

Comprehensive approach to the strategy of low-carbon socio-economic development of Russia

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Abstract. The article discusses the key risks of implementing a strategy for long-term socio-economic development of Russia with a low level of greenhouse gas emissions. In recent years, the climate agenda has been the most important driver of structural shifts in the world economy and is viewed by leading countries as a factor in intensifying economic growth and consolidating their technological leadership at the global level. In this context, Russia's efforts to reduce its carbon footprint without direct import of low-carbon technologies and equipment from developed countries will run into non-recognition (of the carbon sink by Russian forests and carbon-free nature of nuclear and large hydro power plants) and increase in requirements for even more radical reduction in emissions. At the same time, Russia is already making a significant contribution to achieving the goals of the Paris Agreement. The article provides a list of measures that should underlie a balanced national climate policy. The strategy for the socio-economic development of Russia with a low level of greenhouse gas emissions should provide for a balance between solving the problems of preserving the population, improving the quality of its life, and ensuring dynamic and inclusive economic growth in the country. Russia's potential announcement of commitments to unequivocally achieve carbon neutrality by mid-century carries serious risks to national interests. Instead, a more flexible language should be used to strive for carbon neutrality.

Keywords: economic growth, Paris Agreement, climate policy, Carbon Border Adjustment Mechanism, low-carbon development, carbon neutrality

Recommended citation: Porfiriev B.N., Shirov A.A., Kolpakov A.Yu. (2021). Comprehensive approach to the strategy of low-carbon socio-economic development of Russia. *Georesursy = Georesources*, 23(3), pp. 3–7. DOI: <https://doi.org/10.18599/grs.2021.3.1>

The development and implementation of national strategies for socio-economic development with low levels of greenhouse gas emissions (hereinafter – the Strategy) are provided for by the requirements of the Paris Agreement on Climate. These Strategies are considered by the leading countries of the world as a tool (and by the EU countries as a mainstream) of structural changes and technological modernization of their economies. This policy is largely due to the existing technological superiority of these countries over competitors and the existing scientific and technological potential, which they seek to strengthen and expand through a new “climatic” niche.

The climate agenda, intensively promoted by the EU countries in the international arena, which at the level of political declarations proclaims the priority of the goal of climate stabilization (not exceeding the 1.5 °C threshold compared to the pre-industrial era) and sets the task of

achieving carbon neutrality, primarily pursues economic (in including geoeconomic) goals. At the same time, the solution of the actual climate problems is seen as an important, but concomitant effect, and a politically even more important and winning argument for promoting solutions that are beneficial for these countries.

At the same time, the task of achieving EU carbon neutrality is ambitious not only politically, but also economically. Thus, according to expert estimates¹, the costs stipulated by the European Green Deal policy are 4 times lower than the level required to reduce greenhouse gas emissions (hereinafter referred to as greenhouse gases) by 55% by 2030 and achieve carbon neutrality by 2050. In this regard, a significant part of the costs of implementing the green course, the EU leadership intends to pass on to external players. First of all, on exporters of carbon-intensive low- and medium-tech products (including commodities), imposing an additional tax on these imports as part of the introduction of the so-called Carbon Border Adjustment Mechanism (CBAM).

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¹ <https://www.usnews.com/news/world/articles/2020-07-21/factbox-how-green-is-the-eus-recovery-deal>

Within the existing logic of the EU's actions, the use of CBAM as a tool for economic compensation for its own huge costs of technological modernization does not imply taking into account attempts to introduce similar mechanisms in the Russian territory, as well as other actions that demonstrate a reduction in the carbon footprint in our country. Although the existing documents on the introduction of CBAM declare the offset of national carbon dues, but, with a high probability, attempts of such offset will run into increased demands from the EU authorities for an even more radical reduction in emissions, including through ignoring the absorbing capacity of Russian natural ecosystems. or non-recognition as "green" of certain types of electricity generation (NPP, HPP). The only thing that the EU countries can theoretically go to is to recognize the reduction of emissions in cases when technologies and equipment produced on their territory will be directly used for this purpose in Russia.

In these conditions, the development and adoption of the Strategy by Russia should proceed from a number of fundamental principles.

First, it is necessary to adequately assess the role of our country in the global climate policy. Russia is not only the world leader in reducing greenhouse gas emissions over the almost 30-year period of the UN Framework Convention on Climate Change², not only a state with the most environmentally and climate-friendly structure of electricity production among the world's major economies (Fig. 1), but also – thanks to its natural ecosystems, it is one of the world's main ecological and climatic donors³.

Russia is one of the world's climate-responsible states that are most actively implementing the provisions of the Paris Agreement in terms of making voluntary commitments (National Determined Contribution – NDC) to reduce emissions. According to the Decree of the President of the Russian Federation No. 666 of 2020, such an obligation provides for emissions not to exceed the mark of 70% of the 1990 level in 2030. At the same time, according to the latest (26.02.2021) report of the UN FCCC⁴, which summarized data on NDCs from 75 countries of the world as of 20.12.2020 (40% of the countries participating in the Paris Agreement, which account for about 30% of global greenhouse gas emissions⁵), the total volume of greenhouse gas

emissions by 2030 will decrease by only 0.7% compared to 1990. Thus, it is inappropriate to consider the NDC adopted by Russia until 2030 as underestimated.

In addition, Russia's climatic responsibility is manifested in the implementation of the Strategy, the completion of the development and adoption of which in Russia is planned in 2021. At present (July 2021) of 197 states that have ratified the Paris Agreement, 120 or 61% of the number of "signatories" proclaimed a race for zero by 2050⁶. However, only 28 countries (including 2 small island states) have adopted low-carbon development strategies, which do not include the three major greenhouse gas emitters: China, the United States⁷ and India, which account for half of the world's emissions. Thus, Russia is not a state that lags far behind the actions of the world community in the field of climate protection.

Secondly, the Strategy should proceed from national interests, as well as the development goals of Russia until 2030 (determined by decrees of the President of the Russian Federation No. 204 of 2018 and No. 474 of 2020). They correspond to the UN Sustainable Development Goals until 2030 and provide for a strategic balance between (a) solving the problems of preserving the population, improving the quality of its life, and (b) ensuring dynamic and inclusive economic growth. Sustainable growth is the main financial source for solving social, environmental and climate problems, and investments are a key driver in the medium term. In accordance with this, solving the problems of reducing climate risks as a whole should not be an end in itself or a dominant, but an organic and important component of the set of sustainable development goals in Russia. At the same time, ensuring a low level of greenhouse gas emissions should be integrated (as well as solving environmental problems and problems of adaptation to climate change) into the overall strategy of the country's long-term socio-economic development.

Third, in order to achieve national development goals and protect national interests, the Strategy should provide for a set of measures aimed at:

- *in the domestic economic sphere* – on the formation and effective implementation of a system of measures, including:
 - a. acceleration of the dynamics of economic growth in 2021–2030 and improving the energy efficiency of the Russian economy as the main factor in reducing

² Greenhouse gas emissions in Russia for 1990–2019 decreased by 49% taking into account the LULUCF sector – land use, land use change and forestry (by 33% without LULUCF). For comparison, in the EU during the same period emissions decreased by 24%, and in the USA – increased by 2%.

³ We mean not only the forest ecosystems of Russia, the global value of which is increasing due to the ongoing large-scale deforestation in other "lungs" of the Earth (Amazonian region), but also the wetlands that persist in our country, the global significance of which is due to the loss in the last decades 85 % of the global area of such land.

⁴ Nationally Determined Contributions under the Paris Agreement: Synthesis Report by the Secretariat. <https://unfccc.int/documents/268571FCCC/PA/CMA/2021/2>.

⁵ Among the countries that have not submitted their updated NDCs as of this date are the largest emitters: China, the United States (submitted only in April 2021) and India, which together account for about 40% of global greenhouse gas emissions. Updated commitments from among the largest emitters were presented by the EU countries and Russia, as well as Japan, South Korea, key economies of Latin America.

⁶ <https://climateaction.unfccc.int/views/cooperative-initiative-details.html?id=94>

⁷ The strategy adopted in 2016 by the government of President B. Obama was canceled under President D. Trump and, as far as is known, has not yet been legitimized by the government of J. Biden.

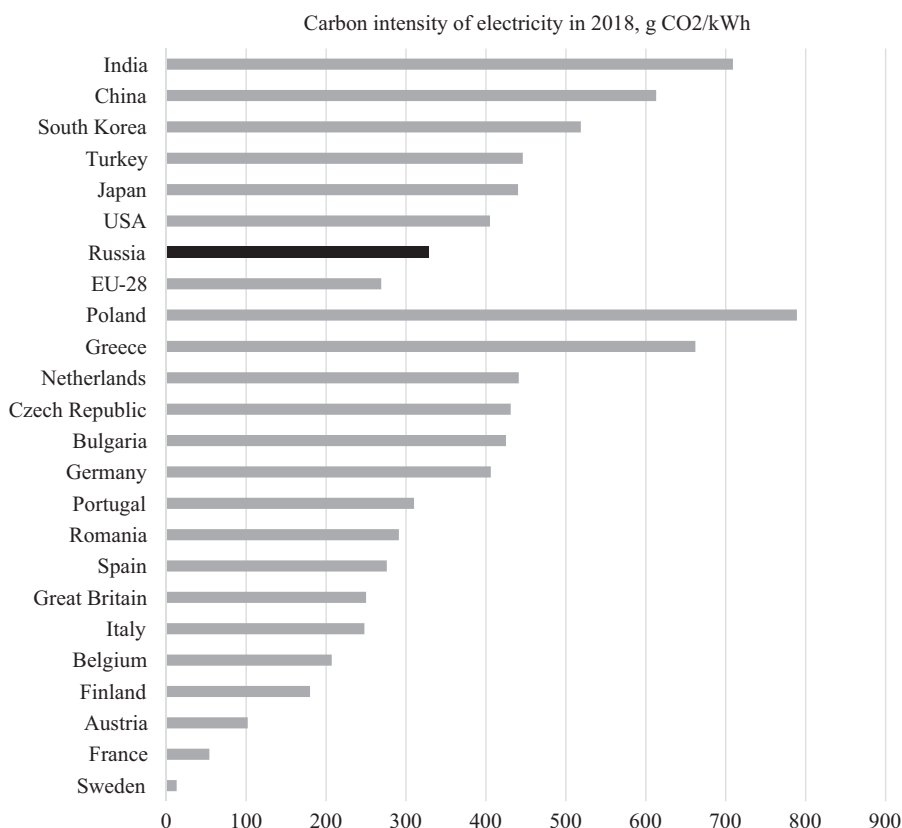


Fig. 1. Comparison of the carbon intensity of electricity produced in different countries in 2018. Source: Estimates of the Institute of Economic Forecasting of the Russian Academy of Sciences based on data from the IEA and Rosstat.

- industry-related emissions of harmful and hazardous substances and greenhouse gas emissions;
- b. support for strategically important sectors of the economy that could be affected in the event of an aggressive introduction of the CBAM mechanism;
- c. full accounting and comprehensive assessment of the absorbing capacity of Russian ecosystems, primarily forests and wetlands, as well as their environmentally sustainable use and protection – as the main carbon sink resource and a factor that ensures for Russia the feasibility of meeting the requirements of the Paris Agreement in terms of increasing ambitiousness of the level of greenhouse gas emissions reduction;
- d. linking the actions indicated above (in subparagraphs a-c) with actions to adapt the population and economy to climate change, which, according to the calculations of leading world experts (Agrawala, 2011), provides the greatest efficiency in terms of reducing net greenhouse gas emissions;
- in the foreign policy and foreign economic spheres – for the development and effective implementation of a system of measures, including:
 - a. delaying as much as possible the timing of the CBAM mechanisms coming into effect, appealing, first of all, to the observance of the WTO rules and the elimination of discrimination against third countries in the application of EU rules in relation to member countries on energy technology priorities.

- Thus, the decisions of the Council of Europe dated December 2, 2020 do not provide for restrictions on the use of specific energy technologies by the EU member states to reduce greenhouse gas emissions by 55% by 2030 in relation to the 1990 level. It was noted that the EU “will respect the right of member states to determine their energy balance and select the most appropriate technologies to collectively achieve the climate target of 2030, including transition technologies such as natural gas”⁸. A completely different approach is assumed for other countries: the new trade policy strategy for the EU, developed by the European Commission in February 2021, envisages with the ambitious goal of reform of the WTO, strengthening the EU’s regulatory influence, taking a “tougher, more assertive approach to the implementation and enforcement of trade agreements”⁹.
- b. interaction with the world’s leading economies- recipients of CBAM risks, primarily with China and the United States – the main trading partners of the EU, supplying European countries including goods with a noticeable carbon footprint;
 - c. interaction with developing countries that are characterized by high rates of deforestation of

⁸ <https://www.consilium.europa.eu/en/press/press-releases/2020/12/11/european-council-conclusions-10-11-december-2020>

⁹ https://eur-lex.europa.eu/resource.html?uri=cellar:5bf4e9d0-71d2-11eb-9ac9-01aa75ed71a1.0001.02/DOC_1&format=PDF

national forests (primarily, with Brazil, Indonesia) to assess the prospects and the possible formation of a joint negotiating position regarding the offset of forest projects implemented in developed countries. This position can be based on the same principles as CBAM, which takes into account the carbon footprint of traded goods and services, but in relation to accounting and compensation for the negative impact of demand from developed countries (EU, USA) on imports from developing countries of food, timber and other goods and services, the production of which is associated with the replacement and reduction of the areas of forest, mangrove and other natural ecosystems – the main reservoirs of carbon sink.

Only in 2015, such imports by the G7 states stimulated a net loss in developing countries of 20 thousand square kilometers of forests, primarily tropical, with the highest carbon sequestration potential, while in the G7 countries themselves, the area covered by forests increased every year in the period 2001–2015. For example, in 2015 in the UK, Germany and France, the area of their national forests increased by 170, 20 and 1,130 thousand square kilometers, respectively. At the same time, the contribution of their imports to the reduction of forests in developing countries amounted to –1629, –3101 and –1175 thousand square kilometers, respectively; in particular, the share of tropical forests in this area reduction reached 42%, 52% and 52%, respectively (Hoang, Kanemoto, 2021).

The results of model calculations carried out at the Institute for Economic Forecasting of the Russian Academy of Sciences show that Russia's adherence to the listed principles allows the volume of accumulated net greenhouse gas emissions in the next 30 years to be lower than that for the EU, which corresponds to the target values voiced by Russian President V.V. Putin in the annual message to the Federal Assembly on April 21, 2021 (Porfiriev, 2021).

As for CBAM, at the first stages of its application the losses of Russian exporters at the price of carbon units in the amount of 50 EUR/tCO₂-eq. may amount to about 1 billion euros per year (less than 1% of revenue), although gradually, as the taxable base increases (due to the abolition of the system of “free” quotas on emissions within the EU and the expansion of the range of products payable to CBAM – for example, hydrocarbons are still planned withdraw outside the perimeter of the mechanism), these losses will grow and can reach 7 billion euros per year (subject to taxation of the entire range of commodities). Obviously, all other things being equal, a significant loss of profitability can lead to a decrease in the volume of supplies. Thus, the actions of the EU countries to seize the income of external suppliers are to a certain extent limited by their need for imported

goods, which they themselves are not able to produce – this is not only energy, but also a broad range of raw materials in general.

In general, the degree of Russia's response to the risks of implementation CBAM should be commensurate with the scale of these risks. For example, according to our estimates, proposals to introduce internal carbon levies in Russia and large-scale construction of generation based on renewable energy sources are excessive. It is important to emphasize here that the carbon footprint of Russian exports to the EU is 80% due to direct emissions (that is, the direct activities of supplier companies), while indirect emissions contained in purchased electricity account for only 14%, in heat – 6%. Therefore, the implementation of the CSA RES program for the construction of generation based on renewable sources within the UES of Russia will help reduce only 14% of the total carbon footprint. If the business considers it expedient to reduce its direct carbon footprint by installing its own renewable energy generation, then the situation is changing. However, imposing a “system-wide” response on business, which, in addition to its redundancy, will undoubtedly result in an increase in electricity costs, is not an entirely correct way of supporting. By the way, in order to completely “green” the indirect carbon footprint of “Euro-oriented” exporters, the UES of Russia will only need to produce a volume of carbon-free electricity in the amount of 4% of the total generation in the country. Currently, renewable energy capacity is insufficient to cover the indicated volumes, but the total generation at nuclear and hydroelectric power plants is 36% of the generated electricity (Table 1), that is, more than enough to dampen claims from the European side. If Russia fails to agree with the EU on the recognition of carbon-free nuclear power plants and hydroelectric power plants, and a choice is made in favor of building new renewable

	Volume, billion kWh	Share of electricity production in Russia (%)
Electricity contained in key commodity items of Russian exports to the EU	45.1	4.0
Carbon-free electricity generation in Russia	407.6	36.3
Renewable Energy Sources	2.0	0.2
Hydroelectric power plant	196.6	17.5
Nuclear power plant	209.0	18.6

Tab. 1. Production of carbon-free electricity in Russia compared to the volume contained in key items of Russian exports to the EU in 2019. Source: INP RAS estimates based on statistics from Rosstat and the Federal Customs Service of Russia.

energy facilities, then the above 4% indicator should be used as the maximum target.

In the context of the above, Russia's declaration of stricter commitments to reduce greenhouse gas emissions (in comparison with the officially adopted ones) may create additional tangible risks for the Russian economy. First of all, because the Paris Agreement already provides for the principle of increasing the ambitiousness of the corresponding obligations for the participating countries. This means that, having now made a promise to reduce net greenhouse gas emissions, for example, to 60–65% of the 1990 level, Russia may already at the turn of 2025 face the need to further tighten obligations and further reduce emissions, seriously at the risk of conflicting with the goals of national development, including sustainable and inclusive economic growth and a package of the most important social guarantees of the state to ensure a decent standard and quality of life for citizens.

An equally serious risk to Russia's national interests is associated with the fact that it is now taking concrete commitments to *unequivocally* achieve carbon neutrality (zero greenhouse gas emissions) by 2050. This may create preconditions for additional pressure on the domestic economy from developed countries, including through persistent appeals and demands for Russia to use timetables and roadmaps for fulfilling this obligation, and then – strict control over their implementation and compliance.

At the same time, our country may be at risk of incurring tangible political and reputational costs. In this regard, it should be noted that, according to our estimates, only 50% of the required emission reductions to achieve carbon neutrality in 2050 can be achieved by increasing the efficiency of energy use and other actions in the economic sphere. The remaining 50% should be provided by an increase in the absorbing capacity of Russian ecosystems. In the latter case, such a decrease requires verification and official recognition on the part of the world community, which in the near future – given the current state of international relations in general and Russia's relations with its Western “partners” – is difficult to count on, while the additional the risks are quite obvious.

In the current circumstances, in order to minimize the aforementioned risks, the following set of measures seems appropriate:

- with the further escalation of the topic of carbon neutrality by 2050 in international economic relations and climate policy, instead of the rigid, unambiguous wording “achieving carbon neutrality”, use a more flexible and acceptable

wording “about [maximum] striving for achieving carbon neutrality” in the corresponding declaration. This or a similar formulation was used, in particular, by Singapore (in the development strategy with low greenhouse gas emissions, 2020) and China (in the official statement of Xi Jinping in his appeal to the UN on achieving [net] zero greenhouse gas emissions in 2060¹⁰). The rigid wording is permissible only in relation to certain regions, economic activities, enterprises or companies (or their groups) solely on their initiative and after a thorough scientific examination of the relevant projects. Russia as part of his speech at the World Leaders' Climate Summit in April 2021¹¹.

- within the framework of this expertise, to analyze and assess (forecast) the impact of the implementation of specific measures to reduce net greenhouse gas emissions on economic dynamics, sectoral production parameters, prices, level and quality of life of the population of the country and its regions. The parameters of such a forecast should be coordinated with the main directions of the strategy of socio-economic development, strategies for spatial development and development of key sectors of the Russian economy. Considering, on the one hand, the tight deadlines, and, on the other hand, the already available relevant analytical materials, such a task could be solved quite quickly.

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¹⁰ <https://unfccc.int/process/the-paris-agreement/long-term-strategies>;
<https://www.nytimes.com/2020/09/22/climate/china-emissions.html>

¹¹ <http://kremlin.ru/events/president/news/65425>