Post-February 24th Russian climate policy

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Monitoring of Russian climate policy

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Contents

1 Russian government's action to support LCS implementation

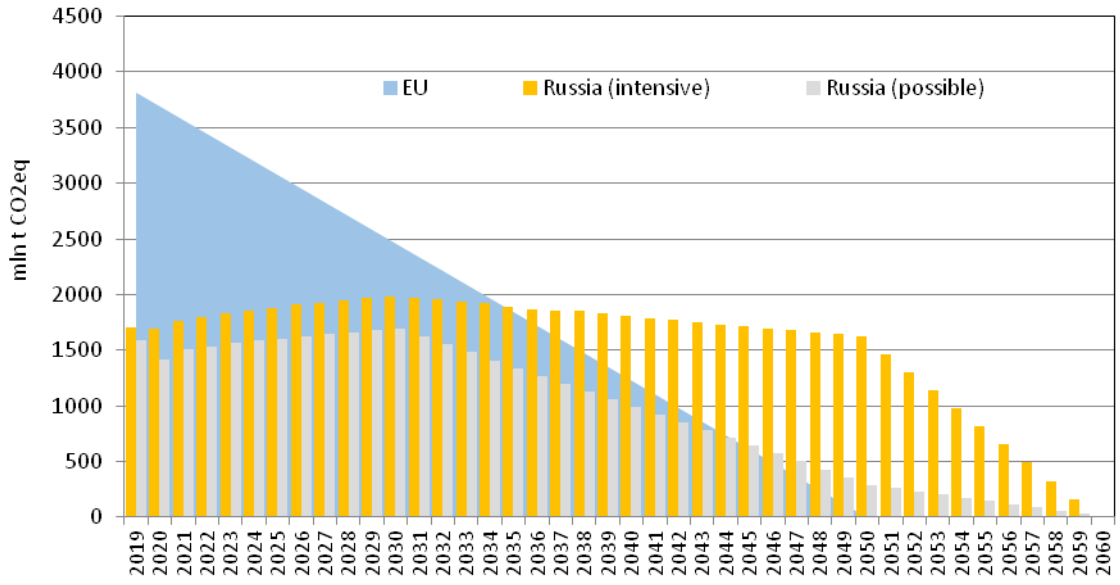
1.1 Council for science and education meeting, February 8, 2022

At this meeting, the Russian government demonstrated their decarbonization commitments. In his presentation, V. Putin repeated the previously set goals and priorities:

- Combating adverse climate change is an important scientific and technology priority;
- Russia's goals are as follows:
  - The volume of net GHG emission accumulated in Russia over the next three decades should be less than that in the EU. This goal was announced on April 21-22, 2021.
  - Russia should attain carbon neutrality by 2060. This goal was announced in October 2021 and reflects the evolution of Russia's position.

It is not clear, why both these goals were mentioned in this presentation. The first one is attainable by maintaining Russia's GHG emission at a nearly stable level until 2050. If this pathway is followed, then an abrupt drop will be needed beyond 2050 to reach net zero emissions (Figure 1). Alternatively, a smoother declining trajectory would provide for a more balanced in time transition to net zero emissions.

Figure 1. Possible dynamics of EU and Russian GHG emissions to 2060



Source: CENEf-XXI

- We need an accurate (and unbiased) estimate of the carbon balance in the atmosphere. We have gained a substantial relevant experience. We really need an integral, unified, and clearly reliable mechanism to collect and assess the information about our country's contribution to the change in atmospheric concentrations of climate-warming gases. Therefore, I think it is very important to develop a science-based system of highly accurate monitoring of emission and absorption of substances that have direct climate change effects. This system will ensure carbon data collection and, most importantly, it will help to accurately estimate the GHG absorption potential of our forests and other ecosystems. If such monitoring system is to be developed, we should launch production of the cutting-edge equipment to enable measurements both from the earth and from the space, form groups of Russian satellites, develop methods and algorithms for high-precision calculations and relevant mathematical models. In addition, our data should be recognized at the global level and used for global climatic decisions.

- We definitely cannot allow any unacceptable solutions to these clearly most important problems to be imposed on us in any way. And if we are to prevent it from happening, we must take the lead in these areas.
- Based on accurate and verified data we will be reducing the adverse impact of the domestic industries, transport, and other sectors on the global climate.

These statements reflect the vigorous discussion going in Russia about sources and sinks in the LULUCF sector. The government agencies are seeking science-based evidence that sinks are larger, than currently reported in the Russian inventory.

- The entire domestic economy will have to adapt to the climate-related challenges. At that, it is important to enable accelerated development of the national economy. This dual task is quite challenging. Further transition to low carbon and 'green' energy sources is the most important prerequisite for addressing this problem.

This statement reflects the evolution of the position of the Russian authorities regarding the relationship between decarbonization and economic growth. It shows a clearer understanding that modern economic growth can be accelerated alongside with the decarbonization process, and that the scale of the required change is really challenging.

- It is somewhat early to refuse hydrocarbons: they will persist for 20-30 or even 50 years ahead, particularly our gas assets. However, we really need to realize where the whole mankind, the whole planet is moving, and – let me repeat once again – take the global lead. This is particularly important for the environmental well-being and the high quality of life of the Russian citizens, which is our first priority.

Mindful of the substantial dependence of the Russian economy on the oil and gas sector (which has been contributing 15-21% to the GDP in recent years), as well as of the Russian oil and gas oligarchs maintaining the economic and power balance, Russia needs a smooth transition away from this sector's dominance. It is clear that this will be inevitable, and the Russian economy needs to develop in line with this new trend.

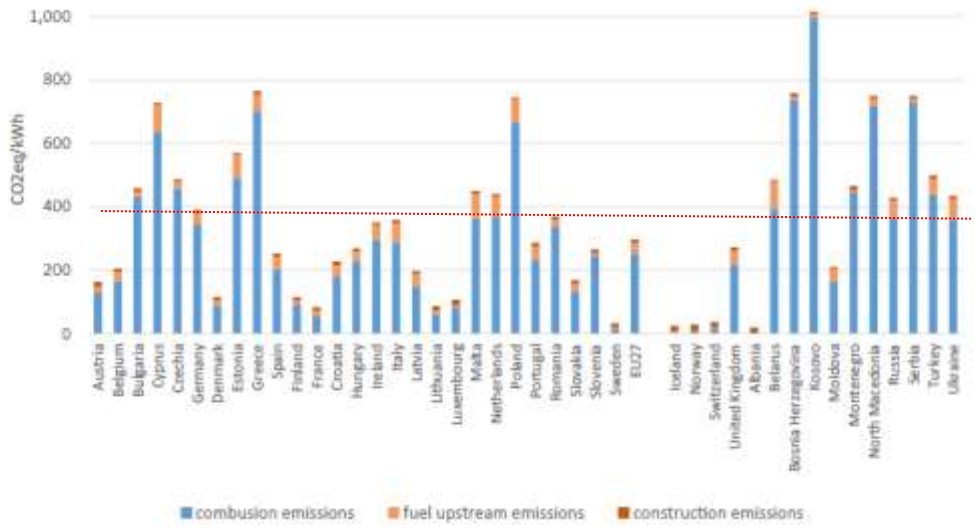
- Innovation projects should aim to develop advanced, safe, and environmental-friendly technologies for energy generation, transport, storage, and use.
- We need solutions for resources and equipment reuse and recycling, including accumulators. This is not an easy task. What shall we do, for example, with phased out batteries?

These statements highlight the importance of the development of energy storage technologies along with the considerations of circularity components for batteries production and use.

- Russia's power generation is one of the "cleanest" in the world, having a very low carbon footprint. We say this over and over again, and I think we should keep reminding our colleagues in other countries of this fact.
- We should now move forward, particularly because the geographic and natural specificities of our country and our scientific potential allow it to successfully develop any types of environmental-friendly energy sources. I am speaking, inter alia, about the controlled nuclear fusion and innovative plasma technologies, where I can absolutely say we are the global leaders, and also about the use of hydrogen in the chemical industry, in the iron and steel, and in transport, about a substantial increase in the effectiveness and environmental friendliness of both traditional and renewable energy sources.

The idea that the Russian power sector is one of the world's least carbon intensive power sectors, albeit deeply rooted in some circles, is not supported by evidence. Many EU and other countries have much lower carbon intensity of power, than Russia (Figure 2).

Figure 2. Carbon emissions from gross electricity production in European countries in 2019



Source: Scarlat N., M. Prussi, M. Padella. Quantification of the carbon intensity of electricity produced and used in Europe. Applied Energy 305 (2022) 117901

Interestingly, fusion is placed first among the low carbon sources (though it is not clear whether it will be commercially available by 2060), and renewables are mentioned only in the context of improving their efficiency and environmental friendliness, on an equal basis with traditional generation.

- I consider it fundamental that all of our most important innovative projects undergo a profound scientific appraisal at every implementation stage, and that plans and actions be shaped in cooperation with experts, scientists, and practitioners.

1.2 Federal Law "On an experiment aimed to limit GHG emissions in some Russia's regions"

Federal Law "On an experiment aimed to limit GHG emissions in some Russia's regions" was adopted by the State Duma on February 16, 2022, and approved by the Federal Council on March 2, 2022.

It includes 13 articles:

Article 1. General provisions

Article 2. Key terms used in this Federal Law

Article 3. Purpose, tasks and principles of the experiment

Article 4. Accounting methods and regulatory instruments for GHG emissions and removals under the experiment

Article 5. Regulated regional companies

Article 6. GHG emissions and removals inventory under the experiment

Article 7. The experiment outline

Article 8. GHG emission allowances under the experiment

Article 9. Carbon reporting

Article 10. Verification

Article 11. Circulation and offsets of allowances

Article 12. Economic and financial mechanisms to encourage GHG emission reductions and removals

Article 13. Enactment

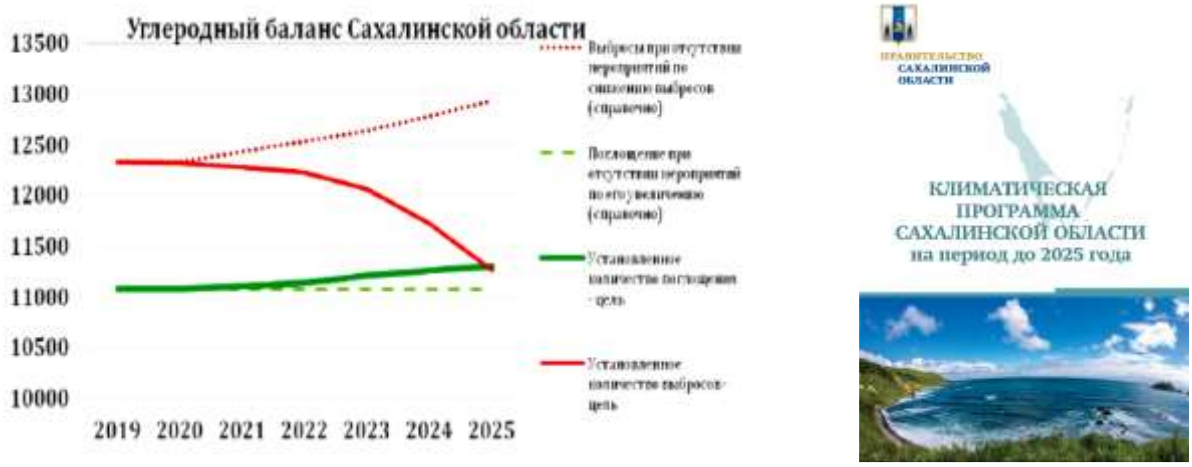
The experiment shall be held: in the territory of Sakhalinskaya Oblast from September 1, 2022, to December 31, 2028, both dates inclusive, and in the territories of other regions of the Russian Federation covered by the experiment in compliance with Item 2, Part 2 of this Article, during the dates as shall be set by amendments to this Federal Law.

The experiment aims to attain carbon neutrality:

- in the territory of Sakhalinskaya Oblast before December 31, 2025;
- in the territories of other regions of the Russian Federation covered by the experiment in compliance with Item 2, Part 2, Article 1, during the dates as shall be set by amendments to this Federal Law.

The preliminary GHG inventory of Sakhalinskaya Oblast (a full-scale inventory to be made only in 2022) shows (Figure 3) large sinks in the LULUCF sector.

Figure 3. Sakhalinskaya Oblast carbon budget projection by 2025



Source: Sakhalinskaya Oblast climate programme to 2025.

Net emissions are assessed at about just one tenth of total emissions. Therefore, there is a vision that attaining net-zero emissions by the end of 2025 is possible by switching 150 boiler-houses and 37 thousand apartment buildings from coal to gas, raising the share of low carbon transport to 50% and the share of renewables in power generation from the current 0.5% to 28%, and reforestation of 18 thousand ha. In 2024-2025, the first in Russia CCS project will be implemented in Sakhalin. The plan is also to develop gas-fired and electric transport and hydrogen energy. By the end of 2025, a thousand charging stations will be built and 10 thousand electric cars are expected to be in place versus the current 258; 98.5 thousand cars are expected to switch to gas, and the local railway will switch to hydrogen. By 2025, CO_2 emissions are expected to drop by about 1 million tons, or by about 8%.

GHG emissions reporting is not yet a routine practice at Sakhalin. The law requires the following accounting methods and regulatory instruments for GHG emissions and removals: GHG emissions and removals inventories; mandatory reporting by regional regulated organizations (hereinafter referred to as carbon reporting); verification of carbon reporting; GHG allowances

allocation, circulation of allowances and using them as offsets. A set of economic and financial mechanisms is expected to be developed to encourage GHG emissions reduction and enhance absorption. The law requires development, approval, and implementation of the experiment programme.

No clear rules for the allocation of the allowances are in place yet. The law says that the allowances shall be allocated for regional regulated organizations based on the methodology yet to be approved by the experiment coordinator with an account of the law and also with an account of the specificities of the applied technologies, amount of investments, revenues from the sales of goods and services and budget revenues in the relevant sectors of the Russian Federation. Public discussion of the allocated allowances, including with regional regulated organizations, shall be led by a designated authority in compliance with the methodological guidelines for the organization of such public discussions as approved by the experiment coordinator.

The emissions reduction targets as set for the regions in accordance with the law shall take into account:

- the balance of GHG emissions and absorption in the territory of the regions, which are covered by the experiment, for GHG included in the regional GHG inventory for the period as set by the RF Government;
- GHG emissions reduction and GHG absorption growth rates required to attain the goals of the experiment. These growth rates shall be differentiated to account for the amount of taxes and charges paid to the budget based on the bulk of GHG emissions in equivalent to 1 tCO2 per calendar year, in which the relevant legal entity or individual entrepreneur was classified as a regional regulated organization in compliance with Article 5 of the Federal Law.

Penalties for exceeding the given allowance budget shall be calculated by the regional regulated entity by multiplying GHG emissions in excess of the allowance (less the offsets) by the relevant specified penalty rate. Penalty rates are to be set by the RF Government.

Verification of mandatory emissions reporting shall be made by a legal entity registered in the national verification system (hereinafter referred to as “the registered entity”), which is not affiliated with the regional regulated organization or other carbon reporting entity.

Circulation of allowances is intended to improve the economic effectiveness to comply with the quotas as allocated to the regional regulated organizations, if the latter are not to exceed the allowance limit. Their circulation would be reflected in the Registry, which is yet to be established.

Regional authorities can launch mechanisms to incentivize the activities of regional regulated organizations aiming to reduce GHG emissions, enhance absorption, or deploy the best available technologies. But no specific mechanisms are required by the law.

In addition to Sakhalinskaya Oblast, other regions, such as Khanty-Mansiysky Autonomous Okrug, Altaisky Krai, and Kaliningradskaya Oblast, have announced their intention to conduct an experiment in their territories to limit greenhouse gas emissions. Potentially, Krasnoyarsky Krai, Irkutskaya, Murmanskaya, and Arkhangelskaya Oblasts and the Karelia Republic may also join in.

Summing up, as the law was adopted after February 24th, it illustrates that low carbon agenda is still in the focus. This is a traditional Russian framework law, which is to be further supplemented with general provisions at a later stage, either by the national or regional governments. Only a few regions with large and growing sinks can follow, as the time horizon for the net zero is limited by 2028.

1.3 Government decree "On the criteria for classifying legal entities and individual entrepreneurs as regulated organizations"

The RF Government Decree "On the criteria for classifying legal entities and individual entrepreneurs as regulated organizations" No. 355 of March 14th, 2022, establishes criteria for how legal entities are to be classified as regulated organizations for GHG emissions reporting.

According to this Decree, legal entities and individual entrepreneurs shall be classified as regulated organizations, if their economic and other activities meet all of the above criteria:

- result in GHG emissions of 50 thousand tons CO2 or more per year;
- fall into the list technological processes and/or economic and other activities both by name and parameters as specified in the annex.

A legal entity or an individual entrepreneur shall be classified as a regulated organization based on the amount of its GHG emissions estimated by multiplying the relevant parameter of technology and/or economic or other activity over the reported period by the corresponding coefficient as provided in the Annex to the law.

This Decree comes into force on September 1, 2022, and will be in effect until January 1, 2025. The set of criteria shall be only valid until 2025, and then the RF Ministry of economic development is required to submit to the RF Government on or before March 1, 2024, its proposals regarding a new set of criteria for classifying legal entities and individual entrepreneurs as regulated organizations, if their economic or other activities result in GHG emissions of 50 thousand tons CO2 or more per year.

In order to determine the mass of emissions for each GHG production process or economic activity, a set of GHG emission factors are proposed in the Annex. This Annex contains a vast list of economic activities and emission coefficients (equivalent to those used in the national inventory) which are to be used as multipliers to the scales of economic activities to assess the total emission volumes of legal entities and individual entrepreneurs.

1.4 Operation plan for the implementation of the Low Carbon Development Strategy of the Russian Federation

On February 14, Vice Prime Minister Andrey Belousov held a meeting with the business community to discuss the operation plan for the RF Low Carbon Development Strategy to 2050. The Plan was developed by the RF Ministry of economic development in cooperation with its subordinate agencies, Office of the RF President, and leading Russian companies and experts.[1]

The Operation Plan specifies low carbon development priorities to 2030. It includes the key decarbonization measures for the entire economy and sets emissions reduction and absorption targets by sectors.

The Operation Plan includes some key directions, such as regulatory incentives; adaptation measures; deployment of the best available technologies; real sector and energy sector restructuring; enhancement of ecosystem absorption; implementation of climate projects and international cooperation.

The plan is to accomplish by the end of 2022 the development of the national climate regulation system, including the carbon allowances circulation, carbon reporting verification; to launch a region-level experiment in Sakhalinskaya Oblast; and to adopt a national energy efficiency programme.

[1] Novosti – the Russian Government (government.ru)

Low carbon transition measures as specified in the sections by sectors can ensure the economic growth and simultaneous reduction in GHG emissions.

Based on the discussion, Andrey Belousov assigned two weeks to finalize the plan and instructed the chiefs of the working groups to hold meetings with the business and expert communities. The RF Ministry of economic development and RF Ministry of finance were told to estimate the public and other financing required for the implementation of the Plan.

The contents of this 161-page long Operation Plan are shown below:

The February version of the plan was very unbalanced. Some sections were quite large, while others were just scribbled. As to the Plan indicators, it can be seen from Table 1 that neither total, nor net GHG reductions were expected by 2030; both aggregates are nearly stable in 2019-2030. Anyway, while this Plan was designed to avoid emission growth, in many sectors emission does grow or marginally declines. Emission trajectories were assessed by the Institute of Economic Forecasting of the Russian Academy of Science (IEF) based on quite optimistic GDP growth projections: about 3% per year,[2] notwithstanding the plan activities and indicators.

Table 1. GHG emissions by sectors as specified in the Operation Plan, mln tCO2-eq

	2019	2020	2021	2022	2023	2024	2030
Energy	980.9	904.6	954	962.9	960.6	957.2	933.5
Power and heat production	720.4	670.9	716.2	721.2	720.7	719.9	711.9
Oil refinery	58.47	52.22	53.2	53.39	53.56	53.74	54.63
Energy resource production	202	181.5	184.6	188.3	186.4	183.6	167
Industry and construction	358.4	354.5	358.8	364.9	365.3	371	384.4
Iron and Steel, Non-Ferrous	147	147	148	149	149	150	151
Chemicals	71	70	71	73	74	78	91
Food	7	7	7	7	7	7	7
Pulp and Paper	12	12	13	14	14	15	20
Other Mineral Non-Metals	59	60	61	63	63	64	62
Other industries and construction	62	58	59	59	58	57	53
Transport	293	277	285	288	292	292	295
Air	14	13	14	14	15	15	18
Road	161	151	155	156	157	157	157
Cars and motobikes	100	94	96	97	97	98	97
Trucks and buses	61	57	58	59	59	60	60
Water	2	1	2	2	2	2	2
Other (pipelines)	108	103	106	108	109	109	109
Other sectors	487	474	484	486	488	491	484
Housing and utility	185	185	189	189	188	188	183
Agriculture, forestry and fishery	130	130	131	132	133	134	139
Waste	100	96	101	102	104	106	99
Commercial and public sector, other	71	62	63	63	63	63	63
Total emissions (excl. LULUCF)	**2,119**	**2,010**	**2,082**	**2,102**	**2,106**	**2,111**	**2,097**
LULUCF	**-535**	**-559**	**-560**	**-602**	**-602**	**-602**	**-573**
Total net emissions (incl. LULUCF)	**1,584**	**1,451**	**1,522**	**1,500**	**1,504**	**1,510**	**1,524**

Source: Draft Operation plan for the implementation of the Low Carbon Development Strategy of the Russian Federation

[2] Porfiriev B.N., Shirov A.A., Kolpakov A.Y., Edinak E.A. Opportunities and risks of the climate policy in Russia. Voprosy Ekonomiki. 2022;(1):72-89. (In Russ.) https://doi.org/10.32609/0042-8736-2022-1-72-89

For many measures listed in the plan the effects are not estimated. Not all of the effects are expressed in emission reduction units. For some of the indicators, activity scales are shown without clear understanding, what these activities may bring. As proposals for the Plan were collected from the government agencies, the business community and experts and were then put together, it is not clear how consistent are the overall plan indicators with the proposed activities and effects. It looks like they "live separate lives".

Section 1: **Regulatory incentives** launches verification of the company-level GHG emission reports to be presented to the Registry; setting up verification companies; launching "climate projects" and developing carbon footprint monitoring methodologies; establishing the green certificates circulation system at the Moscow exchange.

In reaction to CENEf's suggestion, this section was supplemented with the development and approval of the national programme of the Russian Federation "Energy saving and energy efficiency" scheduled for Q1-Q3, 2022. The RF Ministry of economic development now has to look for financing for this Programme development, on the one hand, and for companies and experts able to organize such Program development, on the other. The relevant funding has not been secured in the Ministry's R&D budget. This, and a lack of expertise, very little time left (the Programme is to be delivered in the third quarter of 2022), sharply deteriorated economic prospects may undermine the quality of this Programme.

Section 2: **Industrial restructuring, adaptation, and BAT deployment** describes in detail the schedule and procedures to set national sectoral GHG and EE benchmarking in industry and to expand the scope of BAT to cover GHG emissions requirements. This section also includes activities to identify methods to support projects aiming to reduce GHG emissions, introduce BATs, and to develop sequestration technologies. It suggests changing the mechanism for the development of feasibility studies for investment projects. It requires implementation of incentives for the top 20% of companies and tax penalties for the worst 20% in terms of carbon intensity.

While industry is covered in detail in this section, other sectors are very poorly represented. Thus, few items in the plan relate to buildings, transport, agriculture, construction, and waste management. In contrast, a lot of attention is given to LULUCF and sinks enhancement. Relevant Plan items include: updating the conversion coefficients of change in carbon stocks in pools of live and dead biomass; quantitative and qualitative characteristics of forests (including areas, stocks, species and age composition of forests) based on ground and remote methods; development and improvement of methods and technological solutions aimed to reduce GHG emissions from dead forests, from wildfires and other adverse factors and to enhance carbon accumulation in forests; improving the estimates of greenhouse gas fluxes in arable and fodder lands; exploring the potential of agroforestry and regenerative agriculture for carbon storage, and preparation of a long-term forecast of carbon sequestration in the LULUCF sector.

Section 4: **Technological innovations, including hydrogen projects** includes a detailed set of measures aimed to capture 20% of the global hydrogen market by 2030. Plan items in this section include: approve of the list of priority pilot projects in hydrogen energy; ensure the implementation and commissioning of projects for the production of low-carbon hydrogen, including water electrolysis and from hydrocarbon raw materials; conduct R&D and create competitive domestic technologies for hydrogen production, transportation and storage for large export-oriented projects; implement a pilot project for low-carbon hydrogen (and/or ammonia) production using thermal and coking coal gasification technology with carbon dioxide capture; create a pilot site for geological storage and monitoring of captured CO2 at low-carbon hydrogen (and/or ammonia) production facilities using thermal and coking coal gasification technology; analyse the energy needs for hydrogen production when connected to a power system, as well as for off-grid power systems; implement demo projects for hydrogen-fueled automobile passenger transport; develop incentives to spur domestic hydrogen demand and technological solutions

based on hydrogen use in industrial production, energy and transport; develop technical regulations for hydrogen energy; develop and adopt the Comprehensive Programme for the Development of Low-Carbon Hydrogen Energy Industry in the Russian Federation and the Hydrogen Technologies Strategy in the Russian Federation.

CCUS is another large component in this section. It includes the development of CCUS regulations; setting up a project office to implement CCUS; development of support and technical regulation measures; assessment of the national carbon dioxide (CO2) storage capacity and its geographical distribution; and development of CCUS international cooperation programme.

Section 5: **Energy restructuring** is another Plan component. In includes several indicators, yet no progress is expected for carbon intensity of power generation to 2030 (see below).

	2019	2020	2021	2022	2023	2024	2030
Carbon intensity of power generation, gCO2-eq./kWh	345	323	347	344	344	349	342

Source: Draft Operation plan for the implementation of the Low Carbon Development Strategy of the Russian Federation

This literally means that the long list of proposed measures (such as modernization of existing nuclear power units and construction of new nuclear power plants; development of small nuclear generation; development of closed cycle reactors and nuclear fuel; development of a regulatory framework to enable the development of a pumped storage power plants; development of mechanisms aimed to stimulate the development of hydro and renewables) will have no effect.

The stable level of carbon intensity of power generation is determined by the expected abrupt decline in the contribution from hydro and nuclear generation by 2030 (see below). The fuel mix will not switch towards less carbon-intense generation until 2050 (coal will shrink to 5%, while natural gas will decline, but stay at 40%, see the table below).

	2018-2020		2020		2030		2050	
	Capacity share, %	Generation share, %	Capacity share, %	Generation share, %	Capacity share, %	Generation share, %	Capacity share, %	Generation share, %
Coal	16	14	16	13	14	13	5	5
Gas	50	48	50	46	50	52	34	40
Other fuels	1	<1	1	<1	1	<1	<1	<1
Hydro	21	19	20	20	21	16	20	19
Nuclear	12	19	12	20	10	16	14	24
Renewables	1	<1	1	<1	4	2	26	13

Source: Draft Operation plan for the implementation of the Low Carbon Development Strategy of the Russian Federation

Some items in this section of the Plan are about the reduction in GHG emissions from oil and gas production and transportation and from coal mining and transportation, as well as the support for the development of the CNG fuels for transportation.

Section 6: **International cooperation** includes systematization of the work of federal executive authorities on the UNFCCC platform to ensure Russia's participation in the sessions of the Conference of Parties to the UNFCCC in 2022-2024; 2030 GHG Reduction Target Update and Presentation of Updated RF Nationally Determined Contribution (NDC); participation of Russian experts in the development of international documentation for Article 6 of the Paris Agreement, including rules and reporting; cooperation in assessing CO2 emission absorption in the LULUCF sector and other managed ecosystems within the framework of work in relevant UN organizations, primarily the UNFCCC; interaction with OECD on the climate agenda; Russia's participation in shaping the global carbon price to ensure non-discriminatory conditions

for the Russian Federation when introducing transborder carbon regulations; participation of Russian experts in the discussion of global carbon regulation parameters at the G20/OECD and IMF platforms.

It also includes Russia's participation in the market mechanisms for the circulation of carbon units including Article 6 projects; involvement of foreign countries and organizations in climate projects in Russia for the recognition of verified emission reductions; integration of Russian regional greenhouse gas trading systems (STK) with foreign trading systems for greenhouse gas emissions.

Another Plan subsection proposes international cooperation in low-carbon energy issues, including: promoting nuclear energy as a "green" and/or "sustainable" energy source; promoting hydropower as a "green" and/or "sustainable" energy source; promoting innovative thermal generation as a "green" and/or "sustainable" energy source; promoting CCUS-related international cooperation; communication of Russia's position regarding the recognition of the cross-border nature of national renewable energy certificates and International Renewable Energy Certificates.

The last subsection is about international cooperation in "green" financing.

Summing up, this 161-page-long Operation Plan with 6 sections and multiple subsections aims to launch action in multiple directions, develop regulations, technologies, institutions, incentives to launch large-scale activities in Russia towards low carbon transition of the economy. Russia is lagging behind many nations in this, therefore, intensive efforts are needed. In its present form, the Operation Plan is quite unbalanced, and some sectors, such as buildings or transport, are nearly skipped. It is not clear, how indicators presented in Table 1 are driven by the Plan activities. Before a system to manage multiscale activities to control GHG emissions is created, only stabilization of GHG to 2030 is possible in the Russian Federation with an assumption that economic growth will be close to 3% per year. After February 24th, these assumptions are not valid any more. Like in the early 1990s, Russia's GHG emission reductions will result from a deep and long economic crisis, rather than from the above measures (see section 2).

Ruslan Edelgeriev, Special Representative of the RF President for climate, has undertaken to set up, with the support from the business community, a project office for the implementation of climate projects in Russia.

1.5 Discussions in media and expert community

One indication of the sustaining interest for the climate agenda in Russia is the publication of *REGENERATION*[3] attachment to the leading Russian business newspaper Kommersant. In January 2022, two papers were published in the leading scientific economic magazine "Issues of Economy":

- Porfiriev B.N., Shirov A.A., Kolpakov A.Y., Edinak E.A. Opportunities and risks of the climate policy in Russia. *Voprosy Ekonomiki*. 2022;(1):72-89. (In Russ.) https://doi.org/10.32609/0042-8736-2022-1-72-89
- Bashmakov I.A. CBAM and Russian exports. *Voprosy Ekonomiki*. 2022;(1):90-109. (In Russ.) https://doi.org/10.32609/0042-8736-2022-1-90-109.

Attachment: The angle of incidence is not equal to the angle of reflection

This attachment is provided as a separate file.

[3] "Regeneration". Annex No. 55 of March 31, 2022: Latest news from Russia and abroad - Kommersant (kommersant.ru)