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Abstract

The content of energy resources legal framework, the requirements regarding their quality, metering, the procedure for extraction, production, supply, transportation, storage, price, tax, customs regulation relate to the fundamental problems of energy law and a key element of the energy legal order. The principles of the use of energy resources, legal regulation should ensure a balance of interests of various energy market participants. This article discusses the current state and trends in improving the key elements of gas legal framework. Particular attention is paid to the issues of gas metering and the feasibility of introducing a smart gas metering system into the legal model of the gas industry, pricing issues, approaches to regulating gas use in the context of the implementation of the climate action agenda, gas exports, and the results of judicial practice. Proposals on potential directions of comparative legal research on various elements of the content of gas legal framework are formulated.

Keywords list (en): energy law, gas law, gas legal framework, smart gas metering system, gas price regulation

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The content of energy resources legal framework, the requirements regarding their quality, metering, the procedure for extraction, production, supply, transportation, storage, price, tax, customs regulation relate to the fundamental problems of energy law and a key element of the energy legal order.

The principles and legal regulation of the use of energy resources should ensure a balance of interests of various energy market participants.

General provisions on the principles of the use of energy resources, various elements of energy resources legal framework have been studied in monographs [1] and educational publications [2]. Separate legal studies devoted to a comprehensive analysis of the current state and trends in the development of gas legal framework have not yet been conducted.

At the same time, the strategic importance of gas in the energy supply and the specific gas characteristics indicate that many elements of the gas legal framework deserve further development these days.

Russian President, Vladimir Putin, emphasizes that “gas is the most environmentally friendly among hydrocarbons and the optimal product during the transition to green energy, and if we are talking about such a source as gas for the world economy, let’s not forget that it is the most optimal, the most in-demand product for a sufficiently large, long period of transition to green energy” [3].

Alexey B. Miller, Chairman of the Management Board of Gazprom, noting the environmental friendliness of Gazprom, emphasizes that Gazprom PJSC “in terms of environmental friendliness, according to our low carbon footprint, it ranks first among all the largest oil and gas, energy companies in the world, and we really appreciate it. And I can say that we plan to continue to hold this position.” [4]

Nikolay G. Shulginov, Minister of Energy of the Russian Federation, notes that “the national green agenda cannot be without gas. This is our heritage, this is a low-carbon development strategy, which should take place with a large use of gas, including in transport.” [5]

Gazprom PJSC has a corporate system for managing greenhouse gas emissions, including methane. Data on methane emissions (from the well to the consumer) are presented in annual environmental reports, independent certification of information is performed with the involvement of an independent audit firm.[6] In order to reduce methane emissions, new technologies are being introduced in the company, and resource conservation measures are being taken. The expansion of the practice of using technologies aimed at preserving gas during repair work is becoming increasingly important for reducing methane emissions. The technologies of gas blowdown to the consumer through gas distribution stations, the bypass of natural gas from the repaired section to the existing gas pipeline, the use of gas from the treating iron of the compressor shop for their own needs have the greatest effectiveness.[7]
Alexander G. Ishkov, Deputy Head of Department, Head of Division, PJSC Gazprom, Doctor of Chemistry (D.Chem.), Professor of the Dmitry Mendeleev University of Chemical Technology of Russia, Honored Ecologist of the Russian Federation, draws attention to the fact that “natural gas has the lowest carbon footprint compared to other fossil energy resources, therefore, an increase in the share of natural gas in the country’s energy balance affects the reduction of the carbon intensity of the fuel and energy complex as a whole. The Russian FEC has one of the lowest carbon intensity indicators among the major world economies (USA, Germany, Japan, China, India, etc.). The implementation of gasification programs for Russian regions and the conversion of transport to methane ensures a reduction in greenhouse gas emissions and pollutants, which means a reduction in morbidity and mortality of the population.[8]

Within the framework of IV All-Russian Conference “Turbulence, Atmospheric Dynamics and Climate” in 2022, the Methane and Climate Change: Scientific Issues and Technological Aspects monograph was presented, prepared based on the results of cooperative effort of employees of Gazprom and the Russian Academy of Sciences.[9] The monograph notes that a significant source of methane emissions into the atmosphere are natural objects, such as swamps, the ocean, ruminants, termites. As for anthropogenic emissions of methane, more than half of them are caused by agricultural activities; i.e., rice cultivation, livestock breeding, as well as fermentation waste treatment. Methane emissions, the source of which is the global oil and gas industry, account for about 10 % of the total. Studies demonstrate the minimal methane footprint of Gazprom’s natural gas supplies. According to the estimates, in 2021, the share of methane emissions into the atmosphere from the company’s activities amounted to only 0.2 % of global emissions.[10]

Representatives of the scientific community substantiate that the use of natural gas allows reducing the carbon footprint of products. Already today, high-tech industries associated with the synthesis of valuable products (polymers, plastics, hydrogen, etc.) from natural gas are being introduced everywhere. The expansion of gas supply and gasification systems in the regions of the Russian Federation is one of the large-scale socially and environmentally significant areas of Gazprom’s efforts.[11] Comprehensive efforts continue to expand the use of natural gas in transport, which is a rational solution to the problem of reducing emissions of pollutants and greenhouse gases in the rapidly growing transport sector. Natural-gas-based motor fuel is widely used in the own transport of Gazprom subsidiaries. The large-scale use of natural gas really helps shape a future in which sustainable development goals are achieved.[12]

In view of the above circumstances and the conducted research, the question arises of considering the possibility of automatically assigning gasification projects, projects for the use of natural gas in transport as climate projects.

The content of the gas legal framework is established at the level of legislative, subordinate statutes and regulations, in international treaties.

To date, the gas legal framework has been formed and continues to be formed as a commodity, as an object of relations for shipment, transportation, storage, as an object of foreign trade transactions. To a lesser extent, the gas legal framework as an object of
exchange trading has been formed, at the same time, in view of the program for the formation of an EAEU common gas market, there are prerequisites for this.


Article 13 of the said federal law establishes general provisions on ensuring the metering of energy resources used and the use of metering devices for energy resources used when making payments for energy resources.


The definition of the term “gas supplied for public utility needs” is enshrined in the Rules of Gas Supply for Public Utility Needs of Citizens, approved by Russian Government Decree No. 549 dated July 21, 2008:

“gas supplied for public utility needs of citizens is natural gas supplied through the gas distribution network, which is the subject of the contract, or liquefied petroleum gas supplied from a tank or group bottle installation.

The definition of the term “gas” is enshrined in Annex 22 to the Treaty on the Eurasian Economic Union [13]: gas means a combustible mixture of gaseous hydrocarbons and other gases extracted and/or produced in the territory of the member States, consisting mainly of methane, transported in a compressed gaseous state through gas transmission systems.

The most important element of the content of the gas legal framework as an object of relations for extraction, supply, purchase and sale, transportation, storage is the requirements for its metering.

According to Article 544(1) of the Civil Code of the Russian Federation, energy is paid for the amount of energy actually received by the subscriber in accordance with energy metering data, unless otherwise provided by law, other regulations or an agreement of the parties.


Clause 29 of the Rules of Gas Supply in the Russian Federation approved by the Russian Government Decree No. 1901 dated November 1, 2021, also stipulates that the gas volume shall be metered in accordance with the procedure approved by the Ministry of Energy of the Russian Federation.

The procedure for metering the quantity (volume) of extracted, transported, processed, stored and consumed natural gas, petroleum (associated) gas, dry stripped gas, gas from gas condensate fields extracted and collected by gas and oil extracting companies, and gas refined by gas and oil refining companies is established in the Gas Metering Rules approved by Order of the Ministry of Energy No. 961 dated December 30, 2013 “On Approval of Gas Metering Rules”.

The Rules apply to legal entities and individuals, including individual entrepreneurs (Clause 1.4 of the Gas Metering Rules).

According to Clause 1.2 of the Gas Metering Rules, when gas metering is performed, an orderly collection, registration and generalization of information on quantitative and/or quantitative and qualitative indicators in kind, on availability and movement is performed by documenting all operations related to extraction, transportation, processing, storage and consumption.

Measuring instruments and/or technical systems and devices with measuring functions must be protected from unauthorized interference.

The subject of litigation is often disagreements due to the malfunction or absence of gas metering devices. For comparison, an analysis of judicial acts in case No. A43-15727/2021[14] and in case No. A43-1295/2021[15] will be useful.

Paying attention to such a significant element of the gas legal framework as its metering, I would like to dwell a little more on the smart gas metering system. It should be noted that the laws in electric power industry provide for the introduction of a smart electricity metering system. As noted in the State Duma Committee on Energy: “this was the beginning of revolutionary changes in metering energy consumption in the country. The next necessary step is the creation of a smart gas metering system”. [16]


According to the information posted on the website of the Ministry of Energy of the Russian Federation back in 2020, “the installation of smart gas metering devices is currently one of the most important trends”.[17]

Also in 2020, the Ministry of Energy of the Russian Federation, the Federal Antimonopoly Service, as well as Rostechnadzor supported Gazprom Mezhregiogaz’s proposals to introduce smart gas metering systems (SGMS) and a project financing model. Gazprom Mezhregiogaz has developed a probable financial model for the implementation of this system. The key criterion for its development was the minimization of rate consequences for the population.[18]

An example of the introduction of smart gas metering devices is presented on the website of Gazprom Mezhregiogaz Volgograd LLC.[19] Gazprom Mezhregiogaz
Volgograd specialists identify a number of main advantages of a smart gas metering device [20]:

- The meter automatically transmits readings, that is, the subscriber does not need to waste time collecting readings and transmitting them to the supplier;

- Ensures that there will be no human error. There is no need to additionally transmit the correct readings or call an employee of the gas supply company to take readings and then wait for recalculation;

- Makes charging for the consumed gas absolutely transparent, for the volume of gas actually consumed. The amount in the bill will become clear, predictable and controlled.

- The consumer insures herself/himself against delays in the transmission of readings. Situations of accruals “At a Standard Rates” are excluded due to the lack of readings, which helps prevent the occurrence of gas arrears. With such a metering device, the consumer does not have to constantly “keep in mind” the timing of their submission; the meter will do everything by itself. The gas bills will contain the most accurate amounts.

In addition, the meters have the function of creating and storing an archive of readings. The device stores the entire history of gas consumption from the moment of installation. You can always see the volume, track how much gas was spent not only per month, but even per day and hour, and analyze your consumption. The meter saves data even in case of a breakdown.

If there was some kind of failure, for example, the gas supply was stopped or there was too much gas consumption, or the device itself failed, the meter will record it. The gas supplier and the consumer will be able to reliably determine the date of failure and take appropriate measures.

Smart meters can be equipped with an automatic valve and a gas concentration sensor. In case of an accident and a gas leak, the smart meter will automatically stop the gas supply and prevent possible consequences. Owners of a smart meter have the opportunity to remotely monitor the operation of gas equipment using a phone.[21]

An essential element of the content of the gas legal framework is the quality requirements.


The following definitions are fixed in the General Provisions of this standard:

natural gas: a gaseous mixture extracted from all types of fields (deposits) of hydrocarbon raw materials, consisting mainly of methane and containing heavier hydrocarbons, nitrogen, carbon dioxide, water vapor, sulfur-containing compounds, inert gases, as well as trace amounts of other components;

natural gas prepared for transportation by main gas pipelines (natural gas, prepared for transportation by main gas pipelines): natural gas that has undergone
technological operations to ensure its safe transportation through main gas pipelines;

natural gas for industrial applications: natural gas used as raw materials and/or fuel in industrial facilities. This type of natural gas includes natural gas used as fuel in boiler houses equipped with gas alarm systems and emergency shut-off devices located in industrial zones outside the boundaries of public utility facilities and residential areas;

natural gas for domestic applications: natural gas used as fuel at public utility facilities;

compressed natural gas, CNG: natural gas that has been specially prepared for use as fuel for IC engines. CNG is obtained from natural gas transported through trunk or distribution pipelines by drying and compression, as well as from regasified LNG. The English-language synonym of the Russian term “компримированный природный газ; КПГ” accepted in world practice is “compressed natural gas, CNG”;

liquefied natural gas, LNG: natural gas converted after special preparation into a liquid state for the purpose of its transportation, storage or use. The English-language synonym of the Russian term “сжиженный природный газ; СПГ” accepted in world practice is “liquefied natural gas, LNG”;

According to Clause 3.1.8 of this standard, the gas quality is understood as the compliance of the values of the physical and chemical parameters of natural gas with the established requirements and regulations.

The standard also contains definitions of measurement method, sampling method, sampling device, natural gas analysis, etc.

It should also be noted that in accordance with the Treaty on the Eurasian Economic Union (Annex 22), the EAEU Common Gas Market (CGM) Concept, and the EAEU Common Gas Market (CGM) Program the harmonization of regulations and standards for gas is provided.

On January 1, 2022, the EAEU Technical Regulation “On the Safety of Natural Fuel Gas Prepared for Transportation and/or Use” (EAEU TR 046/2018) came into force [22].

On January 1, 2018, the EAEU Technical Regulation “Requirements for Liquefied Petroleum Gases for their Use as Fuel” (EAEU TR 036/2016) came into force [23].

Considering the content of the gas legal framework as a commodity, it is also necessary to take into account the established pricing requirements.

The principles of the state pricing policy with regard to gas supply are enshrined in the Federal Law “On Gas Supply in the Russian Federation”.

The pricing principles for gas extracted in the territory of the Russian Federation and service tariffs for its transportation through gas transmission and gas distribution networks are established by the Government of the Russian Federation.

The Russian Government Decree No. 1021 dated December 29, 2000, approved the Basic Framework for State Gas Pricing Regulation, Service Tariffs for Gas
Transportation, Payments for Technological Connection of Gas-Using Equipment to Gas Distribution Networks in the Russian Federation and Payments for Technological Connection to Main Gas Pipelines Under Construction and Reconstructed Gas Pipelines Designed to Transport Gas from Main Gas Pipelines to Capital Construction Facilities, and Gas Pipelines Intended to Transport Gas from Natural Gas Fields to the Main Gas Pipeline.

State control (supervision) over the establishment and/or application of state-regulated prices (tariffs) in gas supply is implemented by:

Federal state control (supervision) over the establishment and/or application of state-regulated prices (tariffs) in gas supply, by the federal executive body authorized by the Russian Government in accordance with the regulations approved by the Russian Government;

Regional state control (supervision) over the establishment and/or application of state-regulated prices (tariffs) in gas supply, by authorized executive authorities of a constituent entity of the Russian Federation in accordance with the provisions approved by the supreme executive authorities of the constituent entity of the Russian Federation.

The subject of discussion in the State Duma Committee on Energy in January 2023 was the transition to an economic pricing model for industrial consumers. According to the FAS Russia, gas pricing should be based on the price formed during exchange trading [24].

Let’s take a closer look at the specifics of the gas legal framework as an object of exchange trading.

Characteristics of the exchange-based gas market, documents of the Natural Gas section are posted on the SPIMEX JSC website [25]

According to the information posted on the SPIMEX JSC website, an important step in the development of the natural gas market in Russia was the launch of this commodity trading on SPIMEX in October 2014. Among the immediate objectives of the development of this exchange segment is the development of a commercial balancing system in relation to gas oversupply and undersupply, including through the introduction of a central counterparty, the launch of trading in “long” contracts with gas supply for each month of the year, ensuring the implementation of the National Competition Development Plan in the Russian Federation for 2022–2025 [26] and the Action Plan (Roadmap) for the Development of Organized. (Exchange) Trading in Certain Commodity Markets for 2023–2025 [27], increasing the liquidity of trading by launching new instruments, expanding the list of balancing points and attracting new sellers and buyers thereto, competitive pricing, transparent gas market pricing indicators, increasing the transparency of the industry. Exchange contracts can be entered into at balancing points (BP): Nadym Compressor Station, 622.5km (Lokosovo), Parabel Compressor Station. In October 2015, a day ahead trading in natural gas was launched. In November 2016, trading in natural gas was launched with delivery on a non-working day. In December 2020, a scheme was implemented that allows buyers to independently sell gas purchased earlier, but not used completely, in the course of regular trading at the market price. In May 2022, the Balancing Buyer represented by PJSC Gazprom entered
the exchange trading. Since the launch of trading in the Natural Gas Section, over 101bn cubic meters of natural gas have been sold on the Exchange in the amount of RUB327.1bn. Consumers from 52 constituent entities of the Russian Federation participate in exchange trading.[28]

We will also focus on the gas legal framework as an object of foreign trade transactions, which is established, among other things, in the following statutes and regulations: Federal Law No. 117-FZ dated July 18, 2006 (as amended on April 24, 2020) “On Gas Export”, Russian President Executive Order No. 172 dated March 31, 2022, (as amended on December 30, 2022) “On the Special Procedure for the Fulfillment of Obligations by Foreign Buyers to Russian Natural Gas Suppliers”, etc.

The Federal Law “On Gas Exports” defines the basis for state regulation of gas exports based on the need to protect the economic interests of the Russian Federation, fulfill international obligations on gas exports, ensure the receipt of federal budget revenues and maintain the fuel and energy balance of the Russian Federation. The Federal Law “On Gas Export” applies to gas extracted from all types of hydrocarbon fields and transported in a gaseous or liquefied state.

Article 3(1) of the Federal Law “On Gas Export” stipulates that the exclusive right to export natural gas in a gaseous state is granted to the owner entity of the Unified Gas Supply System (UGSS) or its subsidiary, in whose authorized capital the participation interest of the UGSS owner entity is one hundred percent.

Article 3(1.1) of the Federal Law “On Gas Export” specifies the subject composition of exporters who have been granted the exclusive right to export natural gas in a liquefied state.

The specifics of the gas legal framework are also established in special laws adopted in connection with the introduction of restrictive measures against citizens of the Russian Federation and Russian legal entities, in order to protect the national interests of the Russian Federation and in accordance with federal laws dated December 30, 2006, No. 281-FZ “On Special Economic Measures and Coercive Measures”, dated December 28, 2010, No. 390-FZ “On Security” and dated June 4, 2018, No. 127-FZ “On Measures of Influence (Counteraction) to Unfriendly Actions of the United States of America and Other Foreign States” As an example, Russian President Executive Order No. 172 dated March 31, 2022, “On the Special Procedure for the Fulfillment of Obligations to Russian Suppliers of Natural Gas by Foreign Buyers”, whereby it is provided that payment under foreign trade contracts for the supply of natural gas is made in Russian rubles.

Thus, the key objectives of the gas legal framework at present are the proper legal regulation of the use of gas as a strategic resource within the framework of climate projects, the introduction of a smart gas metering system legal model into gas laws, the development of the legal support required for the transition to an economic pricing model for industrial gas consumers.

In this regard, scientific legal studies of the gas legal framework, including sources of legal regulation at the national and international levels, the study of the gas
legal framework as an object of relations for production, supply, transportation, storage, as an object of foreign trade transactions, are becoming particularly relevant.

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Аннотация

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