

LEGAL SUPPORT OF THE OPERATION OF ALTERNATIVE GENERATION ON THE WHOLESALE ELECTRICITY AND POWER MARKET

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The author of the article reviews the issues of the legal support of functioning of generating companies that use generating facilities producing the least negative impact on the environment, in particular, facilities functioning based on renewable energy sources. The article analyzes regulatory acts governing the use of renewable energy sources. Examples of foreign legal regulation (European Union, PRC) are given. The author concludes that there are gaps and discrepancies in the current regulation and that it is necessary to continue improving energy laws.

Keywords: energy law; legal regulation in the use of renewable energy sources; wholesale electricity and power market, generating companies.

According to the forecast about the development of the world energy industry made by the International Energy Agency, the temperature on the planet will inevitably rise as much as by 2 °C if the current energy infrastructure continues to operate in the same way as it has operated in the past [1]. The environmental agenda is undoubtedly the leading driver in the development of the alternative energy industry. The global energy landscape needs to be deeply transformed in order to reach climate goals; in particular, there has to be organized a transition from fossil fuel consumption to cleaner renewable energy forms. Decarbonization of the energy sector is the key goal of energy

transformation roadmaps of the International Renewable Energy Agency [2].

Apart from the climate agenda, a less tangible aspect speaks in favor of alternative generation: energy deficit in some regions of the country. Russia has a significant volume of territories isolated from the unified energy system; the gas infrastructure is available by far not in every inhabited locality. Thus, objectively, there exist districts where the opportunities of the renewable energy industry can be implemented to maximum effect.

At the same time, the development of alternative generation entails high financial burden on energy markets, demands support from the state and requires the elaboration of

special support mechanisms. The RES share in the electricity generation structure in Russia is just 0.15 %, and as much as 1.3 % in the structure of consumers' costs on the wholesale market. Thus, the financial burden on the market produced by RES exceeds their share in generation by almost 9 times [3].

Raising the RES share in the energy balance remains one of the priority tasks of the Russian energy industry. The Energy Strategy of the Russian Federation for the Period up to 2035 links the increase in the stability and reliability of energy supply to the efficient use of renewable energy sources.

Alternative generation development project keep receiving large-scale state support. In March 2021, Resolution of the Government of the Russian Federation No. 328 of March 5, 2021 On the Amendments to Some Acts of the Government of the Russian Federation on the Encouragement of the Use of Renewable Energy Sources on the Wholesale Electricity and Power Market has come into effect; this resolution kicked off the RES PSA (power supply agreement) program for 2033–2035.

The state has set the task to diversify the electricity industry, in particular, by raising the number of alternative generating facilities. The alternative energy industry in Russia is at the development phase and requires advanced legal regulation.

The current laws are uncertain about the list of generating facilities referred to alternative generation. Let's have a look at and analyze the existing approaches.

Generation companies can be classified depending on the means of electricity production: by hydrocarbon combustion (thermal power plants), by the use of water energy (hydro power plants), by the use of nuclear materials (nuclear power plants), by the use of renewable energy sources (RES).

It is commonly agreed that the thermal energy industry that uses burning fuel (gas, coal, fuel oil, peat, etc.) in its production cycle is the traditional one. The alternative, renewable energy industry is primarily expected to reduce the negative impact on the environment.

In this respect, the relevant question is whether "alternative" generation can include facilities using nuclear fuel to produce energy or modern steam-gas plants or coal stations that are located in close proximity to a coal field and use the best available emission reduction technologies?

The legislator proposes the definition of the "renewable energy source" concept in the Law On the Electricity Industry by listing energy resources: solar energy, wind energy, water energy (including wastewater energy).

At the same time, GOST R 54531-2011 gives a more detailed list of renewable energy sources.

The legislator's inconsistency is also proven by the fact that there is no uniform understanding of an "alternative energy source". According to the policy maker's approach, the concepts of an "alternative energy source" and a "renewable energy source" are not identical. Thus, alternative energy sources in GOST R 54531-2011 are all energy sources except for oil, gas, coal, river water flows and nuclear energy.

The list suggested in the Law on the Electricity Industry is exhaustive, so no other energy resources can be referred to renewable energy sources without amendments to the federal law, which is a resource-intensive and long-term procedure. At the same time, scientific publications have brought forward a rather rational opinion that the indicated legislator's approach pursues a purely practical objective: restriction of generating facility types to be supported. Since alternative generation in Russia is at the early development stages, support is now provided only to a generating facility that functions based on the use of RES included in the list enshrined in the Law on the Electricity Industry and has undergone the qualification procedure. At the same time, taking into account the active scientific and technological development and the origination of efficient technologies for the obtainment of "green" energy from sources not referred to RES by the legislator, the doctrine representatives suggest defining renewable energy sources based on energy resource

characteristics (ability to be renewed, non-depletability, ecological cleanliness) and even consequences of the use thereof for the energy balance of the planet and the energy security of the state. The issue of the admissibility of use of each of the above mentioned criteria is debatable and we believe that their inclusion in the Law will inevitably trigger legal uncertainty.

Enshrinement of generating facility classification criteria is of great importance for the correct application of "green" financing mechanisms, determination of the level of negative impact on the environment.

General provisions defining the position of alternative generation on energy markets such as the list of renewable energy sources, powers of state authorities, the concept of a microgenerating facility are enshrined in the Law on the Electricity Industry.

The RES project support architecture on the wholesale electricity and power market includes the following:

- Agreements on the supply of power by qualified generating facilities contain a mechanism of sale of power of qualified generating facilities functioning based on the use of RES. The agreements establish a stimulating price on power of facilities of solar and wind generation, small hydro generation, generation based on industrial and consumption waste;
- Adjustment of power price with the use of a foreign currency coefficient;
- Compensation of the cost of technological connection to electrical grids for renewable energy industry facilities with the established capacity below 25 MW.

The following has the systemic importance for the development of the renewable energy industry on the wholesale electricity (power) market:

- The main areas of the state policy in raising the energy efficiency of the electricity industry based on the use of renewable energy sources for the period up to 2024 (the "Main Areas") that determine the goals and principles of the use of renewable energy sources, contain target volumes of production of electricity with the use of RES and consumption thereof

in the aggregate electricity production and consumption balance, target capital and operational costs, establish target ratios of localization of production of primary and (or) auxiliary generation equipment for production of electricity with the use of RES in the Russian Federation and measures to achieve these ratios. V.V. Romanova fairly notes that the reasons for low development rates of the electricity industry based on RES indicated in the Decree such as: non-competitiveness of RES projects compared to generation projects functioning on hydrocarbons, absence of any legal regulation to facilitate the development of alternative generation, absence of any infrastructure required for the development of the renewable energy industry are relevant for the current legal regulation development level [4].

- Generating facility qualification rules establishing the criteria of and the procedure for qualification of generating facilities functioning based on the use of renewable energy sources. Within the framework of the reviewed relations, Market Council is carrying out generating facility qualification and issues a qualification certificate. A qualification certificate is necessary to obtain support on the wholesale and retail electricity (power) markets;

- Resolution of the Government of the Russian Federation No. 117 of February 17, 2014 On Some Issues Related to the Certification of Electricity Volumes Produced by Qualified Generating Facilities Functioning Based on the Use of Renewable Energy Sources establishes the procedure for maintenance of a register of issue and withdrawal of certificates confirming the volume of electricity production by qualified generating facilities functioning based on the use of RES and submission and disclosure of information in accordance with the applicable laws;

- Resolution of the Government of the Russian Federation No. 823 of October 17, 2009 On Schemes and Programs of the Prospective Development of the Electricity Industry stipulates the need for the inclusion of generating facilities based on RES in the

scheme of the development of the electricity industry of the Russian Federation by way of competition, determines the procedure for the competitive selection of projects of generating facilities based on RES functioning on the retail market.

At the same time, the wholesale market has an independent legal regulation system. Its key feature is the wholesale market regulation authorities of the Market Council.

Market Council is a non-profit-making organization – association (union) in the form of non-profit-making partnership; its members are subjects of the electricity industry and large electricity consumers.

In view of this feature, it's hard not to agree with the special energy law regulation method singled out by V.V. Romanova, i.e., the method of special public regulation governed by non-profit-making organizations that have special public authorities granted by the legislator. The legal status and authorities of Market Council are an example of granting of such special public authorities.

In accordance with the provisions of Subclause 3, Art. 33 of Federal Law No. 35-FZ On the Electricity Industry, Non-Profit-Making Partnership Association Market Council firstly acknowledges generating facilities as qualified; secondly, maintains the register of issue and withdrawal of certificates confirming the volume of electricity production based on the use of RES.

Standard agreement forms and Regulations being an integral part of an accession agreement are mandatory for all market participants, all transactions on the wholesale electricity market are subject to such rules.

Wholesale market Regulations have essential attributes of a regulatory act due to their legal nature, and their formal reference just to a part of a civil agreement contradicts their nature. The indicated circumstances prove actual law making by Market Council [6].

The Supervisory Council of Non-Profit-Making Partnership Market Council has adopted the following documents for the implementation of the mechanism aimed at

the encouragement of electricity production on the wholesale electricity and power market through Agreements on the Supply of Power by Qualified Generating Facilities Functioning Based on the Use of RES:

Regulation on the selection of investment projects concerning construction of generating facilities functioning based on the use of renewable energy sources (Annex No. 27 to the Agreement on Accession to the Wholesale Market Trade System);

Standard form of an Agreement on the Supply of Power by Qualified Generating Facilities Functioning Based on the Use of Renewable Energy Sources (Annex No. D6.1 to the Agreement on Accession to the Wholesale Market Trade System);

Market Council has developed and approved standard forms of agreements aimed at the establishment of the architecture of transactions involving sale of electricity and power produced by alternative generating facilities on the wholesale electricity market (standard forms of commercial representation agreements, agency agreements, accounts settlement agreements that are annexes to the Agreement on Accession to the Wholesale Market Trade System).

The rules of the wholesale electricity and power market have established the procedure for competitive selection of investment projects concerning construction (reconstruction, modernization) of generating facilities functioning based on the use of renewable energy sources (RES PSA). RES PSA is a mechanism of encouragement of creation of facilities producing RES-based electricity which is based on stipulating provision of favorable power trade conditions for suppliers as compared to traditional generation [7]. An alternative generating facility will get support if it shows compliance with the criteria for qualification of a generating facility functioning based on the use of RES: the generating facility functions exclusively based on the use of RES or based on the use of RES combined with other fuel types and produces electricity or a combination of electrical and thermal energy).

Generating facilities seeking to take part in the RES support system undergo the qualification procedure based on a participant's application; the qualification procedure implies verification of the documents submitted by the applicant and field audits to examine generating facilities based on the use of RES at the place of their location.

A strategic decision on the renewal of the alternative generation support program was adopted by Resolution of the Government of the Russian Federation No. 328 of March 5, 2021 On the Amendments to Some Acts of the Government of the Russian Federation on the Encouragement of the Use of Renewable Energy Sources on the Wholesale Electricity and Power Market. Thus, the mechanism of encouragement of the use of renewable energy sources (RES) in 2023–2035 stipulates that the criteria for the selection of projects concerning construction of generating facilities functioning based on the use of RES are to be changed after January 1, 2021, as well as principles of payment for power generated by facilities selected within the framework of support measures are to be changed after January 1, 2021. The Resolution enshrines the procedure for the determination of the price of power generated by facilities functioning based on the use of RES and selected after January 1, 2021, except for generating facilities functioning based on the use of industrial and consumption waste.

The RES PSA structure has already shown its efficiency but in this case RES development is supported at the expense of electricity consumers forced to pay for RES projects through power supply agreements mandatory for all participants of the wholesale electricity market. This mechanism is neither market-based nor corresponds to any competitive market principles.

A buyer being a party to the relations of circulation of electricity and power on the wholesale market, cannot refuse from payment for a part of RES power in the general power payment within the framework of the competitive power output procedure. This obligation is imposed by the Law and is

contained in the agreement on accession to the wholesale market trade system. In practice, a refusal to discharge this obligations will bear consequences incompatible with continuation of any operations, in particular, expulsion from the number of the market participants.

Non-regulated bilateral electricity sale and purchase agreements (NRBA) are entered into within the framework of the existing market model to satisfy the demand for “green” energy. However, the conclusion of an NRBA does not guarantee that the purchased volume fully consists of the energy produced by a RES generating facility. One of the main problems of RES facilities is the impossibility to produce electricity on an ongoing basis, for example, a solar station does not produce any electricity at night, while a factory owned by the buyer does consume energy. Under an NRBA, any lacking volumes will be purchased on the market to satisfy the buyer's demand, and while such energy will not necessarily be “green”, such supplies will still be made under an NRBA. Participants of the wholesale electricity and power market face the problem of absence of any legal market mechanism guaranteeing that electricity purchased on the market from the owner of a RES generating facility is completely “green”.

In this respect, the issue of the development of a legal structure allowing confirmation of the nature of acquired electricity gets especially relevant. To solve this problem, Market Council has announced the development of the national system of certificates of origin of electricity issued upon generation based on RES. The Ministry of Economic Development and the Ministry of Energy have developed bills proposing amendments to the Law on the Electricity Industry in terms of the procedure for the determination of the origin of electricity by issue of certificates. Both authorities agree that a certificate of origin of electricity (“green certificate”, “low-carbon certificate”) is an electronic document issued upon production of electricity by a qualified generating facility in accordance with its qualification category in the volume and within the period of time indicated in such document and confirming

the rights stipulated by the laws of the Russian Federation. The fundamental difference between the projects lies in the determined range of generating facilities that will be allowed to issue certificates (just RES or also nuclear power plants, hydro power plants and even gas co-generating facilities). The bills also do not specify what type of objects of civil rights low-carbon certificates refer to and what volume of rights such certificates provide.

Today, there is no uniform understanding of the legal nature of a “green” certificate used in different countries and jurisdictions. This circumstance can be an obstacle in the harmonization of provisions and rules within the framework of carbon border adjustment and hinder the certificate circulation procedure.

The essential importance of the problem of determination of the certificate nature is mediated by a number of practical aspects: legal, economic, tax ones.

Considering the fact that business has a demand for further expansion of capacities based on RES, the issue of introduction of voluntary RES support mechanisms and the development of a regulatory framework for the application thereof remains relevant. At present, the most common are proposals to use venture investment mechanisms, subsidizing of interest rates on loans, provision of tax incentives and introduction of “green” certificates.

In this regard, V.V. Romanova suggests reviewing the issue of the development of a national program (project) in the use of renewable energy sources. In order to accomplish strategic tasks of the use of renewable energy sources in the Russian Federation, taking into account the experience of foreign legal regulation in this sphere, it seems reasonable to raise the question of the development and adoption of a separate federal law On the Use of Renewable Energy Sources and the Amendments to Separate Legal Acts of the Russian Federation [8].

In this respect, the experience of foreign states, the legal analysis of foreign legal regulation in the use of renewable energy sources will be especially noteworthy and useful [9]. Facilitation of the development

of electricity production with the use of renewable energy sources and raising of energy efficiency are two main areas of the electricity policy of the European Union. Unlike market regulation, state regulation gives more incentives for market participants to invest in the development of renewable energy sources and electricity production by means of co-generation [10].

One of the methods of such state regulation is confirmation of the electricity origin. This issue is regulated at the general European level by Article 15 of Directive 2009/28/EC on the Promotion of the Use of Energy from Renewable Sources for electricity obtained from RES and Clause 39 of the Preamble and Clause 10, Article 14 of Directive 2012/27/EU on Energy Efficiency for energy obtained by means of highly energy efficient co-generation.

Another method of regulation is the application of special green tariffs. Since there is no unified European electricity market but there are separate markets, the Court of Justice of the European Union has faced the following problem.

According to the laws of one of the member states, an energy supplier was obligated to purchase all renewable energy produced in the region of its location at a fixed price. The supplier could receive partial compensation if the purchased energy produced by renewable energy sources exceeded five percent of the general supply volume of that supplier.

PreussenElektra was interested in purchasing more affordable renewable energy outside the region of its location and objected against the need to purchase a large share of internal energy inter alia based on the principle of free movement of goods guaranteed by Art. 34 of the Treaty on EU. The court resolved that there were no violations in such provisions of domestic laws [11]. Such issue on discrimination in setting of the requirements for participants of the electricity market aimed at the support of generation through the use of renewable energy sources was also raised in a number of other cases submitted to the Court [12], in all cases, the Court resolved that the introduction of such measures was justified

as they were aimed at the common interest: environmental protection.

By contrast with this general European environmental agenda, the case of the state support of a nuclear power station is of special interest. Thus, in October 2013, the UK introduced some measures to support the Hinkley Point C nuclear power station (NPS). The NPS operator (NNBG) was given an opportunity to stabilize the price of the electricity produced by the NPS: if the market price was below the stabilization price, the operator would receive the cost difference but its amount could not exceed the established limit. And vice versa, if the market price was higher, NNBG would pay the difference to the state. Moreover, NNBG and other investors to this NPS were given an opportunity to receive compensation for any changes in the political climate with regards to the nuclear energy industry, in particular, concerning the consequences in form of NPS closure before the expiration of the exploitation term.

The Court pointed out that notwithstanding the general European policy that was against the nuclear energy industry, the member states could decide upon their own energy industry types including the nuclear energy industry. Moreover, the public interest the state assistance aims to achieve is not defined by the position held by the majority of the EU member states. An important principle of the application of state assistance in these relations is the fact that the state has to facilitate the achievement of public interests, common good in case of the impossibility to do the same exclusively through market mechanisms. The state assistance can have negative consequences but they should firstly be overlapped by the positive effect from the implementation of the project being the subject of the state assistance, and secondly, these negative consequences should be minimized to the possible extent [13].

The Chinese experience is also remarkable in this respect [14]. The system of green electricity certificates (GEC) was launched in 2017–2018 as a pilot program to develop the

market mechanism of renewable electricity in China. GEC gave companies an opportunity to qualify for environmental benefits related to production of electricity from renewable sources. By September 2017, the GEC Trade Platform issued 8 million certificates, which corresponded to 8 billion kWh of wind and solar energy and equaled to the five-month average consumption volume of Beijing citizens.

Key details of the GEC system:

- GECs are issued to large grids connected to on-shore wind and solar photoelectric installations (except for distributed power stations). Each GEC corresponds to 1 MWh of produced electricity.

- RE generators receiving FiT can issue GECs. However, as soon as they sell a GEC at the CREEI electronic platform, they refuse from state subsidies (FiT). If they cannot sell their GECs, the related generation still has the right to obtain a state subsidy guaranteeing that the RE generator receives only one income flow.

- The state subsidy rate acts as the maximum GEC price. In March 2019, GECs fluctuated from USD 20 to USD 45 for on-shore wind and from USD 45 to USD 104 for solar energy.

- Today, GEC is the only attributive certificate that can be owned and used to reach the RPC goal. A different system of certificates can appear in the future (e.g., a Certificate for Over-Consumed Renewable Electricity or "COCRE") to record excessive RE consumption by responsible organizations (consumption exceeding the target RPS ratio, but this has not been introduced yet).

- GEC system verification services are rendered by an independent external organization, the National Center for Management of Renewable Energy Source Data (Center).

- GECs transmit the key information to their users such as resource/fuel type (e.g., wind, solar energy), serial number, generator identifier, generator name, generator location, vintage (generation date) and issue date.

- Environmental characteristics received with the help of GECs contain the level of

greenhouse gas emissions, sulphur dioxide and nitrogen oxide produced by the electricity industry that represent the effect from substitution of electricity production using coal.

- RE generators taking part in the GEC system can also participate in the Emissions Trading System (ETS).

- GECs do not have an expiration date, but according to RPS, the GEC validity term corresponds to the annual target evaluation period. GECs are valid only for the duration of the evaluation of the relevant year.

“Green” certificates are issued primarily to encourage reduction of greenhouse gas emissions, in particular, as part of the implementation of the Paris Agreement of December 12, 2015. On the other hand, a “green” certificate duly enshrined in the law

can act as a mechanism of financial support of RES generation by buyers interested in the development of “green” capacities rather than all wholesale market participants.

Notwithstanding the large-scale support of RES projects, the following alternative generation development problems remain relevant: non-competitiveness of RES projects compared to generation projects functioning on hydrocarbons; absence of any legal regulation to facilitate the development of alternative generation; absence of any infrastructure required for the development of the renewable energy industry. An emphasis on the advanced legal regulation will make it possible to create a legal ground for the efficient integration of facilities operating based on renewable energy sources in the fuel and energy balance of the country. ■

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