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Article

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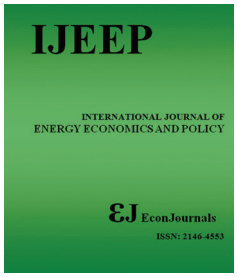

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Marketing Strategy for Renewable Energy development In Indonesia Context Today

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ABSTRACT

Economic development depends on the availability of energy, especially in supporting the current government's development priorities to build the infrastructure sector in Indonesia, while the goal of development is to improve the nation's competitiveness this research aims to investigate the opportunity to reduce fossil energy and switch to renewable energy. One of the efforts to improve long-term national energy security length is through reducing dependence on fossil energy, and the government must take swift action to use renewable energy. The methodology in this research uses internal factor evaluation analysis, external factor evaluation and SWOT matrix. Furthermore, the data used is secondary data in the period 2017–2022 coming from various official sources. The development of renewable energy in the world followed by the technology, more advanced technology used, the cost of investment and renewable energy tariffs will be cheaper, thus will be more competitive with electricity from fossil energy. Currently the installed power generation capacity in Indonesia is 57 gigawatts, of which 86% still use fossil energy and the remaining is renewable energy. Renewable energy in Indonesia becomes a very potent alternative, where the energy source depends on the geographical area and the source of energy it produces. The potential of renewable energy in Indonesia is very big, Indonesia has 40% geothermal potential in the world.

Keywords: Marketing Strategy, Renewable Energy, SWOT Matrix
JEL Classification: A1, A11, O13

1. INTRODUCTION

Energy is the power that can be used to perform various processes of activity, including electricity, mechanical energy, and heat. Source of energy is a part of natural resources such as oil and gas, coal, water, geothermal, peat, biomass and so on, either directly or indirectly can be utilized as energy. New energy is a form of energy produced by new technologies from both renewable and non-renewable energies, including hydrogen, coal bed methane, coal liquefaction, coal gasification and nuclear Hosseini and Wahid (2016). Renewable energy is a source of energy generated from energy resources that will naturally not be exhausted and can be sustainable if managed properly, among others: Geothermal, biofuel, river water flow, solar heat, wind, biomass, biogas, sea waves, and temperature the depth of the sea (Kalogirou, 2013). Energy diversification is the diversification of supply and utilization of various energy sources in the framework of energy supply optimization. Energy conservation is the use of energy efficiency and rationally without reducing the energy usage that is necessary (Jaffe and Stavins, 1994; Lutzenhiser, 1993). A particular alternative energy source is a specific type of energy source substitute for fuel oil. Energy elasticity is the ratio or the ratio between the growth rate of energy consumption and the rate of economic growth. The economic price is the cost of production per unit of energy, including the environmental cost plus the marginal cost (Hill et al., 2006; Pittman et al., 2011). The government continues to encourage the optimization of Renewable Energy to meet national energy needs in the future because of the high economic level. However, from the potential of Renewable Energy in Indonesia of 400 gigawatts (GW), newly used about 8.8 GW or 2% of the potential energy cannot be separated from human needs at this time, and power plays a vital role in all human life (De Groot et al., 2002; Nugroho, 2014; Prastowo, 2015; Nugroho et al., 2017). Indonesia is a country facing electricity crisis every year. Therefore the need for electricity always increases every year. Some alternative energy that can be developed by increasing

demands, among others, are biofuel, biomass, geothermal, water, wind, sun, sea waves and sea tides (Cherubini, 2010; Dincer, 2000). New renewable energy development is quite potential in Indonesia. Therefore it must be developed continuously, by 2025 Indonesia itself will target the development of solar energy as 1000MW through the program of 1000 islands (LIPI, 2016). Indonesia has great potential in applying renewable energy (EBT). However, the potential utilization of EBT is still very small. Until 2017, only about 12 percent of potential EBT in Indonesia is used as a source of electrical energy by the state electricity company (PLN). According to PLN, the potential of EBT in Indonesia reaches around 443 GW. The potentials include energy from wind or Bayu with a power of 207,898 megawatts (MW), followed by hydro (94,476 MW), solar (60,647 MW), bioenergy (32,654 MW), geothermal (29,554 MW), and sea (17,989 MW). However, the potential utilization of EBT in Indonesia until last year is still around 8 GW. Other data even call it smaller, only about 6.5 GW. According to geographical position in the ring of fire, Indonesia has abundant geothermal potential and can be utilized as the energy source for the power plant. Currently, 331 potential points are spread across 30 provinces ranging from Sumatra Island, Java, Nusa Tenggara, Maluku, to Sulawesi with reserves of 17,506 MW and 11,073 MW of resources. However, the utilization of geothermal energy for new power plants is 1,698.5 MW or about 10% of the existing reserves thus the opportunities for geothermal energy development are still very open (Figure 1).

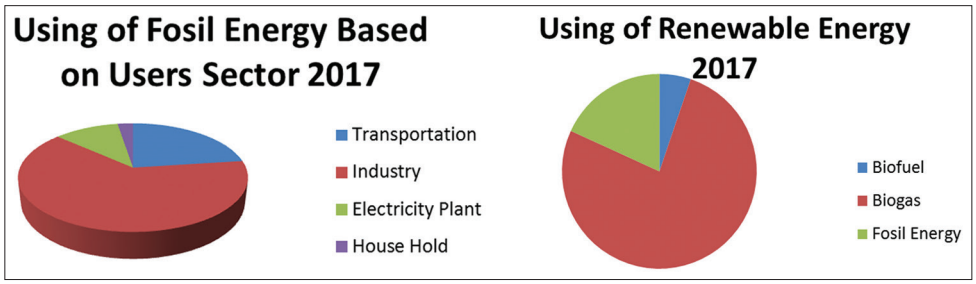
2. PROBLEM DESCRIPTION

This study is limited by research questions that include: (1). What is the potential of renewable energy in Indonesia ? (2). What is the society's need for the latest energy? (3). What is the current renewable energy marketing strategy in Indonesia?

3. LITERATURE REVIEW

According to Kotler (2015) and Hoeffler and Keller, (2002), marketing strategy is the logic of marketing where the company hopes to create customer value and achieve a rewarding relationship. The formulation of marketing strategy is based on a thorough analysis of external and internal environmental factor company. The corporate environment changes rapidly at any time giving rise to better opportunities and threats coming from the main competitors as well as from the ever-changing business climate (Pettigrew et al., 2001; Arafah and Nugroho, 2016a; Sholihin and Harnovinsah 2017). Consequences of factor change these external factors also result in changes in internal factors of the company, such as changes to the strengths and weaknesses of the company. Strategic marketing is defined as the art and knowledge to formulate, implement, and evaluate cross-functional decisions that enable the organization to achieve its goals. Many books are about strategy, the concept of strategy is always directed to the conditions of war, but nowadays more strategy leads to winning the competition in the business world quickly (McGrath, 2013; Hamel et al., 1989; Nugroho et al., 2015). Strategy are more geared towards how the company can quickly apply the vision and mission that has been created for a certain period of time (Schein, 1990; Von Krogh, 1998; Utami and Nugroho, 2017). Nevertheless according to Mintzberg (1973) and Crane (2000) strategy is more geared towards realizing a one step enterprise move compared to other competitors. Each management function makes a certain contribution at the moment strategizing at different levels. Marketing is a function that has the greatest contact with the external environment, whereas the company has only limited control over the external environment (Miles et al., 1978). By therefore, marketing plays an important role in development strategy. In the role of strategy, marketing includes every effort to achieve conformity between the company and its environment in order looking for solutions to the problem of determining two basic considerations. First, what business is in the company today and what kind of business which can be entered in the future. Second, how the business has been selected in the dimensions, namely the current dimensions and the dimensions of the period will come. Marketing mix strategy run successfully in an environment, competent by-product perspective, price, promotion, and distribution to serve the target market (Park et al., 1986). In the context of strategy formulation, marketing has two when it comes to relationships that have existed between a company with its environment. While the dimensions to come are is expected to be interwoven and the program of action required for achieving that goal. Regarding to Kotler (2015) and Heinonen (2011) marketing is a social and managerial process undertaken by a person or group to acquire something desired or needed through the creation and exchange of products and values. Furthermore, The American Marketing Association defines marketing as an organizational function and planning processes to create, communicate and deliver value to customers and to manage customer relationships in ways that benefit the organization and its stakeholders, as well as the implementation of conceptions, pricing, promotion and distribution of ideas, goods and services to create a satisfactory exchange of individual goals and organizations (Grönroos, 1997;

Figure 1: Mix of energy consumption based on user and type of energy year 2017–2022



Source: Secondary data, 2017

Table 1: Matriks IFE and EFE

No	Internal factors (strength)	Weight	Rank	Score
1.	The price of renewable energy is very competitive against fossil energy	0.08	4	0.32
2.	Renewable energy does not generate significant pollution for the environment	0.07	3	0.21
3.	Research in the field of renewable energy is growing rapidly	0.05	4	0.2
4.	Energy companies in Indonesia are committed to developing renewable energy	0.06	2	0.12
5.	Renewable energy is becoming the choice of people who understand the environment	0.03	4	0.12
	Total	0.29		0.97

Sources: Pimary Data, 2018. IFE: Internal factor evaluation, EFE: External factor evaluation

Table 2: Matriks IFE and EFE

No	Internal factors (weakness)	Number	Rank	Score
1	Investment costs are very large in renewable energy and very less attractive by investors	0.07	3	0.21
2.	Renewable energy areas in Indonesia are usually located in remote areas	0.06	4	0.24
3.	Limitations in renewable energy infrastructure	0.04	4	0.16
4.	Very few experts in renewable energy in Indonesia at this time	0.06	2	0.12
5.	The lack of regularity to utilize renewable energy for an area in the framework of energy self-sufficiency	0.03	4	0.12
	Total	0.26		0.85

Sources: Pimary data, 2018. IFE: Internal factor evaluation, EFE: External factor evaluation

Table 3: Matriks IFE and EFE

No	External factors (opportunity)	Number	Rank	Score
1.	The potential of renewable energy development in Indonesia is still very large and has not been optimally utilized	0.09	3	0.27
2.	In the future the energy prioritized, there is renewable energy	0.07	5	0.35
3.	Energy consumption in the future is increasing, high economic growth in Indonesia is in need of a lot of energy	0.05	5	0.25
4.	Government policy is directed to develop renewable energy	0.04	3	0.12
5.	The government invites domestic and foreign investment to invest in renewable energy and is subsidized by the government	0.06	6	0.36
	Total	0.31		1.35

Sources: Pimary data, 2018. IFE: Internal factor evaluation, EFE: External factor evaluation

Table 4: Matriks IFE and EFE

No	External factors (Threats)	Number	Rank	Score
1.	Indonesia's oil reserves are getting smaller and fewer	0.09	3	0.27
2.	Indonesian industry uses fossil energy and it is very difficult to change it	0.07	4	0.28
3.	The industry still chooses fossil energy	0.08	4	0.32
4.	The government should invite local companies to grow forward	0.06	5	0.3
5.	Local companies engaged in the energy sector are very difficult to invest in developing renewable energy	0.03	4	0.12
	Total	0.33		1.29

Sources: Pimary Data, 2018. IFE: Internal factor evaluation, EFE: External factor evaluation

Table 5: Matriks IFE and EFE score

Internal Value	External value	Strategic planning
S > W (+)	O > T (+)	Aggressive
S < W (−)	O ≥ T (+)	Stand/Stick out
S > W (+)	O ≤ T −)	Diversification
S > W (−)	O < T (−)	Conservative
0.97 > 0.85	1.35 > 1.29	

Sources: Pimary data, 2018. IFE: Internal factor evaluation, EFE: External factor evaluation

Slater et al., 1995). The concept of marketing mix according to (Khan, 2014) is: "Marketing mix is the set of marketing tools that the firm uses to pursue its marketing objectives in the target market." Regarding the above definition explained that marketing mix/mix marketing is a combination and four variables that are the core of the company's marketing system and can be controlled by the company as adequately as the possible Marketing strategy is essential for companies where marketing strategy is a way to achieve the goals of a company. Therefore, we can conclude Strategy is a series of large design that describes how a company must operate to achieve its goals (Casadesus-Masanell and Ricart, 2010). Marketing Strategy is a marketing mindset that will be used to achieve marketing objectives. Marketing strategy contains specific strategies for target markets, positioning, marketing mix and marketing expenditure. Marketing strategy is a fundamental tool that is planned to achieve the company by developing sustainable competitive advantage through entering markets and marketing programs used to serve that target market (Bharadwaj et al., 1993). In the context of utilization of renewable energy some policies that support renewable energy apart from Government Regulation Presidential decree (PP). 79 years 2014 has been issued a lot and become the subject, among others: (1). Act (UU) no. 30/2007 on Energy; (2). UU no. 21/2014 on Geothermal; (3). UU no. 30/2009 on electricity; (4). Presidential Regulation no. 4 of 2016 on Accelerating the Development of Electricity

Infrastructure; (5). Minister of Energy and Mineral Resources Regulation no. 19 of 2015 on the purchase of hydroelectric power up to 10 MW capacity by PT. State electricity company (PLN). The Direction of Energy Development Strategy and Strategy according to the National Development Agenda-National Medium Term Development Plan (RPJMN) (2015–2019) are: (1). Increasing the role of renewable energy in the energy mix: (i) Appropriate incentives and prices to encourage investment; (ii) utilization of new renewable energy and bioenergy for power generation and (iii) utilization of biofuels. (2). Improving Accessibility: Providing electricity to remote islands and villages including fishing villages where possible with solar energy and other renewable energy. (3). Improving efficiency in energy use: (i) Energy-saving campaigns, (ii) development of incentives and financing mechanisms for financing energy efficiency efforts; (iii) improving the technical capabilities of managers and energy auditors; (iv) enhancing the role and capacity of energy service companies; (v) developing the use of energy-efficient systems and technologies in industry; (vi) optimizing energy conservation policy instruments (PP No. 70/2009 on Energy Conservation). (4). Utilizing the potential of water resources for hydropower, including: (i) Incentives to accelerate hydropower development, i.e., the dispensation of forest area utilization for hydropower development, regulation of electricity selling price and land provision, (ii) simplification of rules and licensing requirements document. Increased consumption of electrical energy each year is estimated to continue to grow. General Electric Power Supply Plan (RUPTL) of PT PLN (Persero) 2010–2019 states, the electricity demand is estimated at 55,000 MW. So the average increase in electricity demand per year is 5500 MW. Of the total power of 32,000 MW (57%) built by PLN, while the remaining 23,500 MW will be fulfilled by private power developers (Juwito et al., 2015).

4. METHODOLOGY

Type of research conducted is exploratory research, is research conducted by assessing a data with the aim to produce an invention related to the data being studied. The formulation of choice of the development strategy of bio-based renewable energy is done by using SWOT analysis series. The process is done in three stages, namely data collection (input stage), analysis (matching stage), and decision making (decision stage). At the data collection stage, an internal and external environment factor evaluation is evaluated using internal factor evaluation (IFE) and external factor evaluation (EFE) matrices. In the analysis phase, strategic positioning is performed using IFE and EFE score, SWOT analysis diagram, and SWOT matrix. In the decision-making phase, the formation of development programs based on SWOT analysis results.

4. RESULTS

The potential of renewable energy in Indonesia today

The Indonesian state has geographical advantages that can be utilized to build alternative energy, in addition to fossil energy, such as geothermal, water, wind, solar, ocean waves, tides, biofuels. But unfortunately until now the government has not managed these resources optimally created at this time. If all these alternative energy sources we use then the cost of household electricity will be cheaper, the industry becomes competitive and transportation will also be more affordable to see the number of electric vehicles that are created at this time (Nugroho, 2013).

The society's need for the latest energy

Fossil energy in Indonesia, especially petroleum is very limited, so the majority of Indonesian consumption still rely on imports, which must be purchased with dollars. In addition, the price of petroleum is also unstable greatly affecting the world's political conditions. So if the current price of electricity in Indonesia Rp1.059 per kWh–Rp. 1.506 per kWh then the possibility of 10 or 15 years ahead can be Rp. 2.020/kwh–Rp. 2.550/kwh. Also, when the current price of Solar Rp 6.950, - and Premium Rp. 7.450 at the time of world oil price of world oil price $ 37.69/barrel, how when world oil price increase up to $ 120 or $ 150 per barrel. It must be remembered that petroleum in this world is very limited, and economic law always depends on supply and demand.

The results of study, as follows: (1). Geothermal energy, geothermal energy or geothermal is a renewable energy source of thermal energy (heat) generated and stored in the earth. Geothermal Power Benefits, hardly inferring pollution or greenhouse gas emissions. This power is also not noisy and reliable. Geothermal power station generates about 90% electricity, compared to 65-75% of fossil fuel power plants. Unfortunately, even though Indonesia has abundant geothermal reserves of up to 40% of the world's geothermal reserves, this proven clean, renewable energy source is not being utilized on a large scale. (2). Water energy is one of the most common alternative fossil fuels. This energy source is obtained by utilizing the potential energy and kinetic energy possessed by water. Currently, about 20% of world electricity consumption is met from hydropower (hydropower). (3). Wind Energy, Wind or bayu energy is a source of renewable energy generated by wind. Windmills are used to capture wind energy and convert it into kinetic or electric energy. Solar Energy/Solar Energy. (4). Solar or solar energy or known as the solar system is a renewable energy sourced from radiation of light and heat emitted by the sun. (5). Sea wave energy, sea wave energy or wave is renewable energy that comes from the ups and downs of sea water waves. Indonesia as a maritime country located between two oceans has high potential to utilize the energy source of this ocean wave. But unfortunately this alternative energy source is still in development stage in Indonesia. (6). Tidal energy, tide energy is a renewable energy source of tidal water. There are two types of tidal energy sources, the first is the high difference in low seawater during high tide and low tide (7). Energy biofuels are renewable energy sources of fuel (both solid, liquid, and gas) produced from organic materials. Sources of biofuels are plants that have high sugar content (such as sorghum and sugar cane) and plants that have high vegetable oil content.

The current renewable energy marketing strategy in Indonesia

Indonesia has great potential and opportunities to use renewable energy. Based on the IFE and EFE Matrix, Indonesia has the following internal potential (Table 1):

- The price of renewable energy is very competitive against fossil energy,
- Renewable energy does not generate significant pollution for the environment,
- Research in the field of renewable energy is growing rapidly,
- Energy companies in Indonesia are committed to developing renewable energy,
- Renewable energy is becoming the choice of people who understand the environment.

Furthermore, there are weaknesses in being able to use renewable energy in Indonesia context (Table 2) as follow:

- Investment costs are enormous in renewable energy and very less attractive by investors,
- Renewable energy areas in Indonesia are usually located in remote areas,
- Limitations in renewable energy infrastructure,
- Very few experts in renewable energy in Indonesia at this time,
- The lack of regularity to utilize renewable energy for an area in the framework of energy self-sufficiency.

However, there are external opportunity factors that support the adoption of renewable energy in Indonesia (Table 3), as follows:

- The potential for renewable energy development in Indonesia is still huge and has not been optimally utilized,
- In the future the energy prioritized, there is renewable energy,
- Energy consumption in the future is increasing, high economic growth in Indonesia is in need of a lot of energy
- Government policy is directed to develop renewable energy,
- The government invites domestic and foreign investors to invest in renewable energy and is subsidized by the government.

Also, there are external threat factors that can be considered in developing renewable energy in Indonesia (Table 4):

- Indonesia's oil reserves are getting smaller and fewer,
- Indonesian industry uses fossil energy and it is very difficult to change it,
- The industry still chooses fossil energy,
- The government should invite local companies to grow forward,
- Local companies engaged in the energy sector are very difficult to invest in developing renewable energy.

Based on IFE and EFE matrix analysis where the strong (S) 0.29 and weakness (W) values are 0.26, then S> W. Besides that, opportunity (O) has a value of 0.31 while weakness (W) is 0, 33. Therefore the marketing strategy for renewable energy in Indonesia is in the category of Diversification (table 5). There are still many challenges to be able to change the habits of Indonesian people in using fossil energy into renewable energy (Astra, 2010; Arafah & Nugroho, 2016b). Therefore, the government, community leaders, financial institutions and other relevant parties must work hand in hand to increase knowledge and understanding of the importance of this renewable energy. By using renewable energy, it can reduce pollution and improve the quality of life of the community.

6. CONCLUSIONS

The transition of energy will never happen without a strong desire of the government and the legislature, as it is needed by government and legislative policies and regulations to encourage alternative energy development by both government and private investors, such as: (1). Increase the participation and funding from the Indonesia Institute of Science and Research and Technology Ministries to examine the locations of alternative energy potentials in Indonesia and the technologies that best suit the geographical conditions in Indonesia. (2). Establish regulations and provide tax subsidies on alternative energy power plants. (3). More easier development permits and operational of alternative energy generation than fossil energy generation. (4). Make the regulation easier to enter the vehicle lsitrik than conventional vehicles, so that will increase demand for electrical energy that will automatically trigger investors to invest investment in Indonesia. (5). Setting the purchase price of government or PLN for alternative energy is more expensive or at least equal to the price of fossil energy, thus increasing the interest of investors to participate. (6). Development of electric vehicle filling stations at Pertamina filling stations. In addition to the land already available, also so as not to harm one of the largest state-owned enterprises in Indonesia.

7. ACKNOWLEDGMENT

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