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## Article

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## Modernisation of the Strategic Planning for Decarbonisation in Kazakhstan

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### ABSTRACT

This study examines the issues of modernisation of the state planning system in the Republic of Kazakhstan, taking into account the Paris Climate Agreement and new pledge on achievement of the carbon neutrality. Based on the generalisation of the international experience of the OECD countries, authors determine the main approaches, principles and priorities for adapting the strategic planning system to the conditions of climate change and global risks. According to the authors opinion, approaches to improvement of the planning system in terms of decarbonisation should be based on the OECD methodology. In conclusion, the authors substantiates the recommendations to the Government of Kazakhstan on improvement of the state planning system through an integration of the SEA and decarbonisation principles.

**Keywords:** Climate Change Adaptation, State Planning System, Decarbonisation of Economy, Emission of the GHGs, Energy Efficiency, Renewables, Monitoring Approaches

**JEL Classifications:** Q5, Q54, Q56, O3

### 1. INTRODUCTION

According to the new goal in climate change adaptation, announced by President of Kazakhstan, Tokayev about the pledge of Kazakhstan to achieve carbon neutrality by 2060. Thus, “Kazakhstan will elaborate a long-term development strategy to achieve this goal, reducing emissions and decarbonising the economy and will plant two billion trees in the next 5 years (Tokayev, 2020).

In the context of spreading global challenges and primarily adaptation to climate change, the role of improvement of strategic planning is growing. For implementation of the Paris Climate Agreement and national obligation (INDC), the purpose of strategic planning should be focus on rational consumption of the

energy resources, decarbonisation and substantiate the mechanisms for achieving them.

A review of international literature indicates that system of strategic planning is considered as an effective system of resource allocation, adaptation, coordination and forecasting of the development of a particular economic system in order of its change or modernisation.

From this definition follows that the strategic planning system combines the following main types of management activities:

- Allocation of organisation resources;
- Organisation’s adaptation to the external environment;
- Internal coordination of management;
- Organisational strategic foresight.

The system of strategic planning in public administration towards decarbonisation should be based on the following general principles: (1) Balance and efficiency, (2) responsibility of participants, (3) transparency (openness), (4) resource provision, (5) measurability of goals, (6) compliance of indicators with goals and the program-target principle (Federal Law of Russia, 2014).

In addition, strategic planning system for adaptation of national economy for climate change should be translated into action, such as:

- Identifying and monitoring appropriate performance measures to track progress in implementing strategic initiatives and achieving strategic goals and objectives;
- Assessing performance data in periodic strategy review sessions and making adjustments as needed to keep implementation on track;
- Aligning budgets with strategic priorities, allocating resources to fund new strategic initiatives, and challenging operating units to show how their budget proposals advance strategy;
- Incorporating goals and objectives related to the strategic plan in individuals' performance planning and appraisal processes and rewarding contributions to the advancement of strategy as possible;
- Communicating strategy to external stakeholders and soliciting their assistance in advancing strategy as needed;
- Emphasizing consistency with strategy in proposals, requests, and other external communications to build credibility and support on the part of governing bodies, oversight agencies, and other key constituencies (Poister, 2010).

## 2. RESEARCH METHODS

The methodological basis of the research are the theoretical developments of domestic and foreign scientists in the field of sustainable development and decarbonisation, research of strategic planning system, the reduction of an impact of a climate factors on economic development, increasing the competitiveness and sustainability of economic systems in globalisation.

### 2.1. OECD Approaches to Strategic Planning

Last decade in the OECD countries there has been an increased interest in the problem of decarbonisation in planning system. This is mainly due to the growing interest of administrative structures, the growth of agencies and other autonomous bodies in the field of decarbonisation and climate adaptation as a result of the processes of EU Green Deal implementation and Climate Ambition Summit 2020 decision (Tokayev, 2020).

Traditionally, the mechanism for coordinating the public sector has been in the sphere of the activities of the structures that form the budget: the ministries of finance or the treasury usually played a coordinating role in the government to maintain the fiscal balance. However, given the increasing complexity of policymaking and the emergence of new and multifaceted policy challenges that a society is facing, OECD governments are increasingly adopting comprehensive approaches to strategic planning by improving coordination among administrative structures to design and implement systemic policy responses to new challenges (OECD, 2017a).

Most of the public administrations have adopted hybrid coordination mechanisms that combine the aforementioned models (OECD, 2011). The configuration and form that planning mechanisms take depends on the nature and scale of the country's political system under consideration, the level of institutional decentralisation in the country, and the presence of specific contextual and informal factors related to culture, history and the level of political leadership.

Despite the heterogeneous range of institutional structures in OECD countries, the analysis of their activities allows to justify several common features. They can be grouped in four main directions:

1. Coordination of policy in the Government, which increasingly includes the leading interdepartmental mechanisms;
2. Monitoring support for the implementation of Government decisions;
3. Strategic planning (OECD, 2017a).

In general, experiences in OECD countries have shown that the process of increasing co-ordination and strategic planning across government is a long-term endeavour. Moreover it is fraught with certain challenges; notably the resistance of line ministries in aligning their own initiatives with high-level government priorities if it requires modifying or delaying decision-making on issues falling under their responsibility (OECD, 2019).

Long-term scanning and foresight provide governments with the information needed to achieve strategic insight, incorporating future concerns and contexts into medium-term strategic planning. From these efforts, governments can be in a better position to articulate a strategic vision for the country and for the government's plans to implement such a strategic plan – based on available information and input from citizens, businesses and civil society, and aware of future opportunities and risks (Junusbekova, 2015).

A strategic vision is the expression of a government's desired or intended future for the decarbonisation of economy. In a context of less and less predictability and greater complexity in identifying future challenges and priorities properly, governments need to engage in long-term visioning with an increasing multiplicity of internal and external actors if medium-term strategic planning is to reflect emerging trends, challenges and opportunities effectively.

## 3. TOWARDS TO DECARBONISATION

Recent experiences in OECD countries show that when the planning process is open and includes stakeholders engagement, such as citizen-driven approaches through citizen participation mechanisms, strategic planning can legitimate policymaking as well as constitute an effective tool for the sustainability of policies beyond the electoral cycle (OECD, 2018). In this connection the elaboration of the National Development Plan (NDP) in OECD countries started as usual: a wide process of consultations in meetings and workshops, carried out in many departments, had included the participation of the representatives from different sectors: central government, subnational government, civil society, private sector and the academia (OECD, 2017a).

In terms of adaptation to climate change a balanced approach resource planning should include the effective use of economic, labor and natural resources. The OECD experience demonstrates that this group of countries has realized decoupling policy since 2010, decoupling policy, where economic growth is dissociated from emissions.

This is confirmed by the data shown in Figure 1, demonstrated a decoupling policy provided by technological modernisation in the OECD industries, on the one hand, and reducing unemployment as an efficient use of labor resources, on the other one.

More ambitious policies are needed to achieve a balance between economic progress and decarbonisation goals. Delivering growth of a quality up to citizens' aspirations will require concerted action both across countries and across all ministries invested in decarbonisation, including finance, economy, industry and agriculture.

Major OECD methodological developments for modernisation planning system since 2014 include new indicators that show how measures of economic productivity could be adjusted to take into account natural resources used and pollution; improved indicators on technological innovation and environmentally harmful subsidies; better measures of population exposure to air pollution and its economic costs.

On-going work focuses on improving measures of raw materials embodied in international trade, better evaluating the sustainability of natural resource use, and better understanding land cover changes. OECD continues to actively engage in global efforts to decarbonisation and adaptation, and provide support to countries as they advance in their efforts to monitor the 2030 Agenda for sustainable development (OECD, 2017b).

At the end of last year, the European Union announced the European Green Deal, which aims to make the EU economy climate-neutral by 2050. To accomplish this, one of the measures is to introduce a carbon tax on imports to EU countries.

A draft law on this is now under development, and the methodology for calculating the tax levy is not yet known. It is expected that the

calculation will take into account the amount of carbon emissions from the production of imported goods.

While considering the mechanism of import taxation, the European Commission can proceed from three main options. The first option - a tax at the border: the introduction of a differentiated tax depending on the industry of the importer and the degree of carbon intensity of imported products. The second option implies the inclusion of importers in the current EU Emissions Trading System (EU ETS) and the sale of quotas to them along with European producers. The third option - the introduction of a carbon VAT for all producers of carbon products, both external and domestic. In addition, it is necessary that the tax comply with the rules of the World Trade Organisation and international obligations of the EU.

To determine which industries will be most affected by the additional tax burden, we can refer to the existing European system of trading quotas. The most carbon-intensive industries are mining and oil and gas, as well as metals, chemicals, pulp and paper. They have the largest carbon footprint and, at the end of 2019, account for 35% of European imports according to the EU statistical service.

Changes in the structure of the European market (redistribution of shares) will be most detrimental to countries with a resource economy, which have a large share of exports of carbon goods to Europe (Econs., 2020).

One of the countries most affected by the introduction of a cross-border carbon tax may be Kazakhstan, for which the EU is a key sales market. According to the Green Growth Report (OECD, 2019a), Kazakhstan has a big decarbonization potential and this will be analysed in the next chapter.

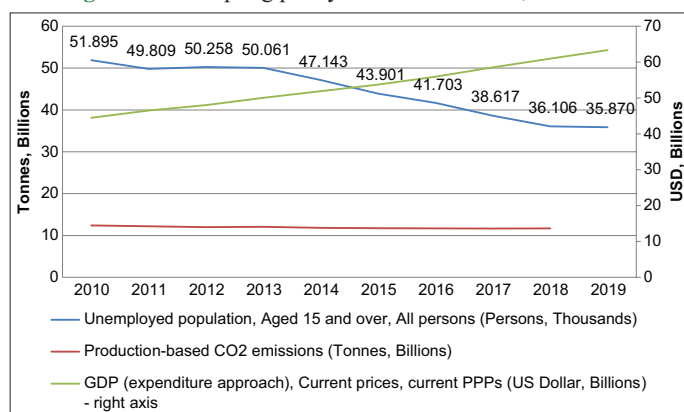
#### 4. POTENTIAL OF DECARBONISATION IN KAZAKHSTAN'S STRATEGIC PROGRAMS

Kazakhstan's Development Strategy until 2050, announced by President Nazarbayev in 2012, provides for strategic reforms to bring the country into the top 30 economies of the world and aims at "finding new markets for productive partnerships, promoting the effective development of the private sector, public-private partnerships, as well as creating a favorable investment climate" (Strategy, 2050). The Strategy notes that the economic development of Kazakhstan is inextricably linked to the transition to a low-carbon economy.

In order to implement the Strategy 2050, in 2013. The Presidential Decree has developed and approved the Concept of Transition to a Green Economy (Concept, 2013), which detailed the achievement of low-carbon development objectives in terms of:

- Reducing the energy intensity of GDP by 30% by 2030 and by 50% by 2050 compared to the 2008 baseline;
- Achieving a 50% share of alternative energy in electricity generation by 2050;
- Reduction of greenhouse gas emissions in electricity generation by 15% by 2030 and by 40% by 2050 compared to 2012 levels.

Figure 1: Decoupling policy in OECD counties, 2010-2019

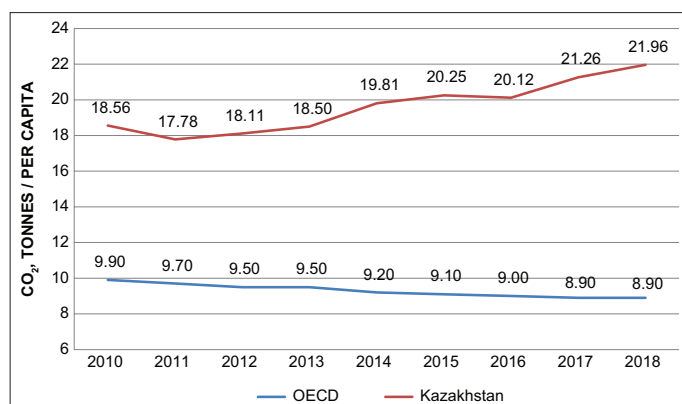


Source: (OECD stat., 2020)

The Concept provided for the need to upgrade much of Kazakhstan's infrastructure to improve its energy efficiency. It is assumed that by 2030, 55% of the total number of buildings, 40% of power plants and 80% of the vehicle fleet will be renovated. These measures should contribute to the modernisation of infrastructure and thereby improve the energy efficiency and competitiveness of the economy as a whole.

Kazakhstan is now close to surpassing its pre-independence maximum; in 2012, greenhouse gas emissions were only 1.6% below 1991 levels. During the same period (1990-1995), the economy of Kazakhstan contracted by one third, then steadily recovered and by 2005 exceeded its 1990 size, and by 2017 it had doubled compared to 1990. As a result, the emission intensity of the Kazakhstani economy decreased from 3.9 kg CO<sub>2</sub>-eq. per USD in 1990 to 2.2 kg CO<sub>2</sub>-eq. per US \$ 1 in 2012. Over the same period, per capita greenhouse gas emissions of the country have grown from 18.6 t CO<sub>2</sub> in 2010 to 21.96 t CO<sub>2</sub> in 2018 (Figure 2)

**Figure 2:** CO<sub>2</sub> emission in Kazakhstan and OECD, tonnes /per capita, 2010-2018



Source: (OECD stat., 2020; Bureau, 2020)

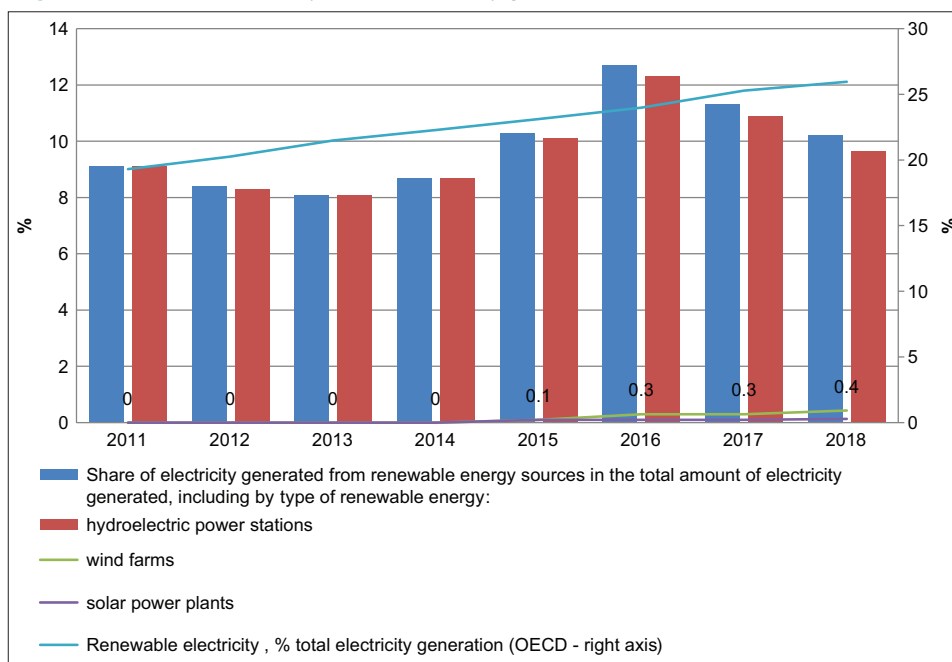
against 8.90 t CO<sub>2</sub> of the OECD indicator in 2018 (OECD, 2019b; World Bank database, 2020).

In the long-term strategic documents of Kazakhstan, as noted above, quantitative goals are defined to achieve sustainable economic growth, diversify the economy and move away from traditional dependence on the extractive industries. Until now, these tasks have not yet been achieved and require the development of comprehensive plans and implementation programs corresponding to the tasks set, which indicates shortcomings in the field of state planning.

For example, it is obvious that the task set in the Green Economy Concept to increase the share of renewable energy sources in electricity generation excluding hydroelectric power plants to 10% by 2030 will not be achieved, since currently these sources, despite the efforts of the Government, have accounted for less than 3% of electricity generation (Figure 3).

Despite Kazakhstan's adoption of specific climate change mitigation targets, Climate Action Tracker - an independent think-tank that monitors governments' climate actions and measures to meet the Paris Agreement commitments - suggests that "Kazakhstan's targets for the share of renewables in electricity generation - 3% by 2020, 10% by 2030 and 50% by 2050 - set in the Concept for Transition to a Green Economy - need to be significantly increased to meet the requirements of the Paris Agreement. In particular, Climate Action Tracker argues that Kazakhstan's planned modernisation of existing coal-fired power plants, as well as the transition to gas in power generation is short-sighted, as natural gas is not a long-term enough solution for the profound transformation needed to achieve the goals of the Paris Agreement. Therefore, Climate Action Tracker concludes that, at the moment, the national policy remains extremely weak and,

**Figure 3:** Renewable electricity, % total electricity generation, Kazakhstan and OECD, 2011-2018



Source: (Bureau, 2020; OECD stat., 2020)



**Table 1: Energy intensity of GDP of the world's countries (by rank) and Kazakhstan's main trading partners, kg o.e./USD in 2015 prices**

	2000	2005	2010	2015	2018	% decrease in energy-intensity of GDP over the period 2000-2018
Ukraine	0.52	0.39	0.35	0.27	0.24	-54
Russian Federation	0.30	0.23	0.21	0.20	0.21	-30
Taiwan	0.26	0.27	0.24	0.21	0.20	-23
South Afric	0.24	0.22	0.21	0.19	0.19	-21
<b>Kazakhstan</b>	<b>0.23</b>	<b>0.20</b>	<b>0.20</b>	<b>0.18</b>	<b>0.18</b>	<b>-22</b>
Uzbekistan	0.77	0.55	0.34	0.21	0.18	-77
China	0.23	0.22	0.19	0.15	0.13	-43
USA	0.16	0.15	0.14	0.12	0.12	-25
EU	0.11	0.10	0.09	0.08	0.08	-27
Global average	<b>0.15</b>	<b>0.14</b>	<b>0.13</b>	<b>0.12</b>	<b>0.11</b>	<b>-27</b>

Source: <https://yearbook.enerdata.ru/>. \* (the publication is funded by the World Bank and the International Finance Corporation)

according to forecasts, Kazakhstan will largely fail to meet the obligations of the Paris Agreement (Climate Action Tracker, 2020).

Kazakhstan's economy is among the most energy-intensive in the world. According to the 2019 Statistical Yearbook of World Energy, Kazakhstan ranks fifth in the world in terms of the energy intensity of GDP and second in terms of the emission intensity (carbon intensity) of the national economy. Despite the fact that the high energy intensity is partly due to the cold climate and low population density in Kazakhstan, this indicator is still twice as high as in developed countries with a similar cold climate and population density. It is noteworthy that since 2000 Kazakhstan's main trading partners, as well as the countries with the highest energy intensity of GDP in the world, have been able to achieve a reduction in the energy intensity of their economies in contrast to Kazakhstan - see Table 1. By this indicator, Kazakhstan lags behind the other countries on the list (Global Energy Statistical Yearbook, 2019).

There is also a significant gap between the estimates of the amount of resources allocated to monitoring mechanisms that provide solutions to achieve long-term sustainable development goals and low carbon goals.

In our opinion, the mechanisms of control and verification at the level of implementation of individual programs and projects should also be complemented by strategic planning at the level of individual economic systems, thus that decisions on the allocation of investments are consistent with the country's sustainable development plans.

Despite the highly developed system of strategic planning in Kazakhstan, its legislation does not yet require mandatory strategic environmental assessment (SEA) of the possible impact of strategies. The Government should develop a legislation in line with the UNECE Protocol on Strategic Environmental Assessment to the Espoo Convention. In 2018, Kazakhstan, with the assistance of the UNECE, began work on legislation on SEA in its new Environmental Code, which will enter into force in 2021.

However, the weak inter-agency coordination in the public administration sector and the lack of integration of environmental policy in strategic planning continue to impede progressive reforms and the full implementation of the country's strategic course.

## 5. CONCLUSION

It is needed to underline that the results of the UN "Climate Ambitions Summit" (Tokayev, 2020) and the implementation of the EU "Green Deal" Strategy indicate that at present, the decarbonisation process determines the vector of the world economy and its competitiveness until 2050.

In this regard, state planning system should be based on sustainable development principles and decarbonisation indicators (OECD et al., 2019; Yessekina et al., 2018) and the broad involvement of all sectors of the population, including Government, experts, scientists, farmers and international experts and verify the plans being developed.

The main directions of this process should be a new approaches for decarbonisation of the national economy, including the following:

1. The Republic of Kazakhstan, having taken voluntary commitments to reduce emissions by 15-25% by 2030 from the 1990 level, has started the process of developing a Low-Carbon Development Concept until 2050. At the same time, a new goal to make Kazakhstan carbon-neutral by 2060, which requires development of long-term systemic measures to decarbonising the national economy, its basic sectors and alignment between NDC and Low Carbon Economic Concept;
2. Improvement of the system of national statistics based on "green" indicators and "CO<sub>2</sub> emissions based on production and demand" indicators (OECD, 2019a);
3. Modernisation of the system of planning and taxation taking into account strategic environmental assessment (SEA);
4. Development and implementation of digital technology, including blockchain for monitoring CO<sub>2</sub> emissions;
5. Developing a concept of creating a Low Carbon Fund to accumulate and ensure transparency of payments for emissions;
6. Develop a capacity building program for decision makers, businesses and NGOs.

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