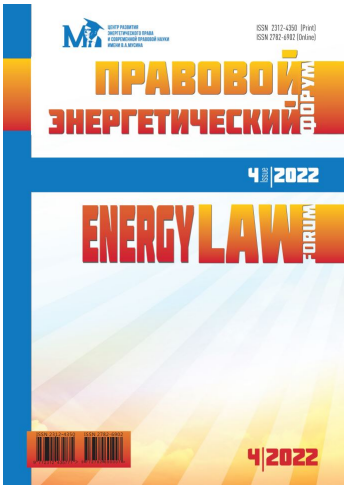

Правовой энергетический форум 2013-2024

ISSN 2079-8784

URL - http://ras.jes.su

Выпуск №4 Том . 2022

Legal Mechanisms for Securing Technological Sovereignty in the Electric Power Industry under the Sanctions Pressure

Максименко Петр Николаевич
Института законодательства и сравнительного правоведения при Правительстве РФ
Российская Федерация, Москва

Аннотация

The electric power industry as a fundamental branch of the Russian economy is actively developing, inter alia, through technological and digital capacity expansion. Under the increased sanctions pressure on the Russian economy, the electric power industry, as well as other areas of the fuel and energy complex, is subject to significant risks associated with the need for technology import substitution. Taking into account the significant public and legal impact on the electric power market due to its high social and economic importance, the active introduction and development of technological and digital services in the industry is limited to some extent. Therefore, special legal regulation shall be further improved to expand the civil-law freedoms of electric power industry entities, especially in view of new technological and digital solutions. The attitudes, judgments, and statements presented in this article constitute the author’s personal opinion and may not correspond to the official viewpoint of the organization that employed him or any other organization.

Ключевые слова: energy law, legal regulation in the electric power industry, technological sovereignty

Дата публикации: 27.12.2022

Ссылка для цитирования:

Максименко П. Н. Legal Mechanisms for Securing Technological Sovereignty in the Electric Power Industry under the Sanctions Pressure // Правовой энергетический форум – 2022. – Выпуск №4 С. 39-47 [Электронный ресурс]. URL: https://mlcjournal.ru/S231243500023548-0-1 (дата обращения: 19.05.2024). DOI: 10.18254/S231243500023549-1

1 **1. Problem Setting**. The twenty-first century undoubtedly represents the era of the most active development of all kinds of technologies and digital services, which fundamentally change both the operation of all economic sectors and the life of society as a whole.

2 Digital economy development is considered as a factor that has a significant impact on gross domestic product growth in the Russian Federation, which makes it advisable to actively develop national technologies for all sectors of the economy and requires proper regulatory support (clauses 39–51 of the Strategy for Information Society Development in the Russian Federation for 2017–2030 approved by Order of the President of the Russian Federation No. 203 dd. May 9, 2017).

3 Based on the fundamentals established by the Strategy, other strategic documents of the Russian Federation proceed from the needs to create technological sovereignty as a fundamental condition for further development and internal and external security support.

4 Thus, the Basic Principles of State Policy of the Russian Federation in International Information Security approved by Order of the President of the Russian Federation No. 213 dd. April 14, 2021, stipulate the need, inter alia (clause 17):

5 • to create conditions for counteracting technological domination and monopolization of information and communication technology markets by certain states;

6 • to promote equal access of all states to advanced information and communication technologies and prevent technological dependence.

7 The National Strategy for Artificial Intelligence Development for the Period up to 2030 approved by Order of the President of the Russian Federation No. 490 dd. October 10, 2019, is based on ensuring the independence in artificial intelligence (clause 19), and hence other technological aspects.

8 These goals and objectives are also reflected in industry-specific strategic documents in the energy sector.

9 According to the Energy Security Doctrine of the Russian Federation approved by Order of the President of the Russian Federation No. 216 dd. May 13, 2019, the formation of technological independence and the use of Russian technology products in the relevant sector (clauses 22 and 24) are among the main goals and areas of energy security.

10 Developing the above provisions, the Energy Strategy of the Russian Federation until 2035 approved by Order of the Government of the Russian Federation No. 1523-p dd. June 9, 2020, outlines a wide range of tasks for the development of scientific, technological, and innovative activities in all fuel and energy industries, including, inter alia, improvement of state support mechanisms, support for the localization of

technological industries, and establishment of relevant production and competence centers.

11 In addition, there is a long list of technologies proposed for implementation, including:

12 • smart energy systems;

13 • energy Internet;

14 • intelligent means of equipment diagnostics and monitoring.

15 The electric power industry is traditionally a “pioneer” for many innovative, technological, and digital solutions further used by or adapted to other sectors of the fuel and energy complex.

16 Firstly, this is due to the very technical and technological nature of the electric power industry as the entire generation and supply process of electricity turnover is closely related to technology.

17 Secondly, the electric power industry can already be treated as the most technologically advanced sector of the entire fuel and energy complex; we can recall the changes made to implement smart metering systems in 2017, the provisions on the long-term planning of electric power system development, including the digital images creation, adopted in 2022, etc.

18 The above combination of circumstances turns the electric power industry into one of the most “flexible” industries in terms of technology allowing, among other things, extensive testing of new technologies and digital services, determining the level of their effectiveness, and further propagating them to other related industries.

19 For example, the introduction of smart electricity systems and meters prompted an active discussion of the legislative introduction of similar approaches in the gas industry, water supply and sanitation, and heat supply. [1]

20 At the same time, the fuel and energy complex and, in particular, the electric power industry currently face a number of factors having adverse effects on the pace of development and introduction of innovative solutions in the industry, and hence on the status of its technological sovereignty.

21 **2. Impact of Sanctions.** In 2022, the Russian economy suffered massive sanctions restrictions that foreign countries started to impose in 2014, which also largely affected the ability to export to the Russian Federation of technological, technical, and digital solutions of all kinds (from household to complex solutions used in specific sectors of the economy).

22 This situation like no other shows the significance of technological sovereignty, especially in such strategically important sector of the economy as the electric power industry.

23 The following sanctions restrictions have affected the electric power industry to the greatest extent:

24 • restrictions on the supply of microelectronics and software, involving risks, for example, for the timely implementation of smart metering systems and the installation of smart meters;

25 • termination of supplies and maintenance of generating equipment components (gas turbine plants, etc.);

26 • threat of impossibility to use purchased IT solutions (from basic office products to individual solutions).

27 The well-known expanded Maslow's Hierarchy of Needs perfectly reflects the structure of energy and technological needs in the context of sanctions risks for electric power industry entities.

28 The physiological needs (the first level of Maslow's pyramid) of companies include reliable and uninterrupted operation and the ability to use basic software and hardware: operating systems, office programs, etc.

29 The safety needs (the second level of the pyramid) include the ability to ensure cybersecurity (in particular, with antivirus software) and technological security (security of physical facilities: power plants, power grids, transforming substations, etc.).

30 The love and belonging needs (the third level) include the ability to communicate with customers and partner companies, primarily given the current level of technology development, via online means of communication (e-mail, messengers, and social networks), which requires stable access to these means of communication.

31 The esteem needs (the fourth level) mean achieving success and social recognition. In the context of the issue under consideration, it is a positive evaluation of technologies and digital services the company uses by customers (both internal and external). Examples include introduced electronic document management systems (internal and external), robots for customer service, and professional industry-specific services provided to counterparties (energy management, etc.). That is any technological and digital tools contributing to the loyalty and trust of the counterparty to the company.

32 The cognitive need (the fifth level) is one of the most significant needs in the technological sphere.

33 Any company, including an electric power company, seeks to perfect itself, to explore new ways and models of doing business. This process of cognition and self-development, inter alia, in commerce, is meant to implement three major elements of improvement: increase in the efficiency of doing business (lower internal costs, boosted productivity of business processes, etc.), improvement of quality of work and, of course, revenue and profit growth.

34 At the current stage of social development, technology in all its forms is, undoubtedly, the basic source that rapidly promotes the above goals. The business community focuses its major efforts on the study and practical implementation of technology.

35 Therefore, the risk of depriving the electric power industry of advanced technology can cause the stagnation of the industry, which will ultimately have a

negative impact on users, and hence on the state of the economy in general.

36 The aesthetic needs (the sixth level) are represented by the convenience of technological and digital solutions created and offered to counterparties.

37 For example, a convenient and visually appealing mobile application or website for users of energy sales organizations or grid companies.

38 The self-actualization needs (the seventh and final level) are directly related to the need for cognition, but on a different level: namely, when the implemented technology has proven to be effective and useful in business processes and interaction with counterparties, the company reaches a new level of development: search, creation, and introduction of the best available technology in all possible activities both within the company and in interaction with external customers, which would improve its performance even more.

39 All of the above needs, from basic to higher ones, seem to fully reflect the structure of risks and needs to ensure the ability of electric power industry entities to maintain access to the best technological solutions and digital services to perform the industry's fundamental tasks, that is to guarantee a reliable and safe power supply to users, both domestic and industrial, while being able to maintain a decent level of commercialization of their activities enabling further development.

40 It is the major task of the system of legal regulation to provide such opportunities as a stable basis for any activity.

41 **3. Structure of Regulatory Obstacles to Technological Sovereignty under Sanctions**. Federal Law No. 35-ФЗ on the Electric Power Industry dd. March 26, 2003 (hereinafter referred to as the Electric Power Industry Law) stipulates, among other things, the following interrelated general principles of economic relations and the fundamentals of state policy affecting technological sovereignty (Article 6):

42 • ensuring energy security;

43 • technological unity;

44 • ensuring reliable and uninterrupted operation;

45 • promoting the development of energy technology.

46 It is clear that the Electric Power Industry Law is based on the admissibility and necessity of improvement of the industry's technological component.

47 At the same time, regardless of whether the activity of a particular electric power industry entity is fully or partially regulated or conditionally unregulated, there is a certain internal contradiction in the provisions of the Electric Power Industry Law.

48 On the one hand, the need for technological development is presumed both in the law and according to strategic documents.

49 On the other hand, in terms of price regulation to which all four categories of professional electricity market players (selling, generating, grid companies and entities engaged in operational dispatch management) are subject, almost each of them is significantly limited in its intensive technological development.

50 So, as part of price control, the competent public authorities review investment programs when performing tariff regulation for guaranteed suppliers and grid operators and review investment programs of certain generating and grid companies, entities engaged in operational dispatch management (as an independent procedure) in the manner stipulated by Decree of the Government of the Russian Federation No. 977 on Investment Programs of Electric Power Industry Entities dd. December 1, 1999 (Articles 21, 23, 23.2, 24, and 25 of the Electric Power Industry Law).

51 The purpose of tariff and investment regulation is obviously the need to prevent drastic and uncontrolled growth of electricity prices both for the end user and in the "professional turnover" among the electric power industry entities themselves, i.e., it is needed as an equalizer of social and economic interests.

52 However, since price regulation in an administrative way means the state intervention in market relations, it should be economically reasonable. [2]

53 It seems that to the extent that, as has been rightfully noted, the legal model of economic relations in the electric power industry is based on a combination of market mechanisms and methods of state regulation, [3] there should be a balance in the application of these ways of influencing the legal relations of the parties.

54 In this context, there is a certain imbalance between these interests.

55 Thus, on the one hand, the regulatory authorities (tariff authorities and authorities that review investment programs of electric power industry entities) seek to restrain the volume of investment programs to achieve two main social and economic goals: restraining prices for end users, especially the population, and preventing "bloating" of investment programs, which casts doubt on their feasibility.

56 On the other hand, such restrictions significantly slow down possible technological and digital development of electric power industry entities.

57 The need for legal improvement in the implementation of investment programs in the electric power industry is also confirmed in the scientific literature. [4]

58 The following organizational and legal approaches and principles seem reasonable when considering the issues of technological development of electric power companies during tariff and investment approval in their activities:

59 • admissibility of approving investment programs with upward financial and economic deviations if their efficiency is confirmed; • possibility to proportionately raise tariffs above the limit indices, if this is due to the need for technological development.

60 The above approaches and principles are justified by the fact that at the initial stage intensive technological development requires significant financial investments, but the return on such investments and the external positive effect, inter alia, associated with a future reduction in the price of the product sold (electricity), is achieved in the medium and long term, and sometimes in the short term depending on the type of technology developed and applied.

61 In view of the above, it is necessary to adjust the legal mechanisms to support electric power industry entities in ensuring technological sovereignty.

62

4. Regulatory Sandbox Regime.

63 As per Federal Law No. 258-ФЗ on Experimental Legal Regimes for Digital Innovations in the Russian Federation dd. July 31, 2020, and Decree of the Government of the Russian Federation No. 2149 on Establishing the Areas for the Development, Validation, and Implementation of Digital Innovations that May Be Subject to the Experimental Legal Regime for Digital Innovations dd. December 18, 2020, adopted to develop the law, electric power industry entities may implement experimental digital projects under special regulatory conditions.

64 It should be noted that the admissibility of an experimental legal regime depends on the goals of a digital project, in particular, whether it is meant to establish new ways of doing business, improve the quality or availability of goods (works, services), etc. (Article 3).

65 A “regulatory sandbox” regime can be established if the following conditions are met simultaneously as per Article 6 of the above Federal Law: the presence of regulatory restrictions hindering the introduction of digital innovations, technical capability to apply digital innovations, the achievement of one or more of the goals stated in Article 3 of the Law, a reasonable assessment of risks of causing harm when implementing a project.

66 It seems that a significant number of digital electric power projects meet the above criteria.

67 Some Digital Innovations on the Electricity Market

68 It is known that the issue of payment discipline is one of the most discussed problems in the retail markets requiring the greatest legal assistance in its resolution. [5]

69 Blockchain and smart contracts are very promising digital solutions, inter alia, for these purposes. [6]

70 However, there are a number of limitations for such projects in addition to those already mentioned.

71 For example, guaranteeing suppliers as the main electricity providers are subject to significant public-law restrictions in their civil rights and obligations.

72 Due to the public nature of the energy supply (electricity (capacity) sale and purchase (supply)) agreement according to clause 5 of Article 38 of the Law on the Electric Power Industry and clause 28 of Basic Provisions for Operation of the Retail Electricity Markets No. 442 dd. May 4, 2012, approved by the Government of the Russian Federation, attempts of guarantee suppliers to adjust contractual terms with users depending on mutual interests and needs are significantly limited in law enforcement practice and face the administrative response (for example, the practice of establishing contractual penalties for advance payments is negatively perceived (Ruling of the Supreme Court of the Russian Federation No. 305-ЭС22-8103 dd. June 9, 2022, in case No. A40-45907/2021)). At the same time, the legal opinion of the Supreme Court of the Russian Federation, which allows differentiating contractual terms both by public

contracts and by entities dominating in the commodity market, if differentiation criteria and conditions are transparent (clauses 14 and 19 of Resolution of the Plenum of the Supreme Court of the Russian Federation No. 2 on Certain Issues Arising in the Application of Antimonopoly Laws by Courts dd. March 4, 2021) is worth noting.

73 In addition to the fact that smart contracts contribute to the efficiency of interaction due to higher transaction processing speed [7] and automatic transaction control, this way of finalizing contractual relations between the supplier (or another electric power industry entity) and the user makes it possible to configure contractual terms and conditions semi-automatically.

74 Such digital solution could, apparently, be implemented as follows (in simplified terms):

75 • the guarantee supplier develops software to enter into an energy supply agreement online;

76 • the first section of the agreement includes unchangeable public-law requirements (energy quality requirements, the procedure for determining the volume and cost of purchase, etc.);

77 • the second section includes contractual parameters to be chosen by the user as it thinks fit (for example, advance payment procedure; choice of the "type" of energy (regular, green, blue)), and the supplier when selecting some of them will automatically offer the user preferential terms of supply (for example, a discount on the cost of energy for full advance payment, if the advance payment condition is met for at least 3 months);

78 • the third section may include the possibility to choose additional options for the users provided by the suppliers as additional paid services, for example, demand-side management services, user energy management as part of individual smart home systems, etc.

79 Since the scientific community admits that the main disadvantages of smart contracts include the lack of experience in their large-scale application, the early stages of development of appropriate technology, uncertainty in legal regulation, etc. [8] resulting in a significant number of disputes and disagreements, which in case of user/guarantee supplier relations may entail substantial administrative and civil-law risks for the latter, it is advisable to implement such projects at this stage only under experimental legal regimes.

80 Some Technological Solutions in the Generation and Infrastructure Areas of the Electric Power Industry

81 We can analyze some examples of use in the said areas.

82 First, given the significance of such facilities and special legal regulation of the security of fuel and energy complex facilities, including electric power industry facilities, in accordance with Federal Law No. 256-ФЗ on the Security of Fuel and Energy Complex Facilities dd. July 21, 2011, the development of autonomous systems of physical and information security of generating, dispatching, and transporting facilities of the electric power industry appears very promising.

83 Such projects include, for example, the use of autonomous unmanned airborne and road vehicles to protect facilities and detect and prevent attempts at trespassing in their territory as an alternative to physical patrolling round or taking any other illegal actions.

84 Besides, the technology of intelligent, automatic self-diagnostics that quickly detects malfunctions of these facilities contributing, inter alia, to better repairs and preparations for heating seasons, and predict faults allowing for planning of necessary works and preventing emergencies, can also be of significant interest.

85

5. Necessary Legal Mechanisms to Support the Development of Technological Sovereignty of the Electric Power Industry

86 Since the development of technological sovereignty is a prerequisite for further progressive industry development, and the current legal and regulatory framework of electric power industry entities has certain limitations for intensive technology development, the statement contained in the Doctrine of Energy Security of the Russian Federation on the need to improve legal regulation in order to achieve the technological independence of the industry is absolutely correct.

87 In this respect, it is proposed to improve the laws as follows.

88 1. Relieve tariff and investment restrictions on the development of national technologies by electric power industry entities, for example, exclude the possibility of limiting investment costs as part of tariff regulation for (amendments to the Law on the Electric Power Industry and subordinate regulations):

89 • the creation of national autonomous software that ensures the operation of the energy infrastructure and the development of blockchain, digital substations, and intelligent electricity metering systems;

90 • other technologies and digital services that ensure the quality and reliability of power supply.

91 At the same time, as part of this issue, it is advisable to pursue two targets: the short-term one, enabling emergency purchase or development of software for basic needs to prevent the risks of a breakdown of equipment and programs that are currently based on foreign operating systems beyond any regulatory price limits; the long-term one, establishing permanent exemptions for the above projects when approving tariffs and investment programs (in this case, this target can have time limits, for example, 5-10 years, to create the core, fundamental technological and digital solutions for the industry).

92 2. Provide tax incentives for technological sovereignty measures (amendments to the Tax Code of the Russian Federation).

93 Since electric power industry entities are subject to a heavy fiscal burden due to various factors, and active technological and digital development without tax features will be restrained, inter alia, by increases in tax and other deductions, it is possible to use

the experience of IT companies as an analogy: reducing the profit tax rate and insurance premiums, but for technological and digital activities of electric power companies only.

94 3. Reduce public-law control over and supervisory response to the introduction of new technologies in activities of electric power industry entities.

95 New technologies will undoubtedly change the legal relations between all electricity market players, including supplier-user interaction.

96 However, with the electric power industry being very conservative in terms of enhanced user protection, such changes may produce a negative response from the regulatory authorities, which in the current regulatory environment will also discourage professional market players from intensive technology development.

97 In this respect, it is extremely important to reduce the extent of public-law influence on electric power industry entities in situations where the implementation of new technological solutions may go beyond the formal limits of requirements for such entities' activities defined by industry-specific laws.

98 4. For entities that proved the success of digital technologies under the "regulatory sandbox" regime and intend cease applying the experimental legal regime, it is advisable to consider additional short- or medium-term regulatory easements (tax benefits, less intense regulatory measures, etc.) if these technologies are applied under normal conditions.

99

6. Conclusion

100 The above possible technological solutions and the list of areas to improve legal regulation are, of course, not exhaustive and are relatively superficial and descriptive.

101 At the same time, it seems quite fair to say that the technological development of the industry will change the state of legal relations in the wholesale and retail electricity markets for the better, will result in new types of contractual relations, development of competition, and many other positive effects.

102 Given the above, legal mechanisms timely created for the technological development of the electric power industry will facilitate not only the development of the industry itself but also the sustainability of the entire economy.

103 Besides, new technological approaches in the electric power industry will also contribute to solving the deep-rooted industry problems, such as payment discipline, cross-subsidies, and many other.

104 At the same time, when making law-making decisions, it seems necessary to understand that these technologies should be primarily developed by electric power companies, which have a full vision of all business and technological processes, without which it is just impossible to implement the most effective technological and digital projects.

105 It is for this reason that electric power companies need regulatory support in this area.

Библиография:

1. Smart Gas Meters will Cost Russians RUB 130 Billion // URL: https://www.kommersant.ru/doc/3827063; Smart Meters will be Tied to the Bill // URL: https://www.kommersant.ru/doc/5480419

2. State Price Regulation of Electricity and Capacity Markets. Study Guide / A.V. Izotova, I.G. Stepanenko, M.S. Golovko, et al. Ed.-in-chief I.V. Redkin, — Moscow : Training Center of NP Market Council ANCO, 2013. P. 65.

3. Energy Markets: Problems and Tasks of Legal Regulation : Monograph / edited by V.V. Romanova, LL.D. — Moscow : Yurist Publishing House, 2018. P. 73.

4. Topical issues of energy law. Textbook. Edited by V.V. Romanova, LL.D. Moscow : Yurist Publishing House. 2015. P. 318.

5. Romanova V.V. Energy Law Order: Current State and Tasks. Moscow : Yurist Publishing House. 2016. P. 73-80.

6. Maksimenko P.N. Legal Risks and Opportunities for Blockchain Technology Use in the Electric Power Industry. // Energy Law Forum. 2019. No. 1. P. 52 - 58.

7. Digitalization as a Premonition. New Business Practices in the Electric Power Industry. Moscow : EnergyNet Infrastructure Center. 2020. P. 273.

8. Digital Economy: Current Areas of Legal Regulation : Scientific and Practical Guide / edited by I.I. Kucherov, S.A. Sinitsyn. — Moscow : Norma: Institute of Legislation and Comparative Law, 2022. P. 66.

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Petr N. Maksimenko
Institute of Legislation and Comparative Law under the Government of the Russian Federation
Russian Federation, Moscow

Abstract

The electric power industry as a fundamental branch of the Russian economy is actively developing, inter alia, through technological and digital capacity expansion. Under the increased sanctions pressure on the Russian economy, the electric power industry, as well as other areas of the fuel and energy complex, is subject to significant risks associated with the need for technology import substitution. Taking into account the significant public and legal impact on the electric power market due to its high social and economic importance, the active introduction and development of technological and digital services in the industry is limited to some extent. Therefore, special legal regulation shall be further improved to expand the civil-law freedoms of electric power industry entities, especially in view of new technological and digital solutions. The attitudes, judgments, and statements presented in this article constitute the author's personal opinion and may not correspond to the official viewpoint of the organization that employed him or any other organization.

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Publication date: 27.12.2022

Citation link:

Maksimenko P. Legal Mechanisms for Securing Technological Sovereignty in the Electric Power Industry under the Sanctions Pressure // Energy law forum – 2022. – Issue 4 C. 39-47 [Electronic resource]. URL: https://mlcjournal.ru/S231243500023548-0-1 (circulation date: 19.05.2024). DOI: 10.18254/S231243500023549-1
