

Environmental safety through the prism of legal regulation of renewable energy in Russia

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The article is devoted to an urgent problem in the field of environmental safety – the legal regulation of renewable energy in Russia at the level of federal legislation, as well as trends in the field of program normative regulation in the context of long-term planning until 2050. The method of special normative regulation in the field of renewable energy chosen by the legislator is determined by the directions of state regulation in the area under consideration. The basis for long-term programmatic legal regulation is the combination of traditional and renewable energy, which is necessary for the country's energy security. On the other hand, a serious problem of legal regulation has been identified: at the level of federal legislation, there is a legal gap in the issue of the relationship between the concepts of “energy resource” and “non-renewable energy sources”, which is the reason for finalizing the current legislation. The result of the study is recommendations to reflect in the legal regulation of renewable energy, which is programmatic and long-term in nature, not the principle of priority of renewable energy sources (RES), but the principle of combining traditional and renewable energy and its development, taking into account the interests of the country's energy security. Thus, the actual preservation of the priority of traditional energy and the development of energy based on renewable energy sources within the framework of regulatory long-term planning based on state support determine the main direction of developing the country's environmental safety system for the coming decades.

Keywords: renewable energy, regulation, long-term development of RES, energy security.

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Экологическая безопасность через призму правового регулирувания возобновляемой энергетики в России

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Статья посвящена актуальной проблеме в сфере экологической безопасности – правовому регулированию возобновляемой энергетики в России на уровне федерального законодательства, а также тенденциям в сфере программного нормативного регулирования в контексте долгосрочного планирования до 2050 г. Выбранный законодателем способ специального нормативного регулирования в сфере возобновляемой энергетики обусловлен направлениями государственного регулирования в рассматриваемой сфере. Основой долгосрочного программного правового регулирования выступает сочетание традиционной и возобновляемой энергетики, что необходимо для энергетической безопасности страны. С другой стороны, выявлена серьезная проблема правового регулирования: на уровне федерального законодательства наличие правового пробела в вопросе соотношения понятий «энергетический ресурс» и «невозобновляемые источники энергии», что является поводом для доработки действующего законодательства. Результатом исследования являются рекомендации об отражении в правовом

регулировании возобновляемой энергетики, которое носит программный и долгосрочный характер, не принципа приоритета возобновляемых источников энергии, а принципа сочетания традиционной и возобновляемой энергетики и её развития с учётом интересов энергетической безопасности страны. Таким образом, фактическое сохранение приоритета традиционной энергетики и развитие энергетики на основе возобновляемых источников энергии в рамках нормативного долгосрочного планирования на основе государственной поддержки определяют основное направление разработки системы экологической безопасности страны на ближайшие десятилетия.

Ключевые слова: возобновляемая энергетика, нормативное регулирование, долгосрочное развитие, возобновляемые источники энергии, энергетическая безопасность.

The relevance of the research topic is due, first of all, to the fact that renewable energy is “the fastest growing sector of the world energy sector: in 2014, RES accounted for 59% of the increase in global generating capacity, and the share of global electricity generation from RES exceeded 22.8%” [1]. Moreover, “over the past 10 years, investment in new renewable energy capacity (not including large hydropower generation) has increased 7-fold: from 40 billion in 2004 to 270 billion dollars in 2014” [2]. However, so far the development of renewable energy sources, as a rule, “is only possible with one or another form of state support” [1].

Legislative regulation of the sphere of “green” energy in the Russian Federation is in the process of formation. At the same time, public relations in the field of renewable energy are characterized, as a rule, by a wide range of regulations, the peculiarity of which consists in a multi-level and programmatic nature.

The purpose of this study is to identify environmental safety problems in the context of legal regulation in the field of renewable energy in the Russian Federation, analyze trends in legal regulation in this area and their legal assessment.

Scientists have repeatedly addressed the problem of legal regulation of renewable energy in their works [3–6]. However, changes in the socio-political situation in the world force us to revisit this problem, taking into account the emerging aspects that need to be studied.

Objects and methods of research

The object of the study is public relations in the field of development of renewable energy in the Russian Federation, arising in the process of developing and implementing measures of state support for renewable energy sources, which are regulated by normative acts, including strategic planning program documents.

The subject of the study was a set of legal norms in the field of development of renewable energy in the Russian Federation. At the same time, the authors identified gaps in the legal

regulation of the “green” energy sector based on an analysis of current legislation, as well as long-term planning documents until 2050. The methodological research tools include general scientific methods, such as dialectical and logical, as well as special scientific methods: legal interpretation, system-structural and comparative legal methods. When writing the article, in order to select material for analyzing the state of legal regulation of environmental safety in the light of the development of renewable energy, the authors used the ConsultantPlus Legal Reference System, as well as the search engines of the Google scholar, Social Science Research Network, Scopus, Web of Science databases. The study covers the period from 1998 to the present time.

The problem of regulatory regulation of the renewable “green” energy sector in Russia

The main problem that gives rise to shortcomings in legal regulation in the field of green energy development is that the Russian Federation is one of the countries that are the world leaders in traditional energy. This means that it is the state that needs to recognize the priority in the development of renewable energy sources and take special measures of state support for this area.

When analyzing the directions and measures of state support for the energy sector in question in both countries, it is important to implement the sustainable development goals for the period up to 2030, formulated in Resolution 70/1, adopted by the General Assembly on September 25, 2015, “Transforming our world: the 2030 Agenda for Sustainable Development” (hereinafter referred to as SDGs), which “are a key part of a large system of targets and indicators primarily for the developing world” [7]. In this regard, the analysis of long-term development strategies of Russia and Canada towards the development of renewable energy sources, as well as government policy measures, is also relevant within the framework of the designated research topic.

Almost 45 years ago, in resolution No. 33/148, the UN General Assembly first formulated and consolidated the concept of “new and renewable energy sources”. In accordance with this resolution, “non-traditional and renewable energy sources include: solar energy; geothermal energy; wind energy; light energy; energy of ebbs and flows; energy of waves and thermal gradient of the sea; biomass conversion energy; energy obtained by burning fuel wood, charcoal, peat, oil shale, tar sands; energy from the use of draft animals and hydropower”.

The definition of the category “renewable energy”, formulated on the official UN website, is as follows: “it is energy obtained from natural sources that are replenished at a rate exceeding the rate of its consumption.” It actually coincides with the doctrinal definition formulated back in 1986, where energy based on renewable energy sources is “energy obtained from constant (continuous) or renewable energy flows circulating in the natural environment” [8].

At the same time, the basic conceptual apparatus associated with defining the definition of “renewable energy sources” is very broad and is closely related to the definition of the categories “energy” and “energy source”, “energy resource”.

In Russian legislation, the formulation of the content of the category “renewable energy sources (RES)” was proposed in 1998 in bill No. 98033104-2 [9]. The category “non-traditional renewable energy sources” as “energy from the sun, wind, earth’s heat, natural temperature gradients, natural movement of water flows, biomass” was also designated in the said bill.

Currently, the legislator also actually identifies the concepts of “renewable energy” and “renewable energy sources”. This conclusion is confirmed by a detailed definition, which is formulated in Article 3 of the Federal Law of March 26, 2003 No. 35-FL “On Electric Power Industry”. In accordance with this norm, the concept of “renewable energy sources” is completely identified with the concept of “energy” and is disclosed in the law.

It should be noted that the term “renewable energy source” is used in a number of regulations at the federal level: Decree of the Government of the Russian Federation dated June 3, 2008 No. 426 “On the qualification of a generating facility operating on the basis of the use of renewable energy sources”; Decree of the Government of the Russian Federation dated January 8, 2009 No. 1-r “On the main directions of state policy in the field of increasing energy efficiency of

the electric power industry based on the use of renewable energy sources for the period until 2035”; Decree of the Government of the Russian Federation dated August 29, 2020 No. 1298 “On issues of promoting the use of renewable energy sources, amendments to certain acts of the Government of the Russian Federation and on the recognition as invalid of certain provisions of certain acts of the Government of the Russian Federation”.

It should also be noted that there is legislative regulation of the area under consideration at the level of individual constituent entities of the Russian Federation. In particular, these include the Law of the Republic of Sakha (Yakutia) “On Renewable Energy Sources of the Republic of Sakha (Yakutia)” No. 1380-Z No. 313-V dated November 27, 2014, where the concept of a renewable energy source is formulated similarly to federal legislation through the category “energy”.

The Russian legislator also uses the concept of “energy resource” widely, but not in relation to the regulation of relations in the field of renewable energy. Thus, there is some uncertainty regarding the relationship between the categories “renewable energy source” and “energy resource”. Let us dwell in more detail on the analysis of the legislative recognition of the category “energy resource”.

In accordance with Article 2 of the Federal Law of November 23, 2009 No. 261-FL “On Energy Saving and on Increasing Energy Efficiency and on Amendments to Certain Legislative Acts of the Russian Federation,” an energy resource is understood as “an energy carrier, the energy of which is used or can be used in carrying out economic and other activities, as well as the type of energy (nuclear, thermal, electrical, electromagnetic energy or other type of energy)”.

Consequently, a literal interpretation of the norm allows us to conclude that it is possible to consider the category “renewable energy sources” as a type of energy resource. At the same time, the lack of a normatively established connection between these concepts is a certain legal gap. This conclusion is confirmed by the conclusion of the Legal Department on bill No. 98033104-2 [10], **which contains the following remark:** “In paragraph five it is proposed to use the concept of “energy resources”. At the same time, it is not clear how this concept relates to the concept of “non-renewable energy sources” contained in Article 1 of the Law. The lack of a clear understanding of the category “energy resource” in law is also indicated by individual scientific studies [11].

We believe that the absence of this relationship is caused by the use of the term “energy resource” in the field of traditional energy, which does not exclude the possibility of systematically finalizing legislation in this direction in the development of renewable energy in the future.

Program normative regulation of “green” energy in Russia

In accordance with the provisions of the Energy Strategy of the Russian Federation for the period until 2035, approved by Decree of the Government of the Russian Federation dated June 9, 2020 No. 1523-r [12] (hereinafter referred to as the Energy Strategy), it is noted that in the Russian Federation a third of generation in fuel-energy complex consists of nuclear energy, hydropower and other renewable energy sources (hereinafter referred to as RES), which determines the place of our state among the largest economies in the world as one of the most environmentally friendly (low-carbon) fuel and energy balances.

Article 3 of the Federal Law of June 26, 2003 No. 35-FL “On Electric Power Industry” defines the list related to renewable energy sources.

Additional normative regulation is established depending on the relevant source and energy sector. It should be noted that it is not the content of the category “RES” that is determined on the basis of a set of characteristics, but by listing sources.

The basis of this approach, according to the author, is the presence of developed standards in the energy sector and insufficient development in the field of energy law doctrine. Thus, the development of solar energy in Russia is at an early stage. Specifically, at the end of 2019, solar power generated “2.8% of total global electricity production” [13]. **At the same time, at the beginning of 2020 in Russia, solar and wind generation “together accounted for 0.2% of electricity production” [13].** The bulk of the power plants were put into operation in 2019–2020, currently “about 50 companies that supply equipment and carry out installation” [13]. The main trend in the development of solar energy is microgeneration, i.e. the installation of solar panels by private entities for domestic consumption. In this regard, the main regulatory act was the Federal Law of December 27, 2019 No. 471-FL, adopted in 2019, “On amendments to the Federal Law “On Electric Power Industry” regarding the development of microgeneration,” which actually began to be applied in 2021 in connec-

tion with adoption of Decree of the Government of the Russian Federation dated 03/02/2021 No. 299 “On introducing amendments to certain acts of the Government of the Russian Federation in terms of determining the features of the legal regulation of relations regarding the functioning of microgeneration facilities”.

With regard to wind energy as a source of renewable energy, it should also be noted that it has no actual role in the country’s energy balance, and the Russian market is not included in the list of leading wind energy markets [14]. In the power structure of UES of Russia power plants, according to data at the beginning of 2022, “wind energy occupies 0.79%” [15]. In the structure of electricity generation (electricity export) in the Unified Energy System of Russia for the same period, “the share of wind power plants is 0.32%” [15]. By comparison, of global electricity production in 2021, according to the Global Electricity Review, wind power “accounted for 6.6%” [15]. Regulatory regulation is carried out within the framework of general legislative acts, there is no special regulation.

Hydropower provides almost 19% of electricity generation in Russia [16]. **So far, strategic documents assume a slight decrease in the growth rate of the industry in the period until 2035.** The list of regulations governing the area under consideration is very wide: from the Water Code of the Russian Federation to standards in the field of use of hydraulic structures.

Geothermal energy is the second most common form of renewable energy in Russia, but it accounts for less than 1% of total energy production. The most accessible geothermal potential is concentrated in Kamchatka and the Kuril Islands. Legal regulation is carried out within the framework of federal legislation in the field of electric power industry.

Bioenergy in Russia is widespread in the field of heat supply and is carried out on the basis of federal regulation by general regulations.

Thus, special normative regulation of individual sources of renewable energy is not typical for Russia; it is carried out on the basis of federal legislation in the field of energy.

The fundamental regulations in the field of use of renewable energy sources are the range of by-laws that define: directions of state policy in the field of increasing the energy efficiency of the electric power industry based on renewable energy sources for the period until 2035 (Order of the Government of the Russian Federation dated March 24, 2022 No. 594-r “On approval changes that are being made to the Main Direc-

tions of State Policy in the field of increasing energy efficiency of the electric power industry based on the use of renewable energy sources for the period until 2035”, approved by order of the Government of the Russian Federation of January 8, 2009 No. 1-r); regime of generating facilities operating on the basis of the use of renewable energy sources (Resolution of the Government of the Russian Federation dated June 3, 2008 No. 426 “On the qualifications of a generating facility operating on the basis of the use of renewable energy sources”); the procedure for their certification (Resolution of the Government of the Russian Federation dated February 17, 2014 No. 117 “On some issues related to the certification of volumes of electrical energy produced at qualified generating facilities operating on the basis of the use of renewable energy sources”).

They also include a number of strategic planning program documents in the field of long-term development of the electric power industry (Resolution of the Government of the Russian Federation dated October 17, 2009 No. 823 “On schemes and programs for the long-term development of the electric power industry” is valid until January 1, 2024); as well as the procedure for their development, approved by Decree of the Government of the Russian Federation of December 30, 2022 No. 2556 “On approval of the Rules for the development and approval of documents for the long-term development of the electric power industry, amendments and invalidation of certain acts and certain provisions of certain acts of the Government of the Russian Federation”. Thus, the main direction of normative regulation in the field of use of renewable energy sources is the establishment of a legal regime for generating facilities, which makes it possible for state financial support.

Long-term strategies for energy development based on renewable energy sources

In accordance with the Federal Law “On Strategic Planning in the Russian Federation” dated June 28, 2014 No. 172-FL, the strategy for the socio-economic development of the Russian Federation is understood as “a strategic planning document containing a system of long-term priorities, goals and objectives of public administration aimed at ensuring sustainable and balanced socio-economic development of the Russian Federation”.

One of the key areas that determine the basis for long-term planning in the field of energy de-

velopment based on renewable energy sources is the “transition to technologies using solar, wind, water energy (including wastewater energy), biomass, biogas, geothermal energy (hereinafter referred to as renewable energy sources), as well as the development of nuclear and hydrogen energy technologies” [18].

Currently, there is a long-term development strategy in this direction until 2050 [18]. In accordance with the provisions of the Strategy for the socio-economic development of the Russian Federation with low greenhouse gas emissions until 2050, Russia’s global energy transition according to the target (intensive) scenario involves “a significant increase in generation based on renewable energy sources”, “the emergence and development of new industries (including hydrogen energy and electric transport)”.

Also, direct development planning is defined in the Energy Strategy of Russia for the period until 2035 [12]. The implementation of the action plan of this strategy is carried out in two main stages: Stage I – until 2024, Stage II – 2025–2035.

The fundamental change in the foreign economic situation put on the agenda the issue of prompt updating of the Energy Strategy of Russia [18]. Following the meeting, the President of the Russian Federation gave instructions to “extend the planning horizon until 2050” [19]. However, these adjustments will affect the traditional energy sector.

Of course, hydrocarbons are currently the key energy source, and the idea of “new” hydrocarbon sources is also developing. Russia has as a strategic goal the development of hydrogen energy, for which the corresponding concept [20] has been approved.

The main areas of long-term planning in the field of renewable green energy include the following:

Firstly, the main support instrument on the wholesale market is the RES CSA program [21] (the capacity supply agreements provided by qualified generating facilities operating on the basis of the use of renewable energy sources).

The key objectives are: development of solar and wind energy technologies, localization of component production and creation of a domestic market for renewable energy sources [22].

The implementation of long-term strategic planning in the wholesale renewable energy market is the RES 2.0 CSA program, which represents the second stage of the development of “green” energy in Russia, designed for 2025–2035. This program is aimed not only at the

construction of new generation facilities based on renewable energy sources (RES), but also at increasing their efficiency and stimulating the production and export of Russian equipment [23]. However, due to the geopolitical situation, sanctions measures of unfriendly states and the resulting crisis phenomena in 2022, the selection of projects was postponed to May 2023 on the basis of Decree of the Government of the Russian Federation dated 01.06.2022 No. 999 “On amendments to certain acts of the Government of the Russian Federation on the issues of conducting competitive selection of investment projects for the construction of generating facilities operating on the basis of the use of renewable energy sources, on the wholesale and retail markets of electric energy and on the establishment of certain features of state regulation of prices (tariffs) in the electric power industry in 2022 and 2023”.

Secondly, the main instrument of support on the retail market is the establishment of a long-term tariff based on the Decree of the Government of the Russian Federation of January 23, 2015 No. 47 “On amendments to certain acts of the Government of the Russian Federation on the issues of promoting the use of renewable energy sources in retail electricity markets”.

Thirdly, the development of microgeneration based on renewable energy sources.

Fourthly, the development of renewable energy sources in isolated areas.

The main measures for the implementation of state policy in the field of renewable energy development until 2035 are the following.

Firstly, the construction of renewable energy power plants operating on the wholesale and retail markets of electrical energy. Thus, in the field of solar energy development, active construction of solar power plants (SPP) [24] is underway; as part of the first stage of implementation of the Energy Strategy of Russia, all SPPs [25] were put into operation. In 2022, the following renewable energy generation facilities were commissioned: Kola wind farm 170.4 MW (Murmansk region), Berestovskaya wind farm 60 MW (Stavropol Territory), Krasnogorsk small hydroelectric power station 2 – 24.9 MW (Karachay-Cherkess Republic), ASUE in the village Toora-Khem 1.0 MW (Republic of Tyva) [25]. As of 01/01/2023, within the framework of the RES CSA 1.0, 4002.1 MW of RES generation facilities were put into operation: SPP – 1788.3 MW (70 power plants); WPP – 2168.1 MW (24 power plants); mHPP – 45.8 MW (4 power plants) [25].

Secondly, the construction of renewable energy power plants operating in technologically isolated and hard-to-reach areas (ТИНА) [26]. On the territory of Russia there are a large number of TIHAs that are not covered by a centralized power supply. Most of them fall on the territory of the Far East and regions of the Far North and territories equivalent to it: certain regions of the Republics of Sakha (Yakutia) and Karelia, Murmansk, Arkhangelsk, Magadan, Amur and Sakhalin regions, Kamchatka Territory, Chukotka Autonomous Okrug, Khanty-Mansiysk Autonomous Okrug – Yugra and Yamalo-Nenets Autonomous Okrug. These territories are characterized by harsh climatic conditions (the heating season lasts from 250 to 340 days) and relatively low population density. According to various estimates, from 11 to 20 million citizens of the Russian Federation live in isolated territories. Digitalization and decentralization trends determine the transition from the construction of large power plants to the creation of a distributed generation system, as well as the replacement of inefficient diesel electricity generation in remote and hard-to-reach areas [27] with generation based on liquefied natural gas, renewable energy sources by order of the Government of the Russian Federation dated 08/15/2019 No. 7456p-P9. In the renewable energy industry, we are mainly talking about wind and solar energy generation [28].

Thirdly, the development of the micro-generation market based on renewable energy sources. In Russia, the idea of stimulating microgeneration using renewable energy sources at the state level was developed at the end of 2016 as part of the implementation of the country’s environmentally sustainable development strategy [29]. As part of the Energy Strategy, support is provided for projects related to the construction and commissioning of microgeneration facilities. At the same time, in 2022, there was a decline on the microgeneration market based on renewable energy sources in Russia, including facilities used by consumers to produce electricity to satisfy their own household and (or) industrial needs without supplying electricity to the network by up to 50% [30].

According to A. Maksimov [23], the implementation of measures of the RES 2.0 CSA program will make the renewable energy sector competitive on the Russian and global markets, and will also allow the export of equipment for energy generation based on renewable energy sources.

At the same time, some scientists believe that “active international cooperation in the

field of ecology ensured the positioning of renewable energy sources as one of the main tools for combating negative climate change, which also became the most important factor in their popularization, but not in their practical implementation" [31].

Currently, the assessment of scientists in determining a clear direction of state policy in the field of renewable "green" energy in Russia is contradictory.

On the one hand, the "energy transition" will not only lead to the loss of traditional sales markets and income, but may also "force a costly and technologically complex decarbonization of the energy sector, including in order to avoid possible trade barriers of importing countries" [30]; on the other hand, "the economic efficiency of renewable generation will lead to the formation of an innovative energy paradigm" [32].

Conclusion

In modern conditions, government regulation in Russia should be based on the principle of a balance of renewable and non-renewable energy. This conclusion is supported by the following provisions:

1) in accordance with the SDGs, the creation of an area of investment and institutional attractiveness for intensifying the use of renewable energy sources entails "the need for state support both for the creation of primary infrastructure and production in the field of renewable energy sources";

2) the dominance of traditional energy and its main priority presupposes "the need for targeted stimulation of renewable energy sources as a way to regulate the balance of renewable and non-renewable energy";

3) the balanced development of renewable and non-renewable energy in the context of the transition to a low-carbon economy is aimed at strengthening the energy security of the Russian Federation.

So, the main directions of Russian state policy in the field of renewable energy sources are defined at the level of two key regulations: the Energy Strategy of the Russian Federation and the Main Directions of State Policy in the field of increasing the energy efficiency of the electric power industry based on the use of renewable energy sources (RES) until 2035.

At the same time, the mandatory purchase of electrical energy generated by renewable energy generating facilities, as a priority, forms the basis of the mechanism of state support for renewable energy sources, which is enshrined in

the Federal Law "On Electric Power Industry" dated March 26, 2003 No. 35-FL.

The main measures of state support in the context of long-term planning in the field of energy development based on renewable energy sources in Russia are:

– on the wholesale market – the RES CSA program (agreements on the provision of power by qualified generating facilities operating on the basis of the use of renewable energy sources);

– on the retail market – establishing a long-term tariff for generating facilities operating on the basis of the use of renewable energy sources;

– in the direction of development of renewable energy infrastructure – investment support for projects regarding the construction and commissioning of microgeneration facilities, as well as the creation of a distributed generation system in remote and hard-to-reach areas.

In the next 30 years, state regulation of renewable energy sources in Russia will be based on the principle of a balance of renewable and non-renewable energy, which will ensure the strengthening of Russia's energy security. At the same time, the actual preservation of the priority of traditional energy determines the main direction of development of the country's environmental safety system for the coming decades. This is also the most environmentally friendly approach in the context of existing developments and directions of development of large participants in the field of traditional energy.

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