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DEVELOPMENT ASSOCIATION

INFORMATION OVERVIEW

RUSSIA'S CLIMATE PACKAGE

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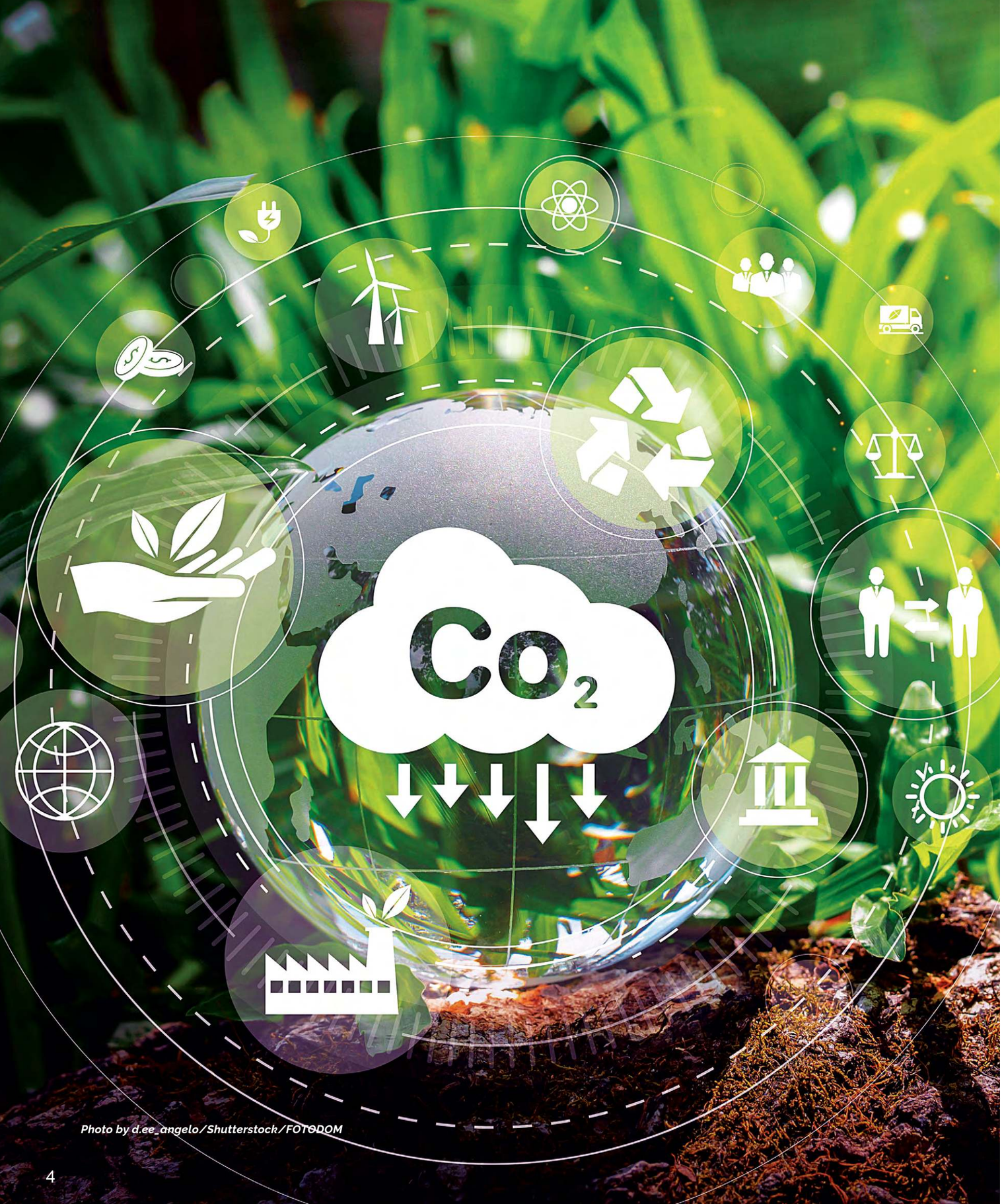

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INTRODUCTION

According to the IEA[1], global energy-related CO_2 emissions increased by 321 million tons (+0.9% year-on-year) in 2022, reaching a new record of 36.8 billion tons. Carbon dioxide emissions from energy combustion increased by 423 million tons (+1.3%), while emissions from industrial processes decreased by 102 million tons[2]. The decrease in global industrial CO_2 emissions is primarily due to a reduction in cement and steel production in China, which offset the increase in power sector emissions. However, China's total emissions were relatively flat between 2021 and 2022, declining by 0.2% or 23 million tons in 2022 to 12.1 billion tons.

Despite the global energy crisis, the withdrawal of nuclear generation in Germany, and hydro shortfalls due to drought, the European Union recorded a reduction in CO_2 emissions by 70 million tons (-2.5%) in 2022. At the same time, US emissions increased by 36 million tons (+0.8%) to 4.7 billion tons. The highest growth of CO_2 emissions in 2022 can be noted in developing countries of Asia (excluding China) — by 206 million tons of CO_2 (+4.2%).

The problem of climate change has become increasingly acute in the last few years and may further cause severe damage to the world economy. To reduce the impact of climate change, the governments of 189 countries have made commitments to reduce greenhouse gas (hereinafter referred to as GHG) emissions as part of the implementation of the Paris Agreement adopted on December 12, 2015, by the 21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change[3]. The Russian Federation joined the Paris Agreement in 2016, thus supporting international efforts to slow climate change and foster environmental protection and rational management.

The Government of the Russian Federation is facing an ambitious task to develop specific climate policy measures that will ensure, on the one hand, sustainable economic growth and, on the other hand, carbon neutrality of the country by 2060[4]. To date, Russia has been actively working to reduce CO_2 emissions into the atmosphere, and even though the country is one of the largest hydrocarbon producers in the world, it has made significant progress in the past couple of years in norm-setting activities in the field of carbon regulation and climate projects implementation.

1. IEA (2023). CO2 Emissions in 2022.
2. Meanwhile, introducing additional capacity for low-carbon technologies has helped prevent 550 million tons of CO_2 emissions.
3. UN (2015). Paris agreement.
4. According to the Strategy for Socio-Economic Development of Russia with Low Greenhouse Gas Emissions until 2050, the implementation of the target (intensive) scenario will allow the Russian Federation to achieve a balance between anthropogenic greenhouse gas emissions and their absorption no later than 2060.

CLIMATE PROJECTS AND CARBON REGULATION IN THE RUSSIAN FEDERATION



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A vital role in implementing climate policy objectives was undoubtedly played by the Federal Law No. 296-FZ dated 02.07.2021 "On Limiting Greenhouse Gas Emissions"[5]. The Federal Law introduces a mechanism to implement voluntary climate projects and outlines the principles of the functioning for a national market of so-called carbon units. It is a type of asset that results from the voluntary implementation of the climate projects.

In March 2022, the Government decided to designate JSC "Kontur"[6], supported by JSC "Gazprombank" and PJSC "Moscow Exchange", as the operator of the carbon unit registry[7]. After that, in March-May 2022, several regulatory legal acts have been adopted regulating the rules for the creation and maintenance of the carbon units registry by the operator[8], as well as the rules determining the fee for the services provision by the operator to conduct operations in the registry[9], effective from September 1, 2022. Then, in November 2022, the above rules were amended to introduce a mechanism for entering the carbon units into the registry and the procedure for the turnover of these units within the framework of the experiment to limit greenhouse gas emissions on the territory of the Sakhalin Oblast from March 1, 2023[10]. In addition, the amendments exclude the cost limit of a carbon unit equal to 2,000 RUB from the text of the Russian Government Decree No. 518 dated 30.03.2022, so currently, the cost of a carbon unit is not established by the national legislation[11].

It is important to note that for releasing carbon units into market circulation and conducting transactions by participants in the carbon unit market the climate projects must undergo validation and verification. The subject of verification is the evaluation and confirmation of the project's compliance with the established criteria for ensuring the reduction (avoidance) of greenhouse gas emissions or the increase in their absorption as a result of implementing the project. This information is contained in the climate project implementation report. The procedure for verification of the results of the climate project implementation to issue carbon units into circulation was approved in 2022 by the Government Decree[12]. The procedure for classifying implemented projects as climate projects (project validation) and for submitting a climate project implementation report, in turn, are set out in the Order of the Ministry of Economic Development of Russia[13]. Thus, projects are classified as climate projects in case of project's compliance with the requirements of Russian legislation and with the documents of the national standardization system in the field of limiting GHG emissions etc.

As of July 2023, six climate projects have been registered in the carbon unit registry and validated according to the Russian legislation[14]. The first climate project was a solar power plant on Iturup Island, Sakhalin Oblast, with an installed capacity of 250 kW, for which the first 96 carbon units were registered in September 2022. On September 26, 2022, the first transactions with carbon units issued under this climate project were conducted at the National Commodity Exchange.

In March 2023, the national carbon units registry operator, JSC "Kontur", started to develop a methodological basis for climate projects of the Russian carbon units registry, after which the Institute of Global Climate and Ecology named after Academician Y.A. Izrael developed two sets of methodologies, presented to date for public discussion on the website of the registry.



Arshanskaya SPP, Republic of Kalmykia

5. Federal Law No. 296-FZ dated 02.07.2021 "On Limiting Greenhouse Gas Emissions".
6. Resolution of the Government of the Russian Federation No. 367-r dated 01.03.2022 "On Determination of the Authorized Legal Entity Performing the Functions of the Carbon Units Registry Operator".
7. The carbon units registry is an information system that registers climate projects and keeps records of carbon units and operations with them. From September 1, 2022, the creation and maintenance of the registry in the Russian Federation has been carried out by the operator at its own expense and resources.
8. Decree of the Government of the Russian Federation No. 790 dated 30.04.2022 "On Approval of the Rules for the Creation and Maintenance of the Carbon Units Registry, as well as Operations with Carbon Units in the Carbon Units Registry".
9. Decree of the Government of the Russian Federation No. 518 dated 30.03.2022 "On the Procedure for Determining the Fee for the Services Provision by the Operator to Conduct Operations in the Carbon Units Registry".
10. Decree of the Government of the Russian Federation No. 2180 dated 30.11.2022 "On Amendments to Certain Acts of the Government of the Russian Federation".
11. The results of the first trades on the national carbon market (the weighted average selling price was 1,000 RUB per carbon unit) can serve as a benchmark for the cost at the moment.
12. Decree of the Government of the Russian Federation No. 455 dated 24.03.2022 "On Approval of the Rules for Verification of the Results of Climate Project Implementation".
13. Order of the Ministry of Economic Development of Russia No. 248 dated 11.05.2022 "On Approval of the Criteria and Procedure for Attributing Projects Implemented by Legal Entities, Individual Entrepreneurs or Individuals to Climate Projects, Form and Procedure for Submitting a Climate Project Implementation Report" (Registered with the Ministry of Justice of Russia on 30.05.2022 No. 68642).
14. Carbon Unit Registry.

GREENHOUSE GAS EMISSIONS REPORTING



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According to the Federal Law No. 296-FZ, the federal greenhouse gas emissions' accounting system was established, providing the introduction of mandatory annual reporting for large emitters considered regulated entities. Carbon reporting will help to understand how Russia is moving towards carbon neutrality, which is planned to be achieved in 2060, and, if necessary, to take additional state regulatory measures. According to the current law on limiting greenhouse gas emissions, large enterprises submit mandatory GHG reports containing information of the mass of their emissions from 2023 (the first reporting of greenhouse gas emissions generated in 2022 must be submitted by July 1, 2023)[15]. The national standard GOST R ISO 14064-1-2021[16], which goes into effect on January 1, 2022, identifies six categories of greenhouse gas inventory:

- direct GHG emissions and removals;
- indirect GHG emissions from imported energy;
- indirect GHG emissions from transportation;
- indirect GHG emissions from products used by the organization;
- indirect GHG emissions associated with the use of products manufactured by the organization;
- indirect GHG emissions from other sources.

In March 2022, the Russian Government Decree established criteria for classifying organizations as regulated[17]. The information provided in the report will be stored in the GHG emissions registry,



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which became operational on June 1, 2023, and involves regular achievement assessment[18]. In turn, the structure of the GHG emissions registry and requirements for the processing and the data format used in the registry were approved by Order of the Ministry of Economic Development[19], registered with the Russian Ministry of Justice in February 2023.

In case of failure to submit or untimely submission of the report, as well as submission of knowingly unreliable

15. Companies emitting more than 150 thousand tons of CO_2-eq per year report their emissions from 2023. For those emitting more than 50 thousand tons of CO_2-eq — reporting comes from 2025. The report is completed and signed in the Greenhouse Gas Emissions Registry, which operates within the current GIS "Energy Efficiency". Other organizations can submit carbon reporting voluntarily.
16. GOST R ISO 14064-1-2021. National Standard of the Russian Federation "Greenhouse gases. Part 1. Requirements and Guidance for Quantifying and Reporting Greenhouse Gas Emissions and Removals at the Organization Level".
17. Decree of the Government of the Russian Federation No. 355 dated 14.03.2022 "On Criteria for Classifying Legal Entities and Individual Entrepreneurs as Regulated Organizations".
18. Decree of the Government of the Russian Federation No. 707 dated 20.04.2022 "On Approval of the Rules for Submission and Verification of Greenhouse Gas Emissions Reports, the Form of the Greenhouse Gas Emissions Reports, the Rules for Creation and Maintenance of the Greenhouse Gas Emissions Registry and on Amendments to Certain Acts of the Government of the Russian Federation".
19. Order of the Ministry of Economic Development of Russia No. 637 dated 21.11.2022 "On Approval of the Structure of the Greenhouse Gas Emissions Registry, Requirements for Algorithms of Processing and Format of Information Used in the Greenhouse Gas Emissions Register" (Registered with the Ministry of Justice of Russia on 02.02.2023 No. 72223).

information by regulated entities, punishment in the form of a warning or imposition of an administrative fine in the amount of 10 to 500 thousand RUB is provided from July 1, 2025, which is established by the Federal Law, adopted in June 2023[20].

In May 2022, the Order of the Ministry of Natural Resources and Environment of the Russian Federation updated the methodologies for quantitative determination of GHG emissions and removals applicable from March 1, 2023. It also invalidated the Order of the Ministry of Natural Resources and Environment of the Russian Federation No. 300 dated 30.06.2015[21].

Changes in the legislation of the Russian Federation, adopted in pursuance of Federal Law No. 296-FZ in the course of 2022, are presented in **Fig. 1**.



SPP n the village of Mugur-Aksy, Republic of Tyva

In 2022, the Association "NP Market Council" and JSC "TSA" developed the Concept for calculating greenhouse gas emission factors of the Russian energy system, which received a validation opinion: based on the results of expert assessment by independent international auditors, a certificate of validation was issued. As part of the validation procedure, a detailed check was carried out to verify the Concept's compliance with the requirements of the main international standards in the field of accounting and reporting on greenhouse gas emissions: Greenhouse Gas Protocol: Scope 2 Guidance for accounting of indirect energy emissions, ISO 14064-1:2018 and the relevant technical note of the international Carbon Disclosure Project (CDP). It also confirmed the relevance of the methodology in the context of world best practices: the European Union Emissions Trading System (EU ETS), Asia-Pacific, BRICS, and IEA methodologies. In April 2023, following the provisions of the Concept, based on actual data on the functioning of electric power industry facilities, the calculation was implemented and the actual values of GHG emission factors of the Russian energy system for 2022 were published on the TSA website[22]. To date, the Association "NP Market Council" and the Ministry of Natural Resources and Environment of Russia have organized joint work to amend the Methodological Guidelines for Quantitative Determination of Indirect Energy Emissions of Greenhouse Gases, approved by the order of the Ministry of Natural Resources and Environment of Russia[23], to harmonize the national methodology with the provisions of the Concept and, if necessary, in other regulatory legal acts.

20. Federal Law No. 218-FZ dated 13.06.2023 "On Amendments to the Code of the Russian Federation on Administrative Offenses".
21. Order of the Ministry of Natural Resources and Environment of Russia No. 371 dated 27.05.2022 "On Approval of Methods for Quantitative Determination of Greenhouse Gas Emissions and Greenhouse Gas Absorptions" (Registered with the Ministry of Justice of Russia on 29.07.2022 No. 69451).
22. TSA. GHG emission factor of the Russian energy system.
23. Order of the Ministry of Natural Resources and Environment of Russia No. 330 dated 29.06.2017 "On Approval of Methodological Guidelines for Quantitative Determination of the Volume of Indirect Energy Emissions of Greenhouse Gases" (Registered with the Ministry of Justice of Russia on 20.10.2017 No. 48627).

Fig. 1. Regulatory legal acts adopted to implement the norms of Federal Law No. 296-FZ in 2022

Federal Law No. 296-FZ dated 02.07.2021 "On Limiting Greenhouse Gas Emissions

Regulations on the carbon units registry

in accordance with the following provisions of No. 296-FZ:

- Para. 13 Art. 2
  - Resolution of the Government of the Russian Federation No. 367-r dated 01.03.2022 **"On Determination of the Authorized Legal Entity, Performing the Functions of the Carbon Units Registry Operator"**
- Part 5 Art. 10
  - Decree of the Government of the Russian Federation No. 518 dated 30.03.2022 **"On the Procedure for Determining the Fee for the Services Provision by the Operator to Conduct Operations in the Carbon Units Registry"** (together with "Rules for Determining the Fee for the Services Provision by the Operator to Conduct Operations in the Carbon Units Registry"), (ed. Government Decree No. 2180 dated 30.11.2022)
- Part 1 Art. 10 — Validity period: 01.09.2022–01.09.2028
  - Decree of the Government of the Russian Federation No. 790 dated 30.04.2022 **"On Approval of the Rules for the Creation and Maintenance of the Carbon Units Registry, as well as Operations with Carbon Units in the Carbon Units Registry"** (ed. Government Decree No. 2180 dated 30.11.2022)
- Part 5 Art. 10 — Effective date: 01.09.2022
  - Decree of the Government of the Russian Federation No. 905 dated 20.05.2022 **"On Approval of the Standard Contract Form for Provision by the Services Operator for Carrying out Operations in the Carbon Units Registry"** (ed. Government Decree No. 2180 dated 30.11.2022)

Regulations for the registration of climate projects

in accordance with the following provisions of No. 296-FZ:

- Part 5 Art. 9 — Validity period: 01.09.2022–31.08.2028
  - Decree of the Government of the Russian Federation No. 455 dated 24.03.2022 **"On Approval of the Rules for Verification of the Results of Climate Project Implementation"**
- Part 2 and 4 Art. 9 — Validity period: 01.09.2022–01.09.2028
  - Order of the Ministry of Economic Development of Russia No. 248 dated 11.05.2022 **"On Approval of the Criteria and Procedure for Attributing Projects Implemented by Legal Entities, Individual Entrepreneurs or Individuals to Climate Projects, Form, and Procedure for Submitting a Climate Project Implementation Report"** (Registered with the Ministry of Justice of Russia on 30.05.2022 No. 68642)

Regulations on greenhouse gas emissions accounting

in accordance with the following provisions of No. 296-FZ:

- Part 1 Art. 7 — Validity period: 01.09.2022–01.01.2025
  - Decree of the Government of the Russian Federation No. 355 dated 14.03.2022 **"On Criteria for Classifying Legal Entities and Individual Entrepreneurs as Regulated Organizations"**
- Para. 1 and 2 Part 1 Art. 5, Part 2 Art. 7 and 8 — Validity period: until 01.09.2028
  - Decree of the Government of the Russian Federation No. 707 dated 20.04.2022 **"On Approval of the Rules for Submission and Verification of Greenhouse Gas Emissions Reports, the Form of the Greenhouse Gas Emissions Report, the Rules for Creation and Maintenance of the Greenhouse Gas Emissions Registry and on Amendments to Certain Acts of the Government of the Russian Federation"** (as amended by Government Decree No. 1924 dated 29.10.2022).

Source: RREDA

REGIONAL EXPERIMENTS ON GREENHOUSE GAS EMISSIONS QUOTA (SAKHALIN OBLAST)



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On March 6, 2022, Federal Law No. 34-FZ "On Conducting an Experiment to Limit Greenhouse Gas Emissions in Certain Subjects of the Russian Federation" was adopted[24]. The objectives of the experiment, approved by the federal law, include the stimulation of low-carbon technologies integration to reduce greenhouse gas emissions and increase their absorption, the formation of an independent verification system, and the creation of a system for circulation of carbon units and quota fulfillment units. The document defines accounting methods and tools for greenhouse gas emissions regulation and absorption, which will be used within the framework of the experiment **(Fig. 2)**.

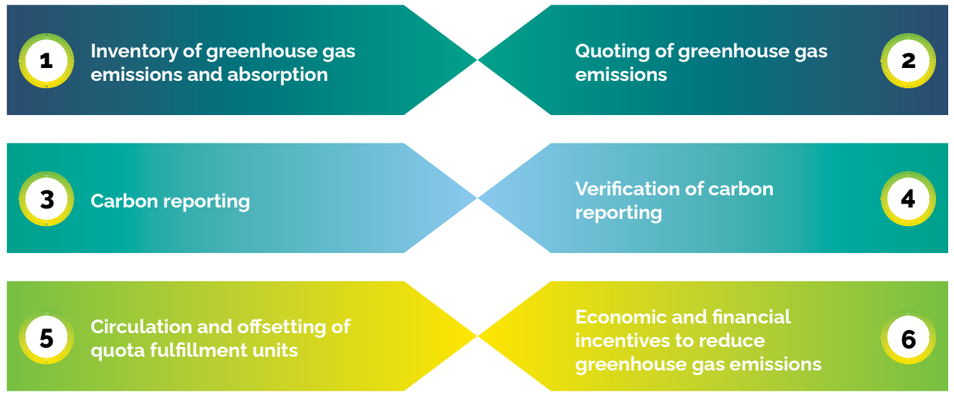
The Sakhalin Oblast was regarded as the first Russian testing region for limiting greenhouse gas emissions and increasing their absorption. The experiment on the region's territory started on September 1, 2022, and will last until December 1, 2028, with the aim to achieve carbon neutrality by December 31, 2025.

Renewable energy generation facilities have already been installed in the region. Other main activities within the experiment are: gas infrastructure expansion, coal phase-out, transport electrification and use of eco-fuels, energy efficiency and energy saving measures, forest and agriculture carbon projects, as well as sustainable solid municipal waste management.

In addition to establishing a carbon balance of greenhouse gas emissions and absorptions, the Sakhalin Oblast is also testing a specified greenhouse gas cap (quota) mechanism. Emission quotas are set for each regulated entity in the Sakhalin Oblast emitting at least 20 thousand tons of CO_2-eq per year[25]. A fee is charged for exceeding the quota, and if the quota is not exhausted. In the case the quota is not exceeded, the regulated entity can issue quota fulfillment units in the amount corresponding to the difference between the established quota and the actual mass of greenhouse gas emissions to sell them subsequently.

In August 2022, the Russian Government approved determination and charging methods for fees in case of exceeding

Fig. 2. Accounting methods and instruments for regulating greenhouse gas emissions and absorption, according to Federal Law No. 34-FZ



Source: Federal Law No. 34-FZ dated 06.03.2022

24. Federal Law No. 34-FZ dated 06.03.2022 "On Conducting an Experiment to Limit Greenhouse Gas Emissions in Certain Subjects of the Russian Federation".
25. Order of the Ministry of Economic Development of Russia No. 247 dated 06.05.2022 "On Approval of the Procedure for Classifying Legal Entities and Individual Entrepreneurs as Regional Regulated Organizations in the Framework of the Experiment to Limit Greenhouse Gas Emissions in Certain Subjects of the Russian Federation" (Registered with the Ministry of Justice of Russia on 27.05.2022 No. 68621).

GHG emission quotas within the framework of the Sakhalin experiment[26]. The fee rate for exceeding GHG emission quotas for regulated entities is set at 1,000 RUB per 1 ton of CO_2-eq, effective from March 1, 2023[27]. After that, the Order of the Ministry of Economic Development approved the methodology for determining projected GHG emission quotas within the framework of the experiment to reduce such emissions in the territory of the Sakhalin Oblast[28].



Paz cascade of HPP, Murmansk region

Further on, the reporting procedure for submitting the annual mandatory carbon reports by regional regulated entities were established by the Government in October 2022[29]. The rules came into force on March 1, 2023 and are valid for six years. According to them, the regional regulated entities annually submit carbon reports to the greenhouse gas emissions registry by July 1 of the year following the reporting year. Thus, the first carbon reports will be submitted by Sakhalin Oblast companies in 2023, while quotas are set for the period from 2024.

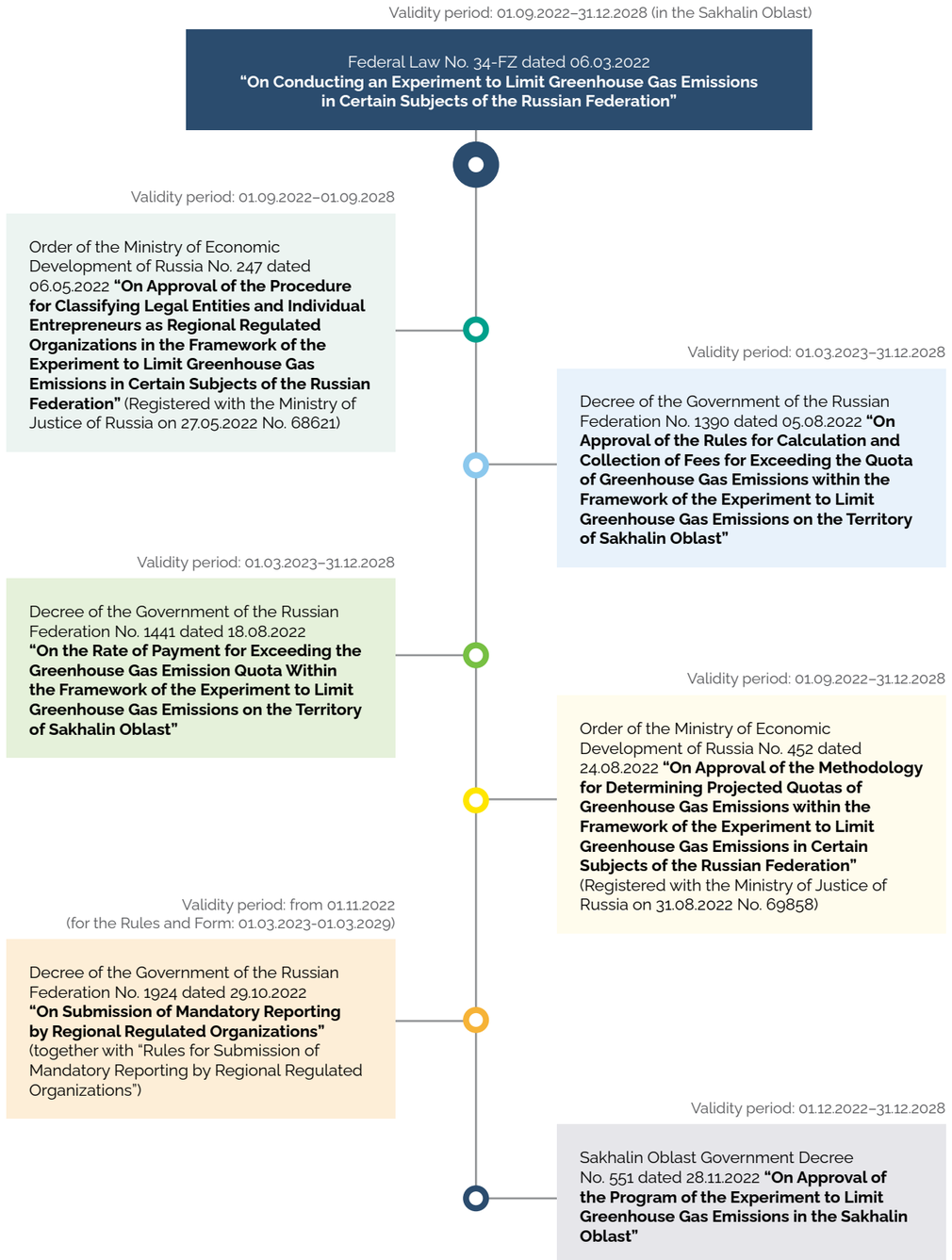
The mechanism of handling the quota fulfillment units in the carbon units registry within the framework of the experiment on greenhouse gas emissions reduction in the Sakhalin Oblast was also adopted by the decision of the Government of the Russian Federation in November 2022 and has been effective from March 1, 2023[30].

In the same month, according to Federal Law No. 34-FZ, the Sakhalin Oblast Government approved a detailed program for conducting an experiment to limit greenhouse gas emissions[31]. The program is interdepartmental in nature and is aimed at sustainable reduction of greenhouse gas emissions and increase in their absorption through implementation of a set of measures in critical areas.

The chronology of regulatory changes regarding the implementation of the Sakhalin experiment is presented in **Fig. 3**.

26. Decree of the Government of the Russian Federation No. 1390 dated 05.08.2022 "On Approval of the Rules for Calculation and Collection of Fees for Exceeding the Quota of Greenhouse Gas Emissions within the Framework of the Experiment to Limit Greenhouse Gas Emissions on the Territory of Sakhalin Oblast".
27. Decree of the Government of the Russian Federation No. 1441 dated 18.08.2022 "On the Rate of Payment for Exceeding the Greenhouse Gas Emission Quota within the Framework of the Experiment to Limit Greenhouse Gas Emissions on the Territory of Sakhalin Oblast".
28. Order of the Ministry of Economic Development of Russia No. 452 dated 24.08.2022 "On Approval of the Methodology for Determining Projected Quotas of Greenhouse Gas Emissions within the Framework of the Experiment to Limit Greenhouse Gas Emissions in Certain Subjects of the Russian Federation" (Registered with the Ministry of Justice of Russia on 31.08.2022 No. 69858).
29. Decree of the Government of the Russian Federation No. 1924 dated 29.10.2022 "On Submission of Mandatory Reporting by Regional Regulated Organizations" (together with "Rules for Submission of Mandatory Reporting by Regional Regulated Organizations").
30. Decree of the Government of the Russian Federation No. 2180 dated 30.11.2022 "On Amendments to Certain Acts of the Government of the Russian Federation".
31. Sakhalin Oblast Government Decree No. 551 dated 28.11.2022 "On Approval of the Program of the Experiment to Limit Greenhouse Gas Emissions in the Sakhalin Oblast".

Fig. 3. Regulatory acts adopted in 2022 to implement the Sakhalin experiment



Source: RREDA

CHANGES IN RUSSIA'S CLIMATE CHANGE ADAPTATION POLICY



Photo by NicoElNino/Shutterstock/FOTODOM

Russian climate policy pays equal attention both to reducing anthropogenic impacts and to climate change adaptation[32] to prevent its negative impact on economic sectors and the population's quality of life. From 2019 to 2022, a whole set of bylaws were issued, establishing the basic requirements for climate change adaptation. The National Action Plan on Adaptation to Climate Change plays an essential role in this context, which provides for the development and approval of sectoral and regional adaptation plans. The composition and procedure for developing these plans are determined by the Order of the Ministry of Economic Development of the Russian Federation[33].

In continuation of the National Action Plan for the first stage of climate change adaptation until 2022, approved by the resolution of the Government of the Russian Federation in 2019[34] and within the framework of which the national adaptation system began to be formed, in 2023 a plan for the second stage of climate change adaptation was adopted for the period until 2025[35]. This plan contains 17 measures to ensure the necessary adaptation, grouped into three blocks: federal, sectoral, and regional. The document envisages the creation and implementation of new technological solutions aimed at climate research, the formation of a list of best Russian and international practices for adapting sectors of the economy to climate change, and annual monitoring and evaluation of the adaptation effectiveness.

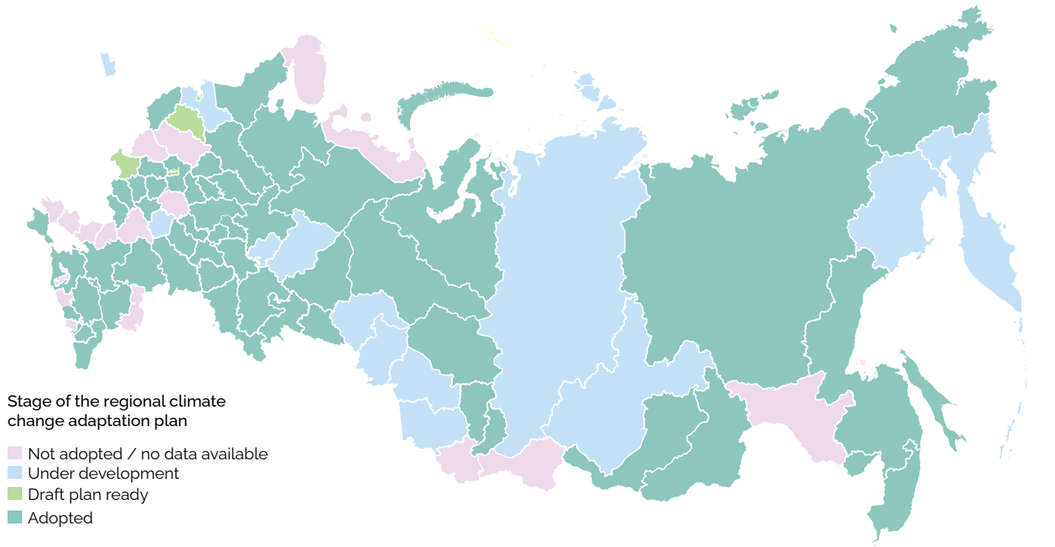
At the sectoral level, all ten adaptation plans have been approved in different areas by April 2022 **(Table 1)**. The new National Action Plan for the second adaptation stage includes plans for monitoring the implementation of measures envisaged by sectoral adaptation plans, as well as effectiveness assessment[36].

Table 1. List of sectoral climate change adaptation plans

No.	Adopted departmental act
1	Order of the Ministry of Transport of Russia No. 69 dated 02.03.2022 "On Approval of the Climate Change Adaptation Plan for **Transport**".
2	Order of the Ministry of Energy of Russia No. 280 dated 31.03.2022 "On Approval of the Climate Change Adaptation Plan for the **Fuel and Energy Sector** of the Russian Federation".
3	Order of the Ministry of Construction of Russia No. 754/pr dated 15.10.2021 "On Approval of the Climate Change Adaptation Plan in the Spheres of **Construction, Heat Supply, Water Supply and Water Disposal** of the Russian Federation".
4	Order of the Ministry of Agriculture of Russia No. 716-r dated 30.12.2021 "On Approval of the Sectoral Plan of Climate Change Adaptation in the Field of **Agro-industrial Complex, Fisheries** for the Period up to 2022".
5	Order of the Ministry of Natural Resources and Environment of Russia No. 38-r dated 30.09.2021 "On Approval of the Climate Change Adaptation Plan for **Nature Management**".
6	Sectoral Plan of the Ministry of Health of the Russian Federation dated 25.10.2021 "Climate Change Adaptation Plan for the **Healthcare Sector** of the Russian Federation".
7	Sectoral Plan of Rospotrebnadzor dated 03.12.2021 "Sectoral Plan of Measures of the First Stage of Climate Adaptation in the Field of **Ensuring Sanitary and Epidemiological Well-being of the Population** for 2022".
8	Order of the Russian Ministry for the Development of the Russian Far East No. 221 dated 26.11.2021 "On Approval of the Climate Change Adaptation Plan for the **Arctic Zone of the Russian Federation**".
9	Order of the Ministry of Emergency Situations of Russia No. 706 dated 19.10.2021 "On Approval of the Sectoral Plan of Climate Change Adaptation in the Field of **Civil Defense, Protection of Population and Territories from Natural and Man-made Emergencies**".
10	Order of the Ministry of Industry and Trade of Russia No. 5357 dated 24.12.2021 "On Approval of the Sectoral Plan of Climate Change Adaptation in the **Industrial Complex and Foreign Trade**".

32. According to the IPCC, adaptation to climate change is the process of reducing climate risks and vulnerability to climate change by adapting existing natural or anthropogenic systems to climate impacts and their consequences.
33. Order of the Ministry of Economic Development of Russia No. 267 dated 13.05.2021 "On Approval of Methodological Recommendations and Indicators on Adaptation to Climate Change" (together with "Methodological Recommendations on Climate Risk Assessment", "Methodological Recommendations on Ranking Adaptation Measures by Priority", "Methodological Recommendations on Formation of Sectoral, Regional and Corporate Climate Change Adaptation Plans").
34. Resolution of the Government of the Russian Federation No. 3183-r dated 25.12.2019 "On Approval of the National Action Plan of the First Stage of Adaptation to Climate Change for the Period up to 2022".
35. Resolution of the Government of the Russian Federation No. 559-r dated 11.03.2023 "On Approval of the National Action Plan of the Second Stage of Adaptation to Climate Change for the Period up to 2025".
36. Ministry of Economic Development of the Russian Federation (2022). Review of Russian practices in low-carbon development and adaptation to climate change.

Fig. 4. Development status of regional climate change adaptation plans



Source: RREDA

During 2022, Russia's regions also actively joined the climate agenda by approving their own adaptation plans. According to the data of the RREDA, as of July 2023, 54 subjects of the Russian Federation have adopted regional climate change adaptation plans **(Fig. 4)**. At least 17 other regions have drafted adaptation plans or are in the process of developing relevant documents, and special working groups have been established. For the other 19 regions, data on the status of adaptation plan development is publicly unavailable.

At the same time, the elaboration level of the approved regional climate change adaptation plans differs significantly: only some regions provided an in-depth analysis of climate risks, factors affecting climate change and assessed the economic damage. For example, the Samara Region terminated the plan development contract due to poor quality of work. In Krasnoyarsk Krai, the draft plan was also disapproved because it contained too much general language, few specific measures, and did not consider some essential factors particular to the region.

Regional plans should provide for the assessment of climate risks for territories and population, economic and other activities (including infrastructure), as well as for economic sectors, including the estimated costs of eliminating the consequences of climate change or preventing its impact.



Vyg cascade of HPP, Republic of Karelia

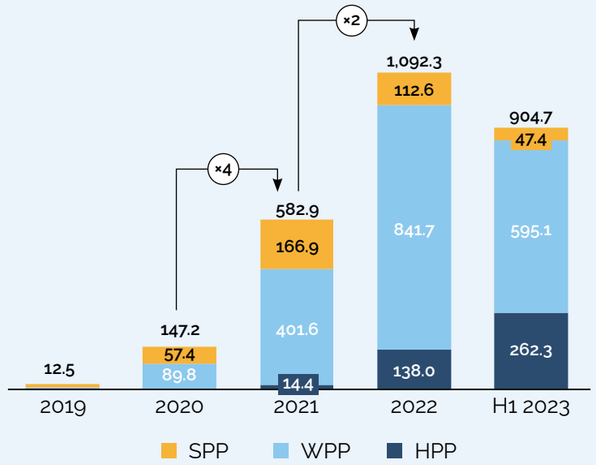
PRACTICAL IMPLEMENTATION OF FREE BILATERAL AGREEMENTS FOR LOW-CARBON ELECTRICITY SUPPLY (RES FBA)

Since the international I-REC certificate platform ceased to operate in Russia in March 2022, and the national system for the circulation of green certificates was adopted only in August 2023, today, the main tool to ensure voluntary commitments to reduce the carbon footprint of companies is the mechanism of free bilateral agreements with qualified renewable energy generation facilities (hereinafter referred to as RES FBAs). Since 2019, socially and environmentally responsible companies have been concluding FBAs, with the transaction volume steadily increasing[37].

During the first half of 2023, the aggregate electricity supplies volume under the concluded free bilateral agreements with RES generation facilities in the wholesale electricity and capacity market amounted to 905 thousand MWh **(Fig. 5)**. Since the conclusion of the first RES FBAs in 2019, the cumulative volume of such transactions in Russia amounts to 2.74 mln MWh (excluding large HPPs with capacity over 50 MW — 2.39 mln MWh).

Over the entire period of concluding RES FBAs, 18 organizations controlled by key participants of the national renewable energy market, such as PJSC "Forward Energy", JSC "NovaWind", PJSC "LUKOIL", "Hevel Group", PJSC "EL5-Energo", PJSC "RusHydro" and LLC "Vershina Development" acted as sellers of low-carbon electricity on the wholesale market **(Fig. 6)**. The following buyers account for the bulk of electricity supply: JSC "Mosenergosbyt", JSC "Atomenergopromsbyt", LLC "LUKOIL-ENERGOSERVICE", LLC "EES-Garant", LLC "RUSENERGOSBYT", LLC "LUKOIL-ENERGOSETI", LLC "ESC New Energy" and others.

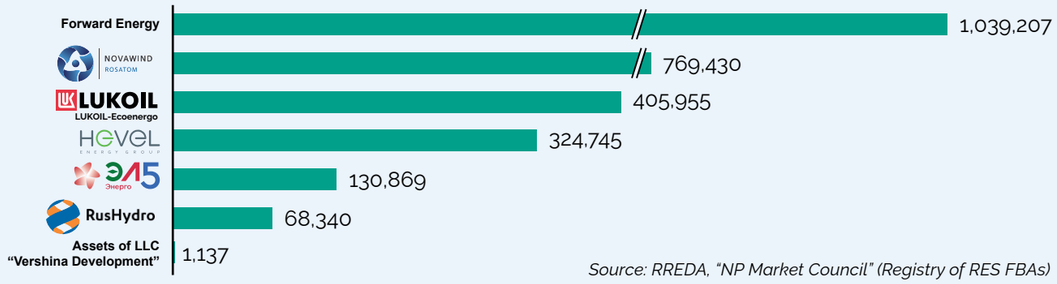
Fig. 5. Electricity volumes* supplied on the basis of RES FBAs concluded for the relevant period, MWh



* The actual electricity supply volume under the RES FBA may exceed the volume specified in the Registry, as consumers do not disclose some volumes.

Source: RREDA, "NP Market Council" (Registry of RES FBAs)

Fig. 6. Distribution of RES FBA electricity supply volumes by electricity sellers contracted from 2019 through July 2023, MWh



Source: RREDA, "NP Market Council" (Registry of RES FBAs)

37. Currently existing FBAs operate in accordance with the Federal Law "On Electric Power Industry", which defines the concept of a bilateral power purchase agreement. A bilateral power purchase agreement is an agreement under which the supplier undertakes to supply the buyer with electricity that meets the requirements in a certain quantity and of a certain quality, and the buyer undertakes to accept and pay for the electricity under the terms and conditions of the concluded agreement.

GREEN CERTIFICATES



Kuzminskaya WPP, Stavropol region

Generation Attributes and Certificates of electricity origin are globally recognized "green" instruments that provide the opportunity to confirm the consumption of renewable electricity.

The primary international standards for greenhouse gas emissions disclosure that address the confirmation of the "green" origin of electricity through certificates include the Greenhouse Gas Protocol and Carbon Disclosure Project. Most economically developed countries either have a national certification system or can issue and circulate certificates following international standards. The largest certification systems are Renewable Energy Certificates in North America (RECs), Guarantee of Origin in Europe (GO) and International Renewable Energy Certificates (I-REC), which are distributed in more than 50 countries. Until 2022, the I-REC system, recognized by the primary international standards for greenhouse gas emissions disclosure, worked in Russia (discontinued as part of the sanctions pressure). The departure of I-REC has even more acutely raised the need to create a Russian system for "green" certificate circulation[38].

From 2022 to 2023, Russia has developed voluntary certification standards, including the LLC "Carbon Zero" standard prepared in compliance with the GHG Protocol recommendations. Using "Carbon Zero" certificates in 2023, PJSC "SPB Exchange" confirmed part of its consumption through electricity generation at the "Funtovo" wind farm in the Republic of Kalmykia and the transportation and logistics Group of Companies "Delo" — through electricity generation at the Krasnoyarsk hydroelectric power plant, part of PJSC "EN+ GROUP". JSC "VetroOGK-2" (part of JSC "NovaWind", the wind power division of "Rosatom" State Corporation) joined the voluntary standard: the company and LLC "Carbon Zero" entered a service contract to maintain a green electricity certificate registry in 2023.

Work on creating a legislative framework for the launch of Russia's own low-carbon energy certification system has been underway since 2020. After lengthy discussions, in 2022, a draft law "On Amendments to the Federal Law "On Electric Power Industry" (concerning regulation of certain legal relations arising from introducing generation attributes and certificates of electricity origin into civil turnover) was submitted to the State Duma. Consideration of the draft law ended in 2023 with the adoption of Federal Law No. 489-FZ dated 04.08.2023[39]. This Federal Law introduces several new concepts into the electricity sector legislation. In addition to "certificates of electricity origin" and "generation attributes", it defines the meaning of "low-carbon generating facilities", including not only RES-based facilities but also nuclear power plants.

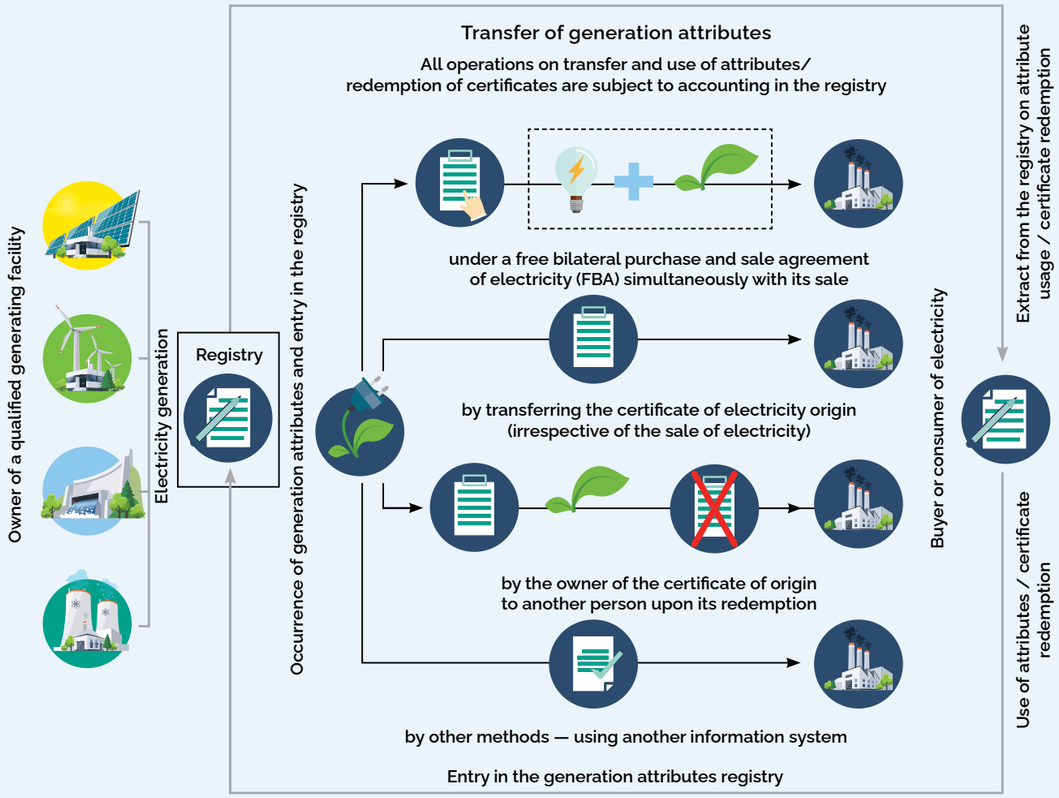
Generation attributes arise from electricity production at a qualified generation facility — a renewable energy generation facility and (or) a low-carbon generation facility. The scope of generation attributes is determined based on the amount of electricity produced at a qualified generation facility. They represent rights to a specific set of information about the generation facility, the generation of electricity, the characteristics of the electricity generation process at the facility, etc. The owner of generation attributes can declare the consumption of "green" electricity, apply "green" labeling of products, use them for advertising purposes, when quantifying greenhouse gas emissions volume or forming non-financial reporting, etc. The commercial infrastructure organization carries out the generation attributes accounting following the rules of keeping the generation attributes registry.

Certificates of electricity origin are assigned the role of certifying generation attributes and confirming the fact of electric energy production at a qualified generating facility. A certificate of electricity origin in the form of an electronic document will be provided by a commercial infrastructure organization on a voluntary basis at the request of the owner of a generating facility.

A certificate is one way of transmitting generation attributes, and it may be transferred independently of the electricity sale upon the production of which such certificate was issued.

38. Before discontinuing the I-REC platform in Russia, more than 3.7 million I-REC certificates with a nominal value of 1 MWh had been issued, of which 73% had been redeemed as of the beginning of March 2022. The issuance of these certificates started in Russia at the end of 2020 and was provided by the "Goal Number Seven" Association.
39. Federal Law No. 489-FZ dated 04.08.2023 "On Amendments to the Federal Law "On Electric Power Industry".

Fig. 7. Possible ways to transfer generation attributes



Source: RREDA, "NP Market Council"

The purchase and redemption of green certificates allow businesses to reduce the carbon footprint associated with their electricity consumption, and their proliferation provides an additional incentive for renewable energy development.

Federal Law No. 489-FZ provides for several ways of transferring rights associated with generation attributes **(Fig. 7)**:

- under a bilateral contract for the purchase and sale of electricity simultaneously with its sale;
- by transferring the certificate of electricity origin;
- by the owner of the certificate of origin to another person upon its redemption;
- by other methods, but only on condition of information exchange with the commercial infrastructure organization (this method assumes the possibility of the existence of several information systems for generation attributes certification, but with information exchange with the commercial infrastructure organization).

Provision is also made for the transfer of the certificate of origin to be recorded in an international generation attribute certification system or the system of another foreign country. Such international interaction will be possible, provided an agreement between the commercial infrastructure organization and the operator of the other system.

At the Annual General Meeting of the Members of the "NP Market Council" Association on May 26, 2023, it was decided to establish the Energy Certification Center, which will maintain the generation attributes registry and issue certificates of electricity origin in Russia.

The Supervisory Board of the "NP Market Council" Association will



Medvezhenskaya WPP, Stavropol region

determine the amount and procedure of paying for operations in the registry and access to the information system that will be used to maintain the registry. Some information from the registry will be provided by a commercial infrastructure organization without charging a fee. The list of such information shall be determined by the Government of the Russian Federation[40].

In the development of the provisions of the adopted Federal Law, the Government of the Russian Federation will approve the Rules for maintaining the generation attributes registry, granting, circulation, and redemption of certificates of electricity origin, as well as the Rules for qualification of a generating facility, including qualification criteria, rules for attributing generating facilities to renewable and (or) low-carbon generation, a list of qualification categories of qualified generating facilities and rules for attributing generating facilities to qualification categories.

The issue of launching a system for the circulation of "green" certificates is also raised within the framework of creating a common electric power market of the Eurasian Economic Union (EAEU). As noted by the participants of the second Eurasian Economic Forum, which was held in May 2023, in the future, when creating a common market, it is advisable to consider harmonizing the rules of "green" certificates circulation or forming a unified system of "green" certificates circulation within the EAEU.

40. The document will replace the current Rules for Qualification of a renewable energy generation facility approved by Decree No. 426 of the Government of the Russian Federation dated 03.06.2008.

RRED A

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