew and update the same annually in coordination with other national agencies To supervise, control, regulate, construct, maintain, operate, and provide such facilities or services as are necessary in the ports vested in, or belonging to, the PPA To prescribe rules and regulation, procedures, and guidelines governing the establishment, construction, maintenance, and operations of all other ports, including private ports in the country To license, control, regulate, and supervise any construction or structure within any port district To provide services (whether on its own, by contract, or otherwise) within the port district and the approaches thereof, including but not limited to berthing, towing, mooring, moving, slipping, or docking any vessel; loading or discharging any vessel; and sorting, weighing, measuring, warehousing, or otherwise handling goods To exercise control of or administer any foreshore rights or leases which may be vested in the PPA from time to time To coordinate with the Bureau of Lands or any other government agency or corporation, in the development of any foreshore area To control, regulate, and supervise pilotage and the conduct of pilots in any port district To provide or assist in the provision of training programs and training facilities for its staff of port operators and users for the efficient discharge of its functions, duties, and responsibilities

PPA = power purchase agreement.

Sources: Maritime Industry Authority. Annual Report 2007. www.marina.gov.ph/reports/AR2007.pdf; Department of Transportation and Communications and the Philippine Ports Authority. *Davao Sasa Port Modernization Project. Information Memorandum April 2015*, <http://dotr.gov.ph/images/PPP/2015/P17BDavaoSasaPortMP/filepart1.pdf>

7.4.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	×
EPC contract	×

7.4.2 Institutional Capacity for Implementation

7.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The Philippines' Investment Priorities Plan (IPP), which aligned with the goals, priorities, and strategies of the updated Philippine Development Plan (2011–2016), identified eight preferred investment areas. PPP projects and infrastructure and logistics projects (including ports) are among the preferred investment areas. Port infrastructure and logistics are again proposed for inclusion in the IPP of 2017. The PPP Center tracks progress of a pipeline of PPP projects in the Philippines, which is updated regularly and publicized on the PPP Center website.

PPP pipeline of maritime projects is shown in Table 159.

Table 159: PPP Pipeline of Maritime Projects

No	Project Name	Location	Value (\$ million)
1	Central Spine Roll-on/Roll-off	Various islands	TBC
2	San Ramon Newport Project	Zamboanga City	TBC
3	Davao Sasa Port Modernization	Davao	405

Source: IJ Global. <http://www.ijglobal.com> (accessed 17 February 2017); PPP Center. 2017. *Pipeline of Projects*. http://ppp.gov.ph/?page_id=26075 (accessed 17 February 2017);

7.4.2.2 Project preparation

Number of PPP projects in preparation	2
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7.4.2.3 Procurement

PPP projects procured through:	
Direct appointment	no data
Unsolicited bids	1
Competitive bidding process	5
PPP projects currently in procurement	1

The Davao Sasa Port modernization PPP project is currently in procurement.

7.4.3 Features of Past PPP Projects

7.4.3.1 PPP projects that reached financial close

	No	\$ million
PPP projects that reached financial close	11	1,673

Around two thirds of past projects were brownfield projects under build, rehabilitate, operate, and transfer scheme for freight terminals.

The Subic Port New Container Terminal 2, a concession management and lease agreement for 25 years, reached financial closure in 2011.

7.4.3.2 Foreign investor participation

	Number	Share in Total Number of Port PPP Projects
PPP projects with foreign sponsor participation	2	18%

7.4.3.3 Government support

PPP projects that received government support:		Number
VGF		no data
Government guarantees		0
Projects on availability-/performance-based payment basis		0

7.4.3.4 *Payment mechanism*

PPP projects by payment mechanism:	Number
User-paid contracts	11
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	x
Wharf charge	x
Navigation charge	x
Pilotage charge	x
Channel access charge	x

It is understood that for the currently procured Davao Sasa Port modernization PPP project and future port PPP projects, the government intends to structure concessions using a landlord model, under which the port authority will retain ownership of the port and retain port dues, and the private operator will receive revenues for cargo-handling and other services.

7.4.3.5 *Concession fees*

What are the typical mechanisms for fee paid to the government?	
Lump sum	no data
Royalties	no data
Revenue share	no data
Profit share	✓
Annual lease	✓

7.4.3.6 *Tariffs*

Does private sector have the freedom to set the tariff?	x
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Tariffs for the port sector are set and regulated by the PPA. Terminal handling charges (THC) are set by the terminal operators with respect to container movement services at a terminal. For container terminals, THCs cover the movement of a container between the ship's hold and the exit-entry gate via the container terminal yard. Table 160 gives a general indication of the destination THCs for a full container load as charged by the relevant terminal operator, port authority, and/or shipping line.

Table 160: Typical Terminal Handling Charge

Designation	Company	Year	Terminal Handling Charge (dollar)	
			Twenty-foot equivalent unit	Forty-foot equivalent unit
Shipping Line	K LINE	2017	133	166
Shipping Line	OOLA	2016	125	155
Terminal operator	MICT	2015	98	137
Terminal operator	Power purchase agreement	2013	75	175

Source: Mott MacDonald.

Actual THCs may vary from port to port of each country, as the cost of handling depends on the contractual agreement between terminal operators and the relevant shipping line. Additional wharfage charges of \$10 and \$16 (for twenty-foot equivalent unit and forty-foot equivalent unit, respectively) apply to all foreign containerized cargo at PPA-owned ports.

7.4.3.7 Labor

How is the issue of excess and efficiency of labor force typically being resolved?	
The private operator is given the freedom to hire and fire and to set its own terms and conditions of employment	✗
The pre-PPP workforce is transferred to the private operator. The private operator is allowed to make gradual changes to the terms and conditions of employment, providing these are no worse than before and/or are acceptable to the unions or workers' representatives.	✓
The port authority or the government undertakes a major labor force restructuring in advance of the PPP, and the workforce is transferred to the private operator.	✗

As per the recent PPPGB Policy Circular No. 08-2016 on managing government employees affected by PPP projects, affected employees may choose to transfer to be employed by the PPP project company. In this case, the project company has to employ them for at least 6-month probation period, with a subsequent option of permanent position.

7.4.3.8 Risk allocation

Typical risk allocation arrangements in port PPP contracts are shown in Table 161.

Table 161: Typical Risk Allocation Arrangements in Port PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			
Competition risk (exclusivity)	✓			
Tariff risk	✓			
Environmental and social risk			✓	
Land acquisition risk	✓ (unsolicited)	✓ (solicited)	✓ (unsolicited)	
Permits			✓	
Geotechnical risk	✓			
Foreign exchange risk	✓			
Political risk			✓	

PPP = public–private partnership.

Source: Mott MacDonald.

7.4.4 Local Capabilities

The maritime sector in the Philippines encompasses a wide range of activities. The World Trade Organization's Trade Policy Review of 2013 notes that 169 Philippine-registered ships engaged in international voyages and 7,223 Philippine-registered ships are involved in domestic transport of cargo and passengers. The Philippines is a major supplier of seafarers to international shipping fleets across the world. The international ports, such as the Port of Manila, are operated by international port-operating companies.

7.4.5 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI financing	1

7.4.6 Challenges

Challenges for PPP progress in the port sector are shown in Table 162.

Table 162: Challenges for PPP Progress in the Port Sector

Challenges	Currently Implemented Tackling Measures
Foreign investment and ownership is currently limited to 40% of the venture. This limitation is considered to hinder the competition and inhibits sector development.	Foreign investment negative list is currently under review and is due by May 2017.
Cabotage policy restriction for foreign vessels.	
Combined regulatory and development function of the Philippines Port Authority creates conflict of interest.	

PPP = public-private partnership.

Source: Mott MacDonald.

7.5 Airports

7.5.1 Regulatory Framework

7.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	40%
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7.5.1.2 Government contracting agency

Most airports in the Philippines are owned by either the DOTR through executive agencies such as the Manila International Airport Authority or the Civil Aviation Authority of the Philippines. In theory, either entity could be the grantor of a PPP contract. If the airport is owned by an executive body, then precedent suggests that the DOTR and the executive body should be co-grantors.

7.5.1.3 Sector-specific regulations

There are several regulations that will have an impact on PPP projects:

- The Association of Southeast Asian Nations (ASEAN) Single Aviation Market came into effect in January 2015. This policy aims to liberalize the air transport market in each ASEAN member state to boost the region's connectivity and competitiveness as well as reduce air fares. The single market allows ASEAN-based carriers to carry passengers and cargo from and to any third country to an ASEAN member state. This requires each state to fully open up their international airports to other ASEAN members and eliminate restrictions on the frequency and maximum capacity of flights. As some member states (Indonesia and the Philippines) object to certain provisions in this agreement, it will not be fully implemented until after 2016. The Philippines has

withheld Manila airport, the country's largest, from the ASEAN provisions due to the slot-constrained nature of the airport.

- The airports at Manila and Cebu are subject to slot coordination to manage any spare capacity efficiently. Slots are either allocated by an independent slot coordination body based on a number of allocation rules, or in the case of Cebu by the Mactan–Cebu International Airport Authority. Slots are usually allocated for each summer and winter season.
- The International Civil Aviation Organization publishes a number of regulations that airport operators are required to adopt to ensure safe and secure air transport operations. This includes Annex 14, which sets out the physical requirements for any type of civil airport to receive an operating license from the National Civil Aviation Authority as well as Annex 17, which deals with various security measures to safeguard the aviation industry against acts of unlawful interference. The DOTR (through the Office of Transportation Security) and the Civil Aviation Authority of the Philippines are responsible for implementing and monitoring compliance with these regulations.
- In addition, local and national police provide policing to airports.
- Control over any development-related regulations around airports to ensure that obstacle limitation surfaces are maintained for the safe operation of aircraft from and to the airport are not strictly enforced.
- Security, customs, quarantine, and immigration related regulations specify the requirements of functions undertaken by the state or public authorities.

7.5.1.4 Sector regulators

Details of airport sector regulatory agencies in the Philippines are shown in Table 163.

Table 163: Airport Sector Regulatory Agencies in the Philippines

Agency	Function
Department of Transport	Provides oversight and strategic direction for air transport and for the airports within its control. Provides avenue to central government funding for its airports.
The Civil Aviation Authority of the Philippines	Acts as regulator for compliance with certain International Civil Aviation Organization provisions. Provider of air navigation services. Owner and operator of some airports. Owner, operator, and maintainer of air navigation equipment.
Office of Transportation Security	Provision of security screening staff and regulation of aviation security.
Civil Aeronautics Board	Negotiation of air traffic rights and support of slot allocation processes.

Source: Mott MacDonald.

7.5.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✗

7.5.2 Institutional Capacity for Implementation

7.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

The strategy for investment in airports is clear. The nature by which such investment will occur is not clear. There is debate over the priorities and solutions for the capacity shortage to serve the greater Manila area.

PPP pipeline of airport projects is shown in Table 164.

Table 164: PPP Pipeline of Airport Projects

No	Project Name	Value (\$ million)
1	Ninoy Aquino International Airport Modernization PPP Project	156
2	New Manila International Airport Project (unsolicited proposal)	TBD
3	Clark International Airport Project (unsolicited proposal)	TBD
4	New Bohol (Panglao) Airport Operation and Maintenance	90
5	Laguindingan Airport Expansion and Operation	290
6	Davao Airport Expansion and Operation	806
7	Bacolod Airport Expansion and Operation	402
8	Iloilo Airport Expansion and Operation	605

PPP = public-private partnership, TBD = to be determined.

Source: PPP Center. 2017. *Pipeline of Projects*. http://ppp.gov.ph/?page_id=26075 (accessed 17 February 2017).

7.5.2.2 Project preparation

Number of PPP projects in preparation	3
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7.5.2.3 Procurement

PPP projects procured through:	
Direct appointment	0
Unsolicited bids	0
Competitive bidding process	2
PPP projects currently in procurement	5

7.5.3 Features of Past PPP Projects

7.5.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	2	814

Notable example of successful PPP implementation has been the Mactan–Cebu International Airport Passenger Terminal PPP project that was awarded through a solicited bid process to GMR Megawide Cebu Airport Corporation in 2014, and reached financial close in 2015. There were seven bidding consortiums. The concession period is 25 years under a BOT structure. The project received a global award as “2015 Best PPP Deal” from the *IJ Global*, an infrastructure journal, in Singapore.

7.5.3.2 Foreign investor participation

	Number	Share in Total Number of Airport PPP Projects
PPP projects with foreign sponsor participation	1	100%

7.5.3.3 Government support

PPP projects that received government support:	Number
VGF	0
Government guarantees	0
Projects on availability-/performance-based payment basis	0

7.5.3.4 Payment mechanism

PPP projects by payment mechanism:		Number
User-paid contracts		1
Government-paid contracts		0
What aeronautical revenue streams are allowed?		
Landing fees		✓
Aircraft parking fees		✓
Boarding bridge fees		✓
Terminal service fees		✓
What nonaeronautical revenue streams are allowed?		
Commercial		✓
Ancillary		✓

It is noteworthy that duty-free retail is a government SOE with monopoly provision rights. The income from duty-free activities is generally outside the provisions of PPP agreements.

7.5.3.5 Tariffs

The approach with passenger service charge and ancillary charges tariff setting has been to provide a form of regulation with the government maintaining control via the Mactan–Cebu International Airport Authority. Passenger service charge escalation is also set out with the concession agreement.

7.5.3.6 Risk allocation

Typical risk allocation arrangements in airport PPP contracts are shown in Table 165.

Table 165: Typical Risk Allocation Arrangements in Airport PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Competition risk (exclusivity)			✓	
Environmental and social risk	✓			
Land acquisition risk		✓		
Permits	✓			
Handover risk	✓			
Political risk			✓	
Foreign exchange risk	✓			

PPP = public–private partnership.

Source: Mott MacDonald.

7.5.4 Local Capabilities

The PPP process for airports has recognized that additional skills are needed to supplement the local market and hence international airport operators have been sought. Civil Aviation Authority of the Philippines and DOTR (through its executive agencies) have skills in the operation and maintenance of airports. A number of major conglomerates in the Philippines have participated in the PPP process for the airports with a desire to deploy their wider concession management skills into the airport arena in cooperation with international airport operators.

7.5.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI financing	1

7.5.6 Challenges

Challenges for PPP progress in airport sector are shown in Table 166.

Table 166: Challenges for PPP Progress in Airport Sector

Challenges	Currently Implemented Tackling Measures
The complexity of the challenge for providing sufficient airport capacity to the greater Manila region.	Department of Transportation is reviewing unsolicited proposals and considering strategic context.
Foreign investment and ownership is currently limited to 40% of the venture. Coupled with lack of local companies experienced in airport operations, this limitation is considered to hinder the competition and inhibits sector development.	Foreign investment negative list is currently under review and is due by May 2017.
The “unbundling” of the five regional airport PPPs into separate projects would potentially result in unviable commercial propositions for the five regional airports.	

PPP = public-private partnership.

Source: Mott MacDonald.

7.6 Energy

7.6.1 Regulatory Framework

7.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects:	
Power generation	40%
Power transmission	40%
Power distribution	40%
Oil and gas	40%

7.6.1.2 Government contracting agency

The Department of Energy as well as various agencies and companies are in charge of the transmission and distribution network.

The National Grid Corporation of the Philippines is a privately owned corporation, which is in charge of operating, maintaining, and developing the country's state-owned power grid since 2007.

There is a mix of long-term bilateral contracts (80%) and wholesale electricity spot market contracts (20%). Contracts vary from 5 to 25 years in length. Meralco are the largest offtaker, covering 25% of population. Power distribution outside the Metro Manila area is handled by private distribution utilities and electric cooperatives.

7.6.1.3 Sector-specific regulations

Electric Power Industry Reform Act 2001 is the key legal document for the energy sector.

The wholesale electricity spot market was established in 2006 and is operated by Philippine Electricity Market Corporation.

7.6.1.4 Sector regulators

Details of energy sector regulatory agencies are shown in Table 167.

Table 167: Energy Sector Regulatory Agencies

Agency	Function
Department of Energy	Formulates and implements all government policies and programs for energy exploration, development, distribution, and conservation to ensure sustainable, secure, reliable, and accessible energy. It is the government's supervisory arm for all energy sector-related initiatives.
Energy Regulatory Commission	An independent commission comprised of five members, nominated by the President of the Philippines, to regulate all sectors of the electricity market and protect consumer interests. It promulgates the policies created by the Department of Energy and guidelines formulated by the Joint Congressional Power Commission; issues licenses to electricity suppliers and ensures compliance with the power sector laws. It is also responsible for setting the transmission, distribution, and retail fees charged to end-users.
NPC	The largest electric power company in the Philippines. It owned 36 plants, of which 28 are operated by the NPC itself, while the remaining 6 are operated by independent power producers under an agreement with NPC.
TransCo	Takes over the transmission function and related assets of the NPC. TransCo is now responsible for linking the power plants, owned by both the NPC and independent power producers, to the distribution utilities and electricity cooperatives, which in turn provide electricity to end-users.
Power Sector Asset and Liabilities Management	Created to privatize and liquidate the NPC's assets and independent power producers' contracts and liabilities. It also assumed the ownership of TransCo along with all its debt obligations and would oversee the transfer of control of its transmission assets through a 25-year concession agreement to private parties. Power Sector Asset and Liabilities Management has a 25-year corporate life, at the end of which its assets as well as liabilities would be transferred to the Philippine government.

NPC = National Power Corporation, TransCo = National Transmission Corporation.

Source: Mott MacDonald.

7.6.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Power purchase agreement	✗
Capacity take-or-pay contract	✗
Fuel supply agreement	✗
Transmission and use of system agreement	✗
EPC contract	✗

7.6.2 Institutional Capacity for Implementation

7.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	n/a

The Philippine Energy Plan 2012–2030 was developed, focusing on the ramped-up development of renewable energy, accelerated indigenous energy resource exploration, diversification of energy supply sources, promotion of energy efficiency, and the full implementation of electricity market reforms. Recently, the draft for Power Development Plan 2015–2030 was presented in January 2016; however, official plan to be released is still in progress. PPP pipeline of energy projects is listed in Table 168.

Table 168: PPP Pipeline of Energy Projects

No	Project Name	Value (\$ million)
1	Sucat Gas Power Plant	To be decided
2	Batangas–Manila Natural Gas Pipeline	308

Sources: IJ Global. <http://www.ijglobal.com> (accessed 17 February 2017); PPP Center. 2017. *Pipeline of Projects*. http://ppp.gov.ph/?page_id=26075 (accessed 17 February 2017)

7.6.2.2 Project preparation

Number of PPP projects in preparation	1
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7.6.2.3 Procurement

PPP projects procured through:	
Direct appointment	3
Unsolicited bids	2
Competitive bidding process	6
License scheme	9
PPP projects currently in procurement	18

7.6.3 Features of Past PPP Projects

7.6.3.1 PPP projects that reached financial close

Energy Generation	Number	\$ million
Renewables energy generation:	33	5,680
Solar	5	300
Wind	7	750
Hydro	11	3,267
Geothermal	8	1,141
Waste/biomass	2	221
Thermal energy generation:	44	19,397
Coal	23	15,247
Diesel	17	2,110
Natural gas	4	2,040
Total Energy Generation	77	25,077

The past projects featured domination of coal-fired power plants in the thermal generation sector and hydro power plants in the renewable energy generation sector.

7.6.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of the Respective Type
Energy Generation		
Renewables	16	39%
Thermal	31	70%

7.6.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	15
Projects on availability-/performance-based payment basis	76

7.6.3.4 State-owned enterprises participation

	Number	Share in Total Number of Energy PPP Projects
PPP projects with SOEs participation:	0	-

7.6.3.5 Payment Mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	1
Government-paid contracts	76

7.6.3.6 Tariffs

Is there a system of feed-in tariffs?			✓
Typical feed-in tariff levels	Type		peso/ kWh
	Wind		8.53
Run-of-river hydropower	Hydro		5.90
	Biomass		6.63
	Solar		8.69

Note: New solar photovoltaic rates have been announced in 2015.

Source: Department of Energy. *Philippine Energy Plan 2012–2030*. <https://www.doe.gov.ph/pep/philippine-energy-plan-2012-2030>

7.6.3.7 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are shown in Table 169.

Table 169: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk		✓		
Tariff risk			✓	
Government payment risk	✓			
Environmental and social risk			✓	
Land acquisition risk		✓		
Permits			✓	
Handover risk			✓	
Political risk	✓			
Regulatory risk	✓			
Interconnection risk			✓	
Brownfield risk: asset condition	✓			
Grid performance risk		✓		
Hydrology risk			✓	
Exploration and drilling risk			✓	

Source: Mott MacDonald.

7.6.4 Local Capabilities

The diversified conglomerates that dominate much of business life in the Philippines are also key IPP players as both developers and operators. These include in terms of attributable capacity sold to the grid as of 2013:³²

- San Miguel Corporation 22%, including the group's unit, SMC Global Power, which sold 620 megawatt (MW);
- Aboitiz 20%; and
- Lopez 18% (mostly from geothermal and natural gas).

As a result of incentives introduced by the government such as feed-in tariffs, a number of smaller producers are becoming interested in renewable energy plants. Because of greater renewables penetration and the spot market, private sector parties are also becoming interested in pumped storage.

These include:

- FirstGen,
- Meralco (a government utility venturing into small- and medium-scale power generation),

³² Rappler.com <http://www.rappler.com/rich-media/14729-infographic-top-power-players-in-the-philippines>

- Citicore Power Inc., a subsidiary of construction contractor Mega wide, and
- San Lorenzo Ruiz, a construction company and developer of the 500-MW Wawa pump storage on Luzon Island.

A number of these developers (such as Megawide/CPI and SanLorenzo Ruiz) are primarily construction contractors and would therefore seek to undertake the majority of the construction in-house.

7.6.5 Project Financing

PPP projects with foreign lending participation	24
PPP projects that received ECA/IFI financing	12

7.6.6 Challenges

Challenges for PPP progress in the energy Sector are presented in Table 170.

Table 170: Challenges for PPP Progress in the Energy Sector

Challenges	Currently Implemented Tackling Measures
Planning of the power system requires improvement as the country's needs are not always addressed because of constraints in the transmission system as well as overcapacity in some areas.	
Prolonged multistakeholder dialogue to address environmental and social acceptability issues.	
Electrification rates in part of the country are very low and coupled with low security are disincentives for private sector development. The electricity grid has thin margins in reserve capacities.	
There is a need to harmonize the procedures in obtaining permits and licenses.	
Difficulty in obtaining funding, as lenders generally require payment guarantees from government off-takers.	

Source: Mott MacDonald.

7.7 Water and Wastewater

7.7.1 Regulatory Framework

7.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects:	
Bulk water supply and treatment	40%
Water distribution	40%
Wastewater treatment	40%
Wastewater collection	40%

7.7.1.2 Government contracting agency

Various agencies can act as Government contracting agency, for example, local government units (LGUs), water districts, GOCCs, Metropolitan Waterworks and Sewerage System and DPWH.

7.7.1.3 Sector-specific regulations

Can private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on the release of treated effluents?	✓

Even though the private sector can obtain water abstraction rights, there are restrictions as to whom can apply for a permit. As per the Philippines' Water Code (PD 1067), only the following groups may apply for a water permit from the National Water Resources Board (NWRB):

- (i) citizens of the Philippines;
- (ii) associations, duly registered cooperatives, or corporations organized under the laws of the Philippines, at least 60% of the capital of which is owned by citizens of the Philippines; or
- (iii) government entities and instrumentalities, including GOCCs.

The regulations for raw water extraction are also detailed in the Philippines' Water Code (PD 1067). Treated effluent must comply with quality standards prescribed by the DENR before release.

7.7.1.4 Sector regulators

Details of water sector regulatory agencies in the Philippines are shown in Table 171.

Table 171: Water Sector Regulatory Agencies in the Philippines

Agency	Function
Philippines Association of Water Districts	<ul style="list-style-type: none"> Advocates and promotes policies, standards, and programs to ensure effective and sustainable operations of water districts and collaboration among water districts. Develops, implements, and manages relevant programs to improve teamwork among its members and strengthen partnership with other institutions within and outside the country
Department of Interior and Local Government	<ul style="list-style-type: none"> Defines and enforces quality and performance standards for the local government unit–operated water system
Department of Public Works and Highway	<ul style="list-style-type: none"> Develops water resources master plan to address the issues and challenges in the water sector Provides support for the improvement of local government unit–operated water supply and sanitation systems
Department of Environment and Natural Resources	<ul style="list-style-type: none"> Monitors effluent from wastewater treatment plants Regulates monitoring parameters and effluent standards
Department of Health	<ul style="list-style-type: none"> Provides facilities to monitor and regulate the water quality distributed to consumers Enforces the Philippine National Standards for Drinking Water
National Water Resources Board	<ul style="list-style-type: none"> Issues permits for the appropriation and use of water, and settles disputes regarding the use of water Reviews and approves water supply tariffs charged by private operators and service providers Issues permits, Certificate of Public Convenience, and Certificate of Public Convenience and Necessity to private water operators to provide public services
Local Water Utilities Administration	<ul style="list-style-type: none"> Allocates funds to water districts Regulates water districts in terms of tariff setting and establishing and monitoring key performance indicators and business efficiency measures Provides institutional development assistance in the form of advisory and managerial services
Metropolitan Waterworks and Sewerage System	<ul style="list-style-type: none"> Monitors and enforces concession agreements within Metro Manila (Manila Water and Maynilad Water Services)

Source: Mott MacDonald.

The Local Government Code also allows self-regulation by the LGUs. As shown in Table 169, many agencies in the Philippines have a role in the water sector, with no lead agency taking overall responsibility. Several congressional bills have been issued in efforts to strengthen the regulatory framework of the water sector by establishing an independent regulatory agency.

7.7.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Water purchase agreement	✗
EPC contract	✗

7.7.2 Institutional Capacity for Implementation

7.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓ ^a

^a No projects under preparation.

Sector strategies developed include the Philippine Water Supply Sector Roadmap for the water supply sector, and the Philippine Sustainable Sanitation Roadmap and Plan for the sanitation sector. The Philippine Water Supply Sector Roadmap was published in 2010, and outlines the steps and investments required to achieve the government targets for water supply by 2025. The Philippine Sustainable Sanitation Roadmap and Plan was published in 2010, and includes several sustainable sanitation programs till 2028.

Although significant investments are still required to achieve the targets set in the sector strategy documents, any PPP water project does not appear in the foreseeable future. Two projects that are listed on the PPP Center pipeline are already in the procurement stage, while another three projects listed on the DPWH website appear to be very conceptual ideas.

PPP pipeline of water projects is shown in Table 172.

Table 172: PPP Pipeline of Water Projects

No	Project Name	Location	Capacity (m ³ /day)	Value (\$ million)
1	New Centennial Water Source–Kaliwa Dam Project	Calabarzon	600,000 (water supply); 2,400,000 (water conveyance)	416
2	Baggao Water Supply Project	Cagayan Valley	Initially serve 24 barangays	1.69
3	Cebu City Bulk Water Supply	Cebu City	TBD	TBD

continued on next page

Table 172 continued

No	Project Name	Location	Capacity (m ³ /day)	Value (\$ million)
4	Tagbilaran City Bulk Water Supply	Bohol	TBD	TBD
5	Puerto Princesa City Bulk Water Supply	Palawan	TBD	TBD
6	Tacloban City Water Supply Project	Tacloban City	n/a	90

m³/day = cubic meter per day, TBD = to be determined.

^a Smallest administrative division in the Philippines.

Sources: PPP Center. 2017. *Pipeline of Projects*. http://ppp.gov.ph/?page_id=26075; Department of Public Works and Highways (DPWH). <http://www.dpwh.gov.ph/dpwh/> (accessed 17 February 2017); Infradeals. Infradeals Database. <http://www.infradeals.com/infradeals/global-transactions-database> (accessed 17 February 2017)

7.7.2.2 Project preparation

Number of PPP projects in preparation	0
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7.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	0
Competitive bidding process	4
PPP projects currently in procurement	2 ^a

^a Nos 1 and 2 in the table above.

7.7.3 Features of Past PPP Projects

7.7.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	6	4,255

Five projects have been brownfield water utility concessions, while the recent Bulacan bulk water supply is a greenfield project.

7.7.3.2 Foreign investor participation

	Number	Share in Total Number of Water PPP Projects
PPP projects with foreign sponsor participation	3	50%

7.7.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	no data
Projects on availability-/performance-based payment basis	1

No data regarding the water PPP projects that received government support have not been available. The Bulacan bulk water supply PPP project is done on availability-based payment basis under water purchase agreement.

7.7.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	5
Government-paid contracts	1

7.7.3.5 Tariffs

The tariff structure varies widely across the Philippines. The tariff structure is similar in water districts and Metro Manila, with an average tariff for the first 10 cubic meters and increasing tariffs for additional consumption, as shown in Table 173 and Table 174. For LGU-operated systems, the tariff levels and structures vary widely because most connections are not metered and offer different levels of service. The NWRB has issued a document providing basic guidelines on tariff setting to improve cost recovery and regulation.

Relevant regulatory authorities must approve tariff levels, and consider a range of factors. The Metropolitan Waterworks and Sewerage System is responsible for regulating tariffs within Metro Manila, LWUA is responsible for regulating tariffs for water districts, and the NWRB is responsible for regulating tariffs for private operators and other service providers.

For the concession agreements with Manila Water, there are three tariff adjustment mechanisms:

- inflation adjustment—annual adjustment based on inflation;
- extraordinary price adjustment—compensation for extraordinary events (change in law, government regulation, etc.); and
- rate rebasing—every 5 years based on historic and future cash flows.

Table 173: Average Water Tariff in Water Districts, 2015

Volume (m ³)	Cost
Up to 10	\$3.93/connection
11–20	\$0.44/m ³
21–30	\$0.48/m ³
31–40	\$0.54/m ³
41–50	\$0.60/m ³
51 and above	\$0.61/m ³

m³ = cubic meter.

Note: Based on 517 water districts, and applies only for a 0.5-inch domestic connection. Exchange rate: \$1 = P49.78 (as of December 2016).

Source: IBNET. 2017. *IBNET Database*. <https://database.ib-net.org/DefaultNew.aspx>

Table 174: Current Domestic Water Tariff in Metro Manila, 2016

Volume (m ³)	Manila Water	Maynilad
Up to 10	\$1.95/connection	\$2.90/connection
10–20	\$0.24/m ³	\$0.35/m ³
20–40	\$0.45/m ³	\$0.67/m ³
40–60	\$0.59/m ³	\$0.88/m ³
60–80	\$0.69/m ³	\$1.03/m ³
80–100	\$0.76/m ³	\$1.08/m ³

m³ = cubic meter.

Note: Tariffs exclude surcharges such as foreign currency differential adjustment, environmental charge, and sewerage connection surcharge (if connected). Exchange rate: \$1 = P49.78.

Sources: Manila Water Company. <http://www.manilawater.com/Downloadables/2017-Tariff-Table.jpg> (accessed 5 February 2017); Maynilad Water Services. http://www.mayniladwater.com.ph/uploaded/New_Tariff_Table.pdf (accessed 5 February 2017)

7.7.3.6 Risk allocation

Typical risk allocation arrangements in Water PPP Contracts as per Table 175.

Table 175: Typical Risk Allocation Arrangements in Water PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓ Concession	✓ Bulk water supply		
Revenue collection risk	✓ Concession	✓ Bulk water supply		
Tariff risk			✓	
Government payment risk	✓			Government guarantees are possible.
Environmental and social risk			✓	Public, for environmental liabilities existing prior to solicited project (e.g., contaminated site). Private, if environmental liabilities created during operation (e.g., overabstraction of water)
Land acquisition risk	✓	✓		Public, if solicited. Private, if unsolicited.
Interface risk		✓		
Handover risk	✓			
Political risk			✓	Public, if change is discriminatory against the project. Private, for general changes in law or policy
Foreign exchange risk	✓		✓	Generic Preferred Risk Allocation Matrix—private. National Economic and Development Authority's structuring PPP—shared (public to assume portion of risk by allowing the total or partial indexing of bulk water rate to exchange rate, and private to assume the remaining risk).

PPP = public-private partnership.

Sources: Mott MacDonald; Investment Coordination Committee. 2014. *Generic Preferred Risk Allocation Matrix (GPRAM)*, updated 22 December 2014, agreed to be adopted by the Investment Coordination Committee (ICC)–Cabinet Committee. <https://ppp.gov.ph/wp-content/uploads/2015/04/Generic-Preferred-Risk-Allocation-Matrix.pdf>; National Economy and Development Authority. 2009. *Structuring Public-Private Partnerships (PPPs)*. <http://www.neda.gov.ph/wp-content/uploads/2014/01/Structuring-Public-Private-Partnerships-PPPs-Handbook.pdf>

7.7.3.7 Nonrevenue water and infiltration

Nonrevenue water (%)	42.59
Nonrevenue water (m³/km/day)	194.58
Infiltration	no data

Source: IBNet. 2009. IBNET. 2017. *IBNET Database*. <https://database.ib-net.org/DefaultNew.aspx>

7.7.4 Local Capabilities

There is strong presence of local utility operators (such as Manila Water, Maynilad Water Services, and Balibago Waterworks) in the Philippines. This is the result of foreign utility ownership being restricted to 40% in the Philippines, as per the Philippines' Water Code (PD 1067).

For locally funded water projects, both foreign consultants and contractors are also legally limited to 40% of the value of the project, leading to the establishment of consortia with local firms.

7.7.5 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI support	3

7.7.6 Challenges

Challenges for PPP progress in the water sector are presented in Table 176.

Table 176: Challenges for PPP Progress in the Water Sector

Challenges	Currently Implemented Tackling Measures
Foreign investment and ownership is currently limited to 40% of the venture. This limitation is considered to hinder the competition and inhibits sector development.	Foreign investment negative list is currently under review and is due by May 2017.
Lack of technical and financial resources for LGUs undertaking PPP projects; lack of guidelines for LGUs to form joint ventures with private sectors for PPP projects.	The PPP Center and the World Bank–Water and Sanitation Program have launched guidelines for LGU water districts.
Tariffs are too low to recover costs, especially in LGUs.	
Fragmented institutional framework, and multiple regulatory agencies.	

LGU =local government unit, PPP = public–private partnership.

Source: Mott MacDonald.

7.8 Social Infrastructure

7.8.1 Regulatory Framework

7.8.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Health care facilities	40%
Health care services provision	40%
Education facilities	40%
Education services provision	0%

7.8.1.2 Government contracting agency

Various departments, bureaus, offices, commissions, authorities, or agencies of the national government, including GOCCs, government financial institutions, and state universities and colleges, and LGUs, are authorized to enter into PPP contracts.

The following departments are currently engaged in implementing one or more projects in the social infrastructure PPP pipeline:

- Department of Health (health care)
- Department of Education (education)
- Bureau of Corrections (justice)
- Department of Justice (justice)
- Department of Tourism (recreation and culture)
- Intramuros Administration (recreation and culture)

7.8.1.3 Sector-specific regulations

Can private sector be given rights to provide education services?	✓
Can private sector be given rights to provide health care services?	✓

The private sector in the Philippines is permitted to provide education services to the public. The government contracts with private secondary schools to enroll students in areas where there is a shortage of public school places.

Private health care provides a large share of the health care services in the Philippines.

7.8.1.4 Sector regulators

Agency	Function
Department of Health	Provides national policy direction and develops national plans, technical standards, and guidelines on health. ^a
Local Government Units	Autonomy and responsibility for local health services with guidance from the Department of Health through the centers for health development (Local Government Code of 1991). ^b
Department of Education Central Office	Policy making, planning, standards setting, regulation, and quality assurance at the national level. Responsible for developing and implementing national programs. ^c
Department of Education Regional Office	Policy making, planning, standards setting, regulation, and quality assurance at the regional level. Approves establishment of schools and learning centers. ^d

^a Asia Pacific Observatory on Health Systems and Policies, the Philippines health system review.

^b Footnote a.

^c Australian Education International, Philippines Regulatory Fact Sheet.

^d Footnote c.

7.8.1.5 Standard Contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	x
Performance-based O&M contract	x
EPC contract	x

7.8.2 Institutional Capacity for Implementation

7.8.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Agencies and LGUs implementing the projects are tasked to prepare the infrastructure delivery programs and identify priority projects, which should be consistent with the Philippine Development Plan and Provincial Development and Physical Framework Plan.

The Public Investment Program and the Comprehensive and Integrated Infrastructure Program are considered to constitute the list of national priority projects. The Provincial Development Investment Programs and/or Local Development Investment Programs constitute the List of Local Priority Projects. It is noted that there is an expressed intention to periodically update the Public Investment Program, Comprehensive and Integrated

Infrastructure Program, and Provincial Development Investment Program, and/or Local Development Investment Program.

The PPP Center tracks progress of a pipeline of PPP projects in the Philippines, which is updated regularly and publicized on the PPP Center website.

PPP pipeline of social infrastructure projects is listed in Table 177.

Table 177: PPP Pipeline of Social Infrastructure Projects

No	Project Name	Implementing Agency	Value (\$ million)
1	New Nayong Pilipino at Entertainment City	Department of Tourism and Nayong Pilipino Foundation	29.5
2	Fort Magsaysay Regional Prison Facility	Bureau of Corrections and Department of Justice	1,016
3	Philippine Travel Centre Complex	Department of Tourism	TBD
4	Rehabilitation of the National Centre for Mental Health	Department of Health	TBD
5	School Infrastructure Project Phase III PPP	Department of Education	TBD
6	Duty Free Retail Development Project	Department of Finance	TBD
7	Judiciary Infrastructure Development PPP	Supreme Court	TBD
8	Manila Heritage and Urban Renewal Project	Department of Finance	TBD
9	Naval Base Mactan	Department of National Defense	TBD
10	Tri-Medical Complex PPP	Department of Health	TBD

TBD = to be decided.

Sources: IJ Global. <http://www.ijglobal.com> (accessed 17 February 2017); PPP Center. 2017. *Pipeline of Projects*. http://ppp.gov.ph/?page_id=26075 (accessed 17 February 2017)

7.8.2.2 Project preparation

Number of PPP projects in preparation	0
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7.8.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	0
Unsolicited bids	0
Competitive bidding process	2
PPP projects currently in procurement	2 ^a

^a New Nayong Pilipino at Entertainment City and Fort Magsaysay Regional Prison Facility PPP projects.

7.8.3 Features of Past PPP Projects

7.8.3.1 PPP projects that reached financial close

PPP projects that reached financial close	Number	\$ million
Health care	0	0
Education	2	453

The two schools infrastructure projects that have reached financial close involved the design, financing, and construction of over 20,000 classrooms, including furniture and fixtures, in various sites in over seven identified regions across the country.

7.8.3.2 Foreign investor participation

	Number	Share in Total Number of Social Infrastructure PPP Projects
PPP projects with foreign sponsor participation	0	-

7.8.3.3 Government support

PPP projects received government support:	Number
VGF	no data
Government guarantees:	no data
Projects on availability-/performance-based payment basis	2

7.8.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	0
Government-paid contracts	2

7.8.3.5 Tariffs

Information not available.

7.8.3.6 Risk allocation

Information not available.

7.8.4 Local Capabilities

Megawide Construction Corporation is a major Philippine company that successfully tendered for social infrastructure PPP projects.

7.8.5 Project Financing

PPP projects with foreign lending participation	1
PPP projects that received ECA/IFI support	0

Standard Chartered Bank acted as the foreign lending agency that provided debt for the School Infrastructure Project Phase I PPP project.

7.8.6 Challenges

The concession for the Philippine Orthopedic Center modernization project was terminated by the concessionaire (Megawide World Citi Consortium Inc.) around 1 year after award as the implementing agency, the Department of Health, did not manage to grant the certificate of possession for the project site.

Intention to tender the Bulacan Medical Center Dialysis Unit Expansion PPP project was announced in 2015; however, no progress has been seen since then.

Table 178: Challenges for PPP Progress in the Social Infrastructure Sector

Challenges	Currently implemented tackling measures
Foreign investment and ownership in health care and education facilities is currently limited to 40% of the venture, according to the foreign investment negative list. This limitation is viewed to be a restriction of foreign investment and inhibits Philippine infrastructure developments.	Foreign investment negative list is currently under review and is due by May 2017.
Untested market.	

Source: Mott MacDonald.

7.9 Other sectors

Potential PPP projects for sectors not covered in the sections above are presented below.

PPP pipeline of projects from other sectors is presented in Table 179.

Table 179: PPP Pipeline of Projects from Other Sectors

No.	Project Name	Location	Value (\$ million)
1	Cebu City Solid Waste Management PPP	Cebu	TBD

PPP = public-private partnership, TBD = to be determined.

Source: Infradeals. Infradeals Database. <http://www.infradeals.com/infradeals/global-transactions-database> (accessed 17 February 2017).

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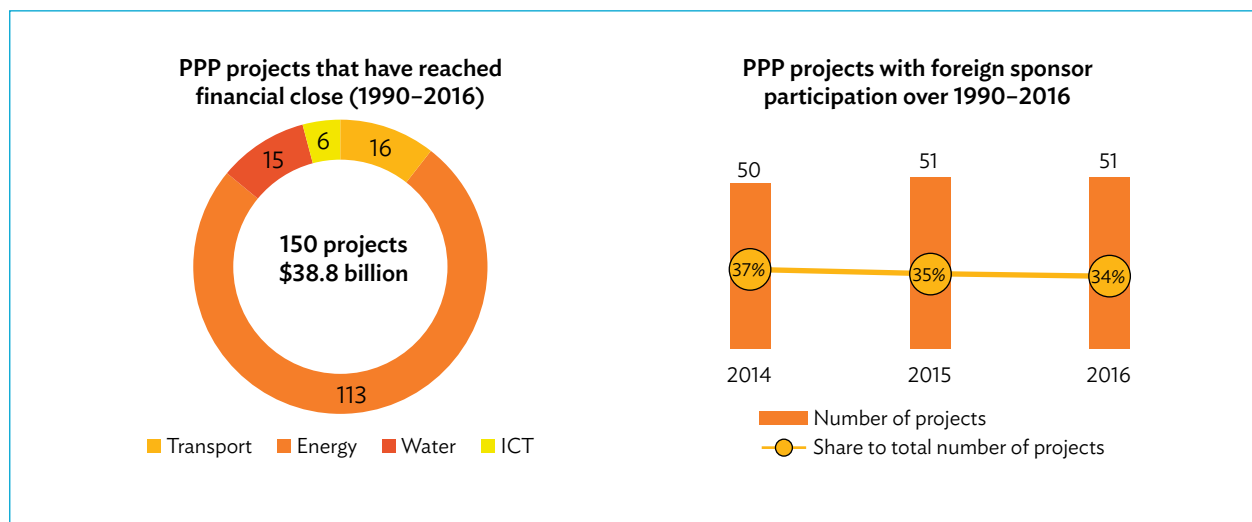
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8. THAILAND

Thailand enacted its first public-private partnership (PPP) regulation in 1992 as the Private Participation in State Undertaking Act (PPSU Act) with the main objective as an anti-corruption measure to protect the interest of the public, rather than create an enabling environment for the private sector. Since then, concession type PPPs have been very common in Thailand, especially in the transport and utilities sectors.



In 2013, the Thai government issued the Private Investments in State Undertaking Act B.E. 2556 (PISU Act), which superseded the PPSU Act. The PISU Act aimed to promote PPP and streamline the project approval process through setting up the PPP Policy Committee. It introduced clear systematic guidelines and precise time frame for project consideration and bidding processes. This should expedite the process for a PPP project approval to approximately 7–12 months instead of 2 years; evidence from the two most recent PPP projects being procured suggests this is the case. The State Enterprise Policy Office (SEPO) was established to act as a central PPP unit. The terms and processes in the PISU Act are more specific compared to the PPSU Act. There is a procedure established for the amendment and renewal of existing agreements. The PISU Act also calls for independent advisors to assist with appraisal of project feasibility studies.

Since then, the main development has been the issue of a PPP Strategic Plan 2015–2019, which creates a framework for private participation in state activities in various sectors and sets out a pipeline of 66 PPP projects with an estimated investment cost of about 1,417 baht (B) billion (approximately \$40 billion). Since the issue of the strategic plan, five PPP projects have been approved in principle by the government, and subsequently, two of these projects were awarded in December 2016.

Current challenges include the following:

- The restriction on foreign investors stake in PPP project companies limits the competition (and resultant value for money), as the controlling stake in the project company needs to belong to local companies in most sectors except energy.
- Delays in PPP program implementation due to political unrest in the recent years deter some foreign investors from participation.
- Land acquisition delays due to decentralization of the process and objection from local residents (especially in urban areas of high population density).
- For land transportation projects, there are bankability issues as these projects have very high investment cost coupled with uncertainties in ridership estimates and the inclination of the government to pass traffic demand risk to the private sector.
- Absence of procedure for treatment of unsolicited proposals.
- Absence of framework for accounting for contingent liabilities and providing guarantees deters foreign lenders participation.

8.1 Country Profile

8.1.1 Regulatory Framework

8.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects that reached financial close under the latest PPP law	0	0	0

The key PPP regulation in Thailand is the PISU Act B.E. 2556 (2013), which superseded the old PPSU Act B.E. 2535 (1992).

Supporting regulations include the following:

- Notification of the Private Investments in State Undertakings Policy Committee Re: Required Details in a Project Agency's Project Appraisal Report B.E. 2557 (2014)
- Details of invitation notice, document of proposal for investment participation, method for announcing the invitation, selection methods of the selection committee prescription of bidding security and performance security, B.E. 2558 (2015)
- Notification of the Public–Private Partnership in State Undertaking Policy Board Re: Strategic Plan for Public–Private Partnership in State Undertaking B.E. 2558–2562 (2015–2019)
- Notification of the Office of State Enterprise Policy Board Re: Standard Provisions of an Investment Partnership Contract B.E. 2558 (2015) (the Standard Provisions Notification)
- Announcement of the Public–Private Partnership in State Undertaking Policy Board Re: Characteristics of Amendment to Investment Partnership Contract in Material Content B.E. 2558 (2015)
- The rules and procedures for the private sector to invest in projects with a value of less than B1 billion (2016)

On 2 February 2016, the SEPO organized a hearing on the draft form of standard contract to be used for investments under the PISU Act (the Draft Standard PPP Contract). The Draft Standard PPP Contract, though not yet published, serves as an indicator of the government's likely position on key issues.

Presentation by the SEPO dated 2015 states that five PPP projects have been approved in principle under the PISU Act, and it is understood that as of December 2016, none of these projects yet have reached commercial or financial close.

8.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in the PPP regulations	n/a	n/a	n/a

The PISU Act is silent on the type of PPP projects. In practice, it is understood that a long-term concession agreement between the public and private party is seen as a common feature of almost all PPP projects. The three most common types of PPP arrangement are:

- build–operate–transfer (BOT),
- build–transfer–operate (BTO), and
- build–own–operate (BOO).

8.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports ^a	✓	✓	✓	Oil and gas	n/a ^b	n/a	n/a
Water and wastewater	✓	✓	✓	Information and communication technology (ICT)	✓	✓	✓
Municipal solid waste (MSW)	✓	✓	✓	Social infrastructure	✓	✓	✓

^a Only management of airport ground is mentioned in the PPP Strategic Plan 2015–2019, and currently, airport operation is a monopoly of SOE, therefore marked in yellow.

^b Not applicable.

PPP Strategic Plan 2015–2019 defines two groups of sectors: one group where private investment is required, and one group where private investment is encouraged.

Group 1: Private Investment is Required	Group 2: Private Investment is Encouraged
<ul style="list-style-type: none"> • Urban rail transit system • Toll roads in major metropolitan urban areas • Port logistics • High-speed rail • Telecommunication (network and assets) • High-speed internet 	<ul style="list-style-type: none"> • Toll roads between major metropolitan urban areas • Packaging stations • Common ticketing system • Management of airport ground • Water quality management • Irrigation system • Management of solid waste • State education institutions • Hospitals and public health services • Pharmaceutical medicine and equipment • Infrastructure for science, technology, and innovation • Digital economy • Convention centers • Shelters for those with low income, the elderly, the handicapped, and the disadvantaged

Source: State Enterprise Policy Office. 2015. Public Private Partnership Strategic Plan (B.E. 2558—2562). https://library.pppknowledgelab.org/Government%20of%20Thailand/documents/2965/download?ref_site=kl

Energy generation projects have not been listed in the current PPP strategic plan. However, independent power plant (IPP) schemes are widely applicable and follow a simpler and faster procurement and approval method. Private investment into oil and gas and mining

sectors is currently subject to the concession regime under respective laws on petroleum and minerals and expressly excluded from the PISU Act.

However, it should be noted that, under the current draft of the new Petroleum Act, other forms of PPP in the oil and gas sector may be permitted. Therefore, the PISU Act may potentially apply to oil and gas PPPs, which do not have concession arrangements.

8.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	x	x	x
Project capital investment size	Full PPP process is applicable for projects with a value of B1 billion and above.	Full PPP process is applicable for projects with a value of B1 billion and above.	Full PPP process is applicable for projects with a value of B5 billion and above.

8.1.1.5 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	n/a	n/a	n/a
Swiss challenge	n/a	n/a	n/a
Compensation of the project development cost	n/a	n/a	n/a
Government support for land acquisition and resettlement cost	n/a	n/a	n/a
Government support in the form of viability gap funding (VGF) and guarantees	n/a	n/a	n/a

Unsolicited proposal is not prohibited in Thailand under the PISU Act but rarely exercised. Investors can only propose an investment plan or proposal to participate in the projects that are listed in the PPP strategic plan. Under exceptional circumstances, an unsolicited bid is acceptable, but sound justification and approval of the PPP Committee are required. No procedure, conditions, and criteria is yet available on how proposals are treated and evaluated.

It is understood that Loxley Prachin Buri Solar Power Plant (financial close in 2011) and Khanom 4 Gas-Fired Combined Cycle Power Plant (financial close in 2013) projects were unsolicited.

8.1.1.6 State-owned enterprise participation

	2014	2015	2016
Is a state-owned enterprise (SOE) allowed to participate in PPP as a counterparty to the government?	x	x	x
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firm) as a counterparty to the government?	✓	✓	✓
PPP projects with SOEs participation to date (number)	0	0	0
PPP projects with SOEs participation to date (share in total number of PPP projects)	-	-	-

Joint ventures between SOEs and private sector are uncommon in Thailand, and hence, a sound justification is required for the joint venture of SOE partners with a private sector to participate in a PPP scheme as this is seen to create a competitive advantage compared to other participants. In the past, there has been a very small number of projects, predominantly in the energy and oil and gas sector, where SOEs participated as a joint sponsor.

8.1.1.7 Land rights

	2014	2015	2016
Which of the following is permitted to private partner:			
Transfer land lease/use/ownership rights to third party	✓	✓	✓
Use leased/owned land as collateral	✓	✓	✓
Mortgage leased/owned land	✓	✓	✓
Is there a legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than government or the private partner?	✓	✓	✓
Is there a land registry/cadaster with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to private partner:			
Appraisal of land value	✓	✓	✓
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✓	✓	✓
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

The key regulations governing land-use rights and land acquisition are as follows:

- Land Code Amendment Act 2008,
- Expropriation of Immovable Property Act B.E. 2530 (1987), and
- Procurement of Immovable Property for Public Transportation Affair Act B.E. 2540 (1997): for the use of immovable property without transferring of ownerships.

Normally, government makes land and right of way available necessary to execute each PPP scheme. The objectives of land use and the boundary of the required lands of each project must be specified and issued in a royal decree. A compensation committee will then be appointed to set the property value and amount of compensation. The right to develop the land is transferred to the concessionaire for the duration of concession period.

The PISU Act requires PPP contracts to make provision for project assets, including the ownership and valuation of such assets. At this stage, no further details are provided, and so, it is difficult to determine what will be included in contracts awarded under the PISU Act at this stage. The Draft Standard PPP Contract contemplates that details relating to the ownership of land and project assets will be decided between the parties on a case-by-case basis.

8.1.1.8 *Environmental and social issues*

	2014	2015	2016
Is there a local regulation establishing process for environmental impact assessment (EIA)?	✓	✓	✓
Is there a legal mechanism for private partner to limit environmental liability for what is outside of its control or caused by third parties?	✓	✓	✓
Is there a local regulation establishing process for social impact assessment?	✓	✓	✓
Is there an involuntary land clearance for PPP projects?	✓	✓	✓

The National Environmental Quality Act (NEQA) 1992 is the law governing environmental matters in Thailand. NEQA defines the types of projects that will require EIA, environmental health impact assessment, or initial environmental examination. Before commencing a project in Thailand, an investor should refer to NEQA 1992 or seek advice from the Environmental Impact Evaluation Bureau, Office of Natural Resources and Environmental Policy and Planning (ONEP) that is responsible for the administration of the EIA process for Thailand. In practice, for majority of major PPP schemes in Thailand, if required, EIA report will be produced by the host government agency prior to the issue of the request for proposal (RFP). EIA also incorporates any assessment in relation to the social impact of the project.

The government is allowed to acquire land or immovable assets for public utilities, or in the public interest, according to the Expropriation of Immovable Property Act B.E. 2530 (1987). Cost of compensation to and resettlement of local residents is managed by the government.

8.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads ^a	49%	49%	49%	Power generation	100%	100%	100%	
Railways	49%	49%	49%	Power transmission	100%	100%	100%	
Ports	49%	49%	49%	Power distribution	100%	100%	100%	
Airports	49%	49%	49%	Oil and gas	100%	100%	100%	
Water and wastewater				MSW	100%	100%	100%	
Bulk water supply and treatment	49%	49%	49%	Social infrastructure				
Water distribution	49%	49%	49%	Health care infrastructure	49%	49%	49%	
Wastewater treatment	49%	49%	49%	Health care services	49%	49%	49%	
Wastewater collection	49%	49%	49%	Education infrastructure	100%	100%	100%	
ICT				Education services	49%	49%	49%	
Fixed line infrastructure	49%	49%	49%	Government buildings	49%	49%	49%	
Fixed line services	49%	49%	49%	Prisons and correction centers	49%	49%	49%	
Wireless/mobile infrastructure	49%	49%	49%	Social housing	49%	49%	49%	
Wireless/mobile services	49%	49%	49%	Sport and leisure facilities	49%	49%	49%	

^a May increase to 60% or 75% with foreign business license and cabinet approval.

Is there any restrictions for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	yes	yes	yes
Currency conversion	no	no	no

Thai Land Law prevents foreigners/foreign-owned companies from owning land except in special circumstances that they are authorized by the Board of Investment. Alternatively, they could either lease the land or enter into a joint venture with a local partner that provides the land-use rights. Typical lease term is 30 years with the possibility of renewing the lease for additional 30 years. Difficulties in finding and preparing a site are one reason

that many investors have preferred to arrange a joint venture, with the local partner contributing the land and arranging clearance from local authorities for its use.

As for import of equipment or machinery, foreign investors are allowed to import equipment. In addition, it may be possible that under certain conditions, investors may be able to apply for special privilege through Board of Investment to reduce or waive applicable taxes and duties.

It appears that foreign investor participation may also be permitted or prohibited depending on the investor qualifications and requirements as specified in the prequalification invitation or the project announcement.

	2014	2015	2016
PPP projects with foreign sponsor participation to date (number)	50	51	51
PPP projects with foreign sponsor participation to date (share in total number of PPP projects)	37%	35%	34%

8.1.1.10 *Dispute resolution and enforcement mechanism*

	2014	2015	2016
Can a foreign law be chosen to govern PPP contracts?	x	x	x
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	x	✓	✓
Has the country signed New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓

The dispute resolution mechanism has to be stated in a PPP contract. Arbitration is possible, provided the project-owner agency can demonstrate the rationale and necessity owing to normal practice of that particular type of PPP contract or any other unavoidable cause. In the past, in most cases, disputes have been resolved through negotiation prior to a court judgment. Court-annexed conciliation and mediation are also available options. Processes in the legal system are very lengthy and usually take more than 5 years to reach a court ruling.

8.1.1.11 *Lender's security rights*

	2014	2015	2016
Does the law specifically enable lenders the following rights:			
Security over the project assets	x	x	x
Security over the land on which they are built (land-use right)	x	x	x
Security over the shares of PPP project company	x	x	x
Can there be a direct agreement between government and lenders?	x	x	x
Do lenders get priority in the case of insolvency?	x	x	x
Can lenders be given step-in rights?	x	x	x

Current regulations do not explicitly allow lenders' security rights; however, it is understood that they can be provided on case-by-case basis. Currently being developed, the Draft Standard PPP Contract anticipates that the project company's rights under it will be assigned to the project lenders and that security may be granted over the project assets. The draft also specifically provides for the entry into a direct agreement between the lenders, the government, and the project company acknowledging that the lenders should have rights to step in and replace the project company in the event of a project company default. However, these are not yet published.

8.1.1.12 *Termination and compensation*

	2014	2015	2016
Does the law specifically enable compensation payment to private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✓	✓	✓
Force majeure	✓	✓	✓
Does the law enable the concept of economic/financial equilibrium?	✓	✓	✓
Does the law enable compensation payment to private partner due to:			
Material adverse government action	x	x	x
Force majeure	✓	✓	✓
Change in law	x	x	x

No supportive regulations exist for compensation payable due to material adverse government action and change in law.

The Draft Standard PPP Contract provides that in case of early termination due to public sector default or for reasons of public interest, the compensation payable to the private

partner will be the market value of the project, damages suffered by the private partner, estimated loss of profits, and finance costs. In the event of termination due to private sector default, compensation will be limited to the market value of the project, to reduce any damages to the government. If termination is due to a force majeure event, compensation to the private partner will be just the market value of the project.

Notification of the SEPO Board Re: Standard Provisions of an Investment Partnership Contract (2015) states that the PPP contract shall state causes of contract termination, method for contract termination, effects of termination other than the case of expiration of the contract term, including regarding the operational method for subsequent provision of services if the project is suspended, and payment of damages in connection to contract termination. The PPP contract shall not contain provisions allowing automatic renewals or extensions of terms without requiring the parties to first negotiate.

8.1.1.13 Government support

		2014	2015	2016
Is project development fund (PDF) available?	In progress	✓	✓	✓
Land acquisition support from government		✓	✓	✓
Resettlement and/or compensation cost to residents at the project site		✓	✓	✓
Imposed limits on time frame to complete land acquisition (days)		✗	✗	✗
Is there a dedicated agency to streamline land acquisition?		✗	✗	✗
Exemption from/reduction of land-use fees		✓	✓	✓
VGF		✓	✓	✓
Limits to VGF as a % of projects capital cost		Case by case		
Government guarantees:				
Currency inconvertibility and transfer risk		✗	✗	✗
Foreign exchange risk		✗	✗	✗
War and civil disturbance risk		✗	✗	✗
Breach of contract risk		✗	✗	✗
Regulatory risk		✗	✗	✗
Expropriation risk		✗	✗	✗
Government payment obligation guarantee		✓	✓	✓
Credit guarantees		✗	✗	✗
Minimum demand/revenue guarantee		✗	✗	✗
Availability/performance-based payment contracts		✓	✓	✓
Tax subsidies		✓	✓	✓

Details of available government support for PPP projects in Thailand are given in Table 180.

Table 180: Details of Available Government Support for PPP Projects in Thailand

Government Support Type	Comments
Project development fund	The MOF is in the process of establishing a private investment promotion fund to provide “seed money” for new investment projects. This fund will be used to support the preparation of a PPP strategic plan and to support state agencies in making project proposals and conducting feasibility studies. This fund has to be managed by a committee chaired by the permanent secretary of the MOF.
Land acquisition and resettlement	For public civil infrastructure projects including roads, rails, airports, ports, gas, and water sub-sectors, government is responsible for making land available. Resettlement of effected households is also part of government’s responsibility. There is no dedicated central government organization responsible for land acquisition and resettlement. Each of the host organizations will be responsible for this. Monetary compensation to affected residents is considered fair in most cases. However, where land acquisition takes place in highly populated areas, conflicts often arise and often cause delays to the project. If this happens, the government can exercise their power and force residents to resettle. For utilities and telecommunication projects including information and communication technology, renewable energy generation, and thermal generation sub-sectors, land acquisition is the responsibility of project sponsors/developers.
Viability gap funding	The PISU Act does not explicitly address this topic. It is up to the relevant government authorities to determine how much capital to contribute based on the feasibility study and financial plan for the project, and also the ability to raise funds by the government. In the past, the government typically financed all or part of civil works for metro projects either through the fiscal budget or through borrowing from multilateral institutions. Other kinds of government contribution, for example, equity, were also allowed under each project agency’s establishment act.
Government guarantees	The PISU Act and the Standard Provisions Notification provide that the PPP contract can include provisions relating to guarantees but provide no further guidance or details on the nature of these provisions (therefore indicators marked in red in the table above). The PISU Act states that if a PPP project requires MOF credit guarantee, upon the committee’s grant of approval in principle of the project, the project shall be submitted to the council of ministers for approval of the project as well as the expenditure limit or project debt limit. Generally, no assessment of fiscal contingent liabilities is conducted by the government. In the past, funding guarantees have only been provided for government agencies and state-owned enterprises, and payment guarantees and, in few case, tariff rate guarantees in turn have been provided by the above agencies to private sector under power purchase agreement/water purchase agreement in some electricity generation and water supply PPP projects.
Availability/ performance-based payment contracts	Availability- and performance-based payment mechanism has been applicable in utilities PPP projects, such as power generation and bulk water supply, as well as in few cases of urban metro projects.

continued on next page

Table 180 continued

Government Support Type	Comments
Tax subsidies	There are investment incentives as established under the Investment Incentives Law (B.E. 2520 [1977]), such as tax reduction, which are mostly used in PPP infrastructure projects.

MOF = Ministry of Finance, PISU Act = Private Investments in State Undertaking Act, PPP = public-private partnership.

Source: Mott MacDonald.

Cumulative PPP projects that received government support	2014	2015	2016
VGF	4	4	4
Government guarantees	53	57	57
Availability/performance-based payment basis	102	114	117

Exhaustive data regarding PPP projects that received government support in the form of land acquisition have not been available. However, it is known that all road (4 projects) and metros (3 projects) PPP projects received land acquisition support, and for utilities and telecommunication projects including ICT, renewable energy generation, and thermal generation sub-sectors, land acquisition is the responsibility of project sponsors/developers.

Similarly, for VGF, it was found that two power plant projects and two metro projects (Bangkok MRT Blue Line and Purple Line) received VGF assistance.

The numbers of the PPP projects undertaken on availability/performance-based payment basis entirely refer to energy IPP and water supply projects. Similarly, government payment guarantees were provided for certain IPP and water supply projects.

8.1.1.14 Standard contracts

What standardized contracts are available and used in the market?	2014	2015	2016
PPP/concession agreement	x	x	x
Power purchase agreement	✓	✓	✓
Capacity take-or-pay contract	✓	✓	✓
Fuel supply agreement	✓	✓	✓
Transmission and use of system agreement	✓	✓	✓
Performance-based operation and maintenance (O&M) contract	✓	✓	✓
Engineering procurement and construction (EPC) contract	✓	✓	✓

8.1.2 Institutional Capacity for Implementation

8.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP unit)?	✓	✓	✓
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, and running PDF)	✗	✗	✗
Appraisal of PPP project feasibility studies	✓	✓	✓
Approval of PPP project	✓	✓	✓
Procurement	✗	✗	✗
Managing, monitoring, and enforcing ongoing PPP contracts	✗	✗	✗

PPP promoting institutions in Thailand are presented in Table 181.

Table 181: PPP-Promoting Institutions in Thailand

Institution	Role in Promoting PPP
PPP Policy Committee	<ul style="list-style-type: none"> • Chaired by the Prime Minister. Responsibilities include: • preparing a PPP strategic plan for the cabinets' approval, • approving a PPP project in principle, • setting monetary or fiscal measures or approaches for supporting PPP, • approving nonbidding process for a PPP project, • setting procedures for project with value less than B1,000 million, and • resolving any disputes per the PISU Act.
The State Enterprise Policy Office PPP Unit	<p>Acts as a secretariat office for the PPP Policy Committee and as a central PPP unit, and in charge of multi-agency coordination. Responsibilities include:</p> <ul style="list-style-type: none"> • drafting PPP strategic plan for the approval of the PPP Committee, • providing recommendation of project feasibility and submit opinions to the PPP Committee for approval, • drafting monetary or fiscal measures or approaches for supporting PPP for the approval of the PPP Committee, • submitting opinions on a nonbidding process for a PPP project to the PPP Committee, • drafting rules and procedures for private investment under PISU Act, • setting guidelines and approaches relating to the implementation of the PISU Act, and • reporting problems arising from the implementation of the PISU Act to the PPP Committee.

PPP = public-private partnership, PISU Act = Private Investments in State Undertaking Act.

Source: State Enterprise Policy Office. <http://www.sepo.go.th/>

8.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✗	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	no data	✓	✓
Is there a screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	no data	✗	✗

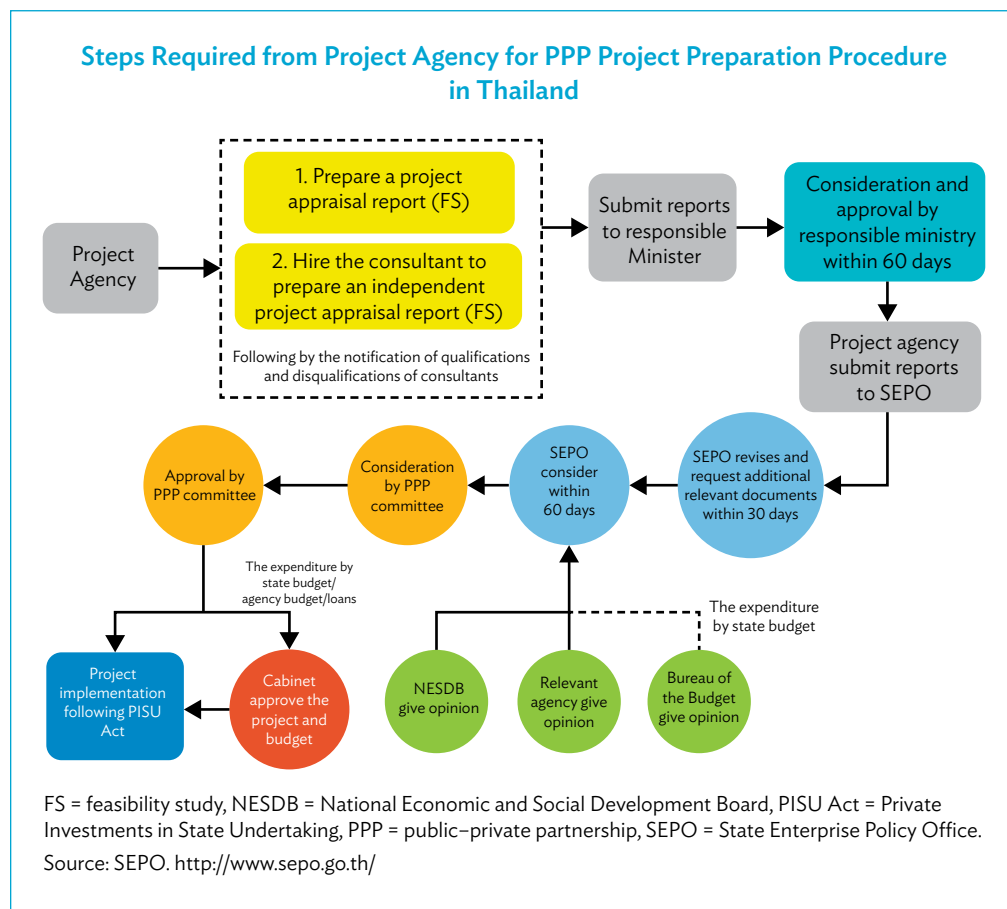
PPP Strategic Plan 2015–2019 defines a pipeline of 66 PPP projects with the estimated investment cost of about B1,417 billion (approximately \$40 billion).

The host agency will rank PPP alternatives and justify non-PPP options by comparing the value for money among alternatives; however, no particular uniform methodology is available.

8.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages	2	2	2
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓
Financial feasibility	✓	✓	✓
Legal feasibility	✓	✓	✓
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✓	✓	✓
Fiscal affordability assessment	✓	✓	✓
PPP structuring and risk allocation	✓	✓	✓
Initial market testing	✓	✓	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	3–4	3–4	3–4
Is the approval from Ministry of Finance (MOF) or equivalent required before commencement of procurement?	✓	✓	✓
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	✗	✗	✗

Each government contracting agency (GCA) is responsible for its own preparation of a PPP project. The PISU Act defines the following steps prior to commencing procurement:



The procedure illustrated in the figure is applicable for PPP projects with investment value of B5 billion and above. For projects with the investment value below B1 billion, an approval from the responsible minister is sufficient. For projects valued from B1 billion to B5 billion, only those involving infrastructure and public services must go through the PPP committee, whereas the rest are approved by the responsible minister.

Although the process assumes that independent consultants shall be hired to assist government with project preparation, typically these are local transaction advisors or universities and not international advisors (therefore indicator marked in red in the table).

8.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	x	x	x

Risk allocation has to be analyzed during project preparation and in the feasibility study report. However, the risk allocation has to be negotiated and concluded on a case-by-case basis in the project contract.

8.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	x	x	x
In case of competitive tender:			
Prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expression of interest (days)	30	30	30
Minimum time allowed to submit a bid:			
Domestic bidding (days)	45–60	45–60	45–60
International bidding (days)	90	90	90
Is negotiation available?	✓	✓	✓
Is there a process allowing unsuccessful bidders to challenge the award/make complain?	✓	✓	✓
If yes, maximum time allowed to submit a complaint starting from the announcement of a preferred bidder	no data	no data	no data
Maximum time limit from the bid closing date till the selection of a preferred bidder	no data	no data	no data
Maximum time limit from the selection of a preferred bidder till signing the contract (days)	90	90	90
Transparency: Which of the following is published?			
Procurement notice	✓	✓	✓
Q&A during bid clarification stage	✓	✓	✓
Evaluation results to bidders	✓	✓	✓
Provided but without explanation			
Award notice	✓	✓	✓
Contract	x	x	x
Confidentiality	✓	✓	✓
Average duration from the start of procurement till the selection of a preferred bidder (days)	no data	no data	180 ^a
Average duration from award till financial close (days)	no data	no data	no data

^a Based on actual data for Bangkok Pink and Yellow monorail PPP projects, awarded in December 2016.

The features of the procurement process are presented in Table 182:

Table 182: PPP-Procurement Process in Thailand

Theme	Description
Responsible agency	<p>Host agency can be a government agency having the status of a department or its equivalent, other state agency or local administrative organization.</p> <p>Following project approval by the Public–Private Partnership Policy Committee, the host agency must set up a selection committee consisting of a representative of the host agency as chairperson, and members from the Bureau of the Budget, the SEPO, the Office of the Attorney General, and a maximum of four qualified experts. The role of the committee is to approve, invite tender, draft terms of reference and a draft contract, set the bid bond, and select the desired private entity. The selection result must be submitted to the responsible minister for comment and then submitted to the cabinet for approval.</p>
Prequalification invitation documentation (optional at selection committee's discretion)	<p>Announcement to be made (by the same methods as those set out for project announcement below) at least 30 days prior to the first day on which prequalification bids are accepted. The announcement must include:</p> <ul style="list-style-type: none"> objectives for the prequalification screening, general requirements for the investors, and requirements on investors' qualifications and experience regarding project implementation and financial–commercial capability. <p>Selection criteria</p> <p>Note—depending on the size, value, complexity, and the time available to procure the project, the host agency may choose to combine prequalification process into the bidding stage. In the case that this method is selected, the bidders' qualification will be announced together with the invitation to bidders or RFP document. Investors can self-assess themselves before purchasing RFP document.</p>
Prequalification evaluation criteria	<p>Ability to arrange funding and ability to implement the project; experience of implementing similar projects; preliminary methodology of the project implementation; requirement to declare disputes or claims relating to contracts currently being implemented or past contracts and nationality of the investors.</p>
Prequalification evaluation method	<p>Submissions can be evaluated on the scoring scale, typically 100 points. Each investor must exceed a prescribed minimum score. Minimum score will be stated in each prequalification, typically range from 60% to 75%.</p>
Short list	<p>Shortlist is announced (only in the case where there is prequalification screening). The announcement of short-listed investors must take place at least 45 days prior to the first day on which bid submissions are accepted. Where there is a short-list, the RFP documents may only be purchased by those on the short list.</p> <p>In case only one investor registers and satisfies the requirements of the invitation for prequalification; or only one investor passes the prequalification; direct appointment is possible.</p>

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Table 182 continued

Theme	Description
Project announcement	<p>Announcement of a project's invitation to tender or RFP is organized by the host agency and must be done, at minimum, through (i) board notice on the host agency's premises, (ii) a radio or television announcement and (iii) an announcement in a local daily newspaper in the Thai language for at least 3 consecutive days. Where the host agency believes it appropriate to have foreign bidders, the announcement should be made to relevant embassies and through any additional means. There is no set time for the announcement date post cabinet approval. However, the announcement must be made at least 60 days prior to the first day on which bid submissions are accepted. PPP projects that are in the pipeline regularly receive news coverage and investors generally follow the progress through this media. Invitation to tender must include:</p> <ul style="list-style-type: none"> • project terms of reference (background, purpose, scope) • key qualifications required of bidders; • tender document fee; • place, date and time for RFP documents purchase; • place, date and time for bid submissions; • bid bonds and related conditions; • selection criteria; and • bid appraisal fee.
RFP documentation	<ul style="list-style-type: none"> • General information about the project, including the contents and scope of the project, detailed description of the outputs of the project and the services • Bidders' qualification may be included if prequalification process is combined together with the bidding process. • Instructions to bidders, including bidding procedures and the bidding data sheet • Project requirements in accordance with the approved feasibility study: <ul style="list-style-type: none"> – technical requirements: standards for implementation of the project, quality of project facilities, products and services to be provided; detailed description of the technical requirements and the technical specifications to be used for assessment of bid proposals, and requirements on environment and safety; – commercial-financial requirements: financial plan (total investment capital, structure of capital sources and plan on capital mobilization; State investment capital for project implementation (if any); expenditures; revenue sources, price, fees for products and services; term for recovering capital and gaining profits); requirements on risk sharing. • Evaluation methods • Standard bid forms • Project contract type, termsheet, and contract draft contract, including requirements on performance, facility quality standard, service provision standard, tariff mechanism, applicable regulations, contract rewards and penalties, force majeure events, and the review of contract during the operation of the project and other applicable contents • Draft contract documents may be included. Whether investors can submit a mark-up version with own requirement depends on the RFP.

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Table 182 continued

Theme	Description
Methods of interactions with the bidders	<ul style="list-style-type: none"> • Question and answers in writing • Bid conferences/clarification
Evaluation of technical proposals	<ul style="list-style-type: none"> • Depending on the nature of the project, technical criteria include the following aspects: quantity and quality; operation, management, conducting business, and maintenance; environment and safety • Submissions can be evaluated on the scoring scale of 100%. Investor must exceed a prescribed minimum score, which is typically not be less than 65%–75% of the total score, and the score of each basic required item shall not be less than 65%–70% of the maximum score for such item.
Evaluation of financial proposals	<p>Evaluation of financial proposals is carried out only for investors that satisfy the above technical requirements. Evaluation can be done based on the following methods:</p> <ul style="list-style-type: none"> • lowest price, • lowest state capital contribution, • highest payment to the state budget, and • combination of the above. <p>The investor that propose the best financial offer to the government is a preferred bidder. Because the project budget had been approved by the cabinet, financial offer by each investor should be close to the published median price determined by the host agency.</p>
Selection of Preferred Bidder	
Contract negotiation	<p>Preferred bidder is invited for negotiations with the selection committee on state benefits (if any) and draft investment contract. Final financial offer should be at least equal or better (beneficial to the government) than the budget allocated.</p> <p>Within 15 days of selection and negotiation result, the selection committee submits the results to SEPO and draft investment contract that has been negotiated with the private entity selected for investment to the Office of the Attorney-General for review.</p> <p>Within 45 days, the SEPO and the Office of the Attorney-General shall give an opinion on the private entity selection, public monetary and fiscal obligations, and the reviewed draft investment contract, and submit the opinion along with relevant evidence to the responsible minister.</p> <p>Within 30 days, the responsible minister shall give an opinion on the entire matter and submit the same to the council of ministers for consideration.</p>
Contract signing	<p>Upon the council of minister's approval of the private entity selection result and draft investment contract, the host agency shall proceed to sign the investment contract with the private entity selected for investment.</p>

PPP = public-private partnership, RFP = request for proposal, SEPO = State Enterprise Policy Office.

Sources: State Enterprise Policy Office. Public Private Partnership (PPP) in Thailand. <http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf>; Government of Thailand. 2013. Private Investments in State Undertakings Act, B.E. 2556 (2013).

8.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	135	147	150
PPP projects currently in preparation	n/a	n/a	46
PPP projects currently in procurement	n/a	n/a	2

Note: It should be noted that the research relied primarily on information reported in public sources that may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

8.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	34	35	36
Cumulative PPP projects that received export credit agency (ECA)/ international financing institution's (IFI) financing	16	17	17

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Max tenor for local currency loan (years)	10+	10+	10+
Availability of interest rate swaps	✓	✓	✓
Forward duration of interest rate swap (years)	5-9	5-9	5-9
Availability of currency swaps	✓	✓	✓
Forward duration of currency rate swap (years)	10+	10+	10+
Availability of project bond financing	✓	✓	✓
Availability of project financing from local public sector banks	✗	✗	✗
Maximum tenor for loan from local public sector banks (years)	n/a	n/a	n/a

Thailand has the most mature local capital market compared to similar economies of Southeast Asian countries. Project financing is mostly local currency denominated. Due to cheap availability of local bank debt, project bond financing is theoretically available, but no cases have been identified by this research.

International banks have the appetite to finance PPP projects in Thailand; however, till now all cases of foreign banks participation have been limited to power sector, as IPPs and small IPPs are considered generally well structured.

Indicative project finance hard currency loan terms in Thailand are presented in Table 183.

Table 183: Indicative Project Finance Hard Currency Loan Terms in Thailand

Term	Value
Maximum tenor	15–20 years for well-structured project with strong support
Upfront arrangement fee	100—300 bps
Floor rate (reference rate)	LIBOR
Margin rate	100–500 bps
Political risk cover premium	no data
Interest rate swap fee	no data
Currency conversion swap fee	no data

bps = basis points, LIBOR = London interbank offered rate.

Notes: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Source: HSBC Report 2017.

Indicative project finance local currency loan terms in Thailand are presented in Table 184.

Table 184: Indicative Project Finance Local Currency Loan Terms in Thailand

Term	Value
Maximum tenor	20 years
Upfront arrangement fee	no data
Floor rate (reference rate)	BIBOR
Margin rate	no data
Political risk cover premium	no data
Interest rate swap fee	2–6 bps
Currency conversion swap fee	20 bps

bps = basis points

Notes: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Sources: HSBC Report 2017; consultations with Banks.

It is noteworthy that, it is very difficult to generalize about loan terms. In general, the factors determining pricing are

- exposure to market/revenue risk,
- exposure to foreign exchange risk,

- credibility of offtaker,
- credibility of sovereign,
- availability of export credit/multilateral support,
- proven effectiveness of sector and underlying technology, and
- financing market (i.e., Lehman shock) and regulations (i.e., Basel III).

Security package issues

In the project finance, the stability of the revenue stream is most important, and most international lenders will require a sovereign guarantee from the MOF for the paying authority's obligations. In addition, from commercial bank's perspective, such sovereign guarantee has to be further guaranteed/insured by ECAs and/or multilateral lending agencies.

Local bank requirements

In general, local banks lending in local currency will have less stringent requirements on a project. Local banks can generally cope with higher debt-to-equity ratios, lower debt service coverage ratio, and no explicit sovereign guarantee where international lenders would require it. They can also cope with some level of revenue and fare risk where international banks demand a guaranteed offtake for greenfield projects.

8.2 Roads

8.2.1 Regulatory Framework

8.2.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	49%
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8.2.1.2 *Government contracting agency*

The key contracting agencies for road and tollway projects are Department of Highways, Department of Rural Roads, and Expressway Authority of Thailand (EXAT), which are being overseen by the Ministry of Transport (MOT).

8.2.1.3 *Sector-specific regulations*

Does private partner have legal right to charge users?	✓
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8.2.1.4 Sector regulators

The sector still lacks independent regulator, so MOT has a central unit within the ministry to provide overall checks and balances on the service performance, standard, and tariff. In addition, each agency has its own department that acts as internal project regulator.

8.2.1.5 Standard contracts

What standardized contracts are available and used in the market?		
PPP/concession agreement	x	
Performance-based O&M contract	x	
EPC contract	✓	

8.2.2 Institutional Capacity for Implementation

8.2.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Pipeline of road PPP projects comprises seven projects with an investment value of around \$10.7 billion.

PPP pipeline of road projects is listed in Table 185.

Table 185: PPP Pipeline of Road Projects

No.	Project Name	Length (km)	Value (\$ million)
1	Kathu-Patong Expressway Project (Phuket Province)	4	365
2	Intercity Motorway (Nakhon Pathom-Cha-Am)	110	2,290
3	Intercity Motorway (Western Outer Bangkok Ring Road-Ratchburi [Paktho] [HW#35])	20	2,550
4	Intercity Motorway (Hat Yai-Thailand-Malaysia border)	37	860
5	Intercity Motorway (Extension Part of Uttraphimuk Elevated Tollway, Rangsit-Bang Pa-In)	18	686
6	Intercity Motorway (Bang Pa-In-Nakhon Ratchasima)	196	2,420
7	Intercity Motorway (Bangyai-Kanchanaburi)	96	1,590

PPP = public-private partnership.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.2.2.2 Project preparation

Number of PPP projects in preparation	3 ^a
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^a Currently, nos. 2, 6, and 7 in Table 184.

8.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	0
Unsolicited bids	0
Competitive bidding process	3
PPP projects currently in procurement	0

8.2.3 Features of Past PPP Projects

8.2.3.1 PPP projects that reached financial close

	Number	Value (\$ million)
PPP projects that reached financial close	3	390

Udon Rattaya Expressway, Sri Rat to Outer Ring Road Expressway, Sri Rat Expressway (Expressway Stage 2) operated by Bangkok Expressway and Metro Public Company Limited (BEM), and Don Muang Tollway.

8.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	0	n/a

8.2.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	
Minimum traffic/revenue guarantees	0
Projects on availability/performance-based payment basis	0

8.2.3.4 *Payment mechanism*

PPP projects by payment mechanism:	Number
User-paid contracts	4
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	✓
Advertising	✓

8.2.3.5 *Tariffs*

Tariffs setting and indexation are regulated by the MOT. Allowable tariffs and fare increment are agreed in each individual concession contract. For example, under the Second Stage Sri Rat Expressway Agreement and the Bang Pa-in-Pak Kret Agreement, toll rates shall be revised at every 5 years interval in accordance with changes in consumer price index of Bangkok as announced by the Ministry of Commerce, which serves as the basis of calculation for the intrinsic value of the toll rates during the given periods under the agreements.

Depending on the type of PPP contract and/or concession agreement, revenue share scheme may be applicable, that is, when a concessionaire injects a portion of the collected revenue into the system maintenance or return to the grantor or the host government agency.

Examples of current toll rates for recently rehabilitated and constructed roads are presented in Table 186.

Table 186: Examples of Current Toll Rates for Recently Rehabilitated and Constructed Roads

Road	Toll Type	Vehicle (4 wheels)	Vehicle (6–10 wheels)	Vehicle (>10 wheels)
Udon Rattaya Expressway	Close (baht per toll)	35–55	90–120	140–180
Sri Rat Expressway (Expressway Stage 2)	Open (baht per trip)	50	75	110
Sri Rat to Outer Ring Road Expressway (16.7 km)	Open (baht per trip)	50	75	110

Source: Expressway Authority of Thailand. http://www.exat.co.th/index.php/th_TH/page/details/21

8.2.3.6 *Risk allocation*

Typical risk allocation arrangements in road PPP contracts are presented in Table 187.

Table 187: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Collection risk	✓			
Competition risk	✓			
Government payment risk	✓			
Environmental and social risk	✓			
Land acquisition risk		✓		
Permits	✓			
Geotechnical risk	✓			
Brownfield risk: inventories studies, property boundaries, project scope		✓		
Political risk	✓			
Foreign exchange risk	✓			

PPP = public-private partnership.

Source: Mott MacDonald.

8.2.4 Local Capabilities

Thailand has very strong pool of local private contractors with capacity and know-how to carry out most of the road/highways-related work except for very complex bridge construction.

For operations, BEM is the concessionaire for three existing PPP expressway projects in Bangkok and is the only key private operator of PPP road schemes.

For road maintenance, Thai contractors have sufficient experience and capability to carry out general maintenance work.

Foreign investors can still offer their expertise especially with project finance, risk management, and project management.

8.2.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI support	0

8.2.6 Challenges

Challenges for PPP progress in road sector are shown in Table 188.

Table 188: Challenges for PPP Progress in Road Sector

Challenges	Currently Implemented Tackling Measures
Foreign concessionaire's restriction to enter the sector limits the competition, as the controlling stake in the project company shall belong to local companies.	
Country's political risk. Due to political unrest in the past recent years, implementation of PPP project has been delayed.	The new PPP law and project pipeline under PPP strategic plan should help to reduce this unnecessary steps in the approval and procurement process and hence speed up remaining PPP projects in the pipeline.
Land acquisition delays due to decentralization of the process and objection of local resident, especially in urban areas of high population density.	Government agency can acquire land through court order. In practice, this is the last resort as this can cause conflict with local residence and create bad reputation for the project.

PPP = public-private partnership.

Source: Mott MacDonald.

8.3 Railways

8.3.1 Regulatory Framework

8.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	49%
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8.3.1.2 Government contracting agency

The key contracting agencies for railway PPP projects are various government administrations and state enterprises including State Railways of Thailand, Mass Rapid Transit Authority of Thailand (MRTA), both under the oversight of MOT, and Bangkok Metropolitan Authority (BMA).

Future Mass Rapid Transit (MRT) projects will be contracted under MRTA, whereas rail projects such as high-speed trains and airport rail link will be contracted under State Railways of Thailand.

8.3.1.3 Sector-specific regulations

Does private partner have legal right to charge users?	✓
---	---

Government is in the process of developing a single ticketing system for use on public transport network. There will be a mechanism to calculate the share of fare box revenue between different lines/operators. One single entry fee for each line will be introduced. The system is planned to be ready by 2018.

8.3.1.4 *Sector regulators*

The sector still lacks independent regulator so both MRTA and BMA act as regulators for service performance, technical and operational standards, and tariffs.

8.3.1.5 *Standard contracts*

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
Performance-based O&M contract	✗
EPC contract	✓

8.3.2 Institutional Capacity for Implementation

8.3.2.1 *Project planning*

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Railway PPP projects are considered the priority in the PPP Strategic Plan 2015–2019, and a number of urban rail PPP projects has been fast tracked in 2016. The focus has been given to developing a complete network of mass rapid transit system for Bangkok and providing high-speed train services to locations outside of Bangkok that have comparatively higher economic development level compared to the rest of the cities or on the routes that has higher commercial advantages.

PPP pipeline of railways projects is listed in Table 189.

Table 189: PPP Pipeline of Railways Projects

No.	Project Name	Length (km)	Value (\$ million)	Lead Agency
1	MRT Purple Line south extension (Tao Pun—Karnjanapisek Ring Road)	23	3,750	MRTA
2	MRT Orange Line (west side: Taling Chan—Thailand Cultural Station)	17.5	2,440	MRTA
3	MRT Orange Line (east side: Thailand Cultural Station—Min Buri)	20	3,150	MRTA
4	MRT Blue Line (Hua Lumphong—Bang Khae and Bang Sue—Tha Phra) extensions	27	2,355	MRTA
5	Bangkok—Rayong High-Speed Rail	195	4,355	State Railway of Thailand
6	Bangkok—Hua Hin High-Speed Rail	211	2,320	State Railway of Thailand
7	Common ticketing system management and maintenance	–	27	Office of Transport and Traffic Policy and Planning

MRTA = Mass Rapid Transit Authority of Thailand, PPP = public–private partnership.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.3.2.2 Project preparation

Number of PPP projects in preparation	7
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8.3.2.3 Procurement

PPP projects currently in procurement	2
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As of January 2017, contract negotiation is under way with the preferred concessionaire for Pink and Yellow Monorail PPPs.

8.3.3 Features of Past PPP Projects

8.3.3.1 PPP projects that reached financial close

	Number	Value (\$ million)
PPP projects that reached financial close	3	4,495

To date, three concessions have been awarded:

- Bangkok Transit System (BTS) SkyTrain operated by Bangkok Mass Transit System Corporation Limited (BTSC) on full BTO concession basis
- Bangkok MRT Blue Line and Purple Line operated by BEM, as net-cost and gross-cost models, respectively. Government (MRTA) financed all civil works, whereas BEM was responsible for supply of rolling stocks and electrical and mechanical systems, and subsequent O&M in accordance with the specified service standards.

8.3.3.2 Foreign investor participation

	Number	Share in Total Number of Railways PPP Projects
PPP projects with foreign sponsor participation	0	n/a

8.3.3.3 Government support

PPP projects that received government support:	Number
VGF	2
Government guarantees	no data
Projects on availability/performance-based payment basis	1

For all the three projects, the government has provided the land, whereas for two of them the government invested in all civil infrastructure (i.e., stations and facilities, tunnels, ventilation systems, and trackwork).

8.3.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	2
Government-paid contracts	1
What additional revenue streams are allowed?	
Land-use development rights (transit-oriented development)	✓
Advertising	✓
Track access charges	✗

Having additional revenue from transit-oriented development and advertising is a common practice in Thailand. For example, the concessionaire for MRT Blue Line and Purple Line has the exclusive right to collect fare box revenue and undertake activities and commercial

development, including advertising, leasing space, and telecommunications services in the metro stations and in the trains. For Blue Line contract, which is on the net-cost basis, the concessionaire is obliged to share farebox and commercial development revenues with MRTA at the rates agreed in the contract. For Purple Line contract, which is on the gross-cost basis, MRTA is entitled to all farebox and commercial development revenue from the utilization of the civil infrastructure and the railway systems, and MRTA makes repayment to the concessionaire in the form of a service fee.

8.3.3.5 Tariffs

Fares setting and indexation mechanism is stated in a concession contract as agreed with the governing agencies (BMA and MRTA), and normally, their approval is required before adjusting system fares.

For example, BTSC's concession contract provided automatic tariff indexation for normal levels of inflation in 5% increments. The following events would also trigger a full fare renegotiation (Mandri-Perrott 2010):

- changes in inflation greater than $\pm 9\%$ in one 12-month period,
- fluctuation in exchange rate greater than $\pm 10\%$ from the base case specified in the concession contract,
- changes in the interest rate on local and foreign debt by $\pm 10\%$ from the base case specified in the concession contract,
- substantial increases in electricity costs to BTSC,
- major investments in excess of the originally agreed scope of work, and
- other exceptional events (e.g., force majeure and macroeconomic shocks).

Under the terms of the concession contract, BTSC required BMA's approval. The system's current fare structure is zone based with options for monthly passes.

MRT Blue and Purple lines concession contracts allow fares to be adjusted every 2 years based on the actual changes of the Bangkok Non-Food Consumer Price Index compared to the basic reference fare rates.

Distance-based fares are applied in Thailand:

Current fare rates for Bangkok Metro are presented in Table 190.

Table 190: Current Fare Rates for Bangkok Metro (Baht)

Line/No. of Stations	1	2-7	2-11	8-17	12-17	18-22
Bangkok Transit System Sky Train	15	22-37		42		52
MRT Blue Line and Purple Line	16		19-39		42	

Note: Rates are as at end of 2016.

Sources: http://www.bts.co.th/customer/th/02-route-current_new.aspx; <https://www.bangkokmetro.co.th/pagerate4.aspx>.

8.3.3.6 Risk allocation

Typical risk allocation arrangements in railways PPP contracts are shown in Table 191.

Table 191: Typical Risk Allocation Arrangements in Railways PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			There has been only one case when the public sector took the demand (passenger volume) risk—Purple Line MRT, which was awarded on gross-cost basis. Generally, the tendency in the government is to pass the risk to the concessionaire.
Revenue collection risk	✓			
Tariff risk			✓	See Section 8.3.3.5.
Competition risk	✓			
Government payment risk	✓			
Environmental and social risk			✓	
Land acquisition risk		✓		
Utilities relocation risk			✓	Private partner bears the risk of cost overrun associated with relocating public utilities up to a specified threshold.
Interface with other transport	✓			
Permits	✓			
Geotechnical risk	✓			
Regulatory risk		✓		
Political risk	✓			
Foreign Exchange risk			✓	
Early termination risk			✓	

PPP = public–private partnership.

Sources: Mott MacDonald; C. Mandri-Perrott. 2010. *Private Sector Participation in Light Rail-Light Metro Transit Initiatives*. The International Bank for Reconstruction and Development/The World Bank.

8.3.4 Local Capabilities

Thailand has very strong pool of local private contractors with capacity and know-how to carry out most of the railway/metro-related work. Rolling stock has been provided by international companies.

There have been two major local operators: BTSC and BEM.

Foreign investors can still bring value and offer their expertise especially with project finance, risk management, and project management.

8.3.5 Challenges

Challenges for PPP progress in rail sector are shown in Table 192.

Table 192: Challenges for PPP Progress in Rail Sector

Challenges	Currently Implemented Tackling Measures
Foreign concessionaire's restriction to enter the sector limits the competition, as the controlling stake in the project company shall belong to local companies.	
Country's political risk. Due to political unrest in the past recent years, implementation of PPP project has been delayed.	The new PPP law and project pipeline under PPP strategic plan should help to reduce this unnecessary steps in the approval and procurement process and hence speed up remaining PPP projects in the pipeline.
Bankability issues due to very high investment cost coupled with high uncertainties in ridership estimate and the intention of the government to pass demand risk to private sector	
Poor integration of urban rail with other modes of transport has results that ridership cannot be realized to its full potential. Many of these problems resulted from lack of cooperation and coordination between government agencies that run different aspects of Bangkok transportation network.	Future PPP projects are intended to be under supervision of a single ministry— Ministry of Transport, which controls all modes of transport. Government plans to implement single ticketing system for use on public transport network.
Land acquisition delays due to decentralization of the process and objection of local resident, especially in urban areas of high population density.	Government agency can acquire land through court order. In practice, this is the last resort as this can cause conflict with local residence and create bad reputation for the project.

PPP = public–private partnership.

Source: Mott MacDonald.

8.4 Ports

8.4.1 Regulatory Framework

8.4.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	49%
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The Business Act stipulates that a port operator must either be a Thai national or a company with at least 51% Thai equity and must comply with the Port Authority of

Thailand (PAT) Act B.E. 2494 (1951). Business activities with varying foreign ownership ceilings are shown below.

Maximum allowed foreign ownership for defined activities is presented in Table 193.

Table 193: Maximum Allowed Foreign Ownership for Defined Activities

Business Activity	Maximum Percentage Allowed
International shipping services	49%
Domestic shipping services	30%
Port/terminal operator	49%
Specific services	100% subject to authorization of the Minister of Transport, for a period of 1 year, if domestic vessels are not available.

Source: World Trade Organization. 2015. *Trade Policy Review: Thailand*. WT/TPR/S/326. pp. 1–151. https://www.wto.org/english/tratop_e/tpr_e/tp426_e.htm

8.4.1.2 Government contracting agency

The Ministry of Transport and Communications (MOTC) is responsible for formulating policies for the transport sector and is competent to enter into PPP contracts.

The Thai government has policies to promote private participation within the port sector. The principal policy, to privatize the PAT, has not made much progress and is awaiting guidance and direction from the government. The private sector can participate in public ports as well as private ports, either by operating the existing facilities or funding the development of and operating the new or additional facilities. Port operators are, however, required to fulfil technical requirements to receive permission and permits (issued by competent authorities) for the development, construction, and operation of ports.

8.4.1.3 Sector-specific regulations

The Marine Department, under the MOTC, is responsible for the promotion and development of maritime transport. It is also in charge of law enforcement, navigation safety, ship registration and inspection, maintenance of navigation channels, providing pilotage services for seagoing vessels, and minimizing the environmental impact caused by navigation and port activity.

8.4.1.4 Sector regulators

There is no independent regulator for ports in Thailand. State-owned PAT under the general supervision of the MOTC carries out certain regulatory functions. Operating within the port sector, PAT is conducting business for the interest of the state and the public. PAT is further responsible for the development and management of all major ports in Thailand.

At present, there are eight major ports under the direct control of PAT, while another five public ports are under the supervision of PAT. Two smaller ports fall under the authority of the harbor department. Four private ports are permitted to handle container cargo. PAT can make decisions on appropriate management and operations of each port under its control, provided that such decisions must correspond to PAT's work objectives as stipulated by the act.

The Port Authority of Thailand Act B.E.2494 (1951) as amended by the Act B.E.2551 (2008) listed the following work activities to be carried out by the PAT.

Port sector regulatory agency in Thailand is shown in Table 194.

Table 194: Port Sector Regulatory Agency in Thailand

Agency	Function
PAT	Construct, purchase, acquire, dispose of, hire, let and operate port equipment, services, and facilities
	Purchase, acquire, lease, hire, let, own, posses, dispose of or operate in connection with movable and immovable properties
	Determine charges for the use of its ports, services and facilities, and to issue regulations regarding the method of payment of such charges
	Issue regulations regarding safety, the use of its ports services and facilities
	Borrow money
	Dredge and maintain channels in the authority area
	Control, develop, and provide facilities and safety in port undertakings and navigation in the authority area
	Fix the rates of various dues and charges within the authority area
	Issue bonds or any other instruments for the purpose of investment
	Form a limited company or a limited public company for the conduct of port undertakings and other businesses within the scope of the objectives of the PAT, provided that shares of all the said limited company or limited public company shall be held by aliens as defined by the law on alien business in the amount not exceeding 49% of its registered capital
	Form a joint venture with other parties or to hold shares of a limited company or a limited public company for the benefit of the businesses of the PAT

PAT = Port Authority of Thailand.

Source: PAT Act, B.E. 2494 (1951) as amended until PAT Act (No.5), B.E. 2551 (2008).

8.4.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	✗
EPC contract	✓

8.4.2 Institutional Capacity for Implementation

8.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Ports PPP projects are considered the priority in the PPP Strategic Plan 2015–2019, and it includes a pipeline of seven maritime PPP projects. PPP pipeline of maritime projects is shown in Table 195.

Table 195: PPP Pipeline of Maritime Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	Laem Chabang Port—Phase 3	Port Authority of Thailand under MOT	2,495
2	Pak Bara Seaport	Marine Department under MOT	575
3	2nd Songkhla Deep-Seaport	Marine Department under MOT	464
4	Chumphon Seaport	Marine Department under MOT	113
5	Songkhla Seaport Renovation	Treasury Department under MOF	52
6	Khlong Yai Port	Marine Department under MOT	37
7	Phuket Seaport Renovation	Treasury Department under MOF	5

MOF = Ministry of Finance, MOT = Ministry of Transport, PPP = public–private partnership.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.4.2.2 Project preparation

Number of PPP projects in preparation	7
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8.4.2.3 Procurement

PPP projects procured through:	
Direct appointment	no data
Unsolicited bids	0
Competitive bidding process	no data
PPP projects currently in procurement	0

8.4.3 Features of Past PPP Projects

8.4.3.1 PPP projects that reached financial close

	No.	\$ million
PPP projects that reached financial close	8	200

Seven of eight past PPP projects that reached financial closure were various agribulk, domestic, and container terminals in Laem Chabang Port. The brownfield to greenfield split is 1:1. The concession period for the terminals varied between 25 and 30 years.

8.4.3.2 Foreign investor participation

	Number	Share in Total Number of Port PPP Projects
PPP projects with foreign sponsor participation	5	63%

8.4.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	no data
Projects on availability/performance-based payment basis	0

8.4.3.4 Payments mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	8
Government-paid contracts	0
What additional revenue streams are allowed?	
Land-use development rights	no data
Wharf charge	no data
Navigation charge	no data
Pilotage charge	no data
Channel access charge	no data

8.4.3.5 Concession fees

No information available.

8.4.3.6 Tariffs

Does private sector have the freedom to set the tariff?	no data
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Terminal handling charges (THCs) are charges made by the terminal operators in respect of container movements services performed at a terminal. For container terminals, THCs cover the movement of a container between the ship's hold and the exit-entry gate via the container terminal yard. Table 196 gives a general indication of the destination THCs for a full container load as charged by the relevant terminal operator, port authority and/or shipping line.

Table 196: Typical Terminal Handling Charge

Designation	Company	Year	Terminal Handling Charge (\$)	
			Twenty-foot equivalent unit	Forty-foot equivalent unit
Shipping Line	MOL	2016	80	122
Shipping Line	MCC	2016	80	122

Source: Various as published by companies.

Actual THCs may vary from port to port of each country, as the cost of handling depends on the contractual agreement between terminal operators and the relevant shipping line. Additional wharfage charges of \$8 and \$14 apply to containerized cargo at PAT-owned ports.

8.4.3.7 Labor

How is the issue of excess and efficiency of labor force typically being resolved?	
Private operator given the freedom to hire and fire and to set its own terms and conditions of employment	no data
The pre-PPP workforce is transferred to the private operator. Private operator is allowed to make gradual changes to the terms and conditions of employment, providing these are no worse than before and are acceptable to the unions or workers' representatives.	no data
The port authority or government undertakes a major labor force restructuring in advance of the PPP, and the workforce is transferred to private operator.	no data

Minimum national crew requirements are in place to provide work opportunities for Thai nationals.

8.4.3.8 Risk allocation

No information available.

8.4.4 Local Capabilities

The World Trade Organization Trade Policy Review of 2015 notes that Thailand has a reasonable commercial shipping fleet comprised of 474 vessels (in 2014) and has a total of 122 terminal operators. Most ports are government owned but operated by international private sector operators. The main ports of Laem Chabang and Bangkok are used for both imports and exports of containers, bulk cargo, and other large shipments. The local shipbuilding industry in Thailand is small with limited capacity. Thailand has a reasonable local stevedoring capacity. Marine construction and dredging works for major projects are typically carried out by international companies.

8.4.5 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI financing	0

8.4.6 Challenges

Challenges for PPP progress in port sector are shown in Table 197.

Table 197: Challenges for PPP Progress in Port Sector

Challenges	Currently Implemented Tackling Measures
Foreign port operators' restriction on equity as the controlling stake in the project company shall belong to local companies	
Lack of independent port regulator	

PPP = public-private partnership.

Source: Mott MacDonald.

8.5 Energy

8.5.1 Regulatory Framework

8.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	100%
Power transmission	100%
Power distribution	100%
Oil and gas	100%

8.5.1.2 Government contracting agency

Electricity Generating Authority of Thailand (EGAT) is a state-owned, vertically integrated utility and plays the key role in electricity generation and transmission in the Thai power sector. EGAT owns 48% of Thailand's total generation capacity and has the exclusive rights to purchase electricity that is produced by IPPs and small power producers (SPPs)³³ and to sell it to the two distribution companies. Although Energy Regulatory Commission regulates power purchases, the ultimate authority for setting policy on power sector procurement lies with the National Energy Policy Council (NEPC), and so EGAT's monopoly on power purchases ultimately derives from that authority. The NEPC consists of the Prime Minister as chairman, a Deputy Prime Minister designated by the Prime Minister as vice chairman, the ministers for energy, transport, interior, defense, foreign affairs, finance and agriculture, and the Secretary-General of the NEPC.

Metropolitan Electricity Authority (MEA) engages in the distribution of electricity in Thailand. The company supplies electricity to customers in Bangkok, Nonthaburi, and Samut Prakarn, which together account for two-thirds of Thailand's electricity demand. MEA owns no generation itself, but instead purchases from EGAT or directly from very small power producers (VSPPs).³⁴ It is, however, directly responsible for the high-voltage distribution network within its service territory and is involved in the design, installation, and maintenance of high voltage as well as low-voltage electrical systems.

Provincial Electricity Authority (PEA) is responsible for generation, procurement, distribution, and sale of electricity to the public, business, and industrial sectors in 74 provinces, over a nationwide area of 510,000 square kilometers or 99.4% of Thailand. PEA does not own or control any of the high-voltage lines within its service territory. As with MEA, responsibility for oversight of PEA falls to the Ministry of Interior.

PTT Public Company Limited (PTT) is a fully integrated oil and natural gas company in Thailand, which conducts upstream exploration and production, the import and export of

³³ Generators between 10 and 90 MW.

³⁴ Generators ≤10 MW.

crude oil, condensate, petroleum feedstock and petrochemical products, refining and the marketing of refined products. The MOF holds a majority stake in PTT (51% of the total shares).

8.5.1.3 Sector-specific regulations

The regulatory framework for the Thai energy sector was reformed in December 2007 with the passage of the Energy Industry Act 2007. The act established the principles of the regulatory framework for the power and gas sectors, and the institutional arrangements for the separation of policy and regulation. The establishment of the Energy Regulatory Commission was one of its cornerstones.

The act is impressive in its scope and comprehensiveness. In addition to covering important aspects of the power and natural gas sectors, such as the issuance of licenses and the setting of tariffs, the act explicitly calls for the full utilization and development of renewable sources of energy, with a particular emphasis on reducing the reliance on imports.

8.5.1.4 Sector regulators

Energy sector regulatory agencies are shown in Table 198.

Table 198: Energy Sector Regulatory Agencies

Agency	Function
Ministry of Energy	Primary responsibility for developing policies related to the electricity sector. The ministry is the principal actor in the governance of the energy sector. It drafts and proposes all policies related to energy, including electric power and renewable energy policies
NEPC	Consists of the Prime Minister as chairman, a Deputy Prime Minister designated by the Prime Minister as vice chairman, the ministers for energy, transport, interior, defense, foreign affairs, finance and agriculture, and the Secretary-General of the NEPC devises the National Energy Policy and the National Energy Management and Development Plan
Energy Policy and Planning Office	Recommends energy policies, including the Power Development Plan, energy management and development plans of the country
Department of Mineral Fuel	Grants concessions, regulates, and facilitates international co-operation for oil and gas exploration and production, and aims to enhance gas supply security
Department of Alternative Energy Development and Efficiency	Promotes clean and renewable energy production and use, the commercialization of clean energy technology, and energy conservation
Department of Energy Business	Grants licenses for oil and gas trading, storage stockpiling and transport, controls safety standards, and defines and controls oil and gas quality standards

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Table 198 continued

Agency	Function
Energy Regulatory Commission	<p>A regulatory agency established in 2008 under the Energy Industry Act of 2007. It operates separately from the Ministry of Energy and other government departments, but works within the policy framework of the NEPC. The Energy Regulatory Commission has the functions as follows:</p> <ul style="list-style-type: none"> • regulate energy industry operations, compliant with the Energy Act and policies, • issue operational licenses for the energy industry, • ensure the reliability and security of power system, • establish regulations and criteria for power purchases, • provide an opinion on energy and power development plans, • promote energy efficiency and the use of clean and renewable energy, • approve the electricity tariff, • set standards for safety in energy industry operations, • oversee energy network systems and operators, • protect energy consumers, and • set the pipeline tariff for natural gas.
Ministry of Finance	Plays a key role in the power sector, as it must approve all public electricity-related investment projects.
Ministry of the Interior	Involved in the energy sector as state-owned enterprises are established under its authority and regulated by it. In addition, the development of the provincial electricity sector was formerly undertaken under the authority of the Ministry of the Interior.
Ministry of Industry	Involved in the electricity sector as it supervises and co-ordinates the activities of industrial business operations, including power generation, by applying the guidelines on environmental protection, safety, hygiene, and energy efficiency
ONEP under the Ministry of Natural Resources and Environment	For large-scale projects which will cause significant impacts, the EIA reports must be submitted to the ONEP to be considered and give recommendations to permitting agencies or cabinet. EIA reports have to be prepared by a consulting firm which is registered by ONEP.

EIA = environmental impact assessment, NEPC = National Energy Policy Council, ONEP = Office of Natural Resources and Environmental Policy and Planning.

Source: Mott MacDonald.

8.5.1.5 Standard contracts

What standardized contracts are available and used in the market?	
Power purchase agreement	✓
Capacity take-or-pay contract	✓
Fuel supply agreement	✓
Transmission and use of system agreement	✓
EPC contract	✓

8.5.2 Institutional Capacity for Implementation

8.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	not applicable

Governmental institutions and related agencies have developed the key development plans to support the project planning as follows:

- Power Development Plan 2015–2036 (PDP2015)
- Alternative Energy Development Plan 2015–2036 (AEDP2015)
- Thailand Smart Grid Development Master Plan 2015–2036
- Energy Efficiency Plan 2015–2036

The PDP2015 and AEDP2015 are the key strategy to set the target for Thailand future energy. The PDP2015 details a 21-year investment strategy for the power sector, including the types of generation to be developed and a detailed schedule for development. The PDP2015 aims to increase both the proportion of coal-fired generation as well as renewable energy generation. The plan also includes nuclear development, though only at the end of the plan, as development of nuclear is at present not feasible. Thailand expects that future demand growth will be relatively strong, with the need to replace approximately 27 gigawatts (GW) of capacity that is expected to retire over the time frame of the PDP2015 (in 2036).

The AEDP2015 targets 30% of final energy consumption from renewable energy sources and 20 GW of installed capacity by the end of 2036. The total plan capacity for renewable energy plan under AEDP2015 are as follows:

- Solar—6,000 megawatts (MW)
- Wind—3,002 MW
- Hydro (domestic)—3,282 MW
- Hydro (more than 15 MW)—2,906 MW
- Hydro (up to 15 MW)—376 MW
- Biomass—5,570 MW
- Biogas—1,280 MW
- Waste to energy—550 MW

Unlike previous renewable energy plans, AEDP2015 establishes priorities for renewable energy support or the so-called merit order for renewable power generation. The merit order ranges from the highest priority to the lowest one as:

- priority no.1 (the highest)—Waste to energy
- priority no.2—Biomass
- priority no.3—Biogas from waste/wastewater

- priority no.4—Micro hydro
- priority no.5—Biogas from energy crops
- priority no.6—Wind
- priority no.7—Solar photovoltaic PV
- priority no.8—Geothermal

8.5.2.2 Project preparation

Number of PPP projects in preparation	5
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8.5.2.3 Procurement

PPP projects procured through:	
Direct appointment	11
Unsolicited bids	2
Competitive bidding process	10
License scheme	25
PPP projects currently in procurement	no data

The data on the type of procurement for the past projects are not exhaustive and are only available for 50% of all energy projects.

8.5.3 Features of Past PPP Projects

8.5.3.1 PPP projects that reached financial close

Energy generation	Number	Value (\$ million)
Renewables energy generation	69	5,409
Solar	35	2,177
Wind	10	1,324
Hydro	2	1,285
Geothermal	0	–
Waste/biomass	22	624
Thermal energy generation	44	17,922
Coal	6	2,649
Diesel	5	656
Natural gas	22	10,934
Mix/co-generation	11	3,683

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Table continued

	Number	Value (\$ million)
Energy generation		
Total energy generation	113	23,331
Energy transmission and distribution	0	–
Natural gas	0	–
Total energy transmission and distribution	0	–

In Thailand, a long-term concession agreement between the relevant government authority and an investor is seen as a common feature of almost all project financing. The most common structures for project financing are:

- BOO,
- BTO, and
- BOT.

8.5.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation		
Renewables	13	19%
Thermal	26	59%
Energy transmission and distribution	0	–

8.5.3.3 Government support

PPP projects that received government support:	Number
VGF	2
Government guarantees	51
Projects on availability/performance-based payment basis	113

8.5.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	0
Government-paid contracts	113

8.5.3.5 Tariffs

Is there a system of feed-in tariffs (FIT)?		
✓		
Typical FIT levels	Type	B/kilowatt-hour (kWh)
Adding B0.5/kWh as premium FIT for southern provinces.	Wind	6.06
Adding B0.5/kWh as premium FIT for southern provinces.	Hydro (<200 kW)	4.90
Dependent of capacity from less than 1 MW to higher than 3 MW. Adding B0.3–B0.5/kWh as premium FIT for southern provinces.	Biomass	4.24–5.34
Adding B0.5/kWh as premium FIT for southern provinces. Rate is dependent on the resource of production either from wastewater or energy crops.	Biogas	3.76–5.34
Adding B0.5–B0.7/kWh as premium FIT for southern provinces. Rate is dependent on the resource of production either from incineration, gasification, or landfill gas.	Waste	5.60–6.34
Adding B0.5/kWh as premium FIT for southern provinces. Rate is dependent on the types (residential or commercial rooftop) and capacity (<10, <250, or <1,000 kWp) of power generation.	Solar PV	6.01–6.85

Sources: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). 2015. *Thailand: Renewable Energy Policy Update—New Power Development Plan Announced in May (Status May 2015)*. http://www.thai-german-cooperation.info/download/20150520_pdp_re_%20policy%20factsheet.pdf; Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). 2015. *Thailand: Solar PV Policy Update 10/15*. <http://www.thai-german-cooperation.info/admin/uploads/publication/4d7cfa71790aff2290d5acb161d41914en.pdf>

The FIT will be granted for 20 years, an exception being power systems fueled by landfill gas which will receive support for 10 years only.

The new FIT is composed of three components: $FIT = FIT(F) + FIT(V) + FIT \text{ Premium}$.

FIT(F) is a portion of the remuneration that is fixed throughout the whole support period, whereas FIT(V) is a portion that varies according to the inflation rate. The FIT(V) rates were fixed for projects that dispatch electricity to the grid in 2017 (FIT[V2017]), after that the FIT(V) will be revised on an annual basis in accordance with the core inflation to reflect actual feedstock costs. The last component is the FIT Premium which again is split into two categories, the bio-energy for the first 8 years of project lifetime and for VSPPs located in three southern border provinces and four districts of Songkla Province (i.e., Chana, Thepa, Saba Yoi, and Na Thawi).

8.5.3.6 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are shown in Table 199.

Table 199: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk			✓	
Revenue collection risk				n/a
Tariff risk			✓	Typically private sector with contract provisions for negotiation. For large gas-fired IPPs, the tariff is fixed for 25 years.
Government payment risk			✓	
Environmental and social risk	✓			
Land acquisition risk	✓			
Permits	✓			
Handover risk	✓			
Political risk	✓			
Regulatory risk	✓			
Interconnection risk	✓			
Grid performance risk	✓			
Hydrology risk	✓			

PPP = public–private partnership.

Source: Mott MacDonald.

8.5.4 Local Capabilities

Investment opportunity in renewable energy market is mainly dependent on the AEDP2015, which has set fixed tariffs and target for electricity generation from renewable energy resources. The fixed tariffs scheme has been attracting number of players including new entry up to large existing nonrenewable firms into renewable energy generation market as it offers financial certainty incentives. Number of large and small projects have been developed successfully and become very familiar to the financial institutions. Presently, the market has reached the maturity stage evidencing from the introduction of bidding scheme in the southern provinces, lower incentives, and new investment channels such as solar-cooperation program. This is very challenging in term of returns for the local players.

8.5.5 Project Financing

PPP projects with foreign lending participation	36
PPP projects that received ECA/IFI financing	12

8.5.6 Challenges

There is limited information available in public on past project failures.

Challenges for PPP progress in energy sector are provided in Table 200.

Table 200: Challenges for PPP Progress in Energy Sector

Challenges	Currently Implemented Tackling Measures
Bidding scheme has been introduced for renewable generation as the market becoming more competitive, which has led to lowering of the tariffs, and as a result lower returns to investors.	
Many renewable energy projects have been developed only in certain provinces of Thailand where there were available resources (e.g., land, irradiation, raw materials, and wind). This creates “hot spot” regions of concentrated intermittent renewable power generation that congests the current transmission and distribution network. This leads to challenges to investors, such as inability to develop further projects, as the grid operator will not allow more generators to connect, and risk that existing projects cannot export all potential generated power, due to grid capacity constraints.	
Private sector power project developers take the risk of grid unavailability under the standard form of power purchase agreement. However, the risk of grid unavailability is managed by the state-owned utility companies, and public data are not available for private sector developers to assess project-specific implications of grid infrastructure status, loading, and development plans. Such uncertainty has the potential to undermine investor confidence.	

PPP = public–private partnership.

Source: Mott MacDonald.

8.6 Water and Wastewater

8.6.1 Regulatory Framework

8.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Bulk water supply and treatment	49%
Water distribution	49%
Wastewater treatment	49%
Wastewater collection	49%

8.6.1.2 Government contracting agency

The key contracting agencies for water and wastewater PPP projects are various government administrations and state enterprises such as BMA under Ministry of Interior and Wastewater Management Authority under Ministry of Natural Resources and Environment.

8.6.1.3 Sector-specific regulations

Can private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on the release of treated effluents?	✓

8.6.1.4 Sector regulators

Water sector regulatory agencies in Thailand are described in Table 201.

Table 201: Water Sector Regulatory Agencies in Thailand

Agency	Function
MNRE	General governing body overseeing performance of water and wastewater-related projects
Department of Water Resources (under MNRE)	Monitor and control water extraction for water supply treatment projects
Department of Groundwater Resources (under MNRE)	Monitor and control groundwater extraction for water supply treatment project
Wastewater Management Authority (under MNRE)	Monitor and control discharge of wastewater

continued on next page

Table 201 continued

Agency	Function
Bangkok Metropolitan Authority under Ministry of Interior	Monitor, control, and manage projects in Bangkok
MNRE	General governing body overseeing performance of water and wastewater-related projects

MNRE = Ministry of Natural Resources and Environment.

Source: Mott MacDonald.

8.6.1.5 Standard contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	no data
Water purchase agreement	no data
Performance-based O&M contract	no data
EPC contract	✓

8.6.2 Institutional Capacity for Implementation

8.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	no data
Is there a PPP project pipeline developed and available?	✓

The PPP Strategic Plan 2015–2019 puts emphasis on wastewater PPP projects. PPP pipeline of water projects is listed in Table 202.

Table 202: PPP Pipeline of Water Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	Khlong Toei Wastewater Management	Bangkok Metropolitan Administration under Ministry of Interior	417.3
2	Thonburi Wastewater Management	Bangkok Metropolitan Administration under Ministry of Interior	309.7
3	Nong Bon Swamp Wastewater Management	Bangkok Metropolitan Administration under Ministry of Interior	225.5
4	Managing Water Pipe System in the Eastern Region	The Treasury Department under Ministry of Finance	90.4
5	Wastewater Management in Samut Sakhon City Municipality	Wastewater Management Authority under Ministry of Natural Resources and Environment	185.4
6	Wastewater Management in Krathumbaen Municipality	Wastewater Management Authority under Ministry of Natural Resources and Environment	91.0

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Table 202 continued

No.	Project Name	Responsible Agency	Value (\$ million)
7	Wastewater Management in Bang Bua Thong Municipality	Wastewater Management Authority under Ministry of Natural Resources and Environment	132.0
8	Wastewater Management in Rangsit City Municipality	Wastewater Management Authority under Ministry of Natural Resources and Environment	12.6

PPP = public-private partnership.

Note: Exchange rate: \$1 = B35.1986.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.6.2.2 Project preparation

Number of PPP projects in preparation	8
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8.6.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	0
Competitive bidding process	3
PPP projects currently in procurement	0

The data on the type of procurement for the past projects are not exhaustive.

8.6.3 Features of Past PPP Projects

8.6.3.1 PPP projects that reached financial close

	Number	Value (\$ million)
PPP projects that reached financial close	15	969

8.6.3.2 Foreign investor participation

	Number	Share in Total Number of Water PPP Projects
PPP projects with foreign sponsor participation	7	46%

8.6.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	6
Projects on availability/performance-based payment basis	3

8.6.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	3
Government-paid contracts	3

8.6.3.5 Tariffs

Setting of water supply tariff is the responsibility of the local water authority, metropolitan area, and provincial area.

Example of domestic water tariff for Metropolitan Water Authority is presented in Table 203.

Table 203: Domestic Water Tariff for Metropolitan Water Authority, Effective from December 1999

Volume (m ³)	Cost (\$/m ³)
1–30	0.241 (Not less than \$1.278)
31–40	0.285
41–50	0.294
51–60	0.303
61–70	0.313
71–80	0.322
81–90	0.355
91–100	0.364

m³ = cubic meter.

Note: Exchange rate: \$1 = B35.1986.

Source: Metropolitan Waterworks Authority <https://www.mwa.co.th/> (accessed 24 February 2017)

8.6.3.6 Risk allocation

Typical risk allocation arrangements in water PPP contracts are presented in Table 204.

Table 204: Typical Risk Allocation Arrangements in Water PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		Projects have typically been developed as bulk water build–operate–transfer projects
Revenue collection risk		✓		Public sector is typically offtaker and is taking responsibility for distribution and tariff collection
Tariff risk		✓		In principle, tariffs are set with pass through of costs through indexing
Government payment risk	✓	✓		Public, if government payment guarantee is provided
Environmental and social risk	✓			Private sector is responsible for obtaining Environmental Impact Assessment approvals
Land acquisition risk		✓		Public sector typically provides project land
Interface risk			✓	
Handover risk	✓			
Political risk			✓	
Foreign exchange risk	✓			

PPP = public–private partnership.

Source: Mott MacDonald.

8.6.4 Nonrevenue Water and Infiltration

Nonrevenue water (%)	25% in Bangkok 30%–40% elsewhere
Nonrevenue water (m³/km/day)	no data
Infiltration	no data

Sources: <https://asiainfra.files.wordpress.com/2015/07/aim-percentage-reduction-nrw.pdf>

8.6.5 Local Capabilities

Several domestic conglomerates have entered the water sector taking contractual responsibility for investor–civil contractor–operator functions. Some consortia have had international equity participation. Process design, mechanical, electrical, instrumentation, control and automation functions have typically been provided by international firms with local representation such as Degremont or Ebara.

8.6.6 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI support	2

8.6.7 Challenges

Challenges for PPP progress in water sector are provided in Table 205.

Table 205: Challenges for PPP Progress in Water Sector

Challenges	Currently Implemented Tackling Measures
Foreign concessionaire's restriction to enter the sector limits the competition, as the controlling stake in the project company shall belong to local companies.	
Country's political risk: Due to political unrest in the past recent years, implementation of PPP project has been delayed.	The new PPP law and project pipeline under PPP strategic plan should help to reduce this unnecessary steps in the approval and procurement process and hence speed up remaining PPP projects in the pipeline.
Demarcation of responsibilities between Metropolitan Waterworks Authority and Bangkok Metropolitan Authority dilutes Thailand's institutional capacity and reduces the opportunity to achieve synergies in procurement and service provision.	
Governance: Current international perceptions of procurement capacity and procurement practices impede international appetite to tender in this market.	

PPP = public-private partnership.

Source: Mott MacDonald.

8.7 Information and Communication Technology

8.7.1 Regulatory Framework

8.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Fixed line infrastructure	49%
Fixed line services	49%
Wireless/mobile infrastructure	49%
Wireless/mobile services	49%

8.7.1.2 Government contracting agency

Ministry of Digital Economy and Society is the government department managing various agencies including the National Statistics Office of Thailand, the Thai Meteorological Department, the Electronic Transactions Development Agency, Thailand Post, transfer-operate-transfer (TOT), and CAT Telecom. Main agencies that oversee and be the contracting agency for majority of the PPP projects are TOT and CAT Telecom.

8.7.1.3 Sector-specific regulations

Is regulation in place to allow telecommunications companies to have access to property for the installation of the infrastructure?	✓
Is licensing regulation in place?	✓
Is infrastructure sharing permitted?	✓

Normally, private communication providers such as AIS and True acquire their own premises through renting from private landlords/landowners to install telecommunication equipment. They also rent from MEA allocation in MEA network of electricity poles to attach their communication cables. It is worth noting that the current military government announced in the second half of 2016 their policy to transfer all aerial cables in the inner area of Bangkok to underground. MEA are in the process of transferring their cables to underground, via a network of underground ducts, and removing concrete electricity poles from main streets of Bangkok. It is anticipated that this work, to be carried out in phases, will be completed by 2020. It is not apparent that MEA have made provision in their new network of underground ducts. It is not clear how the communication companies will manage this operation to transfer their cables underground.

National Broadcasting and Telecommunications Commission is the commission responsible for licensing of Thailand broadcasting and telecommunications business.

8.7.1.4 Sector regulators

ICT sector regulatory agencies in Thailand are described in Table 206.

Table 206: ICT Sector Regulatory Agencies in Thailand

Agency	Function
Ministry of Digital Economy and Society	Government department managing all ICT -related agencies including the National Statistics Office of Thailand, the Thai Meteorological Department, the Electronic Transactions Development Agency, Thailand Post, TOT, and CAT Telecom.
National Broadcasting and Telecommunications Commission	An independent regulator for telecom, broadcasting, and spectrum management sector. Responsible for licensing and regulating the use of frequencies and radio communications equipment in broadcasting and telecommunications business, service quality, and licensing fees. The commission sets tariff and price structure, standards, and technical specifications and prescribes measures for the prevention of anti-competitive conduct or unfair competition.

ICT = information and communication technology.

Source: Mott MacDonald.

8.7.1.5 Standard Contracts

What standardized contracts are available and used in the market?	
PPP/concession agreement	no data
Performance-based O&M contract	no data
EPC contract	✓

8.7.2 Institutional Capacity for Implementation

8.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	no data
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of ICT projects is shown in Table 207.

Table 207: PPP Pipeline of ICT Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	Mobile Phone Service 4G-LTE	CAT Telecom Public Company Limited under MICT	1,358
2	Utilization of Transferred Assets from Concession Agreements	CAT Telecom Public Company Limited under MICT	no data
3	Expansion of High-speed Internet Service Area	CAT Telecom Public Company Limited under MICT	571
4	Satellite Constellation	GISTDA under Ministry of Science and Technology	571
5	Public Wi-Fi	TOT Public Company Limited under MICT	no data
6	International Gateway	TOT Public Company Limited under MICT	no data

ICT = information and communication technology, MICT = Ministry of Digital Economy and Society, PPP = public-private partnership, TOT = transfer-operate-transfer.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.7.2.2 Project Preparation

Number of PPP projects in preparation	6
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8.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	0
Competitive bidding process	no data
PPP projects currently in procurement	0

8.7.3 Features of Past PPP Projects

8.7.3.1 PPP projects that reached financial close

PPP projects that reached financial close	Number	Value (\$ million)
	6	9,422

All six projects happened in the 1990s and very limited information is available.

8.7.4 Local Capabilities

Thailand's communication market is very competitive, and it has a strong pool of communications service providers, contractors, and operators that can execute project within the pipeline listed in Section 1.7.2.1.

However, with new technologies continuously evolving, there are always opportunities for foreign investors or technology providers to work together with the key players such as AIS, True, and DTAC and bring in new technology and know-how to this sector.

8.7.5 Project Financing

PPP projects with foreign lending participation	0
PPP projects that received ECA/IFI support	2

8.7.6 Challenges

Challenges for PPP progress in ICT sector are shown in Table 208.

Table 208: Challenges for PPP Progress in ICT Sector

Challenges	Currently Implemented Tackling Measures
Transparency in the government bidding procedures	The government and the National Broadcasting and Telecommunications Commission are understood to be improving the procedures for future procurement of projects.
Slow implementation of new projects in the pipeline	Current military government are understood to be streamlining the process.
Domination of existing service providers	

ICT = information and communication technology, PPP = public-private partnership.

Source: Mott MacDonald.

8.8 Municipal Solid Waste

8.8.1 Regulatory Framework

8.8.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	100%
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8.8.1.2 *Government contracting agency*

The GCA varies between the local administrative organizations such as the provincial, subdistrict, or administrative organization; and the city, town, or sub-district municipality, under Department of Local Administration (Ministry of Interior), which is responsible for the collection and management of MSW.

8.8.1.3 *Sector-specific regulations*

Is there a system of FIT?	✓
Is there tipping fees/gate fees?	✓

Thailand has a comprehensive feed-in tariff program. The system for FIT for small renewable power producers are split into two regulations:

- VSPPs' regulations—for generators ≤ 10 MW,
- SPPs' regulations—for generators between 10 and 90 MW.

In addition, there are “Adder” rates available, assigned by technology type, installed capacity, contracted capacity, and project locations. This allows renewable energy generators—such as waste-to-energy plants—to receive additional tariff to incentivize the use of renewable energy.

FIT for power producers larger than 90 MW are yet to be fixed by the government.

Although there are tipping fees in Thailand, they are typically very low. There are landfills available, but they are generally full and the bulk of waste is still improperly disposed of. There has been a governmental push to implement an integrated waste management system in Thailand, with a national policy to do the following:

- improve solid waste disposal and processing procedures,
- support and encourage proper solid waste separation,
- encourage recycling and reuse, and
- support local authority to build up capacity for waste management.

The main regulations governing waste management and waste disposal are as follows:

- Public Health Act, 1992—provides legal basis for MSW to local administrations for managing the wastes generated by developing and issuing ordinances and regulation for collection, transportation, and disposal of waste generated.
- Factory Act, 1992—establishes and controls industrial operations including setting and enforcing industrial standards. The Hazardous Substance Act, 1992—controls import, export, manufacture, storage, transport, use, and disposal of hazardous substances.
- Enhancement and Conservation of National Environmental Quality Act, 1992—empowers local administrations to operate central disposal facilities for public service either by themselves or by licensed private contractors. There is an Environmental Fund available for grants and loans to both government agencies and private companies for investments and operation of these central facilities.

8.8.1.4 Sector regulators

MSW sector regulatory agencies in Thailand are listed in Table 209.

Table 209: MSW Sector Regulatory Agencies in Thailand

Agency	Function
Royal Thai Government	<ul style="list-style-type: none"> • Establishes roles in solid waste management and industrial waste management
Central Government	<ul style="list-style-type: none"> • Formulates policies, guidelines, programs, regulations, and standards
Office of Natural Resources and Environmental Policy and Planning	<ul style="list-style-type: none"> • Formulates policies and plans for environmental conservation and administrative managements • Appraises Environmental Impact Assessments for government and private projects
Pollution Control Department	<ul style="list-style-type: none"> • Formulates policies and plans for the promotion and conservation of environmental quality with respect to pollution control • Makes recommendations for the establishment of environmental quality standards and emission effluent standards • Develops appropriate systems, methodologies, and technologies for the application in the management of solid waste, hazardous substance, water quality, air quality, noise level, and vibration
Department of Health	<ul style="list-style-type: none"> • Regulates MSW management standards and monitors management by municipalities
Department of Industrial Works	<ul style="list-style-type: none"> • Issues licenses for MSW treatment facilities
Department of Alternative Energy Development and Efficiency	<ul style="list-style-type: none"> • Offers subsidies for waste-to-energy projects
Regional Governments	<ul style="list-style-type: none"> • Coordinates between central and local governments
Local Governments	<ul style="list-style-type: none"> • Implementation unit—handles waste management within governed area

MSW = municipal solid waste.

Source: Mott MacDonald.

Thailand's MSW is mainly managed by three ministries within the central government and by local governments. The first is the Ministry of Natural Resources and Environment, operating through the ONEP and the Pollution Control Department. The second is the Ministry of Public Health, operating through its Department of Health. The third is the Ministry of Industry, operating through the Department of Industrial Works. In addition to these three main ministries, the Ministry of Energy is involved in providing subsidies for waste-to-energy projects.

8.8.1.5 Standard contracts

What standardized contracts are available and used in the market?	
Power purchase agreement	✓
Long-term waste supply contract	✗
EPC contract	✓

8.8.2 Institutional Capacity for Implementation

8.8.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There are three waste management PPP projects listed in PPP Strategic Plan 2015–2019. In 2015–2016, the SEPO approved in principle five PPP projects, two of them being waste management projects (projects 2 and 3 from Table 210).

PPP pipeline of MSW projects is shown in Table 210.

Table 210: PPP Pipeline of MSW Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	Solid waste management—conversion to energy (at least 800 tonnes/day) at On Nut Solid Waste Disposal Center	Bangkok Metropolitan Administration under Ministry of Interior	100
2	Waste management project of Nonthaburi Provincial Administrative Organization	Nonthaburi Provincial Administrative Organization under Ministry of Interior	118
3	Waste management project of Nakhon Ratchasima City Municipality (Phase 2)	Nakhon Ratchasima City Municipality under Ministry of Interior	65

MSW = municipal solid waste, PPP = public-private partnership.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.8.2.2 Project preparation

Number of PPP projects in preparation	3
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8.8.2.3 Procurement

PPP projects currently in procurement	0
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8.8.3 Features of Past PPP Projects

There have not been any past PPP projects in MSW in Thailand.

8.8.4 Local Capabilities

The capabilities of the different local companies (operators) involved in waste management do vary, and the selection of the entity for involvement in a project is quite flexible and is dependent on the local government. Thai local contractors have sufficient experience and capability to carry out both the collection and separation systems. There are some private-owned landfills; however, most of the landfill sites belong to local governments. There is limited capabilities and experience of waste treatment and disposal (other than landfill), and there is scope for foreign investors to offer their expertise, especially in technologies for integrated waste management systems.

8.8.5 Challenges

Challenges for PPP progress in MSW sector are shown in Table 211.

Table 211: Challenges for PPP Progress in MSW Sector

Challenges	Currently Implemented Measures
Governance: Waste collection contracts are typically awarded from local government budgets to local contractors. Insufficient governance in the administration of these contracts has been observed to result in shortfalls of waste deliveries, thus creating supply risks for resource recovery and/or energy recovery.	
Investors' uncertainty in relation to long-term sustainable waste supply and reliability of waste composition	

continued on next page

Table 211 continued

Challenges	Currently Implemented Measures
Incentive investment of electric power generated from renewable sources and wastes in terms of FIT	In order to solve the problem of high consumption of power generation, the Thai government through the Provincial Electricity Authority of Thailand has encouraged the electricity production from different renewable energy sources including landfill gas, from organic waste or biogas and thermal conversion of MSW. The subsidiary in terms of FIT in purchasing electricity will enhance private sectors in long-term investment feasibility.

FIT = feed-in tariffs, MSW = municipal solid waste, PPP = public-private partnership.

Source: Mott MacDonald.

8.9 Social Infrastructure

8.9.1 Regulatory Framework

8.9.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects:	
Health care infrastructure	49%
Health care services	49%
Education infrastructure	100%
Education services	100%
Government buildings	49%
Prisons and correction centers	49%
Social housing	49%
Sport and leisure facilities	49%

8.9.1.2 Government contracting agency

Departments of relevant ministries (Ministry of Public Health, Ministry of Education, Ministry of Social Development and Human Security, MOF), other state agencies or local administrative organizations, and government educational institutions are likely to act as GCAs for social infrastructure sectors.

8.9.1.3 Sector regulators

Ministry of Public Health and Ministry of Education are the key regulatory agencies for health and education sectors, respectively.

8.9.1.4 Standard contracts

What standardized contracts are available and used in the market?		
PPP/concession agreement	x	
Performance-based O&M contract	x	
EPC contract	✓	

8.9.2 Institutional Capacity for Implementation

8.9.2.1 Project planning

Have sector strategy and investment priorities been defined?	no data
Is there a PPP project pipeline developed and available?	✓

PPP pipeline of social infrastructure projects is presented in Table 212.

Table 212: PPP Pipeline of Social Infrastructure Projects

No.	Project Name	Responsible Agency	Value (\$ million)
1	King Naresuan The Great Park, Phitsanulok Province	Naresuan University under Ministry of Education	86
2	International Vocational Training Center, Phase 2 at Vocational Education Institute Central 1, Pathumthani Vocational Education College	Office of the Vocational Education Commission under Ministry of Education	62
3	Modern Town Chiang Rai, Rajabhat University	Chiang Rai Rajabhat University under Ministry of Education	240
4	Garden of Innovation for science and technology graduate study	Rajamangala University of Technology Lanna under Ministry of Education	343
5	Center for health and elderly care in the Lower North, Naresuan University Hospital, Faculty of Medicine, Naresuan University, Phitsanulok province	Naresuan University under Ministry of Education	111
6	Management of Queen Sirikit National Convention Center	The Treasury Department under Ministry of Finance	78
7	Transit-oriented development for housing	National Housing Authority under Ministry of Social Development and Human Security	no data

PPP = public-private partnership.

Note: Projects with total investment value greater than \$50 million are shown.

Source: State Enterprise Policy Office. 2015. *Public Private Partnership (PPP) in Thailand*. http://www.unescap.org/sites/default/files/PPP%20Thailand-sent.pdf?_sm_au_=iNV4TJKc5zb7P1Ps

8.9.2.2 Project preparation

Number of PPP projects in preparation	7
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8.9.2.3 Procurement

PPP projects currently in procurement	0
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8.9.3 Features of Past PPP Projects

There have not been any past PPP projects in social infrastructure in Thailand.

8.9.4 Challenges

Table 213: Challenges for PPP Progress in Social Infrastructure Sector

Challenges	Currently Implemented Tackling Measures
Untested sector in Thailand for private sector involvement	

PPP = public–private partnership.

Source: Mott MacDonald.

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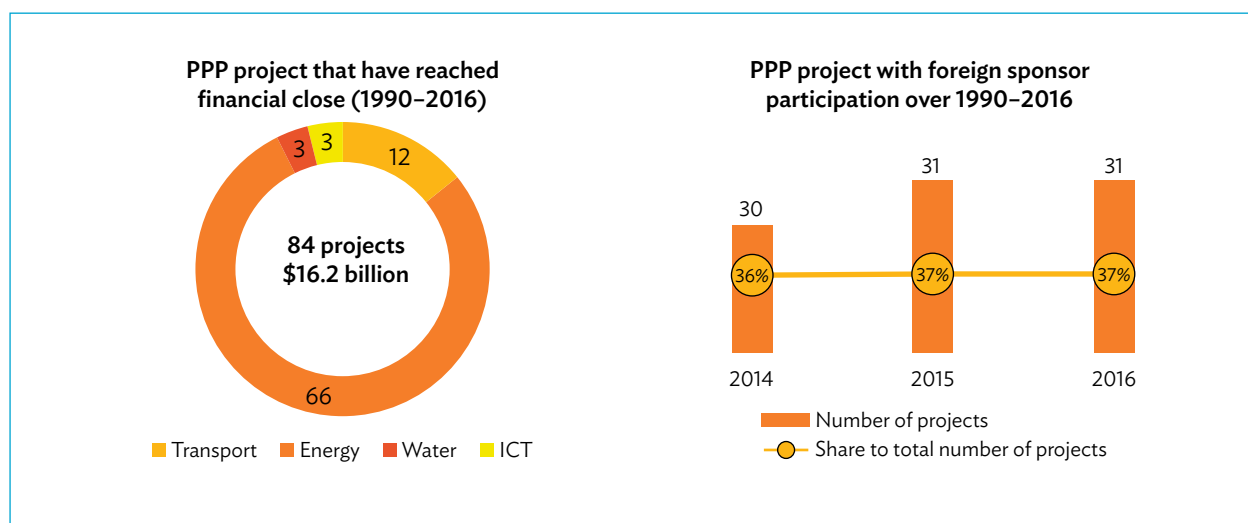
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9. VIET NAM

In Viet Nam, the public-private partnership (PPP) regulatory framework began its existence in 1992, when the definition of build-operate-transfer (BOT) first appeared in the revised Law on Foreign Investment 1992. The first decree on BOT was promulgated in 1993 and, subsequently, was revised three times between 1998 and 2009. In 2010, the government issued pilot PPP regulations (Decision 71) to promote more PPP projects for infrastructure development. There have been inconsistencies between pilot PPP regulations and the BOT decree. Subsequently, in 2015, new PPP regulations (Decree 15) were enacted to establish a legal framework for both the PPP and the BOT/build-transfer-operate (BTO)/build-transfer project regimes aimed to attract more private investment toward the development of national infrastructure.



The key advances in the PPP framework included new PPP contract forms, enabling the availability/performance-based payment schemes where investment can be recouped through payments by the public sector and removal of the previous limit on viability gap funding (VGF) of 49% of the total investment cost. The regulations also enabled a wider scope of infrastructure projects to be procured as PPPs and established processes for PPP project identification, appraisal, and approval.

In 2016, a project development fund (PDF) was also established to assist in PPP project preparation. Viet Nam has also announced a pipeline of PPP projects in transport, utilities sector, and social infrastructure sectors.

Although the newly enacted regulations brought the PPP framework more in line with international practice and addressed some key weaknesses in previous regulations, no PPP projects have yet been implemented under the latest framework, and it remains to be seen how these new regulations will be executed in practice.

State-owned enterprises (SOEs) have historically dominated the development and management of infrastructure projects. Although concerns have been raised by investors about bidding transparency and SOE access to state-directed financing, the government has made progress in this area. Decree 30 on investor selection states that SOEs under the management of the authorized state agency (ASA) are not allowed to participate in bidding conducted by that ASA. The provision is intended to ensure a competitive bidding process. The Government of Viet Nam has shown commitment to ensuring equitable competition for PPP opportunities. Sectoral ministries (e.g., Ministry of Transport [MOT]) have embarked on a roadmap up to 2020 to privatize and equitize the SOEs.

Current challenges for foreign participation include foreign lenders security issues as the framework for credit enhancements and guarantee mechanisms remains unclear and restrictions on mortgage over land-use rights in favor of foreign banks where land is conferred on a rent-free basis. There are also issues with assurance for foreign currency exchange, convertibility and remittance of local currency income. In transport and utility sectors, increasing tariff levels may increase investor interest.

9.1 Country Profile

9.1.1 Regulatory Framework

9.1.1.1 PPP law

	2014	2015	2016
Is there a dedicated legal or policy instrument established for a PPP?	✓	✓	✓
Cumulative number of PPP projects that reached financial close under the latest PPP law	84	0	0

The Government of Viet Nam has been pushing to complete the new legal framework since 2014. The newly issued key PPP regulations are as follows:

- Decree 15/2015/ ND-CP or PPP regulations (on implementation of PPP investment form)

- Decree 30/2015/ND-CP on PPP investor selection
- Circular 02/2016/TT-BKHDT on preliminary project selection, establishment, appraisal, and approval for project proposal, and feasibility study report on investment project in the form of PPP
- Circular 06/2016/TT-BKHDT providing guidance on a number of articles under Decree 15
- Circular 15/2016/TT-BKHDT on the form of submission documents, including request for proposal (RFP) for PPP projects
- Ministry of Finance (MOF) Circular 55/2016/TT-BTC on financial management of investment projects in the form of PPP and investor selection expenses.

The above regulations replace the previously issued pilot PPP regulations (Decision 71/2010) and the existing regulations on BOT projects, BTO projects and build-transfer projects issued under Decree No. 108/2009.

Relevant ministries have been drafting circulars related to the newly issued laws and decrees, namely:

- Circular on PDF,
- Circular on PPP contracts, and
- Circular on VGF.

It should be noted that energy PPP projects and transportation PPP projects are also subjected to specific sectoral regulations:

- Ministry of Industry and Trade (MOIT) Circular 23/2015/TT-BCT and Circular 38/2015/TT-BCT, and
- MOT Circular 86/2015/TT-BGTVT.

In addition, it should be noted that general laws (e.g., the Investment Law, the Public Investment Law, the Bidding Law, the Construction Law, and the Law on Public Debt Management) will continue to be applicable to PPP projects together with the new PPP decree.

9.1.1.2 PPP types

	2014	2015	2016
Number of PPP types defined in the PPP regulations	3	7	7

Decree 15 defines seven types of PPP arrangement:

- build-operate-transfer (BOT)
- build-transfer-operate (BTO)

- build-transfer³⁵
- build-own-operate (BOO)
- build-transfer-lease (BTL)
- build-lease-transfer (BLT)
- operate and manage (O&M)

Decree 15 introduced additional PPP forms, and among those, BTL and BLT effectively represent availability/performance-basis payment schemes. Previously, investment can only be recouped through usage fees paid by the end users or off-takers under the traditional forms such as BOT or BTO.

9.1.1.3 Eligible sectors

	2014	2015	2016		2014	2015	2016
Transport				Energy			
Roads	✓	✓	✓	Power generation	✓	✓	✓
Railways	✓	✓	✓	Power transmission	✓	✓	✓
Ports	✓	✓	✓	Power distribution	✓	✓	✓
Airports	✓	✓	✓	Oil and gas	✓	✓	✓
Water and wastewater	✓	✓	✓	Information and communication technology (ICT)	✓	✓	✓
Municipal solid waste	✓	✓	✓	Social infrastructure	✓	✓	✓

The PPP regulations define the following sectors eligible for PPP:

- transportation infrastructure facilities and related services;
- lighting systems, water supply systems, water discharge systems, water collection systems, wastewater treatment, solid waste treatment, social housing, resettlement housing, and cemeteries;
- power plants and power transmission lines;
- infrastructure facilities for health care, education, training, vocational training, culture, sport and related services, and office building of state agencies;
- infrastructure facilities for trade, science and technology, hydrometeorology, economic zones, industrial zones, high-tech zones and ICT zones, and information technology applications;
- infrastructure facilities for agriculture, rural areas and services for agricultural products processing and consumption; and
- other sectors as decided by the Prime Minister.

³⁵ In the case of build-transfer scheme, investors can recover the investment by exchanging the build-transfer projects with land-use rights for other projects. Although in Viet Nam it is considered a PPP form, Asian Development Bank does not recognize this form as a PPP because no management and operational risk is passed to the private sector in this case.

The oil and gas sector is not explicitly covered by PPP regulations, but this sector is eligible for PPP if there is a decision by the Prime Minister to this effect.

9.1.1.4 Other applicable restrictions

	2014	2015	2016
Project funding structure	The equity capital contribution of the nongovernmental investors in a PPP project must be at least 15% of the investment capital (excluding any capital provided by the State) up to D1,500 billion plus at least 10% of the portion of any investment capital exceeding D1,500 billion.	no change	no change
Project capital investment size	D20 billion and above, except for projects developed under O&M contracts and small-sized projects in agriculture development area	no change	no change

9.1.1.5 Unsolicited bids

	2014	2015	2016
Acceptance of unsolicited proposals	✓	✓	✓
Eligibility of project proponent to have:			
Competitive advantage at bid evaluation	no data	✓	✓
Swiss challenge	no data	✗	✗
Compensation of the project development cost	no data	✓	✓
Government support for land acquisition and resettlement cost	no data	✓	✓
Government support in the form of VGF and guarantees	no data	✓	✓

Pursuant to article 20.1 of Decree 15, an investor may propose a project outside the projects and lists of projects approved and announced by ministries, departments of ministries, and provincial people's committees.

Under article 3 of Decree 30, an investor with an approved feasibility study report (or project proposal in case of a group C PPP project) is entitled to preferences during the financial commercial assessment of a tendering process as follows:

- In case of the service price method of assessment, other tenderers who are ineligible for preferences shall have to add 5% to their service price.
- In case of the state capital contribution method of assessment, other tenderers who are ineligible for preferences shall have to add 5% to the state capital contribution portion in their proposals.
- In case of the social benefits and state benefits method of assessment, tenderers eligible for preferences are entitled to have the contribution to state budget in their proposals increased by 5%.

- In case of the combined method of assessment, tenderers who are eligible for preferences shall enjoy a 5% weighting advantage in the combined method but the total value of the preference shall not exceed 5%.

Furthermore, on a case-by-case basis, certain PPP projects may be entitled to have the benefit of government support in the form of land availability and land fees. On a case-by-case basis, the government can issue guarantees in respect of foreign currency availability (although no guarantee is provided as to any exchange rate), public utilities and certain payment or performance obligations arising out of the project. However, there is no specific regulation yet on provision of government guarantees.

9.1.1.6 State-owned enterprise participation

	2014	2015	2016
Is an SOE allowed to participate in a PPP as a counterparty to the government?	✓	✓	✓
Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	✓	✓	✓
Cumulative PPP projects with SOEs participation (number)	48	48	48
Cumulative PPP projects with SOEs participation (share in total number of PPP projects)	57%	57%	57%

Till recently, many projects have been implemented through direct appointment or negotiation by the government with project investors involving SOEs. Under new PPP regulations, international open tendering will usually apply to selection of investors for PPP projects. Only under certain circumstances is domestic open tendering or direct appointment method to be used. SOEs can still participate in open tendering. However, investors that are SOEs must enter into a joint venture with other enterprises in order to propose a project, and the investor, taking part in a bidding, shall not own more than 30% in the ASA or the procuring entity. In addition, SOEs cannot issue a PPP project proposal and receive preferences for such proposal on its own. SOEs are treated in the same manner as private investors, and they are not entitled to any advantage over private investors in tendering process.

9.1.1.7 Land rights

	2014	2015	2016
Which of the following is permitted to the private partner?			
Transfer land lease/use/ownership rights to third party ^a	✓	✓	✓
Use leased/owned land as collateral	✓	✓	✓
Mortgage leased/owned land ^b	✓	✓	✓

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Table continued

	2014	2015	2016
Is there legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than government or the private partner?	✓	✓	✓
Is there land registry/cadaster with public information on land plots?	✓	✓	✓
Which of the following information on land plots is available to private partner:			
Appraisal of land value	✗	✗	✗
Landowners	✓	✓	✓
Land boundaries	✓	✓	✓
Utility connections	✗	✗	✗
Immovable property on land	✓	✓	✓
Plots classification	✓	✓	✓

^a Depends on the method of obtaining land-use right, therefore marked yellow.

^b Same as above.

The key regulation governing land-use rights are as follows:

- Land Law 2013, and
- Decree 43/2014/ND-CP (Decree on Guidance of Implementation of Land Law).

There is no pure freehold ownership of the land in Viet Nam; as per the Constitution, land belongs to the State and is subject to administration by the State. Private entities are only permitted to own a right to use the land, which is evidenced by a land-use right certificate. In practice, holding such land-use rights has very similar effect to a long-term land lease, that is, holders are titled to have all the ownership rights, including selling and leasing.

A land-use right can be obtained in one of several ways:

- Allocation from the state for a definite or indefinite period with or without payment of a land-use fee.
- Lease from an authorized lessor (such as a lease from an industrial zone authority). This is effectively the same as a sub-lease.
- Lease from the state with payment of land rental on an annual basis or with a one-off advance land rental payment for the whole of the lease term.
- Receiving an assignment of land-use rights from an existing land user such as in the form of exchange, assignment, inheritance, gift, donation or capital contribution.

The form of land use (land allocation or land lease) and the method of payment of the land-use fees/land rental determine what particular rights are available to land users. They also determine whether security interests can be created over such rights. Typically for BOT projects where the land is allocated directly by the state on a rent-free basis, investors are not entitled to create a security over the land-use rights.

Term of the mortgage must not exceed the term of the project contract, unless otherwise agreed in the project contract. Mortgage over land-use rights in favor of foreign banks is still restricted under the Land Law. Therefore, certain arrangements such as involving a domestic security agent and bank account mortgage over sale proceed are necessary to include land-use rights into the security package for foreign banks, although validity of such arrangements has not been established.

9.1.1.8 *Environmental and social issues*

	2014	2015	2016
Is there a local regulation establishing process for environmental impact assessment?	✓	✓	✓
Is there a legal mechanism for the private partner to limit environmental liability for what is outside of its control or caused by third parties?	✓	✓	✓
Is there a local regulation establishing process for social impact assessment?	×	×	×
Is there involuntary land clearance for PPP projects?	✓	✓	✓

The Law on Environmental Protection 2014 is the primary law governing environmental matters in Viet Nam. Before commencing a project in Viet Nam, depending on the nature of the project, a foreign investor may be required to prepare either an environmental impact assessment report or an environmental protection plan before the operation of certain projects.

Although there is no dedicated regulation for social impact compliance, in practice, an environmental impact assessment report also incorporates any assessment in relation to the social impact of the project. Investors with a detailed and effective plan for compensation and resettlement of local residents tend to achieve a major advantage over the other investors who do not have the same during a tendering process.

There is no special regulation regarding land clearance for PPP projects, so general law will apply. For example, in the case of land recovery, the provincial or district people's committee has the authority to reclaim the land to implement certain projects. A notice must be sent to the land occupiers before the land reclamation effective date (90 days for agricultural land or 180 days for nonagricultural land). After the notice period expires, there is a compensation and resettlement plan approved by the relevant competent authorities, and the land occupiers must comply with the land reclamation decision. However, in practice, it is still a burdensome and time-consuming task because of the resistance from the local residents.

9.1.1.9 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects								
	2014	2015	2016		2014	2015	2016	
Transport				Energy				
Roads	100%	100%	100%	Power generation	100%	100%	100%	
Railways	Various	Various	Various	Power transmission	100%	100%	100%	
Ports	Various	Various	Various	Power distribution	100%	100%	100%	
Airports	30%	30%	30%	Oil and gas	100%	100%	100%	
Water and wastewater				Municipal solid waste	100%	100%	100%	
Bulk water supply and treatment	100%	100%	100%	Social infrastructure				
Water distribution	100%	100%	100%	Health care infrastructure	100%	100%	100%	
Wastewater treatment	100%	100%	100%	Health care services	100%	100%	100%	
Wastewater collection	100%	100%	100%	Education infrastructure	100%	100%	100%	
ICT				Education services	100%	100%	100%	
Fixed line infrastructure	49%	49%	49%	Government buildings	0%	0%	0%	
Fixed line services	65%	65%	65%	Prisons and correction centers	0%	0%	0%	
Wireless/mobile infrastructure	49%	49%	49%	Social housing	100%	100%	100%	
Wireless/mobile services	65%	65%	65%	Sport and leisure facilities	49%	49%	49%	

Is there any restriction for foreign investors on?	2014	2015	2016
Land-use/ownership rights as opposed to similar rights of local investors	yes	yes	yes
Currency conversion	yes	yes	yes

The Land Law prevents foreign-owned companies from owning land-use rights: they must either lease their land from the state or enter into a joint venture with a local partner that provides the land-use rights. Difficulties in finding and preparing a site are one reason that

many investors have preferred to arrange a joint venture, with the local partner contributing the land and arranging clearance from local authorities for its use. Another restriction is the impossibility of a mortgage on land-use right for foreign investors in BOT projects.

Foreigners who would like to work in Viet Nam usually need a work permit with a term of maximum 2 years before any renewal. However, there are certain exceptions to this requirement. For example, without a work permit, a person can fly in and stay for under 3 months at any one time (i.e., although Vietnamese law is not clear, we are of the view that the person may leave Viet Nam before the end of the 3-month period and re-enter the next day, whereupon the 3-month time limit will be re-set) in order to conduct sales and marketing activities or work in positions of experts, managers, chief executive officers or technicians for a period of under 30 days with the accrued staying period of maximum 90 days a year (provided that other conditions for that person's stay in Viet Nam are fulfilled, e.g., visa).

The dong is not a freely convertible currency and may not be taken out of Viet Nam. Foreign-owned projects that receive revenue in dong are exposed to risks of devaluations in the value of the dong, unavailability of foreign currency available at the time of conversion, that the currency cannot be converted or remitted except at specific times. Profit from foreign investment can be converted to foreign currency and repatriated from Viet Nam through a foreign currency account opened with a financial institution that is licensed to carry out foreign exchange activities.

	2014	2015	2016
Cumulative PPP projects with foreign sponsor participation (number)	30	31	31
Cumulative PPP projects with foreign sponsor participation (share in total number of PPP projects)	36%	37%	37%

9.1.1.10 *Dispute resolution and enforcement mechanism*

	2014	2015	2016
Can foreign law be chosen to govern PPP contracts?	✓	✓	✓
What dispute resolution mechanisms are available for PPP agreements?			
Court litigation	✓	✓	✓
Local arbitration	✓	✓	✓
International arbitration	✓	✓	✓
Has the country signed New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	✓	✓	✓

Under article 37 of Decree 15, foreign law can be chosen to govern the project contract where a foreign investor is a party signing the project contract and/or a guarantee given by the government in favor of a foreign investor.

Under article 63.2 of Decree 15, any dispute between an ASA and a foreign investor or project enterprise established by a foreign investor during the process of implementation of the project contract and the guarantee shall be resolved by Vietnamese arbitration or Vietnamese court or an arbitration tribunal agreed by the parties. Therefore, international arbitration is allowed.

Any dispute between a project enterprise and a foreign entity or a Vietnamese entity or any dispute among the investors shall be resolved in accordance with the Law on Investment. Under article 14.3 of the Law on Investment, any dispute involving a foreign investor or an enterprise whose majority investment capital is owned by foreigners must be resolved by either Vietnamese court; Vietnamese arbitration; foreign arbitration; international arbitration; or an arbitration tribunal established in accordance with the agreement between the disputing parties.

Viet Nam is a signatory to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards. However, recognition and enforcement of foreign arbitral awards is not straightforward and has a mixed track record in Viet Nam. In order to be enforced in Viet Nam, a foreign arbitral award must not be contrary to the “basic principles of Vietnamese law.” The term “basic principles of Vietnamese law” does not have a definite meaning and is subject to the broad interpretation of the court. On 20 March 2014, the Supreme People’s Court of Viet Nam issued Resolution No. 01/2014/NQ-HDTP producing guidelines for the Law on Commercial Arbitration. Article 14(dd) of the Resolution sets out certain examples and guidelines on when an arbitral award should be set aside due to contradiction with the “basic principles of Vietnamese law.” This seems to be similar to “public policy” exceptions on foreign arbitral award enforcement that other countries that have also signed up to the New York Convention have also adopted. In order to set aside an arbitral award, the court must prove that the arbitral award substantially infringes the interest of the State, rights and interests of a party to the award or a third party. Two model examples were given, which comprise the infringement of the freedom of contract principle, and coercion or duress in establishment of the arbitral award. Despite the effort of the Supreme People’s Court of Vietnam, the term “basic principles of Vietnamese law” remains ambiguous. The guidelines are still of a generic nature. They give rise to further questions of what constitutes a substantial infringement and how to determine what constitutes “substantial.” Additionally, the model examples are also not as helpful as they could be, because they are examples that quite obviously are contrary to the principles of Vietnamese law.

9.1.1.11 Lender’s security rights

	2014	2015	2016
Does the law specifically enable lenders the following rights:			
Security over the project assets	✓ ^a	✓	✓
Security over the land on which they are built (land-use right) ^b	✓	✓	✓
Security over the shares of a PPP project company	✓ ^c	✓	✓
Can there be a direct agreement between the government and lenders	✓	✓	✓

continued on next page

Table continued

	2014	2015	2016
Do lenders get priority in the case of insolvency	✓	✓	✓
Can lenders be given step-in rights	✓ ^d	✓	✓

^a Approval from ASA was required, therefore marked in yellow.

^b Security over the land is restricted for foreign lenders and also depends on the method of land allocation (see Section 9.1.1.7).

^c Regulations do not explicitly allow for such type of guarantee, and no precedents is known, therefore indicator marked in red.

^d Footnote c.

Under previous PPP regulations, step-in rights were allowed but must be subject to approval from the relevant competent governmental authority. This approval mechanism was obviously not acceptable to lending banks and could affect the ability of the investors to raise funds for a PPP project. The new PPP regulations remove this approval mechanism and instead require that lending banks and the relevant governmental authority will determine the timing for execution of the agreement providing for step-in rights. Although the PPP regulations do not legislate as to the timing of this, typically project lenders require that appropriate direct agreements with government and other project counter-parties are in place by financial close for a project.

9.1.1.12 Termination and compensation

	2014	2015	2016
Does the law specifically enable compensation payment to the private partner in case of early termination due to:			
Public sector default or termination for reasons of public interest	✓	✓	✓
Private sector default	✓	✓	✓
Force majeure	✓	✓	✓
Does the law enable the concept of economic/financial equilibrium?	✓	✓	✓
Does the law enable compensation payment to private partner due to:			
Material adverse government action	✓	✓	✓
Force majeure	✓	✓	✓
Change in law	✓	✓	✓

The law does not expressly regulate compensation as mentioned above, but is typically provided for within the contractual terms agreed between the parties in the project contract (therefore, indicators are marked ✓ and yellow in the table above). According to article 35 of Decree 15, the project contract may be amended or supplemented due to a force majeure event. Under articles 36.2 and 36.3 of Decree 15, the contract term can be ended if there is a breach by one of the parties without taking effective remedial measures, a force majeure event or other circumstances stipulated in the project contract. Therefore, the payment/concept above can be provided for within the contractual terms agreed between the parties

in the project contract. The terms may vary from project to project. For example, concession contracts for BOT power projects in Viet Nam typically contain detailed terms covering force majeure, change in law, default and early termination, and state buy-out. It is expected that PPP contracts for other sectors will contain similar provisions.

9.1.1.13 Government support

	2014	2015	2016
Is PDF available?	x	plan	✓
Land acquisition support from government			
Resettlement and/or compensation cost to residents at the project site	✓	✓	✓
Imposed limits on time frame to complete land acquisition (days)	x	x	x
Is there dedicated agency to streamline land acquisition?	x	x	x
Exemption from/reduction of land-use fees	✓	✓	✓
VGF	✓	✓	✓
Limits to VGF as a % of projects capital cost	49%	none	none
Government guarantees:			
Currency inconvertibility and transfer risk (case by case)	✓	✓	✓
Foreign exchange risk (case by case)	✓	✓	✓
War and civil disturbance risk ^a	x	x	x
Breach of contract risk	✓	✓	✓
Regulatory risk ^b	x	x	x
Expropriation risk	✓	✓	✓
Government payment obligation guarantee (case by case)	✓	✓	✓
Credit guarantees ^c	x	x	x
Minimum demand/revenue guarantee ^d	x	x	x
Availability/performance-based payment contracts	✓	✓	✓
Tax subsidies	✓	✓	✓

^a Regulations do not explicitly allow for such type of guarantee, and no precedents is known, therefore indicator marked in red.

^b These are PPP projects in power and water sectors under power purchase agreement and water purchase agreement. No projects has been yet implemented under BLT or BTL scheme in sectors other than utilities.

^c Footnote b.

^d Regulations do not explicitly allow for such type of guarantee. There have been few precedents of transport BOT projects for which revenue guarantees were provided, however through Multilateral Investment Guarantee Agency (MIGA) and other international financing institutions, and not the government directly, therefore indicator marked in red.

Details of available government support for PPP Projects in Viet Nam are listed in Table 214.

Table 214: Details of Available Government Support for PPP Projects in Viet Nam

Government Support Type	Comments
PDF	The concept of PDF has been developed with the assistance of Asian Development Bank and French Development Agency, and it is understood that PDF has become operational in 2016. The successful bidder will be required to reimburse the cost incurred by the authority for PPP project preparation.
Land acquisition and resettlement	Government processes and procedures can still present obstacles to project implementation with respect to land availability. While there is a requirement for obtaining site clearance prior to construction, it is often difficult to implement. There is no centralized authority responsible for land clearance, as each provincial people's committee is responsible for site clearance and for completing the procedures for allocation or lease of land to implement the project. Where land is scarce and a valuable resource, especially in urbanizing areas, tension arises when local government officials are affected privately or feel beholden to local residents.
Land acquisition and resettlement	Conflict of interest with respect to the level of compensation and the political will to implement it becomes an issue. In practice, the provincial people's committees appear to have insufficient resources to carry out site preparation, including making resettlement and paying compensation for the local residents. The works are often overtaken by the developers themselves to avoid unnecessary delay to implementation of the project. Reimbursement from the provincial people's committees to the developers is sometimes made but it tends to be limited in quantity and nominal in nature.
Viability gap funding	New PPP regulations removed the limit on viability gap funding and allow the relevant governmental authorities to flexibly determine how much capital will be contributed by the government based on the feasibility study and financial plan for the project, the ability to raise funds by the government and the laws on public investments. Projects eligible for government fund contributions are those proposed by a ministry, departments or provincial people's committee or a project falling within the category eligible to use official development assistance and concessional loan capital from a foreign donor. Under article 11, Decree 15, state investment capital can be used to (i) contribute capital to support construction of the project in the case of a project with commercial operation of collecting user fees but revenue is insufficient to recover investment capital and generate a profit; (ii) make payment to investor providing services pursuant to build-transfer-lease contract, build-lease-transfer contract or other similar contract; and (iii) support construction of auxiliary works; and (iv) arrange compensation for relocation of previous residents, site clearance and settlement.

continued on next page

Table 214 continued

Government Support Type	Comments
Government guarantees	<p>Decree 15 article 60 states that a government guarantee such as a payment or performance guarantee, foreign currency conversion guarantee may be provided based on the result of feasibility study and negotiation between the foreign investor and the authority. However, there is no clear outline of eligibility conditions. Government may also provide a guarantee on provision of raw materials, consumption of products and services and other contractual obligations to the investor, project enterprise or other enterprises participating in project implementation and/or guarantee on the performance by SOE on selling fuel and raw materials to, and/or buying products and services from the investors, project enterprise. This is to be assessed on a case-by-case basis depending on the characteristics of the relevant project, and these guarantees are only provided where the counterparty is the authorized state agency or an SOE.</p> <p>Notably, a government guarantee relating to the availability of foreign currency will be for:</p> <ul style="list-style-type: none"> • projects falling within the investment policy approved by the National Assembly in accordance with the Law on Public Investment and certain other related regulations, • infrastructure projects as approved by the government, and • such other important projects as decided by the Prime Minister.
Government guarantees	<p>The PPP regulations do not provide guidance as to what is an “other important project” nor as to what ministry, agency, or authority is being referred to, but it does seem clear that only projects of a certain importance (to be clarified in future implementing regulations or with the government at the time) are intended to benefit from government guarantees of foreign currency availability (and presumably also convertibility and remittance).</p> <p>There has been a long running lack of commitment of the government to guarantee (i) exchange rate risk and (ii) availability of hard currency for convertibility. Even though Decree 15 made certain provisions, it is understood that the current policy is to strongly discourage such type of guarantees. The practice is to offer a very limited guarantee for currency availability such as 30% at the time the guarantee is called followed by 70% at a later date if the government has currency available.</p> <p>To date, government guarantees have only been given by the state for the following:</p> <ul style="list-style-type: none"> • Ministry of Finance debt guarantees financings of SOEs. They are only guarantees of payment obligations of an SOE under corporate loans. • Payment guarantees and tariff rate guarantees for certain build-operate-transfer power projects. Only a limited number have successfully achieved financial close with international lenders or commercial operations. This is due to the very long time it seems to take to implement major projects in Viet Nam. The recent change in policy in Viet Nam in relation to foreign currency conversion will potentially make this more challenging. • One project of national importance—the Nghi Son Refinery Project. <p>Also revenue guarantees for three transport projects were provided by the government indirectly through the Multilateral Investment Guarantee Agency and other international financing institutions.</p>

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Table 214 continued

Government Support Type	Comments
Availability/performance-based payment mechanism	Availability- and performance-based payment mechanism has been widely applicable in utilities PPP projects, such as power generation and bulk water supply, where investment is recouped through payment by the government off-takers under the traditional forms such as build-operate-transfer or build-transfer-operate. New forms of contract, namely build-transfer-lease and build-lease-transfer, have been introduced in new PPP regulations, under which the payment to private partner is to be provided by public sector depending on the service meeting contractually agreed key performance indicators. These forms are intended to be applicable in other sectors, like transport and social infrastructure.
Tax subsidies	In general, investors and a project enterprise are entitled to incentives in corporate income tax. Depending on the location, characteristics, and operating sector of the project, the incentives will vary. Similarly, incentives for and certain exemptions from import duties are available.

PDF = project development fund, PPP = public-private partnership, SOE = state-owned enterprise.

Source: Mott MacDonald.

Cumulative PPP projects that received government support	2014	2015	2016
VGF	3	3	3
Government guarantees	33	33	33
Availability/performance-based payment basis ^a	55	56	56

^a These are PPP projects in power and water sectors under power purchase agreement and water purchase agreement. No projects has been yet implemented under BLT or BTL scheme in sectors other than utilities.

The data on the number of past projects that received government support in the form of VGF and land acquisition support are limited.

9.1.1.14 Standard contracts

What standardized contracts are available and used in the market?	2014	2015	2016
PPP/concession agreement	x	x	x
Power purchase agreement (PPA)	x	x	x
Capacity take-or-pay contract	x	x	x
Fuel supply agreement	x	x	x
Transmission and use of system agreement	x	x	x
Performance-based O&M contract	x	x	x
Engineering procurement and construction contract	✓	✓	✓

It is understood that MOT has a set of standardized contracts developed which it seeks to implement across transport sector. However, there has been no evidence found that these standard contracts were used.

9.1.2 Institutional Capacity for Implementation

9.1.2.1 Institutional set-up

	2014	2015	2016
Is there a specialized government agency(s) established for PPP purposes (e.g., PPP unit)?	✓	✓	✓
What role does this PPP unit have?			
Guidance to and coordination between other government agencies	✓	✓	✓
Supporting (e.g., PPP project preparation, appointment of advisers, running PDF)	✗	✗	✗
Appraisal of PPP project feasibility studies ^a	✗	✗	✗
Approval of PPP project	✗	✗	✗
Procurement	✗	✗	✗
Managing, monitoring, and enforcing ongoing PPP contracts	✗	✗	✓ Oversight

^a Projects are appraised by PPP agencies to be established within each respective ministry, for example, MOT PPP Management Board.

PPP promoting institutions in Viet Nam are described in Table 215.

Table 215: PPP Promoting Institutions in Viet Nam

Institution	Role in Promoting PPP
Ministry of Planning and Investment	Central coordinating ministry among all ministries and provincial level people's committee for execution of PPP projects, including technical support and capacity building, formulation of the legal system for PPP and mobilization of capital for investment preparation costs. Assisting the government to uniformly administer investment activities in the PPP form on a nationwide basis. Ministry of Planning and Investment is expected to be an advisor for investors preparing a PPP project.
State Steering Committee for PPP	Inter-ministry group created by a decision of the Prime Minister. The role involves mostly coordinating and guiding other government agencies, promoting and building legal framework for PPP, and assisting the Prime Minister in building the PPP system.

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Table 215 continued

Institution	Role in Promoting PPP
State Steering Committee for PPP	Vice Prime Minister is to chair the committee. Deputy chairpersons are the minister of planning and investment and the deputy minister of finance. The group also includes representatives of the government office, the State Bank of Viet Nam, the Ministry of Justice, the Ministry of Industry and Trade, the Ministry of Transport, the Ministry of Construction, and other relevant bodies.
Management Board of PPP Project Investment under Ministry of Transport	Managing build–operate–transfer transportation infrastructure projects.

PPP = public–private partnership.

Source: Mott MacDonald.

New PPP regulation requests each ministry and the provincial-level people's committee to assign an internal agency to act as coordinator to manage PPP activities or establish a new unit specialized for PPP project coordination. Such agency has a right to appraise the PPP project proposals. Currently, only MOT established the Management Board of PPP Project Investment, to manage existing BOT transportation infrastructure projects. This board is envisaged to be a model unit to manage PPP projects as most ministries and the people's committee have not managed PPP projects well in the past.

9.1.2.2 Project planning

	2014	2015	2016
Is there a PPP project pipeline developed and available?	✓	✓	✓
Is preliminary selection of PPP projects consistent with public investment prioritization?	✓	✓	✓
Is there a screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	×	×	✓

In order for a project to be selected for development under PPP form, it must represent eligible sector for PPP; has to be consistent with the development master plan and sectoral and regional development plans, and with the local socio-economic development plan; and must be prioritized by the ministry, ministerial-level agencies, or provincial people's committee.

Government has issued Circular 02/2016/TT-BKHDT that sets out type of analysis to be undertaken to select a PPP project; however, it has not been clear whether methodology has been established.

Under Decision 631/QĐ-TTg dated 29 April 2014, the Prime Minister issued a list of national projects calling for foreign investment until 2020 identifying 127 projects, among which around 40 projects are to be developed in the form of a PPP or BOT project. The

National Online Procurement Network System or Tendering Newspaper also frequently makes announcement about certain projects.

Besides, each ministry additionally publishes lists of projects in the sector that it governs. Local people's committees and local departments of planning and investment also publish lists of projects in their governing area.

9.1.2.3 Project preparation

	2014	2015	2016
Number of project appraisal stages	2	2	2
What feasibility analyses are required for the project to be approved as a PPP?			
Technical feasibility	✓	✓	✓
Financial feasibility (Only total investment cost)	✓	✓	✓
Legal feasibility	✗	✓	✓
Environmental and social sustainability	✓	✓	✓
Value for money assessment	✓	✓	✓
Fiscal affordability assessment	✓	✓	✓
PPP structuring and risk allocation	✗	✓	✓
Initial market testing	✗	✓	✓
Number of approvals to be obtained by public sector to get final go-ahead to commence PPP project procurement	no data	no data	no data
Is the approval from the MOF or equivalent required before commencement of procurement?	✗	✗	✗
Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	✗	✗	✗

Under the laws, pursuant to Article 8 (5) of Decree 15, in necessary cases, ASAs shall select independent consultancy organizations to support the implementation of a number of the duties. Moreover, in necessary cases, the ASA may hire a qualified consultancy organization to support the performance of certain duties. However, there is not much indicative practice in Viet Nam for this. The key issue is budget allocation for appointment and paying for advisers, and this often proves time consuming or beyond the capabilities of the government to achieve. However, for the upcoming PPP projects, if Viet Nam obviously wants to make PPP a success, the government will need to retain international and reputable financial, legal and technical advisors and will need to ensure that there will be an appropriate budget and political will for doing so.

PPP regulations define the following steps prior to commencing procurement:

- (i) The project proposal (pre-feasibility study) has to be prepared, evaluated, and approved.

- (ii) Within 7 working days from the approval of a project proposal, the project is publicly announced on the list of PPP projects calling for investors.
- (iii) Project feasibility study has to be prepared, evaluated, and approved.

Feasibility study is the basis for request for proposals for the investor selection and project contract negotiation. The appraisal of prepared feasibility study is carried out for projects of national importance by the state appraisal committee and for projects of group A and group B by a focal unit managing PPP activities as assigned by ASAs. The approval of feasibility study is by the Prime Minister for projects of national importance and by the ASAs for projects of group A and group B.

9.1.2.4 Risk allocation

	2014	2015	2016
Preferred risk allocation matrix as reference	x	x	x

Risk allocation has to be analyzed during the project preparation and in the feasibility study report. However, the risk allocation has to be negotiated and concluded on a case-by-case basis in the project contract.

9.1.2.5 Procurement

	2014	2015	2016
Is competitive bidding the only method for PPP partner selection?	x	x	x
In case of competitive tender:			
Prequalification required?	✓	✓	✓
Minimum time allowed to submit prequalification/expression of interest (days)	30	30	30
Minimum time allowed to submit a bid:	no data	60–90	60–90
Domestic bidding (days)			
International bidding (days)			
Is negotiation available?	✓	✓	✓
Is there a process allowing unsuccessful bidders to challenge the award/make complain?	no data	✓	✓
If yes, maximum time allowed to submit a complaint starting from the announcement of a preferred bidder	no data	10	10
Maximum time limit from the bid closing date till the selection of a preferred bidder	no data	320	320
Maximum time limit from the selection of a preferred bidder till signing the contract	no data	120	120
Transparency: Which of the following is published?			
Procurement notice	✓	✓	✓
Q&A during bid clarification stage	✓	✓	✓
Evaluation results to bidders	✓	✓	✓

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Table continued

	2014	2015	2016
Award notice	✓	✓	✓
Contract	✗	✗	✗
Confidentiality	✓	✓	✓

The features of the procurement process are presented in Table 216:

Table 216: PPP Procurement Process in Viet Nam

Theme	Description
Responsible agency	Authorized state agency (ministries, department of ministries, and provincial-level people's committees)
Project Announcement	Within 7 working days from the approval of a project proposal the procurement notice and invitation for prequalification is published on the national e-procurement system (http://muasamcong.mpi.gov.vn) and the Public Procurement Review newspaper.
Prequalification invitation documentation	<ul style="list-style-type: none"> Guiding information for the investors Eligibility requirements for the investors Requirements on investors' qualifications and experience regarding project implementation and financial-commercial capability Evaluation method
Prequalification evaluation criteria	Ability to arrange funding and ability to implement the project; experience of implementing similar projects; preliminary methodology of the project implementation and commitment to project implementation; requirement to declare disputes or claims relating to contracts currently being implemented or past contracts.
Prequalification evaluation method	<p>Submissions can be evaluated on the scoring scale of 100 or 1,000 points. Investor must exceed a prescribed minimum score, which shall not be less than 60% of the total score, and the score of each basic required item shall not be less than 50% of the maximum score for such item.</p> <p>In case only one investor registers and satisfies the requirements of the invitation for prequalification, or only one investor passes the prequalification, direct appointment is possible.</p>
Short List	
Request for proposal documentation	<ul style="list-style-type: none"> General information about the project, including the contents and scope of the project, detailed description of the outputs of the project and the services Instructions to tenderers, including bidding procedures and the bidding data sheet Project requirements in accordance with the approved feasibility study: <ul style="list-style-type: none"> technical requirements: standards for implementation of the project, quality of project facilities, products and services to be provided; detailed description of the technical requirements and the technical specifications to be used for assessment of bid proposals, and requirements on environment and safety; and

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Table 216 continued

Theme	Description
Request for proposal documentation	<ul style="list-style-type: none"> – commercial–financial requirements: financial plan (total investment capital, structure of capital sources and plan on capital mobilization; state investment capital for project implementation (if any); expenditures; revenue sources, price, fees for products and services; term for recovering capital and gaining profits); requirements on risk sharing. • Evaluation methods • Standard bid forms • Project contract type, termsheet, and contract draft contract, including requirements on performance, facility quality standard, service provision standard, tariff mechanism, applicable regulations, contract rewards and penalties, force majeure events, and the review of contract during the operation of the project and other applicable contents
Methods of interactions with the bidders	<ul style="list-style-type: none"> • Question and answers in writing • Pre-bid conferences
Evaluation of technical proposals	<ul style="list-style-type: none"> • Depending on the nature of the project, technical criteria include the following aspects: quantity and quality; operation, management, conducting business and maintenance; environment and safety • Submissions can be evaluated on the scoring scale of 100 or 1,000 points. Investor must exceed a prescribed minimum score, which shall not be less than 70% of the total score, and the score of each basic required item shall not be less than 60% of the maximum score for such item.
Evaluation of financial proposals	<p>Evaluation of financial proposals is carried out only for investors that satisfy the above technical requirements. Evaluation can be done based on the following methods:</p> <ul style="list-style-type: none"> • lowest service price, • lowest state capital contribution, • highest payment to the state budget, and • combination of the above.
Investor Selection	
Contract negotiation	Preferred bidder is invited for negotiations
Investment agreement signing	The investment agreement is intended to be made between the relevant authorized state agency and the selected investor(s) in order to provide confirmations on the draft project contracts, the rights and obligations of each party in the implementing process for obtaining the investment registration certificate and to establish the project company, and other matters to be agreed between the parties.
Application for and issuance of an investment registration certificate and establishing the project enterprise	
Contract Signing	

PPP = public–private partnership.

Source: Government of Socialist Republic of Viet Nam 2015. *Decree 30/2015/ND-CP on PPP Investor Selection*. <http://www.bold-frontier.com/vietnam-ppp.html>

9.1.3 PPP Market Maturity

	2014	2015	2016
Cumulative PPP projects that reached financial close	83	84	84
PPP projects currently in preparation	n/a	n/a	22
PPP projects currently in procurement	n/a	n/a	9

^a It should be noted that the research relied primarily on information reported in public sources which may not be accurate or contain all the required information. Furthermore, generally, limited information is disclosed to the public in relation to project failures. Therefore, reported numbers of projects in this table may not be exhaustive.

9.1.4 Financial Facilities

	2014	2015	2016
Cumulative PPP projects with foreign lending participation	11	12	12
Cumulative PPP projects that received export credit agency/ international financing institution's (ECA/IFI) financing	13	13	13

	2014	2015	2016
Availability of nonrecourse/limited recourse hard currency loan	✓	✓	✓
Availability of nonrecourse/limited recourse local currency loan	✓	✓	✓
Max tenor for local currency loan (years)	5-9	5-9	5-9
Availability of interest rate swaps	✓	✓	✓
Forward duration of interest rate swap (years)	1.5-2	1.5-2	1.5-2
Availability of currency swaps	✗	✗	✗
Forward duration of currency rate swap (years)	n/a	n/a	n/a
Availability of project bond financing	✗	✗	✗
Availability of project financing from local public sector banks	✓	✓	✓
Max tenor for loan from local public sector banks (years)	no data	no data	no data

Indicative project finance hard currency and local currency loan terms in Viet Nam are presented in Table 217 and Table 218.

Table 217: Indicative Project Finance Hard Currency Loan Terms in Viet Nam

Term	Value
Maximum tenor	15–20 years for well-structured project with strong support
Upfront arrangement fee	100–300 bps
Floor rate (reference rate)	LIBOR
Margin rate	100–500 bps
Political risk cover premium	150–200 bps
Interest rate swap fee	30–40 bps
Currency conversion swap fee	no data

bps = basis points

Note: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, security of revenue stream.

Sources: HSBC Report 2017; consultations with Banks.

Table 218: Indicative Project Finance Local Currency Loan Terms in Viet Nam

Term	Value
Maximum tenor	10 years
Upfront arrangement fee	no data
Floor rate (reference rate)	6-month deposit rate
Margin rate	no data
Political risk cover premium	
Interest rate swap fee	no data
Currency conversion swap fee	no data

Note: Loan tenor and upfront and margin rates will depend a lot on given debt service coverage ratio, political risk coverage, and security of revenue stream.

Sources: HSBC Report 2017; consultations with Banks.

International and local banks have the appetite and capacity to finance PPP projects in Viet Nam; however, lack of well-prepared and structured projects limits the development. Also, there is a growing interest from institutional investors (such as pension funds) to finance PPP projects in Viet Nam.

In most cases to provide financing in Viet Nam, international commercial banks would expect to have political risk insurance coverage to be provided either directly by the state or by ECA/IFIs. The scope of coverage would need to include:

- breach of contract,
- expropriation,
- political violence, and
- currency conversion/transfer.

9.2 Roads

9.2.1 Regulatory Framework

9.2.1.1 *Foreign investor participation restrictions*

Maximum allowed foreign ownership of equity in greenfield projects	100%
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9.2.1.2 *Government contracting agency*

MOT is a state authority that is competent to enter into the contract upon the approval of both the PPP contract and the feasibility study report.

9.2.1.3 *Sector-specific regulations*

Does private partner have legal right to charge users?	✓
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9.2.1.4 *Sector regulators*

The PPP Project Management Unit within MOT is the lead agency to regulate and manage PPP contracts.

9.2.2 Institutional Capacity for Implementation

9.2.2.1 *Project planning*

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There is a Transport Sector Development Strategy that identifies the general objectives up to 2020. Potential PPP projects with time horizon up to 2020 comprise about 1,430 km of highways with the total investment volume of \$11 billion. Most of the proposed projects are intended to be implemented as greenfield BOTs with plans to outsource operation and maintenance of currently operating and being constructed expressways. PPP pipeline of road projects is listed in Table 219.

Table 219: PPP Pipeline of Road Projects

No.	Project Name	Length (km)	Value (\$ million)
1	Dau Giay–Phan Thiet Highway	98	757
2	Ho Chi Minh City Ring Road No.3: Tan Van–Nhon Trach Section	17	400
3	Noi Bai–Ha Long Highway: Noi Bai–Bac Ninh Section	34	110
4	Cam Lo–La Son Highway	102	388
5	Ha Noi Ring Road No. 3: Mai Dich–Southern Thang Long	5	250
6	Upgrading the National Road 91, Route from Can Tho to Lo Te	37	120
7	Inter-port Road in Nhon Trach	15	255
8	Route from central City of Quang Ngai to Dung Quat II Port	no data	71
9	Ninh Binh–Thanh Hoa (Nghì Son) Highway	106	847
10	Thanh Hoa (Nghì Son)–Vinh Highway	79	842
11	Dau Giay–Lien Khuong Highway (split into three projects: Dau Giay–Tan Phu; Tan Phu–Bao Loc; Bao Loc–Lien Khuong)	200	1,757
12	Bien Hoa–Vung Tau Highway	75	390
13	Quang Ngai–Quy Nhon Highway	159	1,430
14	My Thuan–Can Tho Highway	24	252
15	Ho Chi Minh City–Moc Bai Highway (Phase 1)	55	333
16	Nha Trang–Phan Thiet Highway	235	1,405
17	Ho Chi Minh City Ring Road No.3, Section Binh Chuan–National Highway No. 22–Ho Chi Minh City Highway–Trung Luong	47	1,095
18	The Central Mekong Delta Connectivity Project–DATP 5: route My An–Cao Lanh	no data	163
19	The Central Mekong Delta Connectivity Project–DATP 4: route Long Xuyen City and connecting route National Highway no. 91	no data	154
20	Construction and upgrading of Southern Coastal Corridor–DATP 4 (Ca Mau region)	no data	59
21	Franchising the operating expressways: Noi Bai–Lao Cai; Ho Chi Minh City–Long Thanh–Dau Giay; Gie–Ninh Binh	no data	no data
22	Franchising the expressways currently under construction (funded by the state budget and official development assistance): Da Nang–Quang Ngai; Ben Luc–Long Thanh	139	no data

km = kilometer, PPP = public–private partnership.

Source: Socialist Republic of Vietnam. 2016. *Presentation to Foreign Investors on Proposal and Policies of Foreign Investment Attraction into Transportation Sector Until 2020*. <http://mt.gov.vn/men/news/8/115/presentation-to-foreign-investors-on-proposal-and-policies-of-foreign-investment-attraction-into-transportation-sector-until-2020.aspx>

9.2.2.2 Project preparation

Number of PPP projects in preparation	14
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9.2.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	2
Unsolicited bids	0
Competitive bidding process	no data
PPP projects currently in procurement	1

9.2.3 Features of Past PPP Projects

9.2.3.1 PPP projects that reached financial close

	Number	Value (\$ million)
PPP projects that reached financial close	3	667

Three road BOT projects reached financial close: National Highway 20, Phylly Bridge, and Ha Noi Hai Phong Expressway.

9.2.3.2 Foreign investor participation

	Number	Share in Total Number of Road PPP Projects
PPP projects with foreign sponsor participation	1	33%

9.2.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	2
Minimum traffic/revenue guarantees	1
Projects on availability/performance-based payment basis	0

National Highway 20 BOT project received guarantees (including revenue guarantees) by the MIGA, whereas Ha Noi Hai Phong Expressway project received guarantees by Nippon Export and Investment Insurance.

9.2.3.4 Payment mechanism

PPP projects by payment mechanism:		Number
User-paid contracts		2
Government-paid contracts		0
What additional revenue streams are allowed?		
Land-use development rights		x
Advertising		✓

9.2.3.5 Tariffs

There are both open and closed toll systems practiced in Viet Nam. Toll rates are regulated by MOF. The key points are as follows:

- Tolls on roads for which investment was provided from the government budget shall be standardized at all toll booths as prescribed by MOF.
- Tolls for roads and other facilities using private-sector funds shall not exceed double the tolls on roads for which investment was provided from the government budget.
- The distance between two successive toll booths shall be no less than 70 km.

No evidence is available on the toll rates indexation mechanisms, but information in several feasibility studies suggests an adjustment for inflation once every 3–5 years.

Examples of current toll rates for roads in Viet Nam are presented in Table 220.

Table 220: Examples of Current Toll Rates for Recently Rehabilitated and Constructed Roads

Road	Toll type	Vehicle <12 Seats, Truck <2 T, Bus	Vehicle 12–30 Seats, Truck 2–4 T	Vehicle >30 Seats, Truck 4–10 T	Truck 10–18 T	Truck >18 T
National Highway 51	Open (dong per trip)	20,000	30,000	44,000	80,000	160,000
Ha Noi–Hai Phong Expressway	Close (dong per kilometer)	2,000				

Note: Rates are effective from 2016.

Source: Viet Nam Plus. 2016. *Toll Rates to Increase for New Expressway*. 18 March. <http://en.vietnamplus.vn/toll-rates-to-increase-for-new-expressway/90524.vnp>

9.2.3.6 Risk allocation

Typical risk allocation arrangements in road PPP contracts are presented in Table 221.

Table 221: Typical Risk Allocation Arrangements in Road PPP Contracts

Risk	Private	Public	Shared	Comment
Traffic risk	✓			
Collection risk	✓			
Competition risk	✓			It is understood that the Ministry of Transport may permit competing alignments without any compensation guarantees. This is considered an important issue for investors.
Government payment risk		✓		External IFI/ECA guarantees were provided.
Environmental and social risk			✓	
Land acquisition risk		✓		
Permits				no data
Geotechnical risk				no data
Brownfield risk: inventories studies, property boundaries, project scope				no data
Political risk		✓		External IFI/ECA guarantees were provided.
Foreign exchange risk			✓	External IFI/ECA guarantees were provided.

IFI/ECA = international financing institution/export credit agency, PPP = public-private partnership.

Source: Mott MacDonald.

9.2.4 Local Capabilities

There are many local construction companies; however, there is an opinion that their technical and commercial delivery capability is often limited. Operation, maintenance, and toll collection have been dominated by SOEs, in particular by Viet Nam Expressway Corporation.

9.2.5 Project Financing

PPP projects with foreign lending participation	3
PPP projects that received ECA/IFI support	2

Out of three cases of foreign commercial bank participation, in two cases lenders have been provided with credit guarantees by MIGA in one case and by Nippon Export and Investment Insurance in another case. On these conditions, the loan tenor was 15 years in both cases.

MIGA guarantee scope covered non-honoring of sovereign financial obligations for a duration of the loan tenor.

9.2.6 Challenges

Notable exemplar is the Dau Giay–Phan Thiet Expressway project that was intended to be the first pilot PPP project, but has failed due to nonattractiveness for foreign investors, even with 40% of VGF from the government. First announced in 2011, the government wanted to guarantee a loan from the International Bank of Reconstruction and Development to Bitexco, a private local firm that was designated as the primary investor. However, the International Bank of Reconstruction and Development refused to lend directly to Bitexco and expected to see the foreign investor as part of the private consortium. The procurement of foreign investor was not successful. The project is still on hold at pre-financing stage.

Challenges for PPP progress in road sector are listed in Table 222.

Table 222: Challenges for PPP Progress in Road Sector

Challenges	Currently Implemented Tackling Measures
Until recently, the weak PPP regulatory environment and probably unrealistic expectations as to the appetite for such projects by the private sector without substantial government viability gap funding and/or guarantees, as toll road projects are among the most difficult to finance worldwide and to accurately estimate future traffic flows and associated revenue streams.	After passing through new PPP regulations addressing several areas of concern for investors, the implementation of these new regulations has yet to be proven.
Historic dominance of the SOEs, especially Viet Nam Expressway Corporation, in developing and managing toll roads, and associated investors' concerns about bidding transparency and SOE access to state-directed and/or preferential financing.	Government of Viet Nam is committed to ensuring that SOEs compete on a "level playing field" for PPP opportunities. The Ministry of Transport has embarked a roadmap up to 2020 to partially privatize the SOEs; however as of 2016, the Viet Nam Expressway Corporation has not ratified a divestment strategy.
Foreign lenders security issues. The lack of development of dong-denominated long-term debt limits bankability for projects. Foreign banks are the most reliable source of medium- and long-term lending. For foreign-denominated debt, lenders are looking for credit enhancements and guarantee mechanisms, for example, either directly by the MOF or through export credit agencies. However, an export credit agency will require guarantees from the MOF, which so far the MOF refuses to provide.	With few exceptions, most observers believe that until Viet Nam has a more established track record for PPP, credit enhancements and guarantees will be important to making PPP projects bankable. Depending on the level of traffic, potentially minimum traffic/revenue guarantees: <ul style="list-style-type: none"> • guarantees of convertibility of dong to foreign currency, as well as availability and remittance of foreign currency, and • enforceability of step-in rights for lenders. New PPP regulations allow for providing such security measures, but implementation in practice has yet to be proven.

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Table 222 continued

Challenges	Currently Implemented Tackling Measures
Land acquisition delays due to high level of bureaucracy and decentralization of the process.	
Low level of tariffs (toll rates)	Given the uncertainty about the government's commitment to address tariff issues and users' willingness to pay, it will be important for the government to consider various options to provide viability gap financing to make projects financially viable and bankable. New PPP regulations allow for viability gap funding, but implementation in practice has yet to be proven.

MOF = Ministry of Finance, PPP = public-private partnership, SOE = state-owned enterprise.

Source: Mott MacDonald.

9.3 Railways

9.3.1 Regulatory Framework

9.3.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	Various
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In railway sector, Viet Nam World Trade Organization (WTO) commitment explicitly defines foreign ownership cap of 49% only for railway freight logistic service business. For other types of investment projects that are not listed in WTO commitment, the investment decision is subject to approval of the Prime Minister and the National Assembly.

9.3.1.2 Government contracting agency

The MOT is a state authority that is competent to enter into the contract upon the approval of both the PPP contract and the feasibility study report. In addition, for Ha Noi and Ho Chi Minh City, Ho Chi Minh City Management Authority for Urban Railways and Ha Noi Metropolitan Rail Transport Project Board reporting directly to respective cities people's committees have the authority to implement urban railway projects.

9.3.1.3 Sector-specific regulations

There is a basic regulation on railway infrastructure charges applicable to government-financed railway projects. MOT is yet to develop and propose to the Prime Minister regulation on railway fees and charges to be applicable for projects with private sector participation.

9.3.1.4 Sector regulators

The PPP Project Management Unit within MOT is the lead agency to regulate and manage PPP contracts. Viet Nam Railway Authority under MOT approves technical and safety standards for national and urban rail.

9.3.2 Institutional Capacity for Implementation

9.3.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

Current pipeline of PPP projects comprises with the total investment volume of \$10.3 billion. MOT priorities for private sector participation focus on developing urban railways for Ho Chi Minh City and Ha Noi, upgrading sections of national rail, and building and operating train stations and adjacent warehouses. There are also plans to franchise existing railway and station operations, initially on routes having commercial advantages.

PPP pipeline of railways projects is listed in Table 223.

Table 223: PPP Pipeline of Railways Projects

No.	Project Name	Length (km)	Value (\$ million)	Suggested PPP Form	Lead Agency
1	Ho Chi Minh City Monorail No. 2	27.2	715	PPP (BOT, build–transfer)	Ho Chi Minh City Urban Railway Management Board
2	Ho Chi Minh City Monorail No. 3	16.5	400	PPP (BOT, build–transfer)	Ho Chi Minh City Urban Railway Management Board
3	Ho Chi Minh City Tramway route No. 1	12.5	250	PPP (BOT, build–transfer)	Ho Chi Minh City Urban Railway Management Board
4	Ho Chi Minh City Metro No. 6	5.6	1,250	PPP (BOT, build–transfer)	Ho Chi Minh City Urban Railway Management Board
5	Ha Noi Metro No. 6 (from center of Ha Noi to Noi Bai Airport)	47	1,356	PPP	Ha Noi Department of Planning and Investment

continued on next page

Table 223 continued

No.	Project Name	Length (km)	Value (\$ million)	Suggested PPP Form	Lead Agency
6	Upgrading of railway route Ha Noi–Ho Chi Minh: Ha Noi–Vinh Section	no data	627	PPP (BOT + ODA)/ODA	Viet Nam Railway Authority; Department of Planning and Investment of MOT
7	Upgrading of railway route Ha Noi–Ho Chi Minh: Nha Trang–Sai Gon Section	no data	1,054	PPP (BOT + ODA)/ODA	Viet Nam Railway Authority; PPP Investment Board of MOT
8	Railway into Hai Phong International Port	33	1,554	PPP (BOT + ODA)/ODA	PPP Investment Board of MOT
9	Railway route Bien Hoa–Vung Tau (Phase 1)	no data	2,709	PPP (BOT + ODA)/ODA	PPP Investment Board of MOT
10	Construction and relocation of Da Nang station of the North–South Railway	no data	380	PPP (BOT)	Viet Nam Railway Authority; PPP Investment Board of MOT
11	Pilot franchise of the railway route Lao Cai–Ha Noi–Hai Phong	381	n/a	PPP (operation and maintenance)	Viet Nam Railway Authority; PPP Investment Board of MOT

BOT = build–operate–transfer, km = kilometer, MOT = Ministry of Transport, ODA = official development assistance, PPP = public–private partnership.

Source: Socialist Republic of Vietnam. 2016. *Presentation to Foreign Investors on Proposal and Policies of Foreign Investment Attraction into Transportation Sector Until 2020*. <http://mt.gov.vn/men/news/8/115/presentation-to-foreign-investors-on-proposal-and-policies-of-foreign-investment-attraction-into-transportation-sector-until-2020.aspx>

9.3.2.2 Project preparation

Number of PPP projects in preparation	no data
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9.3.2.3 Procurement

PPP projects currently in procurement	0
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9.3.3 Features of Past PPP Projects

There have been no PPP projects in railway sector so far.

9.3.4 Local Capabilities

Viet Nam relies almost entirely on foreign private contractors to construct and supply rail technology. As for railways operation and management, it has been carried out either by public agencies or by state-owned Viet Nam Railways.

9.3.5 Challenges

Challenges for PPP progress in rail sector are presented in Table 224.

Table 224: Challenges for PPP Progress in Rail Sector

Challenges	Currently Implemented Tackling Measures
Bankability issues due to very high project cost coupled with low rail usage. Competition from cheaper sea/roads modes of transport	
Undeveloped sector regulations	The MOT intends to develop and propose to the Prime Minister new policies and regulations relating to railway fees and charges, and potential options of capital payback forms from land development rights, for example, enabling railway station public-private partnership projects to get the revenue from other activities such as operating inland container depots or commercial facilities.
Historic dominance of state-owned Viet Nam Railways and public sector in developing and managing railways, and associated investors' concerns about bidding transparency and SOE access to state-directed and/or preferential financing	Government of Viet Nam is committed to ensuring that SOEs compete on a "level playing field" for public-private partnership opportunities. The MOT has embarked a roadmap up to 2020 to partially privatize the SOEs; however as of 2016, the MOT is yet to develop and propose to the Prime Minister equitization plan of Viet Nam Railways.
Land acquisition delays due to high level of bureaucracy and decentralization of the process, in particular, in urban areas of high density	

MOT = Ministry of Transport, PPP = public-private partnership, SOE = state-owned enterprise.

Source: Mott MacDonald.

9.4 Ports

9.4.1 Regulatory Framework

9.4.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	Various
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In maritime sector, Viet Nam WTO commitment explicitly defines foreign ownership caps for a number of maritime-related activities. For other investment projects that are not listed in WTO commitment, the investment decision has to be approved by the Prime Minister and the National Assembly.

Maximum allowed foreign ownership for defined activities is given in Table 225.

Table 225: Maximum Allowed Foreign Ownership for Defined Activities

Business Activity	Maximum Percentage Allowed
International passenger and freight marine transportation service	51%, can be increased to 100% after 5 years of operation Note: Only one enterprise each year is eligible for the application.
Domestic passenger and freight marine transportation service	49%
Container loading and unloading service	50%
Clearance service, including transportation supporting services such as commodity shipping and receiving, and operation of customs agency	51%; can be increased to 80% after 5 years of operation
Container warehousing service	51%, unrestricted after 7 years of operation
Freight terminal operation	49% unless otherwise being approved by a relevant Vietnamese authority

Source: Socialist Republic of Vietnam. 2016. Presentation to Foreign Investors on Proposal and Policies of Foreign Investment Attraction into Transportation Sector Until 2020. <http://mt.gov.vn/men/news/8/115/presentation-to-foreign-investors-on-proposal-and-policies-of-foreign-investment-attraction-into-transportation-sector-until-2020.aspx>

9.4.1.2 Government contracting agency

The MOT is a state authority that is competent to enter into the contract upon the approval of both the PPP contract and the feasibility study report.

9.4.1.3 Sector-specific regulations

In order to enable private sector participation in a wider range of projects, MOT intends to develop and propose to the Prime Minister new policies and regulations on maritime safety fees for upgrade and construction of access channels; on inland waterway fees; and on investment incentives for development of inland waterways transport, including policies on financial support. This will enable capital payback through collection of fees and giving rights of business operations, such as rights to develop riparian land and providing warehousing services.

9.4.1.4 Sector regulators

The PPP Project Management Unit within MOT is meant to be the lead agency to regulate and manage PPP contracts. Viet Nam Marine Administration (Vinamarine) and Viet Nam Inland Waterways Administration are agencies under MOT that assist in the regulation of technical and safety standards. Policy on various port dues (navigation, pilotage, berthage, channel access) is regulated by the MOF.

Viet Nam's port sector typically employs a landlord model for major ports, with a port authority or an SOE having responsibility for providing, managing and operating both marine and land-side infrastructure and services.

9.4.2 Institutional Capacity for Implementation

9.4.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There is a Transport Sector Development Strategy that identifies the general objectives up to 2020. Proposed projects mainly include developing and operating container and commodity terminals, as well as upgrading channel accesses and inland waterways routes. The value of potential PPP projects is \$5.3 billion in maritime sub-sector and \$150 million in inland waterways sub-sector. PPP pipeline of maritime projects and inland waterways projects is listed in Table 226 and Table 227.

Table 226: PPP Pipeline of Maritime Projects

No	Project Name	Location	Value (\$ million)
1	Channel dredging for large tonnage vessels in Hau River	Tra Vinh Province	150
2	Dredging and upgrading Cai Mep–Thi Vai Channel for vessels with over 100,000 DWT	Ba Ria–Vung Tau	167

continued on next page

Table 226 continued

No	Project Name	Location	Value (\$ million)
3	Dredging Dinh An estuary in Hau River	Da Nang	32
4	Lien Chieu Port (total of three phases)	Da Nang	1,476
5	Hon Khoai deepwater transshipment port for fuels for thermal power projects in the Mekong Delta	Hon Khoai Island	2,500
6	Van Phong international transshipment container terminal (Start-up phase)	Van Phong Bay, Khanh Hoa Province	90
7	Ke Ga general and specialized terminal for aluminum industry (Phase 1)	Binh Thuan Province	243
8	Coal transshipping terminal for thermal power plants in the eastern region of the Mekong Delta	Duyen Hai–Tra Vinh	119
9	Hai Phong International Gateway Port (Lach Huyen) Phase 2 container terminal and bulk terminal	Hai Phong	450
10	Investment projects of constructing storm shelters (nine places)	The North and the Central	36

DWT = deadweight tons, PPP = public-private partnership.

Sources: Socialist Republic of Vietnam. 2016. *Presentation to Foreign Investors on Proposal and Policies of Foreign Investment Attraction into Transportation Sector Until 2020*. <http://mt.gov.vn/men/news/8/115/presentation-to-foreign-investors-on-proposal-and-policies-of-foreign-investment-attraction-into-transportation-sector-until-2020.aspx>; IJ Global. *IJ Global Project Finance and Infrastructure Journal*. <http://www.ijglobal.com>

Table 227: PPP Pipeline of Inland Waterway Projects

No	Project	Location	Value (\$ million)	Investment Form
1	Upgrading Ham Luong River from confluence of Tien River to Ham Luong River mouth	Ben Tre	25	PPP (pilot build-operate-transfer)
2	Upgrading Viet Tri–Yen Bai Waterway	Pho Tho, Yen Bai	47	PPP (pilot build-operate-transfer)
3	Upgrading four inland waterways in some estuaries (Day, Tra Ly, Giang and Co Chien estuaries)	Nationwide	23	PPP
5	Phu Dong Container Port	Ha Noi	21	PPP (BOO)
6	Upgrading Bai Chay cruise ship Port	Quang Ninh	19	PPP (BOO)/ official development assistance
7	Nhon Duc Port	Ho Chi Minh City	19	PPP (BOO)

BOO = build-own-operate, PPP = public-private partnership.

Source: Socialist Republic of Vietnam. 2016. *Presentation to Foreign Investors on Proposal and Policies of Foreign Investment Attraction into Transportation Sector Until 2020*. <http://mt.gov.vn/men/news/8/115/presentation-to-foreign-investors-on-proposal-and-policies-of-foreign-investment-attraction-into-transportation-sector-until-2020.aspx>

9.4.2.2 Project preparation

Number of PPP projects in preparation	4
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9.4.2.3 Procurement

PPP projects procured through:	
Direct appointment	4
Unsolicited bids	0
Competitive bidding process	no data
PPP projects currently in procurement	1

The data on the procurement type for past port PPP projects are not exhaustive and only available for 50% of past port projects.

9.4.3 Features of Past PPP Projects

9.4.3.1 PPP projects that reached financial close

	No.	\$ million
PPP projects that reached financial close	8	1,254

The majority of the implemented projects are container terminals BOT concessions awarded through direct negotiation to a joint venture typically comprising state-owned companies such as national shipping company Vinalines or port operator Saigon New Port and a number of international port operators/shipping companies with foreign ownership in the joint venture ranging from 17% to 80%.

9.4.3.2 Foreign investor participation

	Number	Share in Total Number of Port PPP Projects
PPP projects with foreign sponsor participation	7	88%

9.4.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees	1
Projects on availability/performance-based payment basis	not applicable

9.4.3.4 Payments mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	5
Government-paid contracts	no data
What additional revenue streams are allowed?	
Land-use development rights	x
Wharf charge	x
Navigation charge	x
Pilotage charge	x
Channel access charge	x

To date, freight terminal project companies are only permitted to carry out storage, loading and unloading, transshipment services, and paid by the port users such as shipping lines and logistics companies. However, as noted in Section 9.4.1.4, there are plans to allow private companies to have land development rights and to charge channel access fees.

9.4.3.5 Concession fees

What are the typical mechanism for the fee paid to the government?	
Lump sum	
Royalties	
Revenue share	
Profit share	
Annual lease	✓

Private sector typically leases land for developing private bulk freight terminals, container terminals, and logistics business. The typical mechanism for the fee paid to public sector is a land lease fee or annual concession fee.

9.4.3.6 Tariffs

Does private sector have the freedom to set the tariff?

✓

The freedom to establish commercial rates within Viet Nam's port system is unclear. The general interpretation is that the cargo handling tariffs should be set by private terminal operators through private negotiations based upon market conditions. However, in setting such tariffs, the private operators are meant to stay within certain informal boundary limits, satisfying public authority regulatory concerns. The port dues are set by the public port authority within a regulated market.

The contractual container handling arrangement between the shipper and the shipping line is set out within the terminal handling charge (THC). This covers the movement of a container from the ship's hold, via the terminal's container yard, to the exit-entry gate. In 2011, the formal national cargo THC for a twenty-foot equivalent unit movement was \$85, while for a forty-foot equivalent unit, it was \$125. Actual THC levied will vary depending upon the details of the specific service contracts between the terminal operators and the shipping line. This takes into account the annual volumes shipped, the timing and priority of certain berth priority, and operational handling performance standards. These rates are commercially confidential and rarely released to the market.

9.4.3.7 Labor

How is the issue of excess and efficiency of labor force typically being resolved?

Private operator given the freedom to hire and fire and to set its own terms and conditions of employment

✓

The pre-PPP workforce is transferred to the private operator. Private operator is allowed to make gradual changes to the terms and conditions of employment, providing these are no worse than before and/or are acceptable to the unions or workers' representatives.

The port authority or government undertakes a major labor force restructuring in advance of the PPP, and the workforce is transferred to private operator.

9.4.3.8 Risk allocation

Typical risk allocation arrangements in port PPP contracts are presented in Table 228.

Table 228: Typical Risk Allocation Arrangements in Port PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk	✓			Shippers and logistics businesses typically will only enter into short-term (1–4 years duration) terminal usage contracts. This leaves the project company exposed to significant demand risk.
Competition risk (exclusivity)	✓			In principle, the public sector is required to regulate the development of the sector. However, recent economic activity in the Ho Chi Minh City area has demonstrated that capacity development has been insufficiently regulated, resulting in significant private sector competition risk.
Tariff	✓			
Environmental and social risk	✓	✓		The port authority bears the greatest responsibility in developing basic infrastructure in compliance with environmental and social regulations.
Land acquisition risk		✓		The port authority bears the greatest responsibility in land acquisition/reclamation.
Permits	✓	✓		Subject to which permits.
Geotechnical risk		✓		The port authority bears the greatest responsibility in land acquisition/reclamation.
Foreign exchange risk	✓			Most international trade will be conducted in US dollars, mitigating this risk. But typically cranes and equipment are imported, with purchase denominated in US dollars.
Political risk	✓	✗		

PPP = public-private partnership.

Source: Mott MacDonald.

9.4.4 Local Capabilities

The Vietnamese market has developed a reasonable capacity for marine civil works; however, major works are normally carried out in joint venture with international contractors. Due to the significant number of coastal ports, there is a reasonable domestic stevedoring capacity. The management and operation of international ports is normally led by international port operator companies.

9.4.5 Project Financing

PPP projects with foreign lending participation	4
PPP projects that received ECA/IFI financing	2

9.4.6 Challenges

Challenges for PPP progress in port sector are shown in Table 229.

Table 229: Challenges for PPP Progress in Port Sector

Challenges	Currently Implemented Tackling Measures
Undeveloped sector regulations in some areas.	The Ministry of Transport intends to develop and propose to the Prime Minister new policies and regulations relating to some maritime and inland waterway fees and charges, such as maritime safety fees for upgrade and construction of access channels; inland waterway fees; and investment incentives for development of inland waterways transport, including policies on financial support.
Extensive cabotage trade can undermine bankability of larger more efficient ports. Due to the extended coastal geography together with constraints for land-based freight transport, Viet Nam has a very active coastal and river-based “cabotage” trade operated from many shallow draft ports and terminals, many of which are owned and operated in joint-ventures between SOEs and international private investors.	
Historic dominance of state-owned companies, such as Vinalines and Saigon New Port, and public sector agencies in developing and managing port projects.	Government of Viet Nam is committed to ensuring that SOEs compete on a “level playing field” for public–private partnership opportunities. The Ministry of Transport has embarked a roadmap up to 2020 to partially privatize the SOEs. It is expected that 30% stake in Vinalines to be sold to foreign company, as well as its 10 port businesses to be divested to the private sector.

PPP = public–private partnership, SOE = state-owned enterprise.

Source: Mott MacDonald.

9.5 Airports

9.5.1 Regulatory Framework

9.5.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	30%
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9.5.1.2 Government contracting agency

The MOT is a state authority that is competent to enter into the contract upon the approval of both the PPP contract and the feasibility study report.

9.5.1.3 Sector-specific regulations

There are several regulations that will have an impact on PPP projects:

- The Association of Southeast Asian Nations (ASEAN) Single Aviation Market came into effect in January 2015. This policy aims to liberalize the air transport market in each ASEAN member state to boost the region's connectivity and competitiveness as well as reduce air fares. The single market allows ASEAN-based carriers to carry passengers and cargo from and to any third country to an ASEAN member state. This requires each state to fully open up their international airports to other ASEAN members and eliminate restrictions on the frequency and maximum capacity of flights. As some member states (Indonesia and Philippines) object to certain provisions in this agreement, it will not be fully implemented until after 2016.
- The largest and most congested airports are usually subject to slot coordination to manage any spare capacity efficiently. Slots are either allocated by Air Traffic Control or an independent slot coordination body based on a number of allocation rules. The usage of slots is typically tied to an airlines utilization of each slot, its on-time performance and previous slot utilization. Slots are usually allocated for each summer and winter season.
- The International Civil Aviation Organization publishes a number of regulations that airport operators are required to adopt in order to ensure safe and secure air transport operations. This includes Annex 14 that sets out the physical requirements for any type of civil airport in order for it to receive an operating license from the National Civil Aviation Authority as well as Annex 17 that deals with various security measures to safeguard the aviation industry against acts of unlawful interference. The MOT and the civil aviation authorities are responsible for implementing and monitoring compliance with these regulations.
- Any development related regulations around airports to ensure that obstacle limitation surfaces are maintained for the safe operation of aircraft from and to the airport.
- Security, customs and immigration-related regulations that specify the requirements of functions undertaken by the state or public authorities.

9.5.1.4 Sector regulators

Airport sector regulatory agencies in Viet Nam are described in Table 230.

Table 230: Airport Sector Regulatory Agencies in Viet Nam

Agency	Function
MOT	Direct the implementation of masterplans and plans on development of transport infrastructure, announce and direct the opening and closure of airports and airfields and the establishment of air routes, organize the registration and grant of airport and airfield registration certificates, the management of activities in airports, airfields as well as civil aviation security programs and schemes
The public-private partnership Project Management Unit within MOT	Lead agency to regulate and manage public-private partnership contracts
The Civil Aviation Administration of Viet Nam	Department under the MOT being responsible for the deployment of air traffic control equipment, surveillance, aviation safety and security as well as regulating the civil aviation sector in the country
Viet Nam Air Traffic Management Corporation	Operates Air Traffic Control and responsible for the provision of all air traffic services in Viet Nam airspace
Ministry of Public Security	Provides airport security related functions as well as provides immigration and customs functions

MOT = Ministry of Transport.

Source: Mott MacDonald.

9.5.2 Institutional Capacity for Implementation

9.5.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There is a Transport Sector Development Strategy that identifies the general objectives up to 2020. There are potential airport PPP projects identified up to 2020 with a total investment volume of \$7.8 billion, comprising both greenfield and expansion of existing facilities, as well as piloting outsourcing of operation and maintenance of several airport facilities, such as cargo and passenger terminals.

PPP pipeline of Airport Projects is shown in Table 231.

Table 231: PPP Pipeline of Airport Projects

No	Project Name	Value (\$ million)
1	Long Thanh International Airport Phase 1	5,400
2	Lao Cai Airport	70
3	Cam Ranh International Airport Expansion	211
4	Da Nang International Airport Expansion	152
5	Noi Bai International Airport Terminal 2	968
6	Pilot franchise part or whole of the infrastructure in some airport terminals (Passenger Terminal T1, Noi Bai Airport; Phu Quoc Airport Terminal)	no data
7	Tan Son Nhat Airport Expansion	no data

PPP = public-private partnership.

Sources: Socialist Republic of Vietnam. 2016. *Presentation to Foreign Investors on Proposal and Policies of Foreign Investment Attraction into Transportation Sector Until 2020*. <http://mt.gov.vn/men/news/8/115/presentation-to-foreign-investors-on-proposal-and-policies-of-foreign-investment-attraction-into-transportation-sector-until-2020.aspx>; IJ Global. *IJ Global Project Finance and Infrastructure Journal*. <http://www.ijglobal.com> (accessed February 2017)

9.5.2.2 Project preparation

Number of PPP projects in preparation	4
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9.5.2.3 Procurement

No data

9.5.3 Features of Past PPP Projects

9.5.3.1 PPP projects that reached financial close

	Number	\$ million
PPP projects that reached financial close	1	no data

There has been only one PPP project in the early 1990s, namely developing and operating an international air cargo terminal in Ho Chi Minh City. The project was a joint venture of Vietnam Airlines, Singapore Airport Terminal Services, and Southern Airports Services Company. Limited information is available on details of this project.

9.5.4 Local Capabilities

The operation and management of airports is centralized in Viet Nam. Viet Nam's 7 international airports and 15 domestic airports are operated by Airports Corporation of Vietnam. Tenders for construction or improvement works are usually only released to the national construction sector through the Airports Corporation of Vietnam's website or separate tender notices. It is understood that the Sun Group, a national property developer and contractor, is one of the major players in the sector and is, for example, responsible for the construction of Van Don Airport.

9.5.5 Challenges

Challenges for PPP progress in airport sector are presented in Table 232.

Table 232: Challenges for PPP Progress in Airport Sector

Challenges	Currently Implemented Tackling Measures
Insufficient mechanisms and policies are in place to attract private investors. Concerns have also been raised that the government should retain a 51% share in each case limiting the control of foreign investors. It is also understood that government plans intend to offer projects to local investors first before implementing international tenders to the wider market.	The MOT intends to develop and propose to the Prime Minister new policies and regulations relating to removing the limit of foreign capital ratio for investment and business in airport commercial facilities and specialized airports; finalizing fees and service charges to be in line with service quality and investment costs; and investment incentives, such as concessional loans, commercial loan guarantees, policy facilitation (tax, land, etc.), for companies with regard to aviation infrastructure investment.
Slow execution of the projects and bringing potential public-private partnership projects to market. An example of this would be the construction of Van Don Airport, which was initially awarded to a Republic of Korea-funded organization based in Viet Nam. Due to the lack of progress in the construction, in 2015 the government re-allocated the development rights to the Sun Group.	The MOT intends to actively develop detailed proposals on investment and transfer of rights to airport infrastructure business operations.
Historic dominance of state-owned companies, such as ACV and Viet Nam Airlines Corporation in developing and managing airport projects.	Government of Viet Nam is committed to ensuring that state-owned enterprises compete on a "level playing field" for public-private partnership opportunities. The MOT has embarked a roadmap up to 2020 to equitize and partially privatize the state-owned enterprises. It is expected that 20% stake in both ACV and Viet Nam Airlines Corporation to be sold to foreign investors. Currently, the MOT is approving the purchase of a 7.4% stake in ACV to Aéroports de Paris. This would provide Aéroports de Paris with a strategic role to influence the privatization of airports in Viet Nam as well as its terms and conditions.

ACV = Airports Corporation of Vietnam, MOT = Ministry of Transport, PPP = public-private partnership.

Source: Mott MacDonald.

9.6 Energy

9.6.1 Regulatory Framework

9.6.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Power generation	100%
Power transmission	100%
Power distribution	100%
Oil and gas	100%

9.6.1.2 Government contracting agency

The SOE Electricity of Viet Nam (EVN) has acted as a government contracting agency. It holds a monopoly position in the Viet Nam power market and is organized into several subsidiary regional companies. EVN is a holding company for:

- generation: equitized (EVN holds majority) or subsidiary power plants account for 68% of installed capacity;
- scheduling and dispatching;
- transmission; and
- distribution.

9.6.1.3 Sector-specific regulations

The Electricity Law 2005 outlines the major principles for the establishment of the power market in Viet Nam, including diversification in power sector investments, development of competitive generation, wholesale competitive and retail competitive markets. Regarding codes and standards applied in energy projects, it is expected that all material, workmanship and testing shall be in accordance with the appropriate international specifications, standards, and codes of practice. Usually, the standards of operation are in accordance with:

- the terms and conditions set in the PPA;
- the operation parameters set forth in the dispatch agreement;
- all laws of Viet Nam, including but not limited to the dispatch rules;
- the manufacturer's recommendation and prudent utility practices; and
- the operating procedures and dispatch instruction of EVN.

The Grid Code is the regulations on the power transmission network issued by Circular 12/2010/TT-BCT of the MOIT dated 15 April 2010.

9.6.1.4 Sector regulators

Energy sector regulatory agencies in Viet Nam are described in Table 233.

Table 233: Energy Sector Regulatory Agencies in Viet Nam

Agency	Function
Ministry of Industry and Trade (MOIT)	Responsible for the development of energy policies and plans
Electricity Regulatory Authority of Viet Nam under the MOIT	Assists the MOIT in operating the electricity sector of Viet Nam. Responsible for monitoring supply/demand balance, supervising the power market, tariff regulation, and licensing; and implementation of the proposed plans and projects and the settlement of complaints and disputes in the market

Source: Mott MacDonald.

9.6.2 Institutional Capacity for Implementation

9.6.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	n/a

Power sector strategy is captured in Masterplan VII approved in 2011 aiming to create an efficient competitive market and implement market-pricing system to attract foreign investors. The plan puts emphasis on energy efficiency, energy security, and the development of renewable energy.

The General Directorate of Energy as part of the MOIT in October 2016 commented that they are to develop the national renewable energy program. They are also proposing to look at incentives and other supporting mechanisms such as tax incentives, preferential treatment for land, and policies for environmental protection. There is a plan to prioritize the development of renewable energy for power generation and increase the utilization rate of renewable energy from about 7% in 2020 to more than 10% in 2030.

9.6.2.2 Project preparation

Number of PPP projects in preparation	no data
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Lack of studies and information disclosed about plug-in points and network configuration for thermal generation.

9.6.2.3 Procurement

PPP projects procured through:	
Direct appointment	12
Unsolicited bids	0
Competitive bidding process	8
License scheme	30
PPP projects currently in procurement	6

The data on the procurement approach applied for past PPP energy projects are not exhaustive. It is understood that the MOIT does not fully agree with the PPP approach in Decree 15 and focuses on direct appointment deals with the result that negotiations are taking longer than 6 years to sign up a project.

Currently negotiation is under way for:

- Tay Nguyen Wind Project (28 megawatt [MW])
- Vinh Tan 3 Coal Power Project (1,980 MW)
- Vung Ang 3 Coal-Fired Power Plant (1,200 MW)
- Nam Dinh 1 Coal-Fired Power Plant (1,200 MW)
- Vung Ang 2 Coal-Fired Power Plant (1,200 MW)
- Nghi Son 2 Coal-Fired Power Plant (1,200 MW)

9.6.3 Features of Past PPP Projects

9.6.3.1 PPP projects that reached financial close

Energy generation	Number	Value (\$ million)
Renewables energy generation	55	2,663
Solar	0	–
Wind	5	104
Hydro	48	2,538
Geothermal	0	–
Waste/biomass	2	20
Thermal energy generation	10	8,811
Coal	6	7,769
Diesel	2	590
Natural gas	2	452
Total energy generation	65	11,472

continued on next page

Table continued

	Number	Value (\$ million)
Energy generation		
Energy transmission and distribution		
Natural gas	1	1,300
Total energy transmission and distribution	1	1,300

The projects have been conducted in the traditional independent power producer (IPP) model. IPPs in Viet Nam were first introduced in 2002 with the following categories being identified:

- BOT or BOO ventures wholly owned by public-owned Vietnamese entities, other than EVN;
- BOT or BOO joint ventures with EVN and other parties (local or foreign investors);
- BOT ventures wholly owned by foreign parties (public or private sector); and
- Joint-stock company created under EVN's equitization program.

9.6.3.2 Foreign investor participation

PPP projects with foreign sponsor participation	Number	Share in Total Number of Energy PPP Projects of Respective Type
Energy generation		
Renewables	5	9%
Thermal	10	100%
Energy transmission and distribution	1	100%

9.6.3.3 Government support

PPP projects that received government support:	Number
VGF	3
Government guarantees	30
Projects on availability/performance-based payment basis	55

9.6.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	0
Government-paid contracts	55

IPP projects in Viet Nam have to contract with the government to sell capacity and net energy output to EVN, and the resultant PPA is structured to include a separate annual fixed capacity charge and a variable charge based on net energy output.

9.6.3.5 Tariffs

Is there a system of feed-in tariffs (FIT)?			✓
Typical FIT levels		Type	US cent/ kilowatt- hour (kWh)
EVN has to buy all the plant's wind energy output, and the Viet Nam Environment Protect Fund will accordingly subsidize to EVN.		Wind	7.8
For small hydro, the tariff follows an avoided cost mechanism measured by year and by season.		Hydro	5.0
		Biomass	5.8
FIT is being considered.		Biogas and geothermal	n/a
The government is currently preparing solar PV support legislation. First drafts released in 2015 and developed further in the first half of 2016, which include a FIT of \$0.112/kWh for large-scale grid-connected free-field PV power plants, and a net metering credit for excess solar power fed into the grid set at \$0.15/kWh for rooftop systems.		Solar PV	11.2 15.0

For thermal IPP projects, tariffs are not normally disclosed as they are considered commercially sensitive information. On an aggregate basis over the life of the contract, capacity charges constitute about 25%, O&M payments about 8%, and fuel costs about 67% of the tariff revenues.

The government strictly regulates retail electricity prices (which ultimately affect whole sale process) and periodically MOIT recommends adjustments to these levels which require Prime Minister's approval before being implemented.

9.6.3.6 Risk allocation

Typical risk allocation arrangements in energy PPP contracts are presented in Table 234.

Table 234: Typical Risk Allocation Arrangements in Energy PPP Contracts

Risk	Private	Public	Shared	Comment
Demand risk		✓		
Revenue collection risk		✓		
Tariff risk	✓			

continued on next page

Table 234 continued

Risk	Private	Public	Shared	Comment
Government payment risk		✓		
Environmental and social risk	✓			
Land acquisition risk			✓	
Permits	✓			
Handover risk	✓			
Political risk		✓		
Regulatory risk		✓		
Interconnection risk			✓	
Brownfield risk: asset condition				not applicable
Grid performance risk	✓			
Hydrology risk	✓			
Exploration and drilling risk				not applicable

PPP = public-private partnership.

Source: Mott MacDonald.

9.6.4 Local Capabilities

The majority of local companies involved in the energy sector are SOEs. These are either consultancy organizations such as the PECC organizations or generation asset owners (operators) PMCC entities. The capabilities of the different entities do vary, but the selection of the entity for involvement in a project is based on geography. Until recently, the construction of the projects has been undertaken by state-owned contractors who have formed a joint venture with specialist international contractors, if needed. There has been a recent influx of international organizations setting up local entities to deliver services in the energy sector within Viet Nam.

9.6.5 Project Financing

PPP projects with foreign lending participation	5
PPP projects that received ECA/IFI financing	7

9.6.6 Challenges

As of December 2016, projects that were in the negotiation but have not reached yet financial close for more than 2 years include the following:

- Hua Na Hydro Plant (180 MW)
- Song Bung 4 Hydropower Project (156 MW)
- Dak My 1 Hydropower
- 6 kilowatt Ba Ria Vung Tau Wind Farm
- Van Phong 1 IPP (1,320 MW)

- 1.32 GW Long Phu 2 Coal-Fired Power Plant
- Kien Luong Power Plant Phase I (1,200 MW)
- Janakusa Duyen Hai 2 IPP
- Kien Giang Thermal Power Station

Challenges for PPP progress in energy sector are presented in Table 235.

Table 235: Challenges for PPP Progress in Energy Sector

Challenges	Currently Implemented Tackling Measures
Low electricity tariffs	In an effort to stimulate interests from the private sector, the Ministry of Industry and Trade and EVN have been working to increase retail electricity prices and to gradually liberalize the power sector.
Dominance of the state-owned enterprises, especially EVN, in the whole power supply chain	In 2011, the government started implementing its phased approach of liberalizing the power sector and introducing competition in the power generation market. It remains unclear quite how far Viet Nam will go with its plan to create a competitive and more transparent power market, one in which the state is supposed to play a less dominant role. Officials at EVN and other state-owned power producers benefit from state regulation, sometimes through corrupt practices, even as the companies they work for lose money. They have a vested interest in blocking structural reform.
Change in provision of currency conversion government guarantees for BOT thermal power projects. Official Letter 136 dated 16 April 2015 of the Deputy Prime Minister signaled the government's intention to limit the support that it will give to BOT power projects for currency conversion in Viet Nam. Basically, the Government of Viet Nam is prepared to guarantee the conversion into US dollars of up to 30% of project turnover in dong after subtracting dong-denominated expenses (e.g., dong-denominated operating costs or financing costs, if any).	
Complexity of project development. Private power projects in Viet Nam have to face a complex structure of government agencies, a situation which becomes even more difficult for small-scale ones, because of the lack of a standardized power purchase agreements. Most projects have to be negotiated on a case-by-case basis.	
Investment schemes. In the case of foreign investment, BOT is preferred to build-own-operate schemes. It is also acknowledged that the government would prefer foreign investors to engage in joint ventures with local companies or subsidiaries of a Viet Nam utility.	

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Table 235 continued

Challenges	Currently Implemented Tackling Measures
Internal rate of return caps for power projects. The Ministry of Industry and Trade guidelines suggest that the internal rate of return in respect of equity capital may be capped at 14%. However, this number may be exceeded by providing a satisfactory explanation in the project evaluation and negotiation stage.	
Local players. For thermal energy projects, it is evident that state-owned enterprises Vinacoal and PetroViet Nam are allowed to propose thermal independent power producer projects to EVN with competitive advantage over other developers as they are the monopoly entities in the coal and gas fuel supply, respectively.	

BOT = build–operate–transfer, EVN = Electricity of Viet Nam, PPP = public–private partnership.

Source: Mott MacDonald.

9.7 Water and Wastewater

9.7.1 Regulatory Framework

9.7.1.1 Foreign investor participation restrictions

Maximum allowed foreign ownership of equity in greenfield projects	
Bulk water supply and treatment	100%
Water distribution	100%
Wastewater treatment	100%
Wastewater collection	100%

9.7.1.2 Government contracting agency

Various.

9.7.1.3 Sector-specific regulations

Can private sector be given water abstraction rights?	✓
Are there regulations in place on raw water extraction?	✓
Are there regulations in place on the release of treated effluents?	no data

The exploitation of water resources for domestic water supply by water supply companies must comply with the masterplan on water resources as specified in the Law on Water Resources 2012. Water supply companies must obtain permits from Ministry of Natural Resources and Environment for exploitation of raw water for water treatment plants. For

smaller projects (50,000 m³/day [surface water] and 3,000 m³/day [groundwater]), the responsibility falls under the control of provincial people's committee.

9.7.1.4 Sector regulators

Water sector regulatory agencies in Viet Nam are described in Table 236.

Table 236: Water Sector Regulatory Agencies in Viet Nam

Agency	Function
Ministry of Natural Resources and Environment	Overall water resources management/strategy
Agency of Water Resource Management	Manages water resources at the country level as well as revising the law on water resources
Viet Nam Environmental Administration	Deals with environmental law and regulation
Ministry of Construction	Responsible for urban water supply, wastewater services, and drainage infrastructure
Ministry of Agriculture and Rural Development	Implements and coordinates rural water supply and sanitation projects and programs as well as responsible for irrigation, drainage, flood and disaster prevention, and fisheries
Ministry of Planning and Investment	Responsible for planning investments in water sector development
Provincial People's Committees	Responsible for policy implementation, and urban water and wastewater projects, planning and proposing domestic and industrial water supply projects to the Government of Viet Nam. Make decisions on water tariff increases
Ministry of Finance	Develops policies on water and wastewater tariffs and taxes
Ministry of Health	Development of national standards Drinking water quality control for urban water (rural and small-scale water supplies are dealt with under separate legislation). Drinking water standards are based on World Health Organization standards, adapted for Viet Nam conditions. Monitoring and control of water quality

Source: Mott MacDonald.

9.7.2 Institutional Capacity for Implementation

9.7.2.1 Project planning

Have sector strategy and investment priorities been defined?	✓
Is there a PPP project pipeline developed and available?	✓

There are national sector strategies developed for water and wastewater sector, setting national targets in relation to water and wastewater service coverage and nonrevenue water reduction, which will require significant investment. However, apart from few projects from a list of national projects calling for foreign investment announced under Decision 631/QĐ-TTg dated 29 April 2014, there does not seem to be clear plans. PPP pipeline of water projects is shown in Table 237.

Table 237: PPP Pipeline of Water Projects

No.	Project Name	Location	Capacity (m ³ /day)	Value (\$ million)
1	Hau River Water Treatment Plant I	Can Tho City	Phase 1: 500,000 Phase 2: 1,000,000	500
2	Hau River Water Treatment Plant II	Chau Thanh	Phase 1: 1,000,000 Phase 2: 2,000,000	1,000
3	Da River Water Treatment Plant Phase 2	Ha Noi	300,000	100
4	Duong River Water Treatment Plant	Ha Noi	Phase 1: 300,000 Phase 2: 600,000	300
5	Nhung River Water Treatment Plant	Quang Tri Province	n/a	30

m³/day = cubic meter per day, PPP = public-private partnership.

Sources: Government of Viet Nam. 2014. Decision No-631-QĐ-TTg. http://www.vietnam.co.za/downloads/list_of_projects.pdf; Infradeals. Infradeals database. <https://www.infra-deals.com> (accessed 12 February 2017)

9.7.2.2 Project preparation

Number of PPP projects in preparation	no data
---------------------------------------	---------

JICA is funding several feasibility studies by Japan-based companies for water PPPs. However, these are likely to be developed through direct negotiation between Japanese-based companies and local partners, with support from the foreign ministries of Japan and Viet Nam.

9.7.2.3 Procurement

PPP projects procured through:	Number
Direct appointment	no data
Unsolicited bids	0
Competitive bidding process	no data
PPP projects currently in procurement	1

The tender for Tan Hoa-Lo Gom wastewater treatment PPP has been launched in mid-2015.

9.7.3 Features of Past PPP Projects

9.7.3.1 PPP projects that reached financial close

	Number	Value (\$ million)
PPP projects that reached financial close	3	66

There have been two greenfield bulk water supply projects and one O&M performance-based nonrevenue water reduction contract.

9.7.3.2 Foreign investor participation

	Number	Share in Total Number of Water PPP Projects
PPP projects with foreign sponsor participation	3	100%

9.7.3.3 Government support

PPP projects that received government support:	Number
VGF	no data
Government guarantees:	no data
Projects on availability/performance-based payment basis	1

9.7.3.4 Payment mechanism

PPP projects by payment mechanism:	Number
User-paid contracts	0
Government-paid contracts	3

9.7.3.5 Tariffs

Tariff levels are set by provincial people's committees, and these are not linked to any required capital investment program or levels of service. There are also no mechanisms in place to link tariffs to inflation. People's committees are often reluctant to actually increase water tariffs. This happens largely for political reasons despite official policies such

as Decree 117/2007, which is intended to promote water tariffs increase to achieve full cost recovery.

Viet Nam employs a block tariff structure. Examples of tariff grids in two major cities are below:

Example of current water tariff grid in Ha Noi and Ho Chi Minh City is presented in Table 238 and Table 239.

Table 238: Current Water Tariff Grid in Ha Noi, 2016

Volume	Water (\$/m ³)	Wastewater (\$/m ³)
Up to 10 m ³	0.24	0.02
10–20 m ³	0.28	0.03
20–30 m ³	0.35	0.03
Above 30 m ³	0.64	0.06

m³ = cubic meter.

Note: HAWACO tariffs. Figures exclude value added tax and environmental protection charges for wastewater.

Source: IBNET. 2017. IBNET Database. <https://database.ib-net.org/DefaultNew.aspx> (accessed February 2017).

Table 239: Current Water Tariff Grid in Ho Chi Minh City, 2016

Volume	Water (\$/m ³)	Wastewater (\$/m ³)
Up to 16 m ³	0.27	0.03
16–24 m ³	0.51	0.05
Above 24 m ³	0.57	0.06

m³ = cubic meter.

Note: SAWACO tariffs. Figures exclude value added tax and environmental protection charges for wastewater.

Source: IBNET. 2017. IBNET Database. <https://database.ib-net.org/DefaultNew.aspx> (accessed February 2017)

9.7.3.6 Risk allocation

No data.

9.7.4 Nonrevenue Water and Infiltration

Nonrevenue water (%)	23%
Nonrevenue water (m³/km/day)	13.53
Infiltration	no data

Source: IBNET. 2014. IBNET Database. <https://database.ib-net.org/DefaultNew.aspx> (accessed February 2017).

9.7.5 Local Capabilities

There are few big leading engineering procurement and construction companies specializing in water and wastewater market.

9.7.6 Project Financing

PPP projects with foreign lending participation	no data
PPP projects that received ECA/IFI support	2

9.7.7 Challenges

Challenges for PPP progress in water sector are presented in Table 240.

Table 240: Challenges for PPP Progress in Water Sector

Challenges	Currently Implemented Tackling Measures
Untested new public–private partnership legal framework	
Low tariff levels Tariffs and revenues are inadequate for full cost recovery, resulting in lack of financial and operational sustainability.	
Capacity of utility management for implementing reforms: this capacity varies enormously between utilities, but even in the most effective ones there is a concern that they need support for change management in the process of transforming from a public utility to an equitized company.	

PPP = public–private partnership.

Source: Mott MacDonald.

9.8 Other sectors

Potential PPP projects for sectors not covered in the preceding sections are presented below.

PPP pipeline of projects from other sectors is listed in Table 241.

Table 241: PPP Pipeline of Projects from Other Sectors

No.	Project Name	Location	Value (\$ million)
1	Da Nang Solid Waste Management PPP	Da Nang	to be determined

PPP = public-private partnership.

Source: Infradeals. Infradeals Database. <https://www.infra-deals.com> (accessed February 2017)

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APPENDIX: METHODOLOGY

*P*ublic–Private Partnership Monitor (PPP Monitor) is envisaged to be a dynamic product. It should also be noted that the report uses standardized definitions that may not match a particular developing member country’s definitions. The details on the meaning of each indicator are discussed in this section. Comments for improving data quality are welcome and can be incorporated in future editions of the PPP Monitor.

A.1 Research Period

Data gathering was carried out from September 2016 to February 2017 with the aim of reflecting the status at the end of 2016. Therefore, some indicator data may have changed between the said period and the date of report publication.

A.2. List of Indicators

Tables below present a list of indicators for each major topic with some explanation provided against certain indicators where it is deemed necessary.

An **orange** color string in the table is indicative of an indicator being based on current policies and regulations, while a **blue** color string indicates that an indicator is based on what happens in practice.

A.2.1 Regulatory Framework

Regulatory Framework Country-Level Section Indicators

Subcategory	Supporting Indicators	Units	Comment
PPP laws	Is there a dedicated legal or policy instrument established for a PPP?	yes/no	
	Cumulative number of PPP projects implemented under the latest PPP law	numbers	PPP projects that reached financial close since the latest PPP law was enacted and went through preparation and approval process as prescribed in the latest PPP law
PPP types	Number of PPP types defined in the PPP regulations	numbers	
Eligible sectors	Roads, railways, ports, airports Water and wastewater Municipal solid waste Power generation, power transmission, power distribution, oil and gas Information and communication technology Social infrastructure	yes/no	Defines whether a particular infrastructure sector is eligible for PPP procurement under the regulations
Other applicable restrictions	Project funding structure	yes/no	States if there is any regulated prescription on a PPP project funding structure, for example, debt-to-equity ratio
	Project capital investment size	yes/no	States if there is any restriction/relaxing of regulations depending on the total cost of a PPP project
Unsolicited bids	Acceptance of unsolicited proposals	yes/no	
	Eligibility of project proponent to have:		
	Competitive advantage at bid evaluation	yes/no	
	Swiss challenge	yes/no	States if a project proponent that submitted an unsolicited bid has the right to match the best bid offer (when the project is put to competitive tender)
	Compensation of the project development cost	yes/no	
	Government support for land acquisition and resettlement cost	yes/no	
	Government support in the form of VGF and guarantees	yes/no	
SOE participation	Is an SOE allowed to participate in a PPP as a counterparty to the government?	yes/no	
	Are hybrid arrangements allowed (e.g., joint venture between SOEs and private firms) as a counterparty to the government?	yes/no	
	Cumulative PPP projects with SOE participation (number)	numbers	Projects that reached financial close where at least one sponsor was an SOE

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Table A.2.1 continued

Subcategory	Supporting Indicators	Units	Comment
SOE participation	Cumulative PPP projects with SOE participation (as a share of the total number of PPP projects)	percentage	Projects that reached financial close where at least one sponsor was an SOE as a share of the total number of PPP projects that reached financial close
Land rights	Which of the following is permitted to the private partner?		
	Transfer land lease/use/ownership rights to the third party	yes/no	
	Use leased/owned land as collateral	yes/no	
	Mortgage leased/owned land	yes/no	
	Is there any legal mechanism for granting way-leave rights, for example, laying water pipes or fiber cables over land occupied by persons other than government or the private partner?	yes/no	
	Is there a land registry/cadastre with public information on land plots?	yes/no	
	Which of the following information on land plots is available to the private partner?		
	Appraisal of land value	yes/no	
	Landowners	yes/no	
	Land boundaries	yes/no	
	Utility connections	yes/no	
	Immovable property on land	yes/no	
	Plots classification	yes/no	
Environmental and social issues	Is there any local regulation establishing process for environmental compliance?	yes/no	
	Can the private partner limit environmental liability for what is outside of its control or caused by third parties?	yes/no	Reflects whether a private partner can limit the circumstances where it is penalized for breaching environmental standards where such a breach is not within its control—for example, a wastewater treatment plant operator will wish to avoid prosecution or even liability for pollution caused by a pollutant in the influent, which the treatment plant cannot treat or will at least want to have the power to pursue the polluter to stop the pollution and/or obtain compensation
	Is there any local regulation establishing process for social compliance?	yes/no	
	Is there any involuntary land clearance for PPP projects?	yes/no	Reflects whether land expropriation is possible for PPP projects

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Table A2.1 continued

Subcategory	Supporting Indicators	Units	Comment
Foreign investor participation restriction	Maximum allowed foreign ownership of equity in greenfield projects	percentage	Statutory restrictions on foreign ownership of equity in new investment projects. The data present a standard case, that is, it is assumed that the host country does not enjoy any special economic, trade, or investment relationship with the home country of the foreign investor that would affect the investor's ownership rights (i.e., the home country is not part of an economic union or a cooperation block with the home country, such as the Association of Southeast Asian Nations, etc.).
	Are there any obstacles for foreign investors on the following?		
	Land-use rights/ownership rights as opposed to similar rights of local investors	yes/no	
	Currency convertibility	yes/no	Reflects whether there is any restriction for investors on monetary transfers through regulation of currency convertibility, limiting the extent to which local currency can be converted into foreign currency; conversion rate, controlling the rate that can be obtained for such a transaction
	Cumulative PPP projects with foreign sponsor participation (number)	no.s	Projects that reached financial close where at least one sponsor was a foreign company. Aggregated from sector data
	Cumulative PPP projects with foreign sponsor participation (as a share of the total number of PPP projects)	percentage	Projects that reached financial close where at least one sponsor was a foreign company as a share of the total number of PPP projects that reached financial close. Aggregated from sector data
Dispute resolution and enforcement mechanism	Can foreign law be chosen to govern PPP contracts?	yes/no	
	What dispute resolution mechanisms are available for PPP agreements?		
	Court litigation	yes/no	
	Local arbitration	yes/no	
	International arbitration	yes/no	
	Has the country signed the New York Convention on the Recognition and Enforcement of Foreign Arbitral Award?	yes/no	
Lender's security rights	Security over the project assets	yes/no	In the assessment, the following approach was used: • If the regulations are silent on the possibility of lender's security rights, then indicator is marked ✖ and in red.
	Security over the land on which they are built	yes/no	
	Security over the shares of PPP project company	yes/no	

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Table A2.1 continued

Subcategory	Supporting Indicators	Units	Comment
Lender's security rights	Can there be a direct agreement between government and lenders?	yes/no	<ul style="list-style-type: none"> If the regulations are silent on the possibility of lender's security rights, but there have been known precedents in the past, and it can be negotiated at a contract level, then the indicator is marked ✓ and in yellow. If the regulations expressly have provisions on lender's security rights, then the indicator is marked ✓ and in green
	Do lenders get priority in the case of insolvency?	yes/no	
	Can lenders be given step-in rights?	yes/no	
Termination and compensation	Does the law enable compensation payment to the private partner in case of early termination due to:		<p>In the assessment, the following approach was used:</p> <ul style="list-style-type: none"> If the regulations are silent on the possibility of compensation payment, then the indicator is marked ✖ and in red. If the regulations are silent on the possibility of compensation payment, but there have been known precedents in the past, and it can be negotiated at a contract level, then the indicator is marked ✓ and in yellow. If compensation payment is expressly regulated, then the indicator is marked ✓ and in green
	Public sector default or termination for reasons of public interest	yes/no	
	Private sector default	yes/no	
	Force majeure	yes/no	
	Does law enable the concept of economic/financial equilibrium?	yes/no	
	Does the law enable compensation payment to private partner due to:		
	Material adverse government action	yes/no	
	Force majeure	yes/no	
Government support	Change in law	yes/no	
	Is project development fund available?	yes/no	<p>In the assessment, the following approach was used:</p> <ul style="list-style-type: none"> If the regulations are silent on the possibility of provision of guarantees and/or certain type of guarantee, then the indicator is marked ✖ and in red If the regulations are silent on the possibility of provision of guarantees and/or certain type of guarantee, but there have been known precedents in the past where projects were received irrespective of the type of guarantee, then the indicator is marked ✓ and in yellow
	Land acquisition support	yes/no	
	Resettlement and/or compensation cost to residents at the project site	yes/no	
	Imposed limits on timeframe to complete land acquisition (days)	days	
	Is there any dedicated agency to streamline land acquisition?	yes/no	
	Exemption from land-use/land rental fees	yes/no	
	VGF	yes/no	
	Limits to VGF as a percentage of projects capital cost	percentage	
	Government guarantees		

continued on next page

Table A2.1 continued

Subcategory	Supporting Indicators	Units	Comment
Government support	Government guarantees		<ul style="list-style-type: none"> If the regulations explicitly have provisions for guarantees, then the indicator is marked ✓ and in green
	Currency inconvertibility and transfer risk	yes/no	
	Foreign exchange risk	yes/no	
	War and civil disturbance risk	yes/no	
	Breach of contract risk	yes/no	
	Regulatory risk	yes/no	
	Expropriation risk	yes/no	
	Government payment obligation guarantee	yes/no	
	Credit guarantees	yes/no	Guarantees of debt repayment to lenders
	Minimum demand/revenue guarantee	yes/no	
	Availability/performance-based payment contracts	yes/no	
	Tax subsidies	yes/no	
	Cumulative PPP projects received government support:		Cumulative number of PPP projects that reached financial close and received respective types of government support. Aggregated from sector data
	VGF	numbers	
	Government guarantees	numbers	
	Availability/performance-based payment contracts	numbers	
Standard contracts	What standardized contracts are available and used in the market?		Contracts with standard structure, key terms defined in the contract, ways of addressing key risks accepted by the market, and therefore contracts which will not require extensive negotiation
	PPP/concession agreement	yes/no	
	Power purchase agreement	yes/no	
	Capacity take-or-pay contract	yes/no	
	Fuel supply agreement	yes/no	
	Transmission and use of system agreement	yes/no	
	Performance-based operation and maintenance contract	yes/no	
	Engineering procurement and construction contract	yes/no	

PPP = public-private partnership, SOE = state-owned enterprises, VGF = viability gap fund.

A.2.2 Institutional Capacity for Implementation

Institutional Capacity for Implementation Country-Level Section Indicators

Subcategory	Supporting Indicators	Units	Comment
Institutional set-up	Is there a specialized government agency established for PPP purposes (e.g., PPP Unit)?	yes/no	
	If yes, what role does this PPP unit have?		
	Guidance to and coordination between other government agencies	yes/no	
	Supporting (e.g., PPP project preparation, appointment of advisers, running PDF)	yes/no	
	Appraisal of PPP project feasibility studies	yes/no	
	Approval of PPP project	yes/no	
	Procurement	yes/no	
Project planning	Managing, monitoring, and enforcing ongoing PPP contracts	yes/no	
	Is there a PPP project pipeline developed and available?	yes/no	
	Is preliminary selection of PPP projects consistent with public investment prioritization?	yes/no	
Project preparation	Is there screening/identification methodology to identify a list of potential PPP projects from public investment priority projects?	yes/no	
	Number of project appraisal stages	numbers	Reflects prescribed number of project preparation stages to be undertaken by the public sector before procurement can commence (e.g., outline business case followed by business case would give two project appraisal stages)
	What feasibility analyses are required for the project to be approved as a PPP?		
	Technical feasibility	yes/no	
	Financial feasibility	yes/no	
	Legal feasibility	yes/no	

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Table A2.2 continued

Subcategory	Supporting Indicators	Units	Comment
Project preparation	Environmental and social sustainability	yes/no	
	Value for money assessment	yes/no	
	Fiscal affordability assessment	yes/no	
	PPP structuring and risk allocation	yes/no	
	Initial market testing	yes/no	
	Is the approval from the Ministry of Finance or equivalent required before commencement of procurement?	yes/no	
	Number of approvals to be obtained in the public sector to get the final go-ahead to commence PPP project procurement	no.s	
	Is it a normal practice to appoint independent, international, and qualified advisors to assist the government with project preparation?	yes/no	
Risk allocation	Preferred risk allocation matrix as reference	yes/no	Reflects whether there is a guidance document developed detailing typical risks and preferred risk allocation in a PPP contract
Procurement	Is competitive bidding the only method for PPP partner selection?	yes/no	
	In case of a competitive tender:		
	Is prequalification required?	yes/no	
	Minimum time allowed to submit prequalification/expressions of interest (days)	days	
	Minimum time allowed to submit proposals (days)	days	
	Is negotiation available?	yes/no	
	Is there a process allowing unsuccessful bidders to challenge the award/make complaint?	yes/no	
	Maximum time allowed to submit a complaint starting from announcement of the preferred bidder	days	
	Maximum time limit from the bid closing date till selection of the preferred bidder	days	
	Maximum time limit from selection of the preferred bidder till signing of contract	days	

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Table A2.2 continued

Subcategory	Supporting Indicators	Units	Comment
Procurement	Transparency. Which of the following is published?		
	Procurement notice	yes/no	
	Q&A during bid clarification stage	yes/no	
	Evaluation results	yes/no	
	Award notice	yes/no	
	Contract	yes/no	
	Confidentiality	yes/no	Reflects whether the public sector has legal obligation to bidders to keep the submitted information confidential

PPP = public-private partnership.

A.2.3 PPP Market Maturity







PPP Market Maturity Country-Level Section Indicators

Supporting Indicators	Units	Comment
Cumulative PPP projects that reached financial close	numbers	PPP projects that reached financial close since 1990. PPP is considered in a wide context as per Asian Development Bank's definition (please refer to the Definition section of this report) Excludes: <ul style="list-style-type: none"> • projects cancelled/stalled • refinancing transactions • full/partial privatizations, divestures, company/asset acquisitions Aggregates data from sectors and are sourced from World Bank PPI and IJ Global database and Mott MacDonald internal knowledge
Cumulative PPP projects currently in preparation	numbers	Aggregates data from sectors and reflects the status as of 31 December 2016. Preparation stage refers to the period when the government is in the process of undertaking studies on the project (PFS, FS, OBC, etc.), that is, project goes beyond initial announcement on the PPP pipeline but before the procurement notice is published Aggregates data from sectors and are mainly sourced from IJ Global Database complemented by available information on government websites. Projects not found in these sources may not be reflected
Cumulative PPP projects currently in procurement	numbers	Aggregates data from sectors and reflects the status as of 31 December 2016 Procurement stage refers to the period between the publication of the procurement notice and project award. Mainly sourced from IJ Global database complemented by available information on government websites. Projects not found in these sources may not be reflected

OBC = outline business case, PFS = pre-feasibility study, PPI = private participation in infrastructure?,
PPP = public-private partnership.

A.2.4 Financial Facilities

Financial Facilities Country-Level Section Indicators

Supporting Indicators	Units	Comment	
Availability of nonrecourse/limited recourse hard currency loan	yes/no	Sourced from consultations with banks	
Availability of nonrecourse/limited recourse local currency loan	yes/no	Sourced from consultations with banks	
Availability of interest rate swaps	yes/no	Sourced from consultations with banks	
Forward duration of interest rate swap	years	Sourced from consultations with banks	
		Sourced from consultations with banks	
		Assumed:	
		More than 10 years	
		6–10 years	
0–5 years			
Availability of currency swaps	yes/no	Sourced from consultations with banks	
Forward duration of currency conversion rate swap	years	Sourced from consultations with banks	
		Assumed:	
		More than 10 years	
		6–10 years	
		0–5 years	
Availability of project bond financing	yes/no	Sourced from consultations with banks	
Cumulative PPP projects with foreign lending participation	numbers	Projects that reached financial close where at least one lender was foreign Sourced from both World Bank PPI database and IJ Global database, so projects not in these databases may not be reflected	
Cumulative PPP projects received ECA/IFI financing	numbers	Projects that reached financial close where ECA or IFI has provided part or all of the project financing or certain guarantees Aggregated from sector data and sourced from both World Bank PPI database and IJ Global database, so projects not in these databases may not be reflected	

ECA = export credit agency, IFI = international financing institution, PPI = private participation in infrastructure, PPP = public–private partnership.

A.2.5 Sector Indicators

Generally, the structure of indicators is uniform for all sectors; however, there are some unique sector indicators in such subcategories as sector regulations and features of past public–private partnership (PPP) projects. The common sector-level section indicators are presented below.

Sector-Level Section Indicators

Subcategory	Supporting Indicators	Units	Comment
Regulatory Framework			
Foreign investor participation restriction	Maximum allowed foreign ownership of equity in greenfield projects	percentage	Statutory restrictions on foreign ownership of equity in new investment projects. The data present standard case, that is, assumes that the host country does not enjoy any special economic, trade, or investment relationship with the home country of the foreign investor that would affect the investor's ownership rights (i.e., the home country is not part of an economic union or a cooperation block with the home country, such as the Association of Southeast Asian Nations, etc.).
Government contracting agency	None		Government agency authorized to enter into a PPP contract in the sector
Sector regulations	Depending on the sector		Write-up on key sector regulations
Sector regulators	None		Write-up on key regulatory agencies for the sector
Standard contracts	What standardized contracts are available and used in the market?		Contracts with standard structure, key terms to be defined in the contract, ways of addressing key risks accepted by the market, and which therefore will not require extensive negotiation
	PPP/concession agreement	yes/no	
	Power purchase agreement	yes/no	
	Water purchase agreement	yes/no	
	Capacity take-or-pay contract	yes/no	
	Fuel supply agreement	yes/no	
	Transmission and use of system agreement	yes/no	
	Performance-based operation and maintenance contract	yes/no	
	Engineering procurement and construction contract	yes/no	

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Table A2.5 continued

Subcategory	Supporting Indicators	Units	Comment
Institutional Capacity for Implementation			
Project planning	Have sector strategy and investment priorities been defined?	yes/no	
	Is there a PPP project pipeline developed and available?	yes/no	
Project preparation	Number of PPP projects currently in preparation	numbers	Reflects the status as of 31 December 2016. Preparation stage refers to the period when the government is in the process of doing some studies on the project (PFS, FS, OBC, etc.), that is, the project goes beyond just being announced on the pipeline, but before the procurement notice is published. Mainly sourced from IJ Global Database, complemented by available information on government websites, so projects not in these databases may not be reflected.
Procurement	PPP projects procured through:		Counts PPP projects that reached financial close over 1990–2016 that were procured by respective method.
	Direct appointment	numbers	World Bank PPI database.
	Unsolicited bids	numbers	World Bank PPI database and government websites.
	Competitive bidding process	numbers	World Bank PPI database, IJ Global database
	License scheme	numbers	Only applicable for energy projects. Sourced from World Bank PPI database.
	PPP projects currently in procurement	numbers	Reflects the status as of 31 December 2016. Procurement stage refers to the period between the publication of the procurement notice and project award. Mainly sourced from IJ Global Database, complemented by available information on government websites. Projects not contained in these sources may not be reflected.
Features of Past PPP Projects			
PPP projects that reached financial close	PPP projects that reached financial close	numbers, (\$)	Includes PPP projects that reached financial close over 1990–2016. PPP is considered in a wide context as per Asian Development Bank's definition (please refer to the Definition section of this report), excluding: <ul style="list-style-type: none"> • projects cancelled/stalled • refinancing transactions • full/partial privatizations, divestures, and company/asset acquisitions Sourced from both World Bank PPI and IJ Global database. Expressed both in numbers and total investment value.

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Table A2.5 continued

Subcategory	Supporting Indicators	Units	Comment
PPP projects that reached financial close	PPP projects that reached financial close	numbers, (\$)	Total investment value is the sum of investment values of individual projects recorded in millions of US dollars in either the year of financial closure or the year of investment.
Foreign investor participation	PPP projects with foreign sponsor participation (number and as a share of the total number of PPP projects that reached financial close in the sector)	numbers, (\$) (percentage)	Projects that reached financial close over 1990–2016 and where at least one sponsor was a foreign company. Sourced from both World Bank PPI database and IJ Global database, so projects not in these databases may not be reflected.
Government support	PPP projects that received government support:		Projects that reached financial close over 1990–2016 and received respective type of government support.
	VGF	numbers	Although some data are available from World Bank PPI database, the extent is limited. So, this may be an underestimate of the actual number. Data have been gathered based on Mott MacDonald internal knowledge of known cases of this type of support.
	Government guarantees	numbers	Sourced from World Bank PPI database.
	Projects on availability/performance payment basis	numbers	Sourced from World Bank PPI database.
Payment mechanism	PPP projects by payment mechanism:		
	User-paid contracts	numbers	Projects that reached financial close over 1990–2016 with payment to the private partner coming directly from the users (people) of the infrastructure/services. Sourced from World Bank PPI database.
	Government-paid contracts	numbers	Projects that reached financial close over 1990–2016 with payment to the private partner coming from the public sector. In the energy sector, projects with payment from government offtakers (utilities) is also considered in this category. Sourced from World Bank PPI database.
	What additional revenue streams are allowed?		Indicators depend on a sector.
Tariffs	Average tariff levels	\$	
Risk allocation	Typical risk allocation arrangements matrix	n/a	Only risks that typically require negotiation are presented. Risks that have straightforward allocation in a PPP (e.g., construction risk, operation risk) are not listed. Information sourced from consultation with Mott MacDonald sector experts.
Local Capabilities			
	None		Describes maturity and availability of the local players in a sector.

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Table A2.5 continued

Subcategory	Supporting Indicators	Units	Comment
Project Financing			
	PPP projects with foreign lending participation		Projects that reached financial close over 1990–2016 where at least one lender was foreign. Sourced from both World Bank PPI database and IJ Global database.
	PPP projects that received ECA/IFI support	numbers	Projects that reached financial close over 1990–2016 where ECA or IFI has provided part or all of the project financing or certain guarantees. Sourced from both World Bank PPI database and IJ Global database.
Challenges			
	Write-up on challenges and currently implemented tackling measures		

ECA = export credit agency, IFI = international financing institution, OBC = outline business case, PFS = pre-feasibility study, PPI = private participation in infrastructure, PPP = public–private partnership, SOE = state-owned enterprise.

A.3 Comment on Financial Indicators

With regard to indicative loan terms provided in the report, it should be noted that it is very difficult to generalize loan terms. Generally, international banks will be providing project finance in hard currency. The terms will be broadly consistent between countries, holding other risk factors constant, as country risk is only one risk factor. In general, the factors determining pricing include:

- exposure to market/revenue risk,
- exposure to foreign exchange risk,
- credibility of offtaker,
- credibility of sovereign,
- availability of export credit/multilateral support,
- proven effectiveness of sector and underlying technology, and
- financing market (i.e., Lehman shock) and regulations (i.e., Basel III)

It is understood in project finance that lenders take all securities including security over the “rights” of the concessionaire to operate the asset and collect revenue. The stability of the revenue stream is most important and most international lenders will require a sovereign guarantee from the Ministry of Finance for the paying authority’s obligations. In addition, from the commercial bank’s perspective, such sovereign guarantee has to be further guaranteed/insured by export credit agencies and/or multilateral lending agencies.

In general, local banks lending in local currency will have less stringent requirements on a project; however, they will also offer a higher financing cost. From previous market

sounding, local banks can generally cope with higher debt-to-equity ratios, lower debt service coverage ratio, and no explicit sovereign guarantee where international lenders would require it. They can also cope with some level of revenue and fare risk where international banks demand a guaranteed offtake for greenfield projects.

Also, very often banks have the appetite and capacity to finance PPP projects; however, lack of well-prepared and structured projects limits the progress.

A.4 Comment on the Data Sources

The research has been carried out using publicly available sources, including:

- Developing member countries' government websites and reports
- Applicable laws and regulations (where regulations were available only in local language, unofficial translation versions have been used)
- Asian Development Bank (ADB) publications
- Publications (including online databases) by other multilateral development agencies
- Industry publication and database (IJ Global Project Finance and Infrastructure Journal)
- Industry publications by reputable consultancy companies

In addition, the research has been informed by internal knowledge of staff in Mott MacDonald and ADB, and contributing legal companies and commercial banks.

It should be noted that as the research relied primarily on information reported in public sources which has not been verified by the authors and may not be accurate or contain all the required information, there is the risk of inaccuracy and incompleteness depending on the reliability of sources used and the validity of the information.

For quantitative indicators relating to the number of projects where there were gaps, the total number of cases has been reported based on the limited information available. Therefore, reported numbers of projects in this report may be an underestimate.

Public–Private Partnership Monitor

The first edition of the *Public–Private Partnership Monitor* tracks the development of the public–private partnership (PPP) business environment and the challenges of doing PPPs in nine of the Asian Development Bank’s developing member countries (DMCs): Bangladesh, the People’s Republic of China, India, Indonesia, Kazakhstan, Papua New Guinea, the Philippines, Thailand, and Viet Nam. It is divided into four main categories: Regulatory Framework, Institutional Capacity for Implementation, PPP Market Maturity, and Financial Facilities. The publication aims to increase the level and quality of private sector participation in infrastructure in the DMCs by serving as an active platform for dialogue between the public and private sectors.

About the Asian Development Bank

ADB’s vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to a large share of the world’s poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

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