

The Legal Issues of the Economic Mechanism for Adopting and Developing Renewable Energy Sources in the Republic of Kazakhstan

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ABSTRACT

The paper covers legal features of economic mechanisms for adopting and developing renewable energy sources in the Republic of Kazakhstan. The practice of developed countries demonstrates that solution of the above-mentioned problems is impossible without government regulation and legal groundwork of the economic mechanism for supporting renewable source production and usage. In this regard studying the issues of the economic mechanism in the area of supporting the use of renewable energy resources is of theoretical and practical interest, and also makes it possible to develop renewable energy resource use in the modern context. The objective of the research is studying tendencies and problems of using the economic mechanism for deploying and developing renewable energy resources, as well as elaboration of conceptual conclusions and proposals in this regard. The role of the economic mechanism as a special tool in the use and development of renewable energy sources is identified.

KEYWORDS

Energy, energy security, renewable energy, fixed rate, green certificate, investor, entrepreneurial code

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Introduction

The use of energy in the Republic of Kazakhstan is largely based on non-renewable energy sources, which being limited, are exhaustive and fail to ensure long-term energy sustainable development. The use of exhaustive energy sources is one of the factors, which lead to environmental degradation (Perminov, 2016).

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According to the research of the independent agency of US federal statistical system Energy Information Administration (EIA), which was published in the annual energy report 2015, annual energy consumption in the world will increase by an average of 0,8% according to potential population growth from 2013 to 2040 (Ahmad et al., 2016).

According to EIA forecasts, the percentage of alternative energy will grow in the structure of global fuel and energy balance.

According to Kazakhstan experts, non-renewable natural resources stocks in the Republic of Kazakhstan may be exhausted within limited historical period. According to the experts' research, in case of extensive exploitation current oil reserves of Kazakhstan will be exhausted in 70 years, natural gas – in 85 years. Mining and metallurgy industry is on the verge of exhaustion of effective proved fields. Iron ore will be exhausted in a little more than 80 years, aluminum – 90 years, there will be no copper just in 20 years. Lead and zink industry is provided with resources for 25 years, chrome mining industry – for a little more than 50 years, nickel deposits are fully developed (On the strategy of efficient energy and renewable resources use in the Republic of Kazakhstan for the purpose of sustainable development until 2024, 2008).

This information indicates that little attention has been paid to the issues of alternative energy development in Kazakhstan until recently due to enormous stocks of traditional energy feedstock.

Renewable resources and alternative energy sources are the primary aspect of Kazakhstan economy development and factor for ensuring country's energy security over the long term. Moreover, Kazakhstan has great potentials of stage-by-stage economy reorientation to the use of renewable resources. The possible reserves of renewable resources in Kazakhstan are estimated at 12 billions of dollars per year (On the strategy of efficient energy and renewable resources use in the Republic of Kazakhstan for the purpose of sustainable development until 2024, 2008).

Problem statement

While the Republic of Kazakhstan adopted a wide enough range of measures for supporting renewable energy resources adoption and development at the legislative level, the fact that the state and economy are subject to continuous dynamic development and require improvement of the legal groundwork of the economic mechanism as the main tool of renewable energy resources should be taken into account.

Kazakhstan took the route of a number of developed countries, which national policy gives the priority to the transition to a green economy. The world community expects Kazakhstan to successfully complete landmark projects: EXPO-2017 exhibition Energy of the Future and Green Bridge program partnership for promoting sustainable development in the Central Asian and other regions of the world. Such countries as Mongolia, China and South Korea have already started to implement green economy's ambitious plans, announced by their presidents. For example, South Korea annually invests 2% of GDP to the green sector, while China's investments make up 1,5% of GDP with potential growth to 2% by 2015 (The concept for a transition of the Republic of Kazakhstan to a green economy, 2013).

Analysis of latest researches and publications

At the present time many program documents, which are elaborated for the purpose of revitalization of the state regulation of national economy development, feature the term of “economic mechanism”, which is differently interpreted in scientific literature. The scientific works of A.N. Bychkova (2010), B.A. Riseberg, L.S. Lozovsky & E.B. Starodubtseva (2011), E.M. Perminov (2016), M.R. Zheltukhina et al. (2016) are dedicated to different aspects of economic mechanism, including the mechanism for implementing, using and developing renewable energy resources. The features of the economic mechanism for developing alternative energy sources are studied in K. Jordan-Korte’s (2011) work, methods of the economic mechanism for implementing and developing renewable energy resource were also examined by M. Ortega-Izquierdo & P. Del Rio (2016), S. Abolhosseini & A. Heshmati (2014).

Unsolved problems of the issue

The legislation of the Republic of Kazakhstan has recently adopted ambitious plans for developing renewable energy resources. Kazakhstan has ample renewable resources, but it’s impossible to develop this economic sector without any system economic mechanism. The specific feature of developing the green energy model of the Republic of Kazakhstan is that the Republic’s policy is aiming at the state backing of renewable energy resources. However, in our opinion, the existing mechanism for deploying and developing renewable energy resources cannot promote this economic sector and requires scientific research.

Key findings

In modern conditions many program documents, which are elaborated for the purpose of revitalization of the state regulation of national economy development, feature the term of “economic mechanism”, which is differently interpreted in scientific literature.

To date, the notion of economic mechanism is widely interpreted both in theory and practical studies. Economic mechanism is considered central in the system of business mechanism. It provides coordination and aligning of public, group and private interests, promotes functioning and developing national economy.

In our opinion, the B.A. Riseberg, L.S. Lozovsky & E.B. Starodubtseva (2011) definition is the most objective one. The scientist considers economic mechanism a method of implementing economic laws, which comprise of corresponding organization and economic mechanisms of the national policy, financing, investing, lending, reserving funds and material resources, insuring and reinsuring, indemnity, economic incentives, economic responsibility, and many others.

A. N. Buchkova (2010) gives the most generalized definition. Economic mechanism is a set of control methods and interaction of subjects, the target function of which is expedient economic management and formation of steady regularities of economic development.

In respect to renewable energy resources, economic mechanisms are considered in scientific literature activities for developing the use of alternative energy sources (Moon, Lee & Lee, 2011; Tsvetkov et al., 2012; Pablo-Romero,

Sánchez-Braza & Pérez, 2013; Yi, 2013; Barradale, 2010; Butler & Neuhoff, 2008).

Depending on a development program different methods of economic mechanism are used for deploying and developing renewable energy resources (Lopatnikov, 2003; Yakobson, 2000; Dokholyan & Dokholyan, 2011; Zheltukhina, 2015; Andreeva & Kovalevskaya, 2011; Berry & Jaccard, 2001).

That being said, all these definition have something in common: economic mechanism has certain components, in particular, they're subject, object and tools for influencing the economy.

In our opinion, subjects of the economic mechanism for adopting and developing renewable energy resources can be:

— State authorized bodies for introducing and developing renewable energy resources. These subjects, which determine general trends for implementation and development of renewable energy resources, engage in lawmaking activities in this field and use certain economic mechanisms for green technology adoption. State bodies for renewable energy resources depending on their competence can be classified into state bodies of general jurisdiction and state bodies of special jurisdiction.

— Investors. Investors are individuals and legal entities, which invest in the Republic of Kazakhstan for adopting and developing renewable energy resources.

— Generators of power based on renewable energy resources.

— Green energy consumers.

Subject of economic mechanism for introducing and developing renewable energy resources is a set of relationships coming from the use of renewable energy resources technology.

Incentives and measures for state backing of using and developing renewable energy resources are main tool for influencing the development of renewable energy resources.

All used mechanisms for supporting renewable energy resources in Kazakhstan can be divided into four main groups:

- for renewable energy resource investors;
- for owners of capacities, which generate power based on renewable energy resources;
- energy market entities, which generate power with the use of renewable energy technology;
- for green energy consumers;
- individual mechanism of state-run programs and projects.

Investors in the field of using and developing renewable energy resources are provided with a wide range of opportunities.

Paragraph 3, Art. 4 of the law of the Republic of Kazakhstan “On support of the use of renewable energy resources” (2009) provides legal entities, which design, build and operate renewable energy resource facilities with investment preferences in accordance with the Entrepreneurial Code of the Republic of Kazakhstan.

According to Art. 283 of the Entrepreneurial Code (2015), investment preferences are benefits of targeting nature provided according to the law of the Republic of Kazakhstan to legal entities of the Republic of Kazakhstan, which carry out an investment project.

The following types of investment preferences are provided upon investment projects:

- 1) customs duties and import VAT exemption;
- 2) state land grants.

3. The following types of investment preferences are provided upon priority investment projects:

- 1) tax preferences;
- 2) investment grants (The Entrepreneurial Code of the Republic of Kazakhstan, 2015)

As the research showed, only legal entities are provided with investment preferences. The mechanism for investing individuals in the area of renewable energy resource use is not legally provided. We, therefore, suggest to include into the Entrepreneurial Code of the RK the procedure for participation of individuals in RES investing.

Owners of capacities, which generate power based on renewable energy resources, are provided with the following economic mechanisms:

- Fixed rate. Art. 8. RES Law;
- Support when selling electric and (or) heat energy generated by renewable energy resource facilities. Art. 9. RES Law;
- Support when selling electric and (or) heat energy generated by facilities with the use of renewable energy resources. Art. 10. RES Law (On support of the use of renewable energy resources, 2009).

The government of Kazakhstan provides green energy consumers with enabling mechanisms from both economic and social points of view, opportunities for using RES by regular citizens for stand-alone use. The issue is state backing of consumers, who are connected to the United power grid of Kazakhstan, and remote or isolated consumers. Individuals connected to the electric power system are provided with financial backing in the form of payments – 50% of the cost of RES unit up to 5 kW.

Total energy generation in Kazakhstan for today is about 82 million MWh per year. In accordance with the Program for Power Industry Development about 5 billion kWh of electric power per year or about 3% of the total energy generated in the Republic will be generated on wind-power stations by 2024. There's no reason to expect under such conditions that implementing the enabling mechanism with distribution of load on end-consumers will cause a considerable change in retail electricity price.

Meanwhile mechanisms, which provide incentives to consumers in the consumer market in foreign countries, show great flexibility and diversity. For example, public utilities in Denmark are obliged to buy renewable energy. There are guaranteed prices for renewable energy in the United Kingdom. As distinct from Europe, the firm stance of state regulation is a differential peculiarity of promoting energy efficiency in Japan. The Japan's law on energy efficiency prescribes the use of financial and tax measures by the government for the



purpose of promoting the rational use of energy. The Law recognizes priority of investment into energy conservation as against investment to other equipment. If a businessman, particularly, average and small businesses, in Japan is set for adopting conservation equipment, he has an opportunity to obtain credit on favourable terms in a national bank. When building a house for country's citizens, the loan superior limit can be lifted, if the house is provided with energy conservation components (for example, additional heat-insulation). Tax remissions are equally important. If a corporation or a sole proprietor purchases energy conservation equipment, it can apply for allowance, when total tax or income tax is decreased by 7% of the cost of purchased equipment (discount may make up to 20%); discount, when a special discount in the amount of 30% of the cost equipment is applied in addition to customary discount in the first year of using this equipment (Gumenyuk, 2011).

The main three enabling mechanisms are widely used in the world practice: feed-in tariffs, tax remissions and green certificates, which can be bought (Abolhosseini & Heshmati, 2014).

Adopting and developing green certification is also of high and incentive importance for development of renewable power generation. Green certificate is a document, which confirms the amount of generated green energy by a qualified generating object, the data on which are contained in a corresponding register. The register for issuing and expiring green certificates is maintained in Russia. It also contains data on issuing and expiring certificates and making amendments in a certificate in regard to each qualified generating object (Kozlov, 2015; Doholyan, 2011).

Conclusion

Today the Republic of Kazakhstan has strategic plans for developing the use of alternative energy sources. However, it is almost impossible to develop this economic sector without certain economic mechanism.

The research showed that the notion of economic mechanism for adopting and developing renewable energy resources in the Republic of Kazakhstan has no legal confirmation in official documents. However, the government uses measures to support and develop the use of renewable energy resources.

At the present stage of RES area development, regulation (fixed tariff setting) won't promote recruitment of potential, especially foreign investors for the following reasons:

- The effective law of the Republic of Kazakhstan "On support of the use of renewable energy resources" has been used on a limited basis and hasn't accumulated a sufficient number of defects, which require amendments.

- It's impossible to take into account and unify a number of technological, organizational, financial and commercial factors and risks in the form of common tariff even within the framework of one type of RES.

- pegging annually index tariff, as it suggested in the draft bill, creates fundamental barriers for investors in the form of uncertainty regarding return on investment and will turn them off the project execution.

In order to address such gaps, it's necessary to revise the procedure and types of using the economic mechanism for adopting and developing renewable energy resources.

We suggest using the mechanism of green certificates, which proved its efficiency in some western countries, as a provisional measure for developing and using renewable energy resources.

Disclosure statement

No potential conflict of interest was reported by the authors.

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