NATIONAL RESEARCH UNIVERSITY–HIGHER SCHOOL OF ECONOMICS
Faculty of World Economy and International Affairs

Turning to Nature: Russia's New Environmental Policy in "Green" Transformation of the Global Economy and Politics

Report based on the results of situational analyses series

This report was authored by a team of experts from the NRU-HSE Faculty of World Economy and International Relations under the direction of Sergei A. Karaganov. It is based on the results of three situational analyses held under the auspices of the Russian Ministry of Foreign Affairs with support from the Roscongress Foundation, State Duma Committee on International Affairs, the Council on Foreign and Defense Policy, and *Russia in Global Affairs* journal.

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PREFACE

This report is a follow-up to a series of studies finalized in three situational analyses carried out by the Faculty of World Economy and International Relations of the National Research University–Higher School of Economics under the auspices of the Russian Ministry of Foreign Affairs with support from the Roscongress Foundation, State Duma Committee on International Affairs, the Council on Foreign and Defense Policy, and *Russia in Global Affairs* journal. The analyses were aimed at working out new ideas for Russian foreign (primarily, but not exclusively) policy in today's dramatically changing world.

We got completely confirmed in the need for a new environmental policy for Russia ―which would benefit itself and the world―in the course of the 2019 situational analysis held to discuss new ideas for Russian foreign policy.[1] It became clear then that certain flaws in the implementation of the policy in regard to environmental issues, which had taken an increasingly important place in the international agenda, sidetracked Russia in exploiting a whole range of its competitive advantages.

Work on the present report proceeded amid restrictions set due to the COVID-19 pandemic, and this circumstance made us change our usual practice. As a rule, we prepare extensive general propositions which are further discussed using the method of situational analysis. The pandemic made us place a particular focus on the preparation of a profound basic material to be later discussed with relevant high-ranking officials and authoritative experts, and only then finalized. During our work on the report, we held three―not one, as usual―situational analyses online.

We thank our colleagues―renowned Russian scientists, public figures, and government officials, who agreed to work in such uneasy conditions. Dozens of their comments and suggestions were taken into account and fixed in the report. The names of the participants in the situational analyses are listed above.

Our special acknowledgements go to **Igor N. Bashmakov**, Nobel Peace Prize laureate (as a member of the UN Intergovernmental Panel on Climate Change), Executive Director of the Russian Center for Energy Efficiency; **Sergei N. Bobylev**, Head of the Centre for Bioeconomics and Eco-Innovation at the Faculty of Economics of Lomonosov

[1] Karaganov, S.A, Suslov, D.V., Primakov, Ye.a., Makarov, I.A., Popovich, L.D., 2020. Zashchita mira, zemli, svobody vybora dlya vseh stran: novye idei dlya vneshnei politiki Rossii [Protecting Peace, Earth and Freedom of Choice for All Countries: New Ideas for Russia's Foreign Policy]. Moscow: NRU-HSE. https://www.hse.ru/data/2020/04/27/1544981528/Защита%20мира.pdf

Moscow State University; **Alexander S. Abolits**, Editor-in-Chief of "*V mire zhivotnykh"* (In the Animals' World) magazine; and **Tatiana A. Mitrova,** professor at Moscow School of Management SKOLKOVO for arranging reviews of the prefinal text copy of the report, which were extremely useful for preparation of its final version.

We are especially grateful to Corresponding Member of the Russian Academy of Sciences, Research Director of the RAS Institute of Economic Forecasting **Boris N. Porfiriev** for offering the most detailed comments and recommendations on the report's prefinal version; much of his advice we accepted gratefully.

The report contains some tough assessments, including of Russia's current policies, as well as some rather radical proposals. Not all of them were shared by the participants in the situational analyses. Understandably, the relatively open online format of the discussions bound down to a certain extent both the speakers during the situational analyses and the authors of this report. So, some of the aspects of the problem will require further discussion behind closed doors.

The discussions of the problem during the three situational analyses showed that it involves mixed attitudes and much controversy: while all the participants in the discussions agreed on the need for a more active, qualitatively new environmental policy (both domestic and foreign) for Russia, they had different, sometimes diametrically opposite, views on the policy instruments to be used. The present report does not claim to offer a detailed conception of Russia's new environmental policy and the relevant internal and external changes it will involve, and thereby draw a line under the discussion. On the contrary, it invites all interested parties to a broad discussion, both on the national and international platforms. In any case, the implementation of Russia's new environmental policy for itself and the world—if and when it is adopted—will require a lot of time and effort. But all the participants in the situational analyses, despite the difference in their views on certain issues, were unanimous in that Russia is lagging behind. It should start acting promptly to make up for the lost time.

We have used extensively the ideas and criticism voiced in course of the situational analyses and we have specially highlighted those points in the report which aroused opposite opinions of the participants and were not agreed upon. Naturally, it was impossible to take into account all of the comments and suggestions, especially where the

participants' positions differed diametrically. Responsibility with the report lies with the head of the authoring team and main author Igor A. Makarov.

Sergei A. Karaganov

KEY IDEAS—EXECUTIVE SUMMARY

Current trends in the development of international relations and Russia's national peculiarities, its competitive advantages, and the challenges it is facing at home and abroad require drafting and implementing a new domestic and foreign policy in environmental protection, and making it one of the country's national and foreign policy priorities. **Nature protection and preservation should become an important component of the Russian national idea, its mission for itself and the world, and an important element of its international identity. International cooperation in nature protection should become Russia's important positive contribution to global development and part of its international attractiveness and authority.**

Environmental problems are becoming a priority in international relations, along with international security and economic development. The coronavirus epidemic has only boosted this trend. The European Green Deal, which aims to achieve carbon neutrality in the European Union by 2050, has been proclaimed one of its main strategic projects in the coming decades. Even if this ambitious initiative is not fully implemented as intended, it is still considered a way to lead the EU out of its current economic crisis, and strengthen its competitive position for the foreseeable future. In the United States, the Joe Biden administration places climate issues among key domestic and foreign policy priorities, and seeks to gain leading positions on the climate agenda as an important way to restore American "global leadership" in general. The U.S. may announce the goal of achieving carbon neutrality by 2050 already at the start of Biden's presidency. China has recently also begun to play an important role on the global environmental and climate agenda and announced plans to achieve carbon neutrality by 2060. Environmental protection and climate change occupy a prominent place in the activities of key global governance institutions, including the G20 and BRICS.

There are several reasons for the growing importance of environmental issues on the international agenda:

- objective exacerbation of environmental problems, critical accumulation of environmental damage (with increasing risks of irreversible consequences) and an increased negative impact of environmental degradation on the health and quality of life around the world. With clean technologies getting less costly, benefits derived from extensive development, exploitation of natural resources, and

pollution-intensive production are gradually outweighed by the burden carried by health, social security, and insurance systems, and by the adverse effects on the quality of people's life. Environmental problems have fully become a national and international security issue;

- the blending of environmental problems with economic ones, commercialization of natural capital, and the transformation of "green" (clean) technologies into a factor of corporate and national competitiveness;
- the global crisis of the current model of capitalism based on permanently growing consumption, and a vacuum of ideas, which is being filled, among other things, with "green" ideology. Nature preservation could become a new universal ideology for humankind and fill the vacuum created by the obvious crisis of neoliberalism and the absence of powerful alternatives such as socialism.

The environmental and climate agenda has both consolidating and dividing potential. On the one hand, it can become one of the few factors capable of uniting different—in terms of values, political and economic development models, level of economic development, foreign policy orientation—countries and to foster dialogue and cooperation between them even if their relations with each other are not friendly. Such a unifying role of environmental and climate issues is particularly important amid the avalanching chaos and rivalry in international relations, both at the global and regional levels. On the other hand, climate and environmental issues are becoming an increasingly important element—both an instrument and a factor—of such rivalry. The approaches to climate change that Western countries, especially the EU, are promoting today are largely discriminatory, perpetuate Western economic dominance and the backwardness of developing countries, and therefore only exacerbate international rivalry. The EU's Green Deal, in particular, may further aggravate Russia-EU relations and contribute to the rise of protectionism against European goods.

With the Biden administration in office, engagement on climate issues will become an important part of the agenda between the main strategic rivals of the 21st century—the United States and China—whose relations will generally be characterized by further containment and gradual economic "decoupling."

Environmental cooperation remains an essential element of interaction among Arctic Council countries despite alienation, if not downright confrontation, between most of its other members and Russia.

Leadership in defining the environmental and climate agenda is now increasingly seen as an important way to strengthen international political standing and take an advantageous position in building a new world order. There is already intense competition in this area which involves not only developed but also more and more developing countries.

Amid the new global economic crisis spurred by the COVID-19 pandemic, many of the world's leading countries (developed and developing, with India being the only exception) consider the "green agenda" an instrument of anti-crisis policy, a way to make a leap in terms of technological modernization and structural transformation of the economy, thus increasing their competitiveness when exiting the current crisis and after it.

Given the increasing urgency of environmental problems for the vast majority of countries due to the aforementioned factors, there is a need for a truly unifying, rather than dividing, non-discriminatory environmental and climate agenda that would encourage global efforts to reduce environmental damage and greenhouse gas emissions, rather than create a small group of privileged countries, with a minimal positive effect on climate. As a country endowed with rich natural resource potential and as an ecological donor of the planet, Russia could initiate such an agenda.

For the time being, Russia's participation in the struggle for the environmental and climate agenda does not correspond to its objective potential. **Russia's current environmental policy is not active enough and does not fully meet the challenges of the times, in particular, the ever-growing importance of the environment in the world economy and international relations, its transformation into a factor of competition, and the blending of the environmental, economic and technological agendas.**

Since the 1990s, environmental policy has largely been viewed in Russia as a burden, and sometimes as a threat to economic development. This is most obviously spelled out in the Economic Security Strategy of the Russian Federation (adopted in 2017), where the development of "green" technologies is listed among the main challenges and

threats to the country's economic security,[2] primarily due to the fact that these technologies reduce demand for raw materials exported by Russia. This stance can hardly be questioned if one assumes that Russia's current emphasis on the production and export of fossil fuels, and its foreign policy focused on the recently popular status of "energy superpower" are something permanent. However, this approach no longer pays off as before. Moreover, "green" technologies will continue to develop (regardless of Russia), and hydrocarbons will gradually lose the status of strategic commodities. Building foreign and foreign economic policy on the previous principles would mean accepting the fact that Russia's role in the world economy and world affairs is doomed to decline.

Russia has been a world leader in reducing many types of pollution and CO_2 emissions over the past three decades. This happened, firstly, due to the collapse of the Soviet economy and many old industries in the 1990s; secondly, due to structural changes in the Russian economy in 1999-2007, when new, more high-tech and less harmful production facilities were created, metallurgical and chemical industries were modernized, nuclear and hydropower plants were developed, and modern gas power and heat generation technologies became more popular. Although improving the environment as such was not a top priority at that time, it would be wrong to downplay Russia's achievements in reducing pollution and emissions both in the 1990s, when the country paid for that with a decline in GDP and people's well-being, and in the 2000s, when a new structure of the national economy was created.

The current environmental situation in Russia evokes a controversial reaction. Compared to the rest of the world, Russia is relatively well off from the ecological point of view, and even leads the way among major countries in terms of forested areas or the structure of the electricity generation system. However, in a number of regions and cities, environmental problems reach a critical level, as evidenced by air pollution in some cities in the Urals and Siberia, record-setting forest fires, and an environmental disaster in Norilsk at the end of May 2020.

Russia is a party to all major environmental agreements, including the Paris Agreement, and develops cooperation in the environmental protection with its partners in

[2] Presidential Decree, 2017. Decree #208 of the President of the Russian Federation of May 13, 2017 "On the Strategy for Economic Security of the Russian Federation for the period until 2030". https://www.garant.ru/products/ipo/prime/doc/71572608/

the EAEU, BRICS, SCO, and EU countries. At the same time, Russia is not trying to play a leading role in these processes and, most importantly, formulate and promote its own agenda beneficial for itself. Russia does not take full advantage of its interests and competitive advantages, trails behind the narrative formulated by Western countries, and does not approach environmental issues as one of the real foreign policy priorities.

The Western approach to combating environmental problems, with a focus particularly on climate change, effectively places responsibility for it on the countries that manufacture pollution-intensive goods. This approach is objectively disadvantageous to Russia and one-sided, establishes new global economic discrimination, and has proved ineffective in combating global climate change. However, Moscow is not trying to offer any alternative at the official level. Even when Russia from time to time criticizes certain steps like the EU's intention to introduce a carbon border adjustment mechanism, it neither offers other options to the European Union at the official intergovernmental level (the state actually lags behind business which is trying to do so) neither develops, together with BRICS and SCO partners, a constructive alternative to put it forward on the international stage. In fact, such an alternative could win the support of many developing countries, increase Russia's international influence and not only allow it to avoid heavy losses from the agenda currently promoted by the EU, and with time by the United States, but could also bring significant economic benefits.

Russia's approach to the environmental and climate agenda is passive both in relations with its BRICS and SCO partners, and in relations with Western countries. Moscow does not consider this issue a priority within BRICS and the SCO, as clearly evidenced by its chairmanship in these organizations in 2020. The reason for this is not the coronavirus pandemic, which changed the agenda of both groupings, especially BRICS, but the fact that these issues have never been listed among Russia's official priorities. Moreover, the implementation of the European Green Deal threatens Russia with serious economic losses due to carbon border adjustment and may label it as "lagging behind" in combating climate change. And yet Moscow has assumed a critically waiting position. Compensatory duties from both Russia and other countries may become another theater of trade wars, unbeneficial for all, including the EU. European partners should be aware of this.

Russian businesses have already voiced concern about a future loss of revenues and markets, and stressed that this problem can only be solved at the level of official bilateral (Russia-EU) or multilateral relations. Insufficient technological modernization of extractive industries and refusal to correct structural imbalances in the Russian economy, including by developing "green" industries, may leave the country behind major economic trends for years, in much the same way the Soviet Union fell behind in cybernetics in the 1970s-1980s.

Russia has already lost a lot of time in developing low-carbon industries, being too slow in responding to global "green" trends. **While having made significant progress in using its competitive advantages in a number of non-energy resource-intensive industries (such as agriculture and tourism), its potential for harnessing nature for the country's economic and spiritual development, as well as for strengthening its international standing is far from being fully tapped,** and much more needs to be done. Now it is necessary to catch up, and gradually transform the Russian economy, domestic and foreign policy, taking into account the global "green" trends. Moreover, the environmental agenda gives Russia many new opportunities.

Due to the peculiarities of Russia's territory, nature and economic specialization, the country's potential weight in the environmental field is much bigger than its weight in the global economy. **The country can make a major contribution to solving global environmental problems (and benefit from that). The agenda of Russian nature protection policy should be shaped around this contribution. Russia needs to position itself as one of the leaders in joint efforts to preserve the planet's environment, as an eco-friendly and clean country**, in addition to other attractive roles the country plays in international relations and the world economy (a supplier of international security, guarantor of strategic stability, defender of sovereignty and independence, political, cultural and civilizational diversity in the world, the right of countries to independently choose development models, etc.[3]).

Closeness to nature and its preservation should be proclaimed an important part of Russia's national identity, its mission for itself and the world. This will not only mitigate or eliminate risks from the current passive environmental policy, but will also

[3] Karaganov S. A., Suslov D., Primakov Y. A., Makarov I. A., Popovich L., 2020. Protecting Peace, Earth, and Freedom of Choice for All Countries. New Ideas for Russia's Foreign Policy. Moscow: NRU-HSE. https://publications.hse.ru/mirror/pubs/share/direct/399727482.pdf

open up many new opportunities that have not yet been used, increase political influence and bring economic benefits by:

- lending a new meaning to national development, offering Russian society and elites an attractive and forward-looking idea, creating a new consolidating national agenda that unites both liberals and statists, and giving the country as a whole a promising mission for itself and the world;
- strengthening Russia's credibility primarily among developing countries, but also among some of the Western states, emphasizing Russia's positive contribution to global development and strengthening its positions in the unfolding process of building a new international order, as well as drawing economic benefits from cooperation with other countries in nature protection;
- boosting the gradual transformation of the Russian economy towards non-oil and gas industries, mainly those that combine the use of natural and human capital—Russia's main competitive advantages in the 21st century, thus facilitating its sustainable economic development in the long term; and
- helping to preserve and develop the country's natural potential, which is one of the most important foundations of patriotism and commitment to serving the country and its people.

The proposed turn towards nature is long overdue. This is felt by a significant part of intellectuals and civil society, and increasingly understood by businesses and political elites. Several important analytical reports on environmental issues have been published in the past few years.[4] Environmental and climate issues are actively discussed by

[4] See: Makarov, I.A., 2014. Okruzhayushchaya sreda kak faktor ekonomicheskogo i duhovnogo razvitiya Rossii [Environment as a Factor of Russia's Economic and Spiritual Development]. In: S.A. Karaganov (ed.) *Strategiya XXI*. Moscow: SVOP. http://svop.ru/wp-content/uploads/2014/02/08strategy21_environtment.pdf; RF State Council, 2016. "Ob ekologicheskom razvitii Rossiyskoi Federatsii v interesakh budushchikh pokoleniy" ["On the Ecological Development of the Russian Federation in the Interests of Future Generations]. Moscow: Kremlin. http://ecoline.ru/wp-content/uploads/report-on-the-ecological-development-of-the-russian-federation-in-the-interests-of-future-generations-2016.pdf; Greenpeace, 2020. *Zelyony kurs Rossii* [Russia's Green Course]. https://greenpeace.ru/wp-content/uploads/2020/11/ЗеленыйGC_A4_november_2020_002пп-1-1.pdf; CENTERO, 2020. T. Rusakova (ed.) *Vida Verde. Obratnaya modernizatsiya kak novy vektor inklyuzivnogo rosta* [Reverse Modernization as a New Vector of Inclusive Growth]. https://centero.ru/wp-content/uploads/2020/11/Centero_Vida-Verde.pdf; Apanovich, M., Barabanov, O., Cheremisin, P., Maslova, E., Reinhardt, R., Savorskaya, E., 2020. *Climate Policy in a Global Risk Society.* Moscow: Valdai. https://ru.valdaiclub.com/files/35992/; The Presidential Council for Civil Society and Human Rights, 2020. *Izmeneniye klimata kak vyzov i unikalnaya vozmoshnost dlya tekhnologicheskoi transformatsii Rossii i obespecheniya soblyudeniya ekologicheskih prav grazhdan* [Climate Change as a Challenge and a Unique Opportunity for Technological Transformation of Russia and for Protection of the Citizen's Ecological Rights] https://www.researchgate.net/publication/346952551_IZMENENIE_KLIMATA_KAK_VYZOV_I_UNIKALN

business associations and government officials. Some companies are eyeing new market niches that are opening up in connection with the "green" transformation of the world economy. RUSAL has offered the world's most low-carbon aluminum, Gazprom is engaged in negotiations with the EU on a gradual transition from gas supplies to methane-hydrogen mixtures, Rusnano produces and actively promotes carbon nanotubes that significantly reduce material intensity in industry and construction, Rosatom invests in renewable energy, Lukoil has announced plans to achieve carbon neutrality by 2050, many metallurgy companies actively implement low-carbon projects, and Sberbank and VTB are exploring the possibility of "green" financing. Regional authorities are also quite active: for example, the Sakhalin region was the first to set the goal of achieving net zero emissions by 2025.

The purpose of the new environmental policy we propose is to make these and many other Russian actors and decision-making centers aware of the risks of inaction, see and use the possibility of moving to clean development for the benefit of themselves, the country, and the planet.

At the same time, **Russia's nature protection policy should not copy the Western agenda either in terms of priorities or tools**. Both Russia and its key partners on the world stage—BRICS and SCO countries—have fundamentally different conditions for economic and societal development. Incomes in Russia are not very high and there is a lot of inequality, the country has large deposits of natural resources, but faces numerous environmental problems and specializes in resource-intensive industries. It probably makes no sense to build its environmental agenda around climate change and the development of renewable energy sources, as EU countries do. Instead, **the focus should be on how to improve people's health and quality of life, reinvigorate the economy (including by increasing its energy and resource efficiency and reaching a new technological level through the merger of high-tech and resource sectors), and use Russia's natural resource potential and**

AA_VOZMOZNOST_DLA_TEHNOLOGICESKOJ_TRANSFORMACII_ROSSII_I_OBESPECENIA_SOBLUDENIA_EKOLOGICESKIH_PRAV_GRAZDAN; Belov, D., Kotova, A., Kuznetsov, E., Milke, K., Mujumdar, A., Shadrin, A., 2021. *Global Green Transformation: How Will the World Change?* Moscow: Valdai. https://ru.valdaiclub.com/files/36510/; Center for Strategic Research, 2021. *Klimaticheskaya povestka Rossii: reagiruya na mezhdunarodnye vyzovy* [Russia's Climate Agenda: Responding to International Challenges]. Moscow. https://www.csr.ru/upload/iblock/521/521091011093dc8b5ece74cdd8552680.pdf

international cooperation in order to solve environmental problems and thus strengthen Russia's foreign policy authority.

The strategy we propose has both foreign policy and domestic political components. At the same time, the **external dimension of Russia's new environmental policy is impossible without its internal component,** which means redoubling real efforts to improve the environmental situation in the country, make closeness to nature an important aspect of national identity and heritage, and reduce inequality as a fundamental reason for rapacious use of natural resources due to overconsumption by the rich and environmental neglect by the poor.

Inside the country, it is necessary to treat nature not as a resource that can be exploited endlessly, but as a home and homeland, the conservation of which is an integral part of people's well-being and quality of life. Based on that, **it would be advisable to find an optimal balance between economic development and environmental protection, including through technological modernization of resource-based industries and the creation of an innovative resource-based economy that combines growth with an attitude of care towards nature**.

We believe (although not all the participants in the situation analyses agreed with these recommendations) that we should attempt to limit excessive consumption by the wealthy and introduce fees for the harm caused to nature by those who overconsume, including by introducing progressive taxation.

Russia **needs a new philosophy of preservation and protection of a human being, focusing on spiritual development, health, safety, and well-being, rather than material consumption.** Environmental protection should become one of the central elements of the new national idea and government priorities in all areas.

The main elements of the new environmental policy in Russia are:

- encouraging environmental education and training;
- developing environmental self-government;
- "turning to nature" in state symbols;
- promoting internal ecotourism;
- ensuring availability of information about the real environmental situation and paying greater attention to environmental issues and nature in the government information policy;

- fostering closer work with the expert community, supporting Russian environmental NGOs and increasing the role of Russian experts in forming national environmental and climate policy, including its international dimension;
- revamping environmental regulation and building a balanced system of carbon regulation, treating it as an instrument of economic diversification and redistribution of financial resources in favor of promising industries;
- building an innovative resource-based economy by integrating natural wealth, high technology, and modern environmental management practices;
- energy conservation and energy efficiency;
- modernizing the forest management system;
- creating conditions for attracting foreign investments in nature protection projects;
- encouraging the rich and super-rich segments of society to adopt more modest consumption patterns, and promoting a more careful attitude towards nature among the poor. These measures can include progressive taxation, higher taxes on luxury goods, and efforts to encourage a more careful attitude to nature and its preservation. Progressive taxation should be presented not simply as a "wealth tax," but as an instrument for covering environmental damage caused by overconsumption. In the long run, the main tool for reducing environmental damage from both the rich and the poor will be reduction of inequality;
- accelerating the development of Siberia and the Far East as a territory of an innovative resource-based economy that combines natural resources with high scientific potential, with an emphasis on the development of environmentally-intensive benefits (from agricultural products to data centers) and ecosystem services (from ecotourism to the use of forests as carbon sinks).
- treating the Russian Arctic not only and not so much as a storeroom of energy resources, but as a region with a fragile ecosystem, the destruction of which will have a very negative impact on the development and security of Russia and other Arctic countries, as a laboratory for studying climate change, and a region of cooperation to combat and adapt to climate change.

The implementation of this policy, as some participants in the situation analyses noted, may require a change in the administrative structure of environmental management in Russia. Some participants called for reforming the Ministry of Natural Resources and

Environment, which combines incompatible functions, and for **creating a separate Ministry of the Environment, which should consolidate the development of the environmental agenda in the country. Some also raised the question of strengthening the environmental focus in the work of the Russian Security Council**, and stressed the need to openly position environmental protection as a matter of national security. Other panelists objected to such administrative changes.

Environmental protection **should also become one of Russia's foreign policy priorities**, an important part of the agenda for both Russia's bilateral dialogues with key partners, primarily China and the EU, and multilateral institutions with Russian participation (BRICS, SCO, RIC, EAEU). Presently, environmental and climate issues are not among top priorities in BRICS, RIC, and the SCO due to disagreements between member countries. However, Russia should lead the way and help gradually overcome the differences and fill this gap, starting with an expert dialogue. Moreover, the emphasis should be not on short-term environmental obligations of member-states, but on **joint work with Russia to create a new global agenda for environmental protection that would be fairer than the one proposed today by the West, and that would emphasize Russia's positive contribution to solving world environmental and climate problems**. This agenda should focus not only on climate change, but also on cooperation in combating the entire range of environmental problems, joint development of clean industries, and equitable distribution of responsibility for environmental pollution between producers and consumers of pollution-intensive goods.

Global restructuring of the world economy designed to address planetary environmental problems must be inclusive and tailored to the interests of not only developed but also developing countries. This idea must be advanced worldwide. Accordingly, it is necessary to move towards clean development together and adopt a "Global / World Green Deal". We need rules and instruments of international economic relations and global governance that would hold both producers and consumers of pollution-intensive goods accountable for damage to the environment, and would encourage rich developed countries to assist all countries of the world in their transition to a lower-carbon "green" economy. In particular, efforts should be aimed at **establishing a global system of funding for "green" projects that would link the financial resources**

available in rich countries for low-carbon financing with low-cost emission reduction programs hosted mainly by developing countries.

At Russia's insistence, **BRICS and SCO countries should announce their paramount role in solving global environmental problems and propose a new principle to the world, according to which not only producers but also consumers of pollution-intensive goods should pay for environmental damage, including greenhouse gas emissions**. A concrete step towards implementing this principle would be **a global mechanism for offsetting greenhouse gas emission reductions through projects designed to reduce such emissions primarily in the BRICS, SCO, and EAEU countries, and developing countries in general, instead of the carbon border adjustment mechanism being planned by the European Union**.

In the future, as some participants in the situation analyses noted, Russia, jointly with its BRICS and SCO partners, can raise the question of **resetting the Sustainable Development Goals by the UN General Assembly, emphasizing their close interconnection with each other and the impossibility to solve global environmental problems without curbing excessive consumption.** But there is also another approach pointed out by other participants: instead of wasting time and energy to update the Sustainable Development Goals, it would be more prudent to advance them globally as they are together with developing countries, constantly bringing them to the attention of leading countries.

In cooperation with EU countries, Russia should not just criticize the European Green Deal, but offer cooperation in protecting the environment and combating climate change. This cooperation should be based on two elements. The first one is the development of mechanisms for greenhouse gas emissions accounting and regulation in Russia. These mechanisms should be compatible with the European emissions trading system and provide opportunities for implementing low-carbon projects in Russia, including with the help of European investors. The second element is the implementation of joint projects to produce hydrogen in Russia using both renewable energy and natural gas (with carbon capture and storage in the future), and nuclear and hydropower.

Some participants in the situation analyses insisted that the time had not yet come to propose such initiatives to the EU. The European Union is not yet ready for a constructive dialogue with Russia and refuses to resume the discussions it interrupted in

2014, including the dialogue on environmental and climate issues, and the overall state of Russia-EU relationship and its development trends at the beginning of 2021 is not conducive to the strengthening of the dialogue and the search for ways to expand the positive agenda. And since the European Union's Green Deal is primarily an instrument of its own economic development, its first reaction to such an initiative will most likely be skeptical and lukewarm. However, other participants, while agreeing that prospects for negotiation with the EU are rather dim, nevertheless, insisted that such an ambitious initiative on the part of Moscow, especially if it is accompanied by real efforts to improve the environmental situation in the country, would strengthen Russia's moral position in the eyes of its BRICS and SCO partners, improve its image among European green parties, and make it difficult for the EU leadership to find reasons for denial. Moreover, if the political dialogue between Russia and Brussels stops completely, Russia could propose this initiative to individual EU member-states on a bilateral basis. What is important is that this initiative does not incur direct losses for Russia.

At the same time, just as a safeguard and in order to strengthen its negotiation positions, Russia should prepare a package of compensatory duties, as well as other restrictions, if the EU decides to go its own way.

Finally, it would be worth trying to take a chance and contact the Biden administration, which considers the climate agenda one of the top priorities, and invite it to intensify the dialogue on both environmental protection in general and particularly in the Arctic as a region where nature is most fragile, climate change is more rapid than anywhere else on the planet, and Russia and the United States are neighbors.

Such dialogue can slow down the transformation of the Arctic into an area of Russian-American and Sino-American confrontation and its further militarization, which can hardly benefit Russia, and also help seal further in international law exclusive rights of the Arctic countries to their water areas in the Arctic Ocean within exclusive economic zones despite the melting of the Arctic ice, and prevent the transformation of the ice-free Arctic into "ordinary international waters." The success of such an initiative is not guaranteed, even less so than in the case of the EU, and some of the participants expressed their skepticism. However, if Russia does not start a dialogue with the U.S. or remains passive, Washington will press ahead with its policy of containing Russia in the Arctic.

At the same time, according to some participants in the situation analyses, Russia, China, and the United States could jointly criticize the EU's plans to introduce a carbon border adjustment mechanism since American (and Chinese) businesses will be affected just as much as Russian ones.

The implementation of our strategy is likely to face serious resistance from part of Russian big business, that is, those companies that in pursuit of short-term gains may not be interested in raising environmental standards and building a cleaner economy, as well as in adopting environmental ideology at the state level. However, it must be understood that pandering to short-term interests will lead to a long-term decline in competitiveness, throw Russia further behind leading powers economically and technologically, damage Russia's image in international relations and weaken its position on the world stage, including among its BRICS and SCO partners. At the same time, it must be remembered that the adoption of environmentally friendly measures can adversely affect part of small and medium-sized businesses in the short term. The state should offer them not only a stick, but also a carrot through various incentives, preferential tax treatment, and other benefits.

Investment in improving the environmental situation in the country and foreign policy activity to form an international environmental agenda beneficial to Russia, emphasizing its contribution to solving world environmental problems, and its natural potential, will pay off in spades and bring not only foreign policy results, but also quite palpable socioeconomic benefits, and accelerate the economic development of Russia. **An innovative resource-based economy can become one of the new drivers of growth, while the potential for growth based on the extraction and export of natural resources is already exhausted.**

Finally, environmental protection, especially if it is accompanied by measures to reduce social inequality, is one of the few issues that can unite society, elites, and political forces which are usually at loggerheads with each other over most other issues. In terms of its unifying potential, the idea of environmental protection can match that of the Victory in the Great Patriotic War.

Although it will take several decades to implement this strategy, it is necessary to start now, even "yesterday." The current economic crisis triggered by the coronavirus pandemic should not delay but, on the contrary, should accelerate the turn to nature in Russia's economic, domestic and foreign policies. World experience shows that it is crises

that are the best time to make strategic decisions on the diversification of the economy and the development of industries that will eventually become drivers of post-crisis growth.

Delays will further exacerbate domestic environmental, social and economic problems, including those stemming from environmental pollution and reduced competitiveness of Russian business, and will solidify the existing global environmental agenda formulated by the West on the basis of its own interests, focusing mainly on climate change and placing the bulk of responsibility for it on the CO_2 producing countries (including Russia), rather than consumer habits of the rich. This agenda will perpetuate the situation where most countries of the world will trail far behind the West. If this agenda remains unchanged, it will be much harder for Russia to convert its natural wealth into political and economic capital.

Part 1. THE ENVIRONMENTAL FACTOR IN THE MODERN WORLD

1.1. Environment as an Arena for Cooperation and Competition

Climate change, ozone depletion, water, air, and soil pollution, deforestation, desertification, fisheries depletion, accumulation of waste, and loss of biodiversity are turning into an increasingly serious problem for economic development and a growing security threat, especially for developing countries. And in some cases, they even threaten the very existence of humankind. *For more information on the environmental problems facing the modern world and the evolution of the global environmental agenda, see* ***Annex 1.***

The anthropogenic impact on the environment slightly decreased during the coronavirus pandemic, but there has been no significant cleaning effect. After the end of the first wave of restrictions, air pollution quickly returned to its previous level, and the amount of plastic waste increased globally. CO_2 emissions had dropped by about 7% by the end of 2020.[5] Since climate change does not depend on the volume of annual emissions per se, but their concentration, which increased just slightly less in 2020, the pandemic will have little impact on the rise of global air temperatures.

Environmental problems are interrelated. Some of them are caused by the same factors: for example, the burning of fossil fuels exacerbates both local air pollution and climate change; chlorofluorocarbons are both ozone-depleting substances and greenhouse gases. Sometimes one environmental problem aggravates others: in particular, the increase in the amount of waste not only makes its disposal more difficult, but also increases water and air pollution; deforestation negatively affects biodiversity, air quality, resilience to natural disasters, local and global climate; climate change exacerbates water stress, negatively affects biodiversity and ecosystems. Finally, many environmental problems, including deforestation, soil degradation, aquifer depletion, water and air pollution, poaching, and deplorable sanitation are the result of poverty and pile up on top of each other in poor countries.

Environmental problems are becoming an important factor in international relations. Their scale is such that the countries that can offer attractive ways to mitigate them and

[5] Global Carbon Project, 2020. Global Carbon Project: Coronavirus Causes 'Record Fall' in Fossil-Fuel Emissions in 2020. *Carbon Brief,* 11 December. https://www.carbonbrief.org/global-carbon-project-coronavirus-causes-record-fall-in-fossil-fuel-emissions-in-2020

position themselves as leaders in the struggle for nature protection will significantly strengthen their international authority and influence. **This is why we can already see increasingly fierce competition for leadership in determining the agenda of international environmental cooperation.**

The European Union conducts the most active climate change campaign. In 2019, the EU announced its Green Deal aimed at achieving net zero emissions (carbon neutrality) by 2050 (Fig. 1). To this end, it plans to invest €1 trillion in the "green" transformation of the economy, including the development of renewable energy, green hydrogen, electric transport, "green" construction, a closed-cycle economy, and clean agriculture. It is important that although the European Green Deal has been formally adopted as a document, it is not a fully developed plan, but rather an ideological framework, the direction in which the European economy will move. It is also viewed as an anti-crisis strategy: the implementation of the European Green Deal, in particular, investments in "green" infrastructure and the creation of "green" jobs, should help overcome the consequences of the current economic crisis.[6]

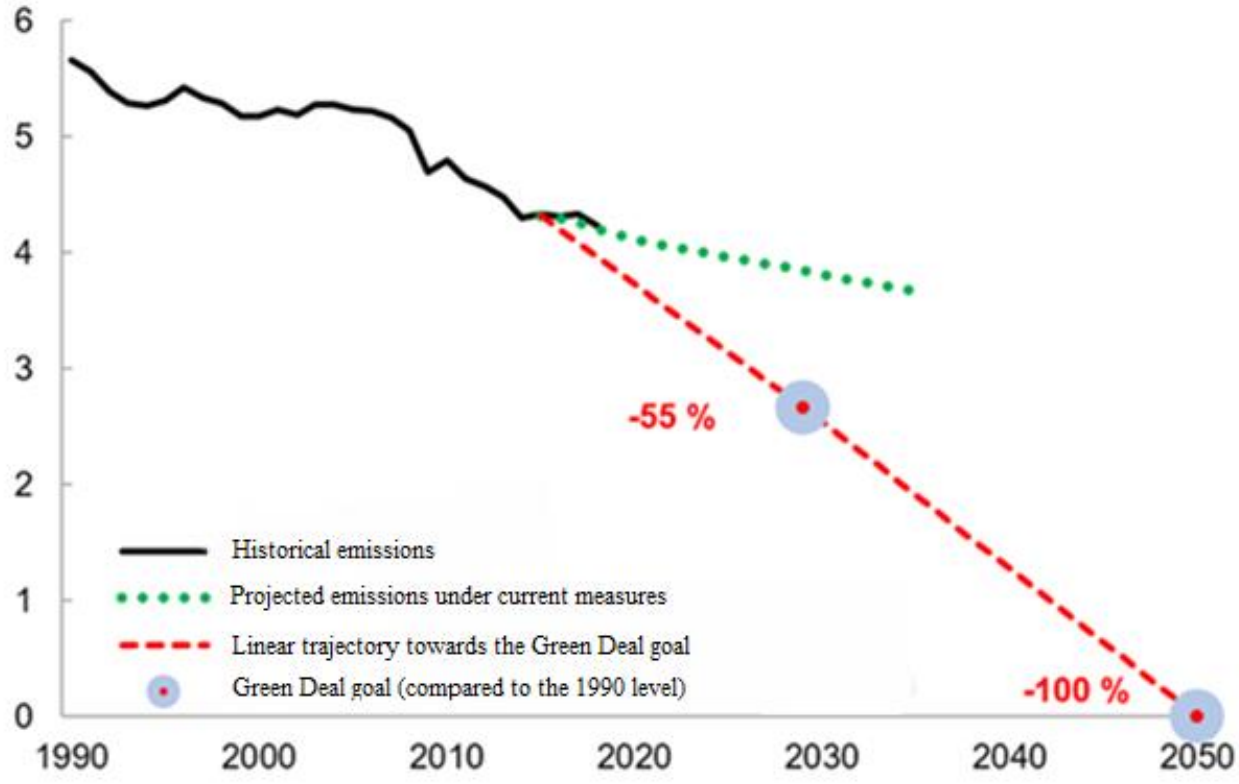

Fig. 1. Greenhouse Gas Emissions Tendencies and Projections for EU-28, 1990-2050

Source: EEA

[6] European Commission, 2020. *A European Green Deal. Striving to Be the First Climate-Neutral Continent*. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

With Joe Biden in the Oval Office, Washington is not only trying to seize the initiative from the EU as a climate leader, but also positions itself as a global environmental champion by promoting a broader agenda than the European Union does. He has renewed the U.S.'s participation in the Paris Agreement, abandoned by former President Donald Trump, and announced the allocation of $2 trillion in the next four years for the development of renewable energy and "green" infrastructure. Like the EU, the U.S. regards these measures as a way to get the economy out of the crisis in the short term, and as a step towards achieving carbon neutrality by 2050 in the long term.[7] The creation of a new position of special presidential envoy for climate in the Executive Office of the U.S. President and the appointment of a political heavyweight, former Secretary of State John Kerry to this post signify the importance the U.S. administration attaches to climate issues.

China has also started to pursue an active environmental policy. Decades of rapid and extensive development helped solve the problem of poverty, but the country is now facing catastrophic environmental consequences, which become a major constraint for its further economic growth and development. China is moving to a "new normal," characterized by slower economic growth but its higher quality. Combating environmental problems is one of the basic principles of this "new normal." Back in the early 2010s, the country's leadership declared the goal of building an ecological civilization. In 2018, this concept was included in the constitution.[8] Today, China is the world leader in the development of renewable energy as well as forest cultivation and reforestation. In 2020, unexpectedly for many, China announced the goal of achieving carbon neutrality by 2060.[9]

Dozens of countries have already officially announced the goal of achieving carbon neutrality by the middle of this century. Apart from the EU and China, these include such major countries as Japan, South Korea, Great Britain, Canada, and Brazil. Kazakhstan has already done the same in the EAEU (Fig. 2). Together, the countries that have set such

[7] Biden, Harris, 2020. *The Biden Plan to Build a Modern, Sustainable Infrastructure and an Equitable Clean Energy Future*. https://joebiden.com/clean-energy/

[8] Wang, Z., He, H., Fan, M., 2014. The Ecological Civilization Debate in China: The Role of Ecological Marxism and Constructive Postmodernism—Beyond the Predicament of Legislation. *Monthly Review,* 1 November. https://monthlyreview.org/2014/11/01/the-ecological-civilization-debate-in-china/; Kuhn, B., 2019. *Ecological Civilization in China.* Dialogue of Civilizations Research Institute. https://doc-research.org/wp-content/uploads/2019/08/Ecological-civilisation_Download-file.pdf

[9] UN News, 2020. Speech of Chinese President Xi Jinping at the 75th Session of the UN General Assembly, 22 September. https://news.un.org/ru/story/2020/09/1386342

targets account for 70% of world GDP.[10] There is no absolute certainty that many of these countries will achieve the set goal, especially given the scale of changes required. But there is no doubt that the movement towards carbon-free development will accelerate in the coming decade.

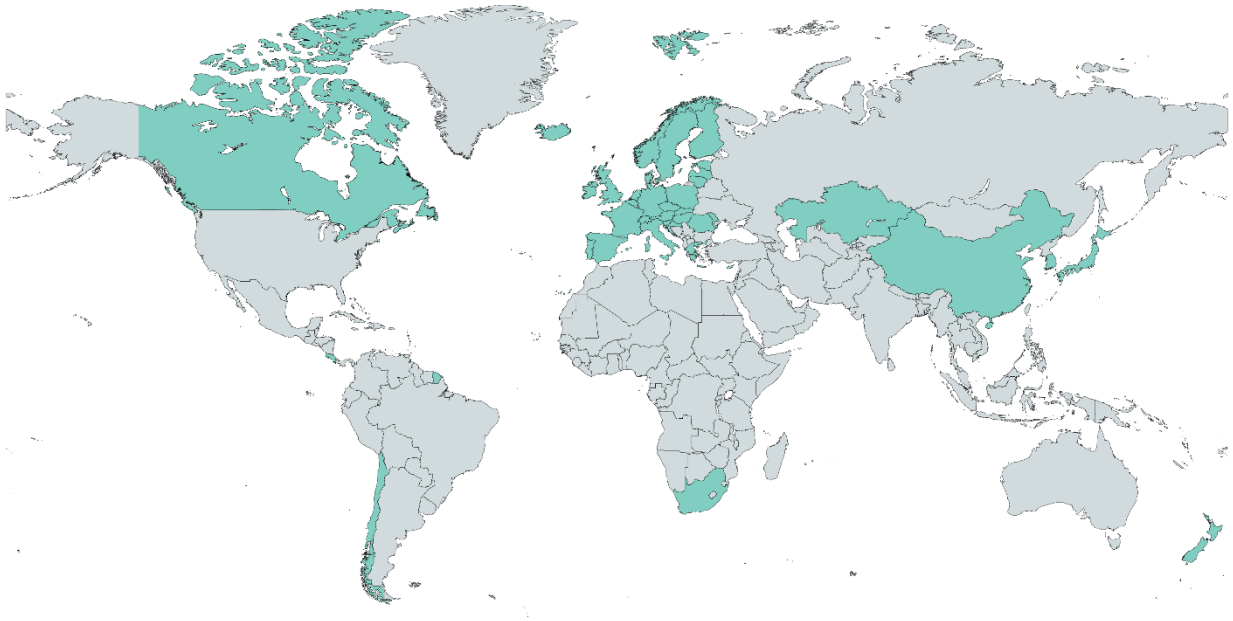

Fig. 2. Countries That Have Announced Plans to Achieve Carbon Neutrality, as of January 2021 (in green)

Source: compiled by the authors on the basis of CAT data

Potentially, the efforts of many countries to move to a "green" future can be unifying and can enhance cooperation among all leading countries, including those that are geopolitical rivals. Such a positive agenda is urgently needed amid the ongoing multi-dimensional crisis since the pandemic did not become such a unifying force. At the same time, the possibility of tapping this unifying potential is far from obvious, and the advancement of the "green" agenda by the European Union and the United States is, on the contrary, exacerbating international disunity and rivalry. **Like the coronavirus pandemic, environmental and climate issues are becoming both an instrument and an arena of rivalry.**

[10] Élysée, 2020. *Press release—Climate Ambition Summit*, 13 December. https://www.elysee.fr/emmanuel-macron/2020/12/13/press-release-climate-ambition-summit.en

Firstly, different groups of countries have different understandings of each other's successes, criteria for these successes and the degree of mutual responsibility. Developed countries position themselves as the main fighters against climate change, shifting responsibility for it to developing countries, which produce most of the greenhouse gas emissions in the world. Developing countries in response point out that the West is far ahead in terms of accumulated emissions, and also refer to the principle of common but differentiated responsibility enshrined in the UN Framework Convention on Climate Change, according to which one cannot expect the same emissions reduction ambitions from countries with different levels of development.

Developed countries are reducing emissions faster, but this is partly due to slower economic and population growth. Developing countries are growing faster and from a lower level, and therefore a priori show a greater increase in emissions.

An important dividing line runs between the producing countries and consumers of carbon-intensive goods. The former are mainly BRICS countries, where carbon-intensive production actively developed in the previous decades. They account for a significant share of greenhouse gas emissions, as well as associated air, water, and soil pollution, which severely affect these countries. At the same time, **consumers of these products, mainly Western countries, have contributed just as much to the growth of greenhouse gas emissions and related pollution.**[11] **So they must bear just as much responsibility, which they do not.**

Secondly, the environmental agenda is closely intertwined with trade, investment and technology, and therefore becomes an instrument of fierce economic competition. For example, the European Green Deal, among other measures, envisages the introduction of barriers to carbon-intensive goods imported from Russia, China and other countries that do not have "proper" (that is, satisfying the EU) carbon regulation.[12] We believe that such border carbon adjustment can be introduced by the United States in the foreseeable future, with Asian countries eventually responding in kind. The countries that introduce these measures present them as a means of "levelling playing field", and those against whom

[11] Makarov, I.A., 2018. *Discrepancies between Environmental Kuznets Curves for Production and Consumption-Based CO_2 Emissions.* NRU-HSE. https://wp.hse.ru/data/2018/10/05/1157302024/199EC2018.pdf

[12] Marcu, A., Mehling, M., Cosbey, A., 2020. Border Carbon Adjustments in the EU. Issues and Options. *ERCST. Roundtable on Climate Change and Sustainable Transition.* https://secureservercdn.net/160.153.137.163/z7r.689.myftpupload.com/wp-content/uploads/2020/09/20200929-CBAM-Issues-and-Options-Paper-F-2.pdf

they are introduced view them as protectionism disguised by seemly goals. With a high degree of probability, border carbon adjustment can trigger a new round of trade wars. It would be extremely difficult to come to a common understanding in these conditions.

Competition in the environmental sphere is a kind of battle of standards—competition between companies and between countries unfolding in the regulatory field. Environmental rules and regulations have a huge impact on the interaction between consumers and producers and can redistribute market power relatively quickly.[13] An excellent example was cited by Acting Governor of the Sakhalin Region (now the Governor of Primorsky Territory) Oleg Kozhemyako, who said the following at a meeting of the Presidium of the State Council in 2015, which discussed the development of fisheries: "Fifteen years ago we produced 100,000 tons of pollock fish fillets, and held leading positions in the European market. However, after the introduction of international environmental certification, this market was quickly seized by American companies, and now we produce a little more than 30,000 tons."[14]

Another example is the signature in 1987 of the Montreal Protocol on Substances that Deplete the Ozone Layer. The largest American chemical company DuPont had long insisted that anthropogenic nature of ozone depletion was not proven, but in the 1980s changed its position and turned into one of the main advocates of the agreement. The reason is that DuPont became the first to have developed ozone-safe substitutes for freons prohibited by the protocol. The new environmental norm gave the company almost exclusive market power.[15]

Environmental standards are one of the areas of competition in the regulatory field. But they have an important difference from other types of norms and standards (for example, technical): environmental norms change one way only to be constantly tightened. There is no competition between alternative environmental standards as they keep going up all the time.[16] This is happening due to objective factors related to environmental degradation. The history of the Montreal Protocol did not begin with DuPont's innovations, but with the discovery in 1973 of a negative impact of chlorofluorocarbons on the ozone

[13] Makarov, I.A., 2016. Scaling New Heights. The Power of Ecological Standards in the Global Economy. *Russia in Global Affairs*, 1 (January-March). https://eng.globalaffairs.ru/articles/scaling-new-heights/
[14] President of Russia. Official website, 2015. *Meeting of the Presidium of the State Council "On the Development of Fishery Complex",* 19 October. http://special.kremlin.ru/events/president/news/50524
[15] Makarov, I.A., 2016. Scaling New Heights. The Power of Ecological Standards in the Global Economy. *Russia in Global Affairs*, 1 (January-March). https://eng.globalaffairs.ru/articles/scaling-new-heights/
[16] Ibid.

layer. The certification of fisheries is a natural measure to prevent complete depletion of fish stocks, which may happen already in the middle of the 21st century if there is no regulation. In this respect, competition for environmental standards benefits those countries and companies that are ready for their tightening and, moreover, support it at the right time, just as DuPont supported the Montreal Protocol at the very moment it had developed a new critical technology.

1.2. Environmental Agenda and the Coronavirus Pandemic

The coronavirus pandemic did not help to "clean nature," but nor did it sideline the environmental agenda. It is true, that environmental protection is not a priority during a pandemic in some, mostly poor, states. However, **in a number of leading countries, the coronavirus pandemic has raised the problem of environmental pollution to a new ideological level, made it more relevant and turned it into a question of national security.**

Firstly, the degradation of human habitat will continue to create all sorts of epidemics, increase transnational threats (migration, extremism, organized crime, terrorism, regional conflicts), and exacerbate other challenges to the development of states (poverty, deterioration of public health, shortage of fresh water and food). Without solving the main problem—improving the human environment—states may simply not be able in the future to cope with an avalanche of socioeconomic problems and with the burden on health and social security systems. Therefore, it is necessary to protect nature not only from a moral and ethical point of view, but also from the point of view of national security and long-term economic efficiency.

Secondly, the governments' reaction to the pandemic in many leading countries, even if it was partly caused by attempts to distract attention from unsolved problems and mistakes, has brought the value of human life to the forefront. In the spring of 2020 many leading states actually brought their economies to a halt, having recognized that preservation of people's lives and health was more important than economic growth. Although today many countries opt for economic growth again, the imperative of human life proclaimed at the beginning of the pandemic goes perfectly along with the "green" ideology and gives a new impetus to its development.

Thirdly, the deep crisis that hit the world economy in 2020 once again emphasizes the need for its structural adjustment towards the interests of people and nature, makes it clear that the previous model of development based on endlessly growing consumption can no longer be used, that it is necessary to solve social problems, and create comfortable conditions for human life and happiness, including a favorable environment. **Understanding this and rightly associating environmental issues with social and technological progress, most major states will seek to develop clean technologies and set more challenging environmental objectives**. The economic crisis is unlikely to force the European Union, the United States, and China to postpone their "green" development plans, but, on the contrary, it will probably accelerate their implementation through "green" recovery recipes. The entire world history of crisis resolution can be summed up by the famous maxim: "Never allow a good crisis to go to waste. It's an opportunity to do the things you once thought were impossible."[17] A crisis is a time of changes, many of which can be programed. If the economy needs to be put on a new footing, it must be done precisely during a crisis, using anti-crisis measures: in fact, targeted budget spending in such amounts can only be possible during a crisis.

One can draw an analogy with the financial crisis of 2008-2009. The boom of renewable energy, "green" construction, and clean transport, which has swept the world in the past decade, started back then: the U.S. government allocated a total of 12% of its anti-crisis package towards "green" measures, China, 38%, the EU, 59%, and South Korea, 81% (Fig.3).[18]

[17] Rahm, E., 2020. Let's Make Sure This Crisis Doesn't Go to Waste. *The Washington Post*, 25 May. https://www.washingtonpost.com/opinions/2020/03/25/lets-make-sure-this-crisis-doesnt-go-waste/

[18] Robins, N., Clover, R., Singh, C.A., 2009. A Climate for Recovery: The Color of Stimulus Goes Green. *HSBC Global Research*, 25 February. http://globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf

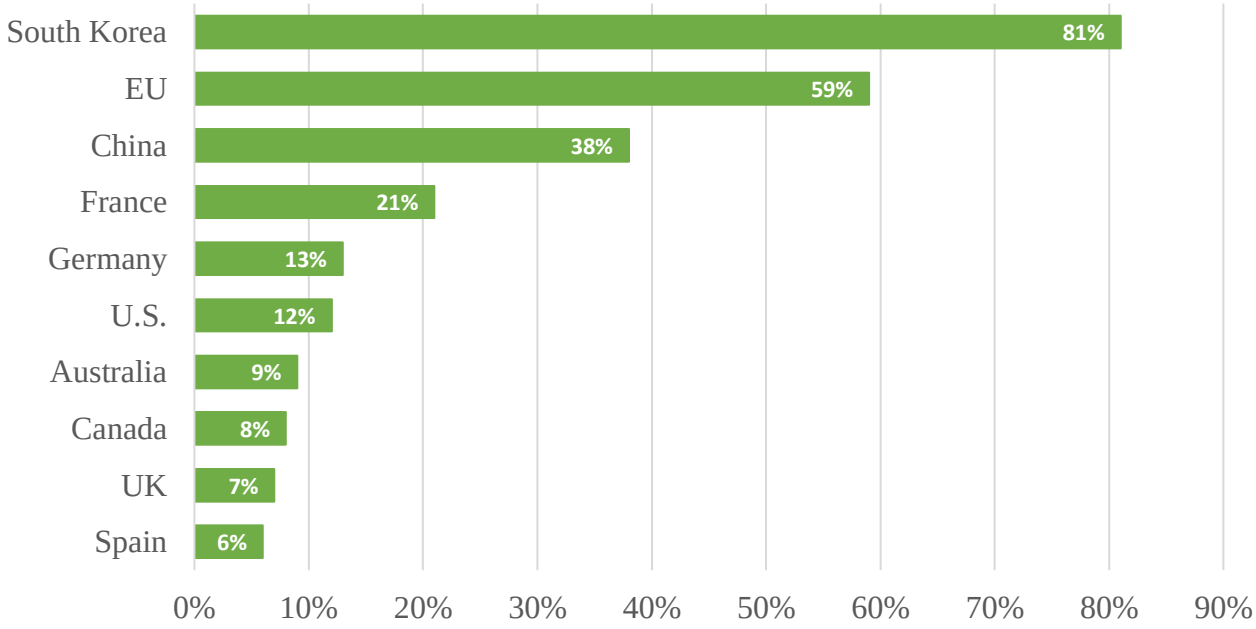

Fig.3. Share of Spending on "Green" Measures in Anti-Crisis Packages of Different countries

Source: compiled by the author on the basis of data from: 25 February 2021, https://www.globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf

Scientists, public intellectuals and representatives of non-governmental organizations are urging the governments of all countries to repeat this experience (but on a larger scale). Leading countries may have to listen to their calls.

1.3. Bottom-Up Environmental Agenda

The architecture of the environmental policy in the modern world can be compared with an iceberg. Its small but most visible part lying on the surface is international agreements. These include the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989), the Rio Declaration on Environment and Development, the UN Framework Convention on Climate Change, the UN Convention on Biological Diversity, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (all adopted in 1992), the Kyoto Protocol (1997), the Convention on Persistent Organic Pollutants (2001), the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits

Arising from their Utilization (2010), the Sustainable Development Agenda and Sustainable Development Goals (2015), the Paris Agreement (2015), etc.

However, just as the bulk of an iceberg is under water, the environmental agenda, too, is largely implemented outside the UN negotiation process. This has been particularly evident in the last decade. Thousands of actors at lower administrative levels (national, subnational, regional, municipal, and non-state) not only implement the rules developed at the global level, but also offer and test their own environmental policy options, learn from their own mistakes and mistakes made by others, and establish bottom-up rules, while remaining independent in making decisions, but working closely together.[19]

National governments or regional authorities proactively declare carbon neutrality plans and launch carbon management programs which are already operating in more than sixty countries. Industry associations establish their own environmental standards (e.g. the Forest Stewardship Council (FSC) in forest management, the Marine Stewardship Council (MSC) in fisheries, etc.), set targets (e.g. the International Maritime Organization's 2018 road map, which aims to reduce greenhouse gas emissions by 50% by 2050 from the 2008 level[20]), and even create regulatory instruments (for example, the International Civil Aviation Organization is introducing the CORSIA sectoral carbon offsetting and reduction system in 2021[21]). Institutional investors (sovereign, pension, trust and charitable foundations, university endowments, etc.), one after another, join in the campaign for divestment from "dirty" industries.

The Task Force on Climate-related Financial Disclosures (TCFD) of the Group of 20's Financial Stability Board has developed recommendations on the format of voluntary disclosure of corporate financial risks arising from global climate change.[22] Over the last few years, the disclosure of relevant information, and therefore the formulation of corporate strategies to mitigate these risks, has actually become a rule of good behavior for large companies, and in economic terms, a factor that affects opportunities for attracting

[19] Makarov, I.A., 2019. Fifty Shades of Green. *RIAC,* 28 February. https://russiancouncil.ru/en/analytics-and-comments/analytics/fifty-shades-of-green/

[20] IMO, 2018. *Note by the International Maritime Organization to the UNFCCC Talanoa Dialogue.* Adoption of the Initial IMO Strategy on Reduction of GHG Emissions from Ships and Existing IMO Activity Related to Reducing GHG Emissions in the Shipping Sector. https://unfccc.int/sites/default/files/resource/250_IMO%20submission_Talanoa%20Dialogue_April%202018.pdf

[21] ICAO, 2020. https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx

[22] TCFD, 2017. *Recommendations of the Task Force on Climate-Related Financial Disclosures.* Final Report. https://assets.bbhub.io/company/sites/60/2020/10/FINAL-2017-TCFD-Report-11052018.pdf

investment, listing stocks on international exchanges, and interacting with large corporate customers.

All these and many other measures are not a direct result of interstate agreements, but take place due to a bunch of technological, geopolitical, economic, and environmental reasons. They are often initiated by individual companies and environmental agenda leaders interested in making their practices a global standard. The establishment of global bottom-up rules drives the "green" transformation of the world economy, which is already an objective reality and cannot be reversed.

The development of the "green" agenda in Western countries is based on a broad coalition of interest groups. On the one hand, there are environmental organizations whose activities are most visible to the public and which regard environmental issues as ethical ones, including in the context of our responsibility for future generations. On the other hand, the green movement is driven by manufacturers of clean technologies, the cost of which has decreased significantly in the last decade and which have become an attractive investment object, involving "green" transformation and the financial sector. Very often, business finances environmental campaigns for pragmatic reasons, such as the desire to improve its image, with environmental organizations, willingly or unwillingly, becoming their lobbyists. The "green" agenda is also supported by the left who view environmental problems as a manifestation of the crisis of modern capitalism. But at the same time, it is backed by some nationalists who want to reduce dependence on hydrocarbon imports and prevent climate migration. These interest groups often disagree dramatically over non-environmental issues, including their attitude towards Russia, and it would be wrong to view them as a single coherent movement. But cooperation with many such groups whose agenda is complementary to Russian interests would make sense.

Leading developing countries have also accelerated their turn to nature lately. It is less visible because its main support comes not from civil society, but from states that regard environmental problems as a brake on development, and from business that opens up new market niches. However, it will not be long before these countries become aware of resource and environmental constraints on economic growth. As a result, they will start rethinking their economic development models. This process is already under way in China.

The specific content of the environmental agenda varies from country to country. For European countries, combating climate change will remain a top priority; it is also a key issue for small island states and a number of African countries. China gives priority to urban air pollution, Persian Gulf countries, to water depletion, many African countries, to waste and sanitation; and in India, many environmental problems are closely linked to poverty.

Differences between countries in environmental priorities are due to the national context and reflect varying degrees of public concern. **The choice of priorities is important for using the environmental agenda as a factor that consolidates society**, but is often secondary in terms of solving the problems proper. In most cases, they require a comprehensive approach.

The bottom-up environmental management regime is flexible and adaptive. Given the vast variety of players and interests involved, it is probably more effective in engaging the world in solving environmental problems than the traditional reliance on international institutions that establish clear rules of the game. However, the problem with such a regime is that it is necessary to coordinate the efforts of the players involved, overcome many asymmetries between the motivations and interests of different countries and social groups, and resolve obvious contradictions between separate local and national environmental policy instruments, on the one hand, and the global nature of the problems and their interconnectedness, on the other. This is why a combination of top-down and bottom-up approaches would be optimal wherever possible.

Although developed countries have the motivation and financial resources for "green" development, they largely address their own environmental problems by moving them to the developing world. Previously, they used to transfer "dirty" industries there. Today, by setting high environmental standards on their own territory, not only do they fail to properly support developing countries in creating more environmentally-friendly industries, but sometimes use environmental standards as an instrument of competition. China is now repeating developed countries' experience of past decades by relocating "dirty" production facilities to Africa, and South and Southeast Asia.

However, this approach is narrow and limited. Many problems are global in nature, and it does not matter for the climate or oceans in general which particular country causes

environmental damage. Therefore, **the European Union's ambitious and expensive plans to reduce greenhouse gas emissions in isolation from other countries will make little difference in terms of addressing climate change, since the EU accounts for only 9% of all greenhouse gas emissions (Fig. 4)**. This opinion was shared by all experts who participated in the situation analyses, even those who called for Russia's full accession to the European climate agenda. **The EU's efforts will have a positive effect on climate change only if 1) the EU's "green" financing facilitates a "green" transition globally, and 2) the EU itself starts reducing not only the production, but also the consumption of pollution-intensive products. Yet both objectives get very little attention in the European Green Deal.**

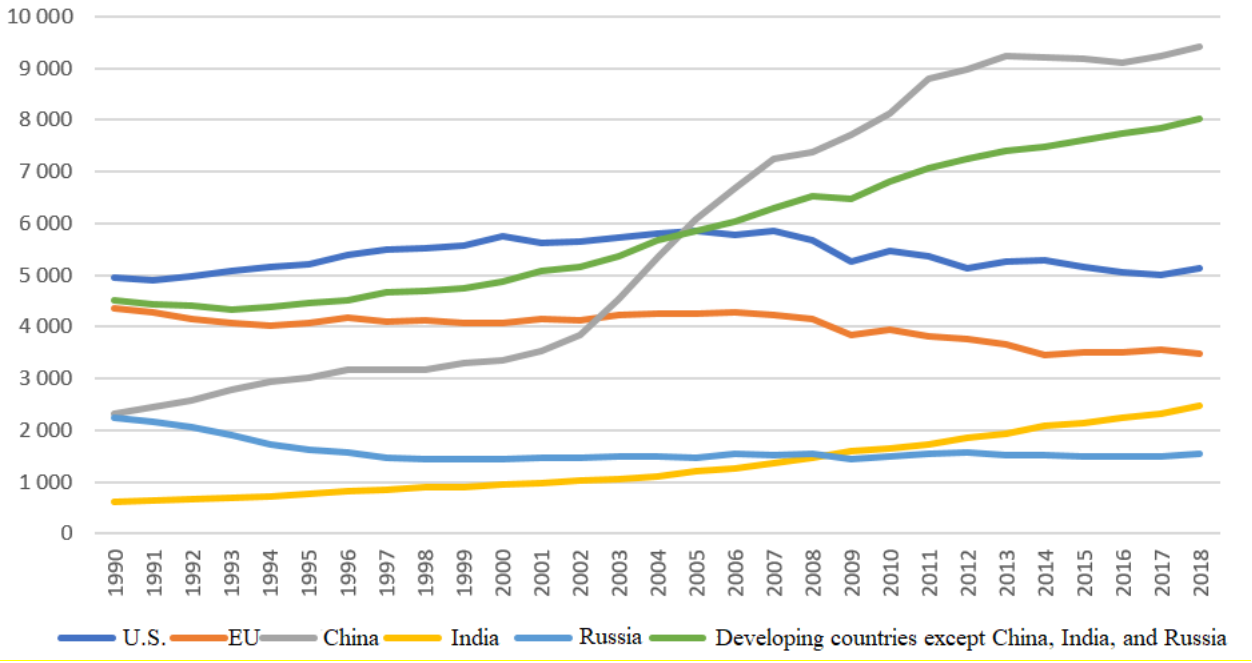

Fig. 4. CO_2 Emissions from the Burning of Fossil Fuels in 1990-2018, million tons

Source: BP

Another problem is that the bottom-up approach often overlooks the relationship between environmental problems and other sustainable development issues. **Even in industrialized countries, traditional environmental policy tools intended for developing "green" technologies hit the poor.**[23] Barack Obama's "green" policy disregarded this aspect and was easily ditched by voters when Donald Trump promised to

[23] Wang, Q., Hubacek, K., Feng, K., Wei, Y.-M., Liang, Q.-M., 2016. Distributional Effects of Carbon Taxation. *Applied Energy*, Vol. 184. https://www.sciencedirect.com/science/article/abs/pii/S0306261916308583?via%3Dihub

save jobs in traditional sectors. “Yellow vests” in France have forced Emmanuel Macron to moderate his climate ambitions. In developing countries plagued with unresolved problems of poverty (including energy poverty) and inequality, environmental policies will evoke an even more painful reaction, especially considering the aftermath of the coronavirus pandemic.

The “green” transformation of the world economy must be inclusive, both nationally and globally. However, this requires international coordination, cooperation and commitment to solving common problems. So, the transfer of “green” technologies from the EU to the developing world would provide European consumers with clean goods from abroad, and give more than a billion people in Asia, Latin America, and some parts of Africa a chance to make a transition from poverty to the middle class using cleaner consumption models. This is much more important for preventing a climate catastrophe than achieving the Green Deal’s symbolic goal of reducing 9% of the world’s emissions to zero in one particular region.[24] This idea may become part of the Russian environmental and climate agenda.

Fragmented national regulatory instruments, however ambitious, do not work towards solving global problems, but often increase the polarization of interests pursued by different countries—it becomes more difficult for them to come to agreement with each other, and global regulation becomes even weaker and more frustrating. This looks like a vicious circle, with no way out anywhere in sight so far.

[24] Grigoriev, L.M., Makarov, I.A., Pavlyushina, V.A., Sokolova, A.K., Stepanov, I.A., 2020. Izmenenie klimata i neravenstvo: potentsial dlya sovmestnogo resheniya problem [Climate Change and Inequality: A Potential for Joint Problem-Solving]. *Vestnik mezhdunarodnyh organizatsyi*, Vol. 15, No.1. https://iorj.hse.ru/2020-15-1/341825851.html

Part 2. RUSSIA'S CURRENT ENVIRONMENTAL POLICY

2.1 Main Aspects of Russia's Environmental Policy

Russia has the biggest natural capital in the world. It accounts for 6% of the world's oil reserves, 17% of natural gas, 18% of coal, 15% of iron ore, 4% of copper, 10% of nickel, and 17% of rare earth metals. Equally important are its renewable resources, which will become strategically important in the 21st century. About 20% of the world's fresh water (most of it in Lake Baikal) and 20% of forests are in Russia.[25] Russia accounts for about 9% of the world's arable land, although its area has decreased by more than 12% since 1990.[26] Despite the fact that fish catches dropped by half since the late Soviet period, Russia still ranks 6th-7th in this respect in the world, and has shown the highest rate of catch growth in the world in the last decade after reform of its fisheries regulation. **But what is most important is that the ecological capacity of Russia's ecosystems significantly exceeds the ecological footprint of the Russian economy, which makes Russia one of the main environmental donor countries in the world.[27]**

However, Russian elites and society have never appreciated the value of natural resources due to their abundance. In a sense, **until now Russia has used "Wild West" economic methods, that is, when natural resources were depleted in one territory, production moved to the next one.** This is borne out by numerous abandoned oil wells with high production rates, the burning of associated petroleum gas, a practice that was used quite widely until recently, mass deforestation instead of reforestation for industrial needs, unsustainable exploitation of fish resources and inadequate development of mariculture, etc.

Although a significant part of Russian territory is not affected by human activity at all, the territory where three quarters of its population lives is extensively polluted: environmental problems there negatively affect people's health and quality of life and hamper economic growth. *For more information on current environmental problems in Russia, see* ***Annex 2****.*

[25] Data by BP Statistical Review of World Energy, International Metallurgical Research Group, U.S. Geological Survey, World Bank, FAO.
[26] Data by Rosstat.
[27] Global Footprint Network, 2014. *Ecological Footprint of the Russian Regions.* https://www.footprintnetwork.org/content/images/article_uploads/Russia_EF_2014_English.pdf

Environmental expenditures have so far been seen not as a contribution to the development of the country, but as a type of social obligations of the state, which are necessary only from time to time and, therefore, are the first to be cut. As a result, the share of consolidated budget expenditures on environmental protection is extremely small: in 2019, it was less than 0.7%. However, back in 2013, it did not exceed 0.2% (Fig. 5).[28]

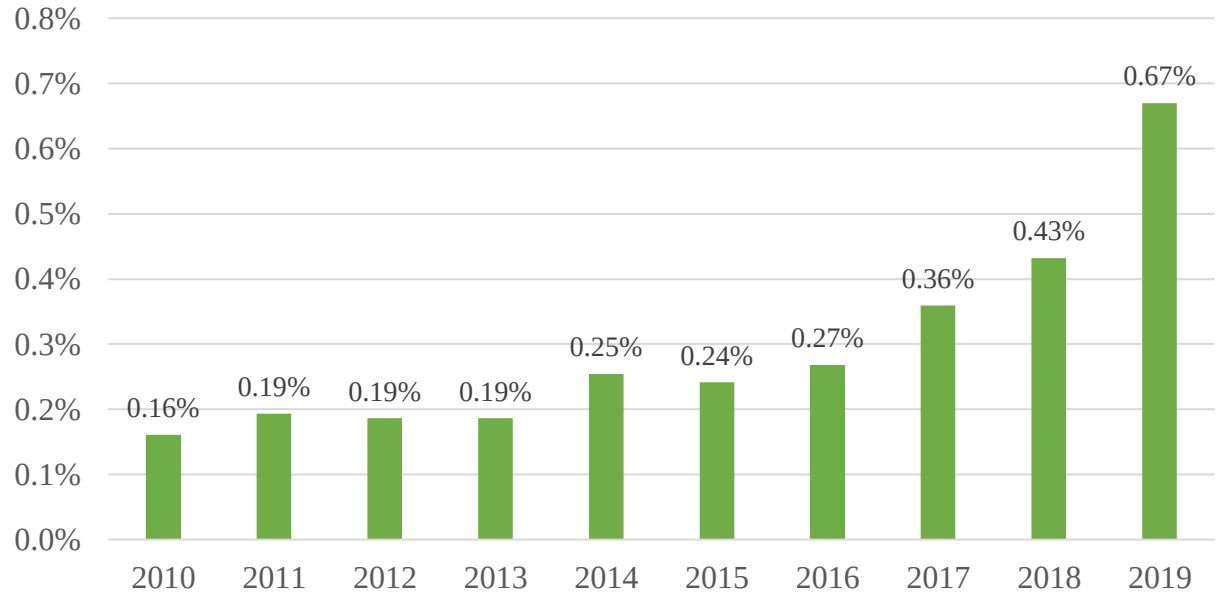

Fig. 5. The Share of Consolidated Budget Expenditures on Environmental Protection

Source: compiled by the authors on the basis of data provided by the Ministry of Finance of the Russian Federation

After years of neglect when environmental issues were considered secondary, **things have changed recently, with environmental problems increasingly seen as a public policy priority**. The presidential Decree "On National Goals and Strategic Objectives for the Development of the Russian Federation for the Period up to 2024" of May 7, 2018, names "ecology" among key priorities.[29] The presidential Decree "On National Goals for the Development of Russia until 2030" of July 21, 2020, designates "a comfortable and safe environment for life" as one of the national goals.[30] The environment

[28] Data by the Ministry of Finance of the Russian Federation.
[29] Presidential Decree, 2018. *Presidential Decree #204 of May 7, 2018 "On National Goals and Strategic Objectives for the Development of the Russian Federation for the Period up to 2024".* http://kremlin.ru/events/president/news/57425
[30] Presidential Decree, 2020. P*residential Decree #474 of July 21, 2020 "On National Goals for the Development of Russia until 2030"*. http://www.kremlin.ru/events/president/news/63728

is repeatedly mentioned in amendments to the Constitution, which essentially give it the status of constitutional priority.

The main aspects of Russia's current environmental policy are implemented as part of the national project "Ecology," which incorporates 11 subprojects, including: "Clean Water," "Restoration of the Volga River," "Integrated Municipal Solid Waste Management," "Class I-II Hazardous Waste Management Infrastructure," "Preservation of Lake Baikal," "Preservation of Unique Bodies of Water," "Forest Conservation," "Introduction of the Best Available Technologies (BAT)," and "Conservation of Biodiversity and Natural Objects." The project covers a period of up to 2024 and costs 4.04 trillion rubles. *The main objectives set in the subprojects are listed in* ***Annex 3.***[31]

The priorities set out in the project raise no questions. The attempt to combine the solution of environmental problems with technological modernization, in particular, through the best available technologies, is also laudable. The project will test advanced environmental policy tools. In particular, the federal project "Clean Air" includes an experiment to set emission quotas in 12 cities, based on consolidated air pollution estimates.

At the same time, almost two years since the start of the national project "Ecology," there are few reasons for celebration. **The quality of its implementation is the worst among all other national projects**.[32] In particular, the creation of an air quality monitoring system has been delayed. Attempts to bring the level of waste recycling and neutralization to 60% by 2024 have failed: today it does not exceed 7%. Many questions arise about the principles used to compile directories of the best available technologies, as many of the technologies listed in it are obsolete compared to advanced foreign analogues. The funding of the national project is shrinking and this process may accelerate in the years to come.

The international dimension of Russia's environmental policy also falls short of its potential and competitive advantages. Russia is a party to dozens of international environmental agreements, but plays no key role in any of them. Russia is also far from being able to advance its own environmental agenda in the G20, the largest multinational forum that takes environmental issues as a priority.

[31] RF Ministry of Economic Development, 2018. *Pasport natsionalnogo proekta "Ekologia"* [Passport of the National Project "Ecology"]. https://minec.astrobl.ru/sites/default/files/2019-01/НП%20Экология.pdf
[32] TASS, 2020. SP: Ispolnenie natsproekta "Ekologia" v I kvartale sostavilo 6% [SP: Implementation of the National Project "Ecology" Is Estimated at 6% in the 1st Quarter of the Year]. *TASS*, 29 June. https://tass.ru/ekonomika/8837543

A similar situation has developed in BRICS, one of the most significant and natural multilateral forums for Russia, where member states are engaged in active interaction on environmental issues. The BRICS economic partnership strategy is literally permeated with environmental and climate topics.[33] "Green" projects get priority funding from the BRICS Development Bank. **However, these topics are usually initiated not by Russia, but by its BRICS partners**. It is noteworthy that environmental issues were not mentioned in the long list of the Russian BRICS presidency's priorities in 2020.[34] There is an acute shortage of project proposals for financing from the New Development Bank. **Real environmental initiatives within BRICS with Russia's participation are limited to the development of the Platform for Environmentally Clean Technologies**, but it is premature to talk about the success of this project now.

Russia maintains dialogue on environmental issues with the SCO and EAEU countries. However, in the former case, environmental cooperation is not among the organization's main priorities, and in the latter case, it is beyond its mandate.

Finally, Russia maintains working contacts on environmental issues with Western countries (especially EU countries). Despite the deterioration of political relations, work is underway at the level of relevant ministries and agencies. However, there is no question of any large-scale joint environmental initiatives, even though the restrictive measures that the EU intends to introduce as part of its Green Deal will hit a number of Russian industries, including non-energy ones, and are very likely to cause a wave of retaliatory tariff and non-tariff restrictions on the part of EU partner countries, and invoke elements of a new trade war. Naturally, the bulk of responsibility for the lack of joint action rests with the EU, which in 2014 froze the environmental dialogue with Russia and has since refused to resume full-format cooperation, and in 2020-2021 even started laying the groundwork for a complete termination of this dialogue with Russia. However, there are no signs that Moscow is trying to propose such initiatives individually to key EU member states, relations with which remain more substantive and positive.

2.2. Russia's Current Climate Policy

[33] BRICS. Russia-2020, 2020. *Strategy for BRICS Economic Partnership 2030*. https://eng.brics-russia2020.ru/images/114/81/1148155.pdf

[34] BRICS Partnership, 2019. *Priorities of the Russian BRICS Chairmanship in 2020.* https://eng.brics-russia2020.ru/russia_in_brics/20191226/1469/Priorities-for-the-Russian-Federations-presidency-of-BRICS.html

Russia holds the record among all countries of the world for the absolute amount of greenhouse gas emissions reduced since 1990. They decreased by almost two billion tons in CO_2e.—in fact, taking into account the absorption of carbon emissions by Russian forests, they have been halved.[35] The significance of this result cannot be downplayed, even though it was achieved not through any special measures, but due to the transformative crisis and the subsequent structural adjustment of the economy.

Largely owing to this restructuring, a relatively favorable energy balance was established in the Russian electricity generation industry: dominant position of natural gas (46%) and a high proportion of low-carbon nuclear (19%) and hydropower (18%). This energy balance is more preferable than that in most developed countries, including Germany and the United States, which now position themselves as leaders of low-carbon transformation, not to mention China and India, whose electricity generation is traditionally based on coal. Nevertheless, Russia is significantly behind leading countries in terms of carbon intensity: firstly, due to the large share of heat generation, and secondly, due to the low energy efficiency of the economy. **Energy efficiency is the key to emissions reduction in the near future.**

Russia is a party to the UN Framework Convention on Climate Change, played an important role in bringing the Kyoto Protocol into force, and in 2019 joined the Paris Agreement.[36]

Although the first regulatory document concerning climate policy—the Climate Doctrine of the Russian Federation—was published back in 2009, it can be said that work to **develop domestic climate policy in Russia is still in the initial stage**. Its real regulatory framework began to take shape only in 2020. In keeping with the terms of the Paris Agreement, Russia has adopted the National Action Plan for the First Stage of Adaptation to Climate Change for the period up to 2022 (approved in 2020), Nationally Determined Contribution of Russia (submitted to the UNFCCC Office in 2020), a presidential decree on the reduction of greenhouse gas emissions (signed in 2020), a strategy for the long-term development of the Russian Federation with low greenhouse gas emissions (expected to be approved in the first half of 2021), and the Federal Law

[35] UNFCCC
[36] Makarov, I. A., 2016. Russia's Participation in International Environmental Cooperation. *Strategic Analysis,* Vol. 40, No. 6. https://www.tandfonline.com/doi/abs/10.1080/09700161.2016.1224062

"On the State Regulation of Greenhouse Gas Emissions and Absorption" (under consideration in the State Duma).[37]

So, all of the necessary key elements of the climate change regulatory framework are or will soon be in place. This will happen faster than in many other countries. In fact, only 28 states have adopted official low-carbon development strategies. In Russia, such a document has already been drafted and published and can soon be officially approved.

However, the content of this regulatory framework is unclear. We believe that Russia's ambitions to reduce greenhouse gas emissions are not sufficient. **In particular, the aforementioned presidential decree allows an increase in emissions by 2030 by almost 40% from the current level.**[38] The Law on State Emissions Regulation does not contain provisions imposing a price on carbon or limiting its emissions by companies. **The Low-Carbon Development Strategy provides for an increase in emissions up to the year 2050** (Fig. 6)**. This runs counter to the objectives set in the Paris Agreement, on the one hand, and to global trends, on the other, as many countries (including China) have announced plans to not only reduce emissions, but also achieve carbon neutrality by the middle of the current century.**

Naturally, there is no need to set super-ambitious goals and participate in a symbolic race for reducing greenhouse gas emissions in greater amounts and faster. All the more so since most of the goals declared by partners may not be fulfilled. And yet, active environmental protection, including greenhouse gas emissions reduction, is necessary.

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[37] RF Government, 2019. *Natsionalny plan meropriyatiy pervogo etapa adaptatsii k izmemeniyam klimata na period do 2022 goda* [National Plan of Measures for the First Period of Adaptation to Climate Change until 2022]. RF Government Directive #3183-r of 25 December 2019.
http://static.government.ru/media/files/OTrFMr1Z1sORh5NIx4gLUsdgGHyWIAqy.pdf
UNFCCC, 2015. *Opredelyayemy na natsionalnom urovne vklad Rossiyskoi Federatsii v ramkah realizatsii Parizhskogo soglasheniya ot 12 dekabrya 2015 goda* [Nationally Estimated Contribution of the Russian Federation to the Implementation of the December 12, 2015 Paris Agreement].
https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Russia%20First/NDC_RF_ru.pdf
Presidential Decree, 2020. *Presidential Decree #666 of November 4, 2020 "On Reduction of Greenhouse Gas Emissions"*. http://kremlin.ru/acts/bank/45990
RF Government, 2020. *Proekt strategii dolgocrochnogo razviniya Rossiyskoi Federatsi s nizkim urovnem vybrosov parnikovyh gazov do 2050 goda* [Project for the Strategy for Russia's Long-Term Development with low level of greenhouse gas emissions until 2050].
https://economy.gov.ru/material/file/babacbb75d32d90e28d3298582d13a75/proekt_strategii.pdf
RF Government, 2018. *Proekt federalhogo zakona "O gosudarstvennom regulirovanii vybrosov i pogloshcheniy parniovyh gazov…* [Draft of the Federal Law "On State Regulation of Greenhouse Emissions and Absorptions and on Amendments to Federal Acts of the Russian Federation…]. https://base.garant.ru/56777252/.

[38] Presidential Decree, 2020. *Presidential Decree #666 of November 4, 2020 "On Reduction of Greenhouse Gas Emissions".* http://kremlin.ru/acts/bank/45990

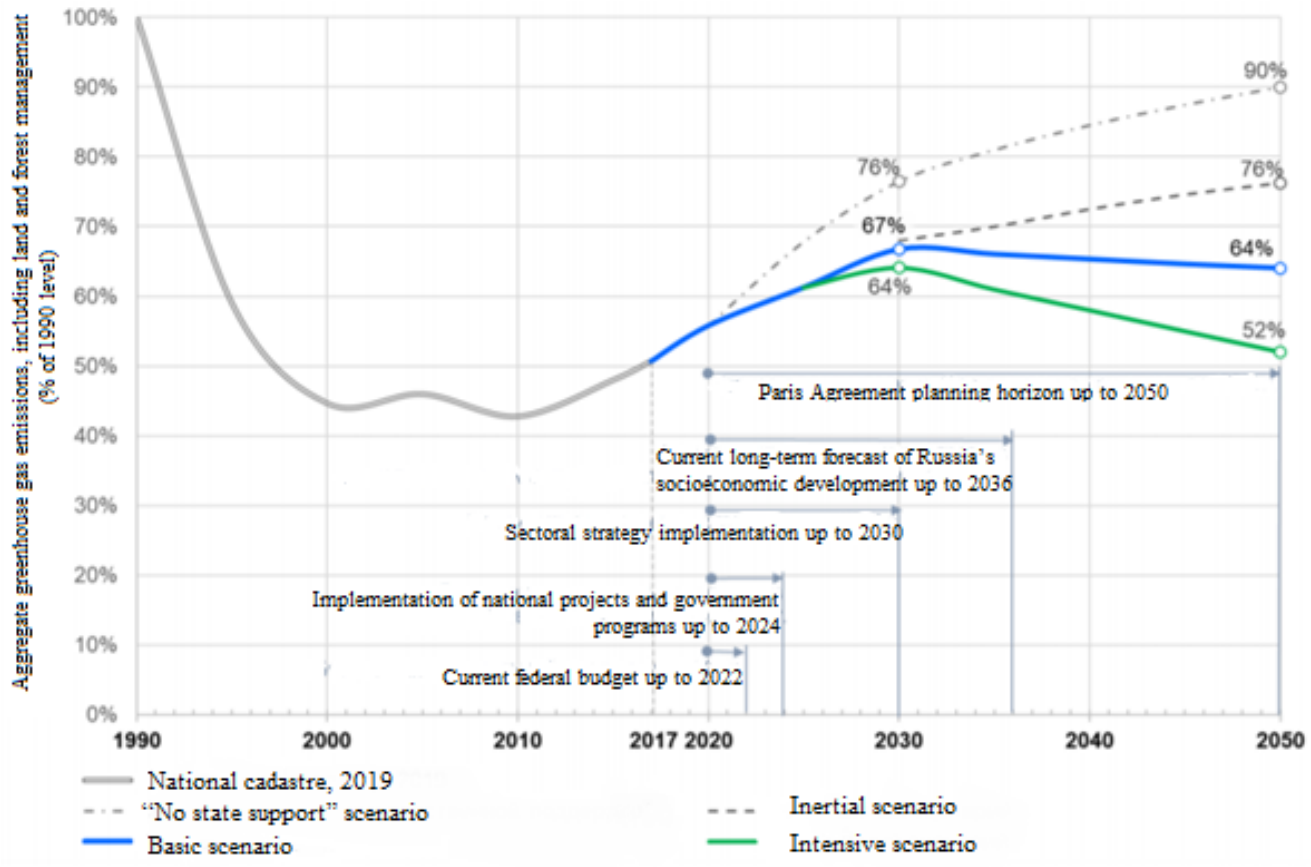


Fig. 6. Greenhouse Gas Emissions Dynamics Scenarios in Russia up to 2050

Note: scenarios: inertial—maintains the rate of energy efficiency growth and technological modernization; basic—increases energy efficiency, reduces clean felling, expands forest protection; intensive—envisages additional measures to reduce the carbon intensity of goods and services, eliminates the clean-felling system, and expands forest protection; no state support—maintains the energy intensity of the economy and technological base at the current level, rejects the use of the best available technologies, etc.

Source: Draft strategy for the long-term development of the Russian Federation with low greenhouse gas emissions until 2050

However, it should be noted that there was no consensus on this issue during the situation analysis discussions. **Some experts insisted that the parameters set out in these regulatory documents ensured the optimal balance between economic growth, improvement of people's well-being, and environmental protection**. According to their opinion, if Russia declared tougher emissions targets, it would lose opportunities for economic growth now, and even more so in the future, when, in accordance with the Paris Agreement, it will have to reduce even more emissions, while

Western countries will keep criticizing Russia and accusing it of "lagging behind" in combating climate change.

2.3. The Risks of Maintaining the Status Quo

There are four types of risks Russia is facing due to insufficiently active environmental policy and **inability to convert objective advantages and achievements into political gains:** economic, technological, foreign policy, and domestic.

Economic risks are most obvious. **Firstly, decarbonization currently underway globally reduces demand for Russian fossil fuel.**[39] Fig. 7 shows estimated Russian hydrocarbon exports under different scenarios of foreign countries' climate policy. If foreign countries achieve their objectives set for 2030 (INDC)[40] under the Paris Agreement, Russian energy exports will drop by about 20% as compared to the basic scenario (which shows what would happen if countries did not carry out any climate policy). Coal exports will decrease most dramatically, oil exports will remain more or less stable, and the export of natural gas will even grow, although much less than under the basic scenario.

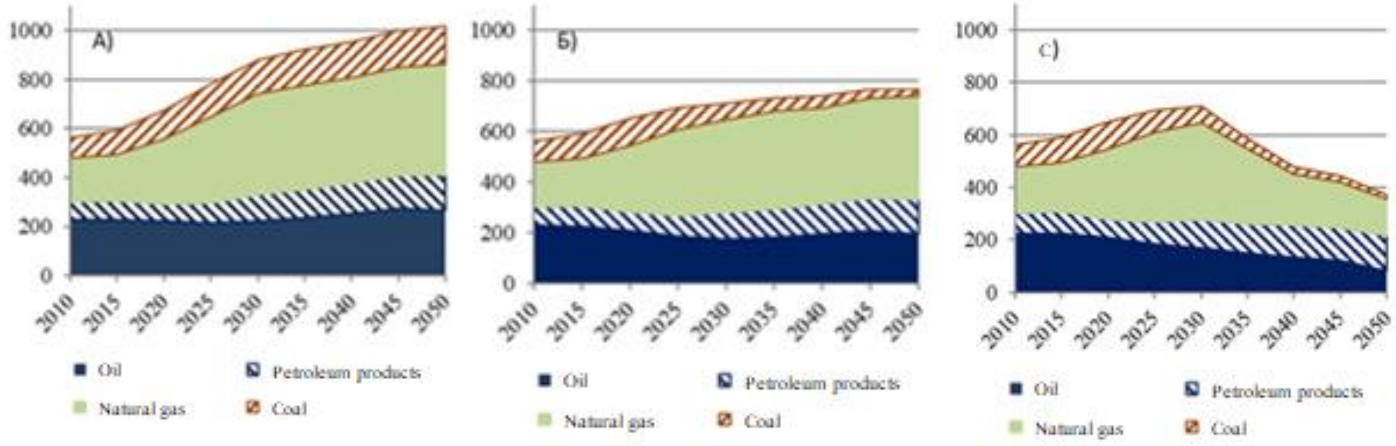


Fig. 7. Russian Energy Exports A) basic scenario; B) INDC scenario; C) "2 degrees" scenario (million tons of oil equivalent)[41]

Source: Makarov, I., Chen, H., Paltsev, S., 2018. Implications of the Paris Climate Agreement for the Russian Economy. *Voprosy ekonomi,* No. 4. https://www.vopreco.ru/jour/article/view/394

[39] Makarov, I.A., Chen, H., Paltsev, S., 2018. Implications of the Paris Climate Agreement for the Russian Economy. *Voprosy ekonomi*, No. 4. https://www.vopreco.ru/jour/article/view/394
[40] Intended Nationally Determined Contributions – targeted reduction of emissions, officially stated by nations under the Paris Agreement.
[41] Makarov, I.A., Chen, H., Paltsev, S., 2018. Implications of the Paris Climate Agreement for the Russian Economy. *Voprosy ekonomi*, No. 4. https://www.vopreco.ru/jour/article/view/394

Prospects for Russian energy exports will be much worse if the world opts for the "2 degrees" scenario in accordance with the key goal of the Paris Agreement and declarations of leading states. Under this scenario, Russian exports of all fossil fuels will decrease substantially. Compared to the INDC scenario, there will no dramatic drop in the export of petroleum products, but crude oil exports will fall by almost half by 2050. Compared to the INDC scenario, Russian exports of coal and natural gas under the "2 degree" scenario will decrease by 65% and 49%, respectively. It is important that these scenarios are very conservative and do not take into account the possibilities of technological breakthroughs that can make "green" technologies significantly cheaper and expand their use.

Secondly, economic risks include climate-related barriers in trade, particularly, the EU plans to launch a carbon border adjustment mechanism as part of its Green Deal no later than January 1, 2023.

As an option, this mechanism charges for emissions from goods imported from other countries that do not have carbon regulation.[42]As a country specializing in the export of carbon-intensive products, Russia is extremely sensitive to such barriers. **Russia does not have its own carbon regulation system, which would allow companies' payments to go to the national budget, and this basically means that Russian exporters in a number of industries, particularly metallurgy, will pay for carbon to the EU budget.** It is not yet possible to determine the exact amount of payments, since the details of the carbon border adjustment mechanism have not been worked out yet, but **according to preliminary estimates, the losses of third-country companies will amount to several billion U.S. dollars a year**.[43] If the United States introduces similar regulations after the

[42] Marcu, A., Mehling, M., Cosbey, A., 2020. Border Carbon Adjustments in the EU. Issues and Options. *ERCST Roundtable on Climate Change and Sustainable Transition*. https://secureservercdn.net/160.153.137.163/z7r.689.myftpupload.com/wp-content/uploads/2020/09/20200929-CBAM-Issues-and-Options-Paper-F-2.pdf

[43] Lukin, Vladimir, 2020. *Carbon Gambit.* KPMG. https://home.kpmg/kz/ru/home/services/advisory/kpmg-seminars/risk-management/energy-efficiency.html; BCG, 2020. *Kak pogranichny uglerodny sbor ES mozhet povliyat' na mirovuyu torgovlyu*. How EU Border Carbon Levy Could Affect Global Trade]. https://www.bcg.com/ru-ru/how-eu-border-carbon-levy-could-affect-global-trade; Bobylev, P.M., Semeikin, A.Yu., 2020. Zelyony protektsinizm Evropy [Europe's Green Protectionism]. *Energeticheskaya politika*, 14 October. https://energypolicy.ru/zelenyj-protekczionizm-evropy/energoperehod/2020/14/14/ ; Porfiriv, B.N., Shirov, A.A., Kolpakov, A.Yu., 2021. Kar proiti TUR [How to Meet Border Carbon Regulation]. *Expert*, No.4. https://ecfor.ru/wp-content/uploads/2021/01/riski-vvedeniya-trangranichnogo-uglerodnogo-regulirovaniya-i-vie.pdf

EU (which we think is quite possible), followed by Asian countries, including China, these losses may increase.

Thirdly, **Russian business will face significant risks of losing competitiveness in a situation where the use of "green" technologies and a low carbon footprint become an important competitive advantage**. Investors, consumers, industry associations, and regulators of various trading platforms will require and already require Russian companies to disclose information about emissions, build strategies for their reduction and mitigation of climate risks and, ultimately, reduce the ecological footprint. Naturally, companies can implement measures required by the market without the government, but, firstly, this will incur additional expenses for them (for example, for developing a reporting methodology, negotiating with counterparties to offset certain low-carbon projects); secondly, this will lead to fiscal losses as some environmental payments will be made outside Russian jurisdiction; thirdly, certain measures (for example, reduction of the carbon footprint due to electricity consumption) cannot be implemented by an individual company and depend on centralized government decisions. However, it is important to understand that active climate policy at home can raise companies' expenses in the short term as well, thus also creating risks for their competitiveness. So, Russia must steer a middle course.

Technological risks are associated with possible technological backwardness in "green" technologies, and with reliance of scientific and technological policy on technological solutions in traditional industries that are quite advanced today, but will create a deadlock in the medium and long term.[44] Russia has already fallen far behind—probably forever—in developing its own renewable energy technologies. At the same time, Russia is among the world leaders in using some advanced technologies such as nuclear power, centralized heat supply, or non-road freight transport. Unfortunately, the export potential of these industries (with the exception of nuclear energy) is not very high.[45] In addition, Russia still has strong technological potential in reducing material intensity, in hydrogen energy, in water purification, in the use of digital solutions in the electric power industry and a number of other sectors. However, unless the state creates appropriate

[44] Makarov, I.A., Chen, H., Paltsev, S., 2018. Implications of the Paris Climate Agreement for the Russian Economy. *Voprosy ekonomi*, No. 4. https://www.vopreco.ru/jour/article/view/394

[45] CENEF-XXI, 2020. Monitoring primeneniya nizkouglerodnyh tehnoloiy v Rossii: vozmozhnosto dlya uskoreniya I risk otstavaniya [Monitoring of the Use of Low-Carbon Technology in Russia: Possibilities for Acceleration and Risks of Lagging Behind]. *Center for Energy Efficiency-XXI.* http://www.cenef.ru/file/Bashmakov%20-%20Tracking-1.pdf

incentives, Russian companies will soon fall far behind their competitors in China, the U.S., and European countries, too.

Foreign policy risks are associated with another likely blow to the image of Russia, which will be actively portrayed as an ecological "slacker" or even a saboteur, and with lost profits due to inability to instrumentalize its objective environmental advantages (for example, its position as the planet's environmental donor). Instead of being one of the leaders in an area that plays an increasingly important role in international relations and distribution of influence in the world, Russia risks turning into "a punching bag" and losing the opportunity to determine an agenda that would serve its interests.

There is a real danger that Russia, with its current emissions reduction plans, will be stigmatized as the antithesis of not only developed, but also advanced developing countries. As a result, geopolitical rivals, and over time partners who have announced "green" development plans and readiness to commit significant financial resources to their implementation, will accuse Moscow of opportunism, environmental dumping and unfair competition.

In the last two decades, the United States (in the early 2000s) and China (at the turn of the 2000s and 2010s) have been in a similar situation, but environmental issues were not so significant at that time. China was able to overcome this situation very successfully by turning its weaknesses—a low basic level of environmental development—into strengths and within just a few years became one of the environmental agenda leaders. Russia has a chance to do the same, but there is less time left for this, and environmental issues are gaining more weight on the international political agenda.

Finally, domestic political risks can be created by increased public discontent and even protest mood over aggravating social problems due to environmental degradation (public health, declining quality of life, recurrent environmental disasters, migration from regions affected by climate change and environmental degradation, and from other countries, etc.) **as well as by failure to use an idea that is most unifying for society and political elites: environmental protection is one of the few topics that is supported by almost all representatives of the political spectrum, both conservatives/statists and liberals. Its promotion, not only by words but action, will secure significant political and public support to those who advance it. The likelihood of public discontent will be high and the policy of Russia's geopolitical rivals to**

provoke such discontent will obviously be effective if the Russian government fails to take the initiative in this important area.

Part 3. RUSSIA'S NEW ENVIRONMENTAL POLICY

3.1. Internal Dimension of Russia's New Environmental Policy

The "turn to nature" and the inextricable connection between nature and people, which ensures their well-being, security and development, should become an integral element of Russia's identity and national idea, its mission for itself and the world. The concepts of nature and Homeland should become inseparable. At the same time, the unbreakable bond between environmental protection and the well-being of people, and development of human capital can become one of the most important means for ensuring internal consolidation, an idea that will unite elites (regardless of political preferences) and society.

Russian people are still close to nature both in the everyday sense (millions of people have summer houses with plots of land) and in the ideological sense (love for nature is an important part of Russian patriotism). Russia has a rich philosophical (Vladimir Vernadsky, Konstantin Tsiolkovsky, Nikolai Roerich) and literary (Ivan Turgenev, Mikhail Prishvin, Ivan Bunin, Konstantin Paustovsky and others) tradition of nature centrism. In addition, over the past decade, Russian society as a whole has been developing in line with the global trend towards greater concern about environmental problems as borne out by all sociological surveys. For example, according to a survey conducted in 2019 by the Russian Environmental Society, an unfavorable environment ranked fourth among the problems that worried Russians.[46] Respondents in a Levada Center survey named it first among all global threats.[47] People are more concerned about local environmental issues such as air and water pollution, and the problem of waste. Global climate change is not even among the top five environmental problems that worry Russians.[48]

Environmental protection and "a clean Russia" should be among central elements of state policy in all areas. Nature exploration in our own country and joint

[46] Interfax, 2019. Ekologia zanimayet chetvertoye mesto sredi naibolee vazhnyh problem rossiyan… [Ecology Takes the Fourth Place among the Most Urgent Problems for Russians…]. *Interfax,* 23 December. https://www.interfax.ru/presscenter/689047

[47] Levada-Center, 2020. *Problemy okruzhayushchei sredy* [Environmental Problems]. https://www.levada.ru/2020/01/23/problemy-okruzhayushhej-sredy/

[48] Levada-Center, 2020. *Problemy okruzhayushhei sredy* [Environmental Problems]. https://www.levada.ru/2020/01/23/problemy-okruzhayushhej-sredy/; Davydova., A., 2020. *Veryat li rossiyane v klimatichesky krizis?* [Are Russians Worried about Possible Climate Crisis?]. https://climate.greenpeace.ru/veryat-li-rossiyane-v-climaticheskiy/

efforts to preserve the environment it should become a powerful source of patriotism. **It is important to proclaim the unity of man and nature, the interconnection between people's well-being and the environment and their being part of it as an element of Russia's national idea, and make the systemic and complex perception of nature (as the basis of human well-being, human health, and economic development) an underlying principle of Russian state policy**. Instead of exploiting nature, we must see it as part of ourselves.

This work can be carried out on several tracks: political and ideological, administrative and managerial, economic, sectoral, and spatial. These tracks are described below in the same order.

1. A new philosophy of harmony between man and nature. Nature protection must be proclaimed a part and a factor of the policy grounded in the preservation and development of the people. **We need a new philosophy of preservation and protection of a human being focusing on spiritual development, health, security, and well-being, rather than material consumption.**

The state should promote the idea that happiness lies in health, spiritual development, well-being, the family, unity with nature and the Homeland, not in consumption for the sake of consumption, let alone its unlimited growth. Therefore, important national development priorities should include measures **encouraging a transition to more modest consumption by the rich and super-rich part of the country's population** and attaching greater importance to health, healthy lifestyles, and harmonious spiritual and physical development. Many consumer habits copied from Western consumer behavior patterns (and often coming to Russian distorted) and derived from mass advertising campaigns can be adjusted, especially amid the ongoing economic crisis. To this end, advertising itself must change from pro-consumer to socially- and environmentally-oriented. The radical growth of advertising promoting a healthy lifestyle, which has made it trendy in many countries and Russia, is an example of how this can work.

2. Ecological education. School programs need to focus on the study of local nature (especially as part of environmental, biology and geography courses), take education outside the classrooms, and radically strengthen environmental education and environmental responsibility in kindergartens, junior and secondary schools. Perhaps it

would be prudent to resume the practice of collecting waste paper by schoolchildren and planting trees on the school grounds. Schoolchildren and students could set up "environmental teams."

3. Personnel training. Russia has good traditions of training environmentalists in natural sciences. It is hardly possible to talk about a shortage of human resources for the development of technological solutions. However, **there is an acute shortage of specialists familiar with modern trends and methods of environmental management, including at the corporate level, state environmental policy, legal aspects of environmental protection, as well as economic, legal, and political analysis of environmental issues.** The training and advanced training of such specialists should be considered one of the priorities in the development of Russia's higher education system in the next decade.

4. Information policy. Russian nature needs to be turned into a brand. Mass media, films, and television shows can be instrumental in doing this. It is necessary to radically increase the volume and quality of television content devoted to Russian nature, on the one hand, and environmental problems, on the other. This can be done, among other things, by launching a separate television channel telling about Russian nature and the natural wealth of Russian regions; these issues should also be raised in regional news broadcasts.

5. A "turn to nature" in state symbols. We suggest defining the natural symbols of Russia and drawing a list of National Natural Monuments that will determine the natural identity of the country. Further popularization of these monuments, including by mass media, cinema, and a Russian traveler's passport, etc., should turn them into an integral part of the country's image and a dream attracting millions of Russians.

6. Environmental self-government which involves people in the process of solving local environmental problems. It is advisable to transfer some powers (and funding) to build and improve the habitat to the municipal level, and create financial incentives for local environmental activities. This will provide a response to people's calls for solving primarily local environmental problems, which can be done only at the regional and municipal levels. The state could share some of its powers with non-governmental organizations, small and medium-sized businesses. The state should incentivize the establishment and activities of Russian and Russian-funded environmental non-governmental organizations. It is important to ensure deeper involvement of citizens in the

improvement of territories, from community cleanup days to tree planting. **A program to give up using household plastics can be an efficient way to engage people and business in this work.**

7. Changes in the administrative structure of environmental governance. Many participants in the situation analyses supported the idea of restructuring the Ministry of Natural Resources and Environment. They believe that in a country whose economy has been developing in recent decades due to extensive extraction of natural resources, their management cannot be combined with environmental protection functions, as the latter will inevitably fall into the background, which is already happening. They also noted that environmental policy in Russia was fragmented and uncoordinated: pollution issues are dealt with by the Ministry of Natural Resources and Environment, while climate change (not only emissions reduction, but also adaptation to climate change), as well as "green" financing are regulated by the Ministry of Economic Development. Furthermore, although more than 80% of greenhouse gas emissions in Russia come from the burning of fossil fuels, the Ministry of Energy is only indirectly involved in their regulation, and climate change issues are barely mentioned in the Russian Energy Strategy until 2035, the latest version of which was prepared in 2020. Environmental education is the responsibility of the Ministry of Education, and environmental tourism is overseen by the Federal Tourism Agency directly subordinated to a deputy prime minister.

Such a dispersion of powers and responsibilities, as some experts pointed out, prevents a systemic resolution of environmental problems in a way beneficial to Russia and violates their interconnectedness. **Therefore, it would be advisable to create a separate Ministry of the Environment, which should consolidate the development of the environmental agenda in the country.**

Another important proposed change is the strengthening of the environmental aspect in the work the Russian Security Council and public designation of environmental protection as a matter of national security.

However, another part of the participants in the situation analyses opposed these proposals. The issue obviously needs to be studied further.

8. Information availability. Society should receive more information about both Russian nature and the threats to it. This is explicitly stated in article 42 of the Constitution, which guarantees citizens access to information on the state of the environment. Currently,

information on Russian nature and the scale of environmental problems controlled by people who make decisions is extremely insufficient. Similarly, information on urban air and water quality, greenhouse gas emissions, condition of forests, corporate, urban and regional waste should be collected systematically and be easily accessible. At present, this information is known "in general terms," in fragmented and unsystematized form, which gives only a general idea about environmental problems, and, on the one hand, raises public concern, and on the other, is completely insufficient for making administrative decisions. Such a situation benefits large companies which pollute the environment and local authorities that do not want to do their job properly. **The lack of information is largely the reason for inadequate cash execution of the national project "Ecology."** Similarly, **it is necessary to establish a system for monitoring forest fires and permafrost melting.** Otherwise disasters like the 2019 forest fires and the spill of diesel fuel near Norilsk in 2020 will keep occurring all the time.

9. Expert support. Modern environmental regulation is extremely complex and evolves constantly. It does not have ready-made solutions, and any measures, although based on international experience, require adaptation to a concrete country's conditions. **Russia's environmental policy should not be determined by Western consultants** who do not fully understand the specifics of its environmental problems and with whom it would clearly be impossible to build its own nature protection agenda. Given the severe shortage of environmental management specialists, the proposed Ministry of the Environment will need strong external support. It can be provided through the creation of its own Expert Council made up of representatives of leading research centers that deal with environmental problems.

Specialists appointed to the Expert Council of the Ministry of the Environment could also work in international expert organizations. For example, support is needed for Russian scientists participating in the Intergovernmental Panel on Climate Change, where Russia's voice is not strong enough, especially on practical issues related to the regulation of greenhouse gas emissions. It is also necessary to organize expert study of environmental initiatives which involve Russia and which it could propose as part of its membership in international organizations and through bilateral relations with other countries.

10. The link between environmental protection and progressive fiscal policy. Although the scale of poverty in Russia is quite significant, there are a considerable number

of people whose consumption goes beyond reasonable sufficiency. The unfolding economic crisis will inevitably hit incomes and reduce consumption, and it is important to ensure that it decreases primarily at the expense of the rich. **Avoiding excessive consumption is necessary, and the state must support these efforts (in particular through progressive taxation and higher taxes on luxury goods) in order to ensure, among other things, social justice. This is fully consistent with Russian traditions and demand for social justice, and will be supported by the overwhelming majority of people.** In the context of environmental policy, it is important to understand that the environmental damage caused by a rich person and his lifestyle (flights, cars, gadgets, spacious housing, etc.) is bigger, and that he suffers from environmental degradation much less than the poor. This gives reason to **view and present progressive taxation not as an attempt to take away an income from the more talented and/or fortunate, but as compensation for this environmental gap.**

However, it would be a mistake to forget the environmental damage caused by the poor who have to provide for their basic needs and do not have access to "green" goods. Reducing this damage requires reducing inequality in the country, implementing more active social policies, as well as introducing incentives to encourage people to make their consumption habits more environmentally friendly.

Measures to curb consumption by the rich did not receive unanimous support from the participants in the situation analyses. Some of them suggested even more stringent measures to limit consumer behavior (even by making people pay for consuming natural resources above a certain minimum level), but others cautioned that such restraints would weaken economic incentives needed for entrepreneurship and ultimately for economic growth. Nevertheless, we believe that the scale of inequality in Russia is so great that some restrictions on the consumption of the rich will hardly affect economic growth, especially since the Russian fiscal system has virtually no progressive elements, which differs it radically from the fiscal systems of almost all leading states. The coronavirus pandemic is likely to lead to higher taxes for the rich around the world, and Russia will also have to follow suit. **Raising progressive taxes while simultaneously increasing environmental spending is a reasonable attempt to solve two fundamental problems of modern society—growing social inequality and environmental degradation—at the same time,** with the help of a unified economic policy.

11. Transformation of the environmental regulation system and introduction of the carrot-and-stick approach. With the general emphasis on reducing excessive consumption, the entire national tax system, not just the aforementioned income tax, needs to be overhauled. **Taxes have to be linked to consumption, not just to the production of polluting products, thus creating incentives for environmental protection.** In the Russian system of taxes, the extraction tax plays a key role in the energy sector, but its rate does not depend on how the generated energy is used and for what purposes. This was justified at the time when this system was being created. However, now, a redistribution of the tax burden from energy producers to energy consumers, while maintaining the overall tax burden on energy companies, would create incentives for energy-consuming companies to improve their energy efficiency and introduce new technologies, and for citizens to save energy. It is important to understand that we are not talking about raising electricity or heat prices, but about redistributing the existing tax burden in order to create stronger incentives for more efficient use of energy in the country. **At the same time, it is necessary to introduce mechanisms for promoting energy conservation, including tax exemptions and tariff cuts.**

Environmental regulation based on the carrot-and-stick approach can be a powerful tool for economic diversification. It cannot be free, and some participants in the situation analyses rightly noted that excessive additional regulation would be dangerous for the country's economic development. Nevertheless, we believe that the perception of environmental regulation primarily as a burden on business and a drag on economic growth is incorrect and based on outdated (but widespread) ideas that environmental regulation inevitably involves an increase in the administrative and fiscal pressure on business. Environmental regulation in leading countries today is essentially an instrument of industrial policy, a way to redistribute wealth from outdated uncompetitive industries to new, efficient and innovative ones with the help of both a carrot and stick. Environmental policy is an element of the entrepreneurial state[49] by which countries increase the competitiveness of the national economy in the long term.

In Russia, it would be appropriate to use environmental regulation primarily for economic diversification. This task has been set since the early 2000s, but the country has so far not come any closer to solving it. We believe that **the introduction of carbon**

[49] Mazzucato, M., 2013. Anthem Press. https://marianamazzucato.com/books/the-entrepreneurial-state

regulation will make it possible to redistribute financial flows from energy resource-extracting enterprises that are losing competitiveness and traditional industries to modern processing (including resource-intensive) companies and services. At the same time, such regulation should be introduced gradually, with caution, not in the form of an additional price for carbon (for example, a carbon tax), but through its harmonious incorporation into the current fiscal system.[50] In this case, the overall tax burden on business will not increase, but cleaner industries will receive a new impetus for development.

However, as the discussions showed, the degree of disagreement on this issue is the highest. Some participants in the situation analyses strongly opposed these measures, saying that in the current situation they would harm various sectors of the economy without offering anything in return, and stressed the need to increase the efficiency and technological level of existing industries in the first place.

12. A new approach to science and technological policy. The diversification of the economy will also be facilitated by a revision of priorities in the science and technological policy. **In the 21st century, Russia should become an innovative resource-based economy combining natural wealth, high technologies, and modern environmental management practices.** In the modern world, agriculture, forestry, ecotourism, fishing, fish farming, and water management are high-tech industries, parts of a sector called bioeconomics which is based on the sound management of ecosystem services. They are actively developing cutting-edge biotechnologies, digitalization and robotization. In this sense, the experience of **states with a set of competitive advantages similar to Russia's (for example, Canada, Australia, New Zealand, Malaysia, or Chile), which actively facilitate the development of an innovative resource-based economy,** is quite telling.

We believe that the development of high technologies related to Russian natural resources is also important from the point of view of keeping qualified personnel in Russia. Competencies in a resource-based innovative economy are peculiar, country specific, and not universal (like digital technologies), and Russia could become a country with the best opportunities for the self-realization of relevant specialists.

[50] Makarov, I.A., Stepanov, I.A., 2017. Uglerodnoye regulirovanie: varianty i vyzovy dlya Rossii [Carbon Regulation: Options and Challenges for Russia]. *Vestnik MGU*, Vol. 6, *Economy*, No 6. https://www.econ.msu.ru/sys/raw.php?o=44675&p=attachment

13. Energy saving and energy efficiency. It is this area that holds probably the biggest potential for reducing the negative impact the economy has on the environment in Russia. And this is also a crucial source of economic growth. Over the thirty years after the collapse of the Soviet Union, the Russian economy grew most rapidly only once in 1999-2008, when the energy intensity of its GDP decreased by 5% per year (Fig. 8). The goal set for 2020 called for reducing the energy intensity of GDP by 40% from the 2007 level, but it practically did not change,[51] while the Russian economy stagnated. **Improving energy efficiency is also the main way for Russia to reduce greenhouse gas emissions**, which, however, does not mean that it should concentrate exclusively on just that alone. In general, Russia needs to diversify clean technologies: along with the development of wind and solar power generation, it is necessary to expand, wherever appropriate, the use of nuclear and hydropower, develop hydrogen energy, switch from coal to natural gas, develop technologies for capturing and disposing of CO_2, and, of course, increase energy efficiency.

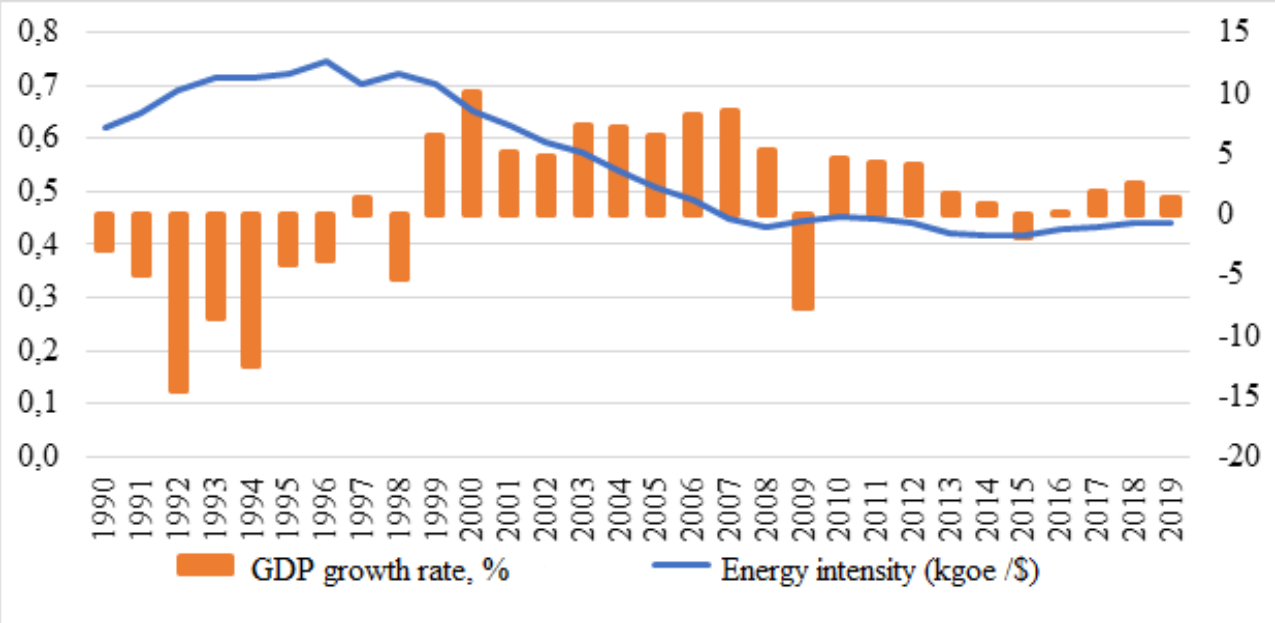


Fig. 8. Energy Intensity (kgoe /USD) in 2010 (left axis) and GDP growth rate, % (right axis) in 1990-2019

Source: compiled by the author on the basis of the IEA and WB data

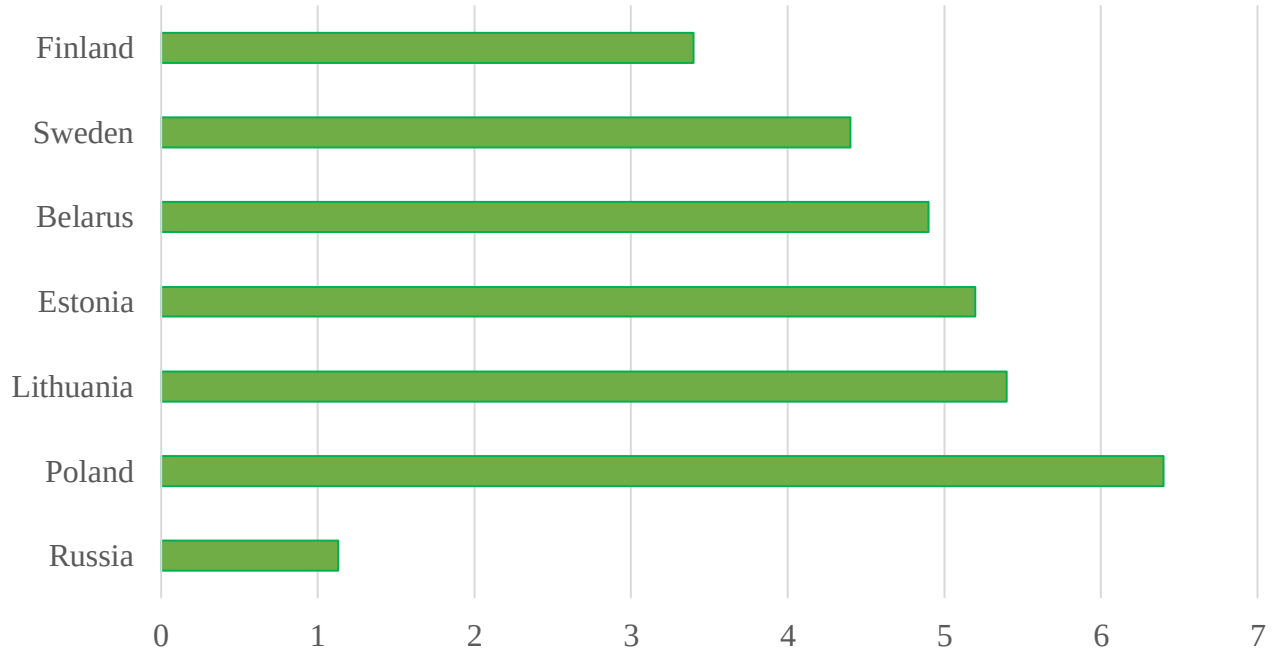
[51] Bashmakov, I.A., 2018. Chto proiskhodit s energoyomkostyu VVP Rossii? [What Is Happening to the Energy Intensity of Russia's GDP?]. *Ekologichesky vestnik Rossii*, No.7. http://www.cenef.ru/file/Bashmakov_28.pdf

14. Modernization of forest management. Russia accounts for one-fifth of the world's forests, but Russian timber-processing enterprises constantly experience a shortage of raw materials, the area under old-growth forests decreases by 1.5 million hectares annually,[52] there is still a large amount of illegal logging, and each year forest fires set new records. First of all, Russia **needs to take full forest inventory and introduce a differentiated forest management system:** approximately 70% of forests are needed for maintaining biodiversity, recreation and use by indigenous peoples. There must be a set of measures to preserve these forests, care for them, clean them, and prevent illegal logging and fires, without any special attempts at artificial reforestation (it happens naturally). However, the remaining forests are industrial forests where intensive forest management models should be promoted. The "forest yield" (annual wood growth per unit area) in Russia is a third of that in Finland and a fifth of that in Poland (Fig. 9).[53] In order to bridge the gap, it is necessary to switch to intensive forest management techniques, which can be promoted by the state: for example, by levying a rent by a unit area rather than volume, which will encourage forest users to increase timber reserves, by differentiating rental terms depending on the quality of reforestation, or by subsidizing the development of forest infrastructure, etc.[54]

[52] Shvarts, Ye. A., Shmatkov, S.C., Shchegolev, A., 2020. Est les, no ne hvataet drevesiny [There Is Forest, But There Isn't Enough Timber]. *Vtimes,* 9 December. https://www.vtimes.io/2020/12/09/est-les-no-ne-hvataet-drevesini-a1888

[53] Shvarts, Ye. A., Ptichnikov, A.V., 2020. Kak zarabotat' na lese i sohranit' yego [How to Earn on Forest and Preserve It]. *Vtimes*, 4 December. https://www.vtimes.io/2020/11/11/kak-zarabotat-na-lese-i-sohranit-ego-a1392 //

[54] Shvarts, Ye. A., Shmatkov, S.C., Shchegolev, A., 2020. Est les, no ne hvataet drevesiny [There Is Forest, But There Isn't Enough Timber]. *Vtimes*, 9 December. https://www.vtimes.io/2020/12/09/est-les-no-ne-hvataet-drevesini-a1888



Finland

Sweden

Belarus

Estonia

Lithuania

Poland

Russia

Fig. 9. Average Wood Growth per Unit Area in Different Countries, m^3/ha a year

Source: Shvarts, Ye. A., Ptichnikov, A.V., 2020. Kak zarabotat' na lese i sohranit-yego [How to Earn on Forest and Preserve It]. *Vtimes*, 4 December.

15. Attracting foreign investment in nature protection projects. Many commercial banks, investment, trust, and pension funds declare the priority of investing in "green" projects. The same is true of international organizations, and not only the World Bank Group or the European Bank for Reconstruction and Development, borrowing from which is difficult for Russia due to confrontation with Western countries, but also the New BRICS Bank, the Asian Infrastructure Investment Bank, the Silk Road Fund, the Eurasian Development Bank, and others. The "green" bond market is developing rapidly. Reducing the carbon footprint and drastically cutting emissions are becoming part of strategies

adopted by many global companies as well. In many cases, it is difficult for them (at least at first) to achieve these goals all by themselves, and **they prefer to offset their carbon footprint by financing low-carbon projects elsewhere. There are many such opportunities in Russia, and if offered to the world, they can become an important source of investment, and in some cases, technologies for the Russian economy.** The national "green" finance standard, currently being devised by the VEB.RF development corporation, can play an important role in this process. However, it will help attract investment only if it is harmonized with international standards, and this work has yet to be done.

16. Combining pro-environmental behavior with recovery from the economic crisis and transformation of environmental policy into an instrument boosting economic growth. The current economic crisis will be the most painful for the world economy since World War II. The Russian economy will also get hit hard: the quality of life of wide segments of the population will decrease, mass bankruptcies will shake various industries, many people will lose their jobs, budget spending will have to be cut, and the financial system will be imperiled. At the same time, **the entire history of the world economy shows that crises like this is the right time to make major changes.**[55] The role of the state will inevitably increase. Its policy will be critical for choosing the direction in which the Russian economy will develop in the coming decades. It is important to ensure that anti-crisis packages, which will most certainly be offered, do not include only compensation to people and affected businesses, which without a doubt is necessary, but maintains the status quo. **Measures are needed to develop those segments of the Russian economy that will be its drivers in the post-pandemic world and that will provide the basis for new post-crisis growth.** During the crisis of 2008-2009, many states such as China, the U.S., Korea, and EU countries chose "green" technologies as one of the main areas for anti-crisis spending. They got their money's worth: those expenditures not only secured their current leadership on the environmental agenda but also facilitated their technological modernization.

Creating a system of intensive forest management, building tourism infrastructure, digitalizing energy infrastructure, and developing renewable energy

[55] See: "Crisis as an Opportunity?" *Rossiya v globalnoi politike*, No.1 (January-February), 2021. https://globalaffairs.ru/issues/2021/1/

are elements of Russia's new economic and environmental policies, which can not only have a short-term recovery effect, but can also provide the basis for long-term economic growth after the crisis. All this generates economic activity which is so necessary during the crisis, ensures long-term economic growth, and helps diversify the economy and put it on a clean footing. These measures, as well as **cleaning up the country (including Arctic territories) or restoring forestry departments** can create many new jobs and help the economy get out of the crisis by stimulating aggregate demand. Work on all these tracks can be encouraged in various ways from subsidies to companies to civic actions organized by the state. This is especially relevant in regions that are regarded by the state as a strategic priority—Siberia, the Far East, and the Arctic.

17. Stimulating domestic tourism. The pandemic and the suspension of international travel after it provided a unique chance to redirect tourist flows into Russia, thus giving people an opportunity to see their own country, including its nature. It is advisable to make environmental tourism one of the priorities of the Russian tourism industry, and create appropriate infrastructure. It is important that this infrastructure (hotels, restaurants, roads, transport) should not develop on the territory of national parks or natural attractions, but around them, thus generating economic activity in a large area without harming the environment. To this end, the network of national parks will have to be transformed in order to achieve a balance between nature protection and the development of protected areas for the needs of mass tourism.

It is necessary to create and properly equip hunting farms, turning them, among other things, into ecotourism sites. Well-organized hunting can become an effective way to get acquainted with nature and a profitable business, not to mention its symbolic place in Russian history and identity.

18. Siberia and the Far East as territories of an innovative resource-based economy. The idea of preserving nature and building an innovative resource-based economy should be combined with Russia's turn to the East and the accelerated development of the Asian part of the country. **Today, Siberia and the Far East are the main areas of extensive development of natural resources, and a number of cities in the region are an environmental disaster area. This is why the new environmental policy should be implemented in this region in the first place; but also because the greatest potential of the new resource-based economy is concentrated in Siberia and**

the Far East with their forests, arable land, and fresh water reserves—Russia's main natural wealth in the 21st century. Nearby are East Asian countries experiencing acute environmental and resource problems which Russia can help solve on a market basis, including by selling ecosystem services. **Siberia and the Far East is a region where Russia can successfully tap its main export potential of the 21st century—environmentally-intensive goods (from agricultural products to data centers) and ecosystem services (from ecotourism to carbon sequestration in forests).** If the natural wealth of Russia's eastern regions is combined with the scientific potential of both Siberia and the European part of the country, then Russia will create a new cluster of dynamic economic growth on a new basis.

19. A new role for the Arctic. As the environmental agenda expands, another region of priority development—the Arctic—gains more importance. The region is home to 2.5 million people, its development generates 60% of the gross regional product, and, together with the Arctic waters, plays a strategically important role in ensuring the country's security. The discussion on what policy Russia should pursue in the Arctic in the context of the proposed "turn to nature" revealed diametrically opposite views among the participants in the situation analyses.

Some experts called for positioning the Arctic as a fragile ecosystem, the protection of which is the responsibility of the Arctic countries, as a laboratory for the study of climate change (the climate in the Arctic is changing much faster than in the rest of the world), and as a region of cooperation to combat and adapt to climate change. **And so they believe that the focus of Russia's domestic and international policy in the Arctic should be on preserving and conserving its nature through close cooperation among Arctic states.** (*Russia's new Arctic policy will be analyzed in one of the next reports on the results of situation analyses*). It is domestic efforts and international cooperation aimed at preserving the Arctic environment and fragile ecosystem that provide a natural legal and legitimate way for Russia to maintain control over the Arctic waters within the exclusive economic zone, and prevent it from turning into ordinary neutral international waters with a regular presence of U.S. and NATO military ships. Otherwise, Russia will have to either give in, thus jeopardizing its critical interests, or fight for them through the use of force.

Other experts, on the contrary, expressed concern that the designation of nature protection as Russia's main priority in the Arctic will give the United States and NATO

Arctic countries a reason, firstly, to say that Russia is supposedly the main polluter in the region, and, secondly, demand a creation of a multilateral monitoring system for nature in the Arctic, primarily the Russian Arctic. As a result, in their opinion, Russia will lose control of its Arctic waters even faster, and the United States and NATO countries will get a chance to qualitatively expand their presence there on a regular basis. The issue needs to be studied further.

The focus on Arctic protection proposed by some participants does not mean a ban on economic activity in the region, but it should change. We believe that the time of extensive development of the region through large projects has passed. Hydrocarbon production becomes, firstly, less demanded in foreign markets, and secondly, less profitable. Development and exploitation becomes increasingly complicated in all major Arctic projects, which creates more risks, including environmental ones. The costs incurred by many large projects seem to be underestimated. Extraction costs are factored in, but transportation costs are often ignored, but most importantly, these projects will impact future generations, which will have to bear the burden of environmental consequences.[56]

The development of the region should be based mainly on local knowledge. The development of the Arctic should directly involve regional authorities, local businesses, regional science, and small indigenous peoples. At the same time, the region should be connected with competence centers in other parts of the country, especially in its eastern regions. The Arctic must not be separated from Siberia and the Far East—they can only develop together.

Climate change could give a new impetus to the Northern Sea Route. Russia needs it not only and not so much as a transit route (it will not be able to become a significant alternative to the route through the Suez Canal in the foreseeable future), but as an internal waterway necessary for transporting goods inside the country, strengthening its security, and developing science. At the same time, the Northern Sea Route can hardly become really important for Russia without meridional transport routes connecting it with the centers of scientific development and industrial production in Central and South Siberia. Otherwise, it will only be used for the export of natural resources and the import of

[56] Kryukov, V.A., 2020. Rossiyskaya Arktika: Nauka vazhnee resursov [Russian Arctic: Science Is More Important than Resources]. *Rossiya v globalnoi politike.* https://globalaffairs.ru/articles/arktika-nauka-vazhnee/

equipment for their extraction without any multiplicative effect for the country's economy as a whole.[57]

3.2. External Dimension of Russia's New Environmental Policy

3.2.1. General Principles

Environmental protection should become one of Russia's foreign policy priorities, an important part of its mission not only for itself, but also for the world. Although environmental issues are mentioned in such documents as the Foreign Policy Concept, environmental cooperation remains a rather peripheral foreign policy issue. For Russia, environmental and climate cooperation is not a priority area of interaction within international organizations, which are vitally important for the country now, such as the SCO, BRICS, and the EEU, while on the global level, instead of offering its own environmental agenda, Russia has been passively trailing behind the Western narrative. This has so far not allowed Russia to use one of its main competitive advantages—rich and diverse nature and the role of the planet's environmental and climate donor—on the international scene, and deprived it of many international political and economic benefits. **It is necessary to raise the priority of international environmental cooperation in the major Russian foreign policy documents, and, most importantly, to start pursuing an active practical policy in this area.** This will increase Russia's international authority and influence in the world, bring it significant economic benefits, and improve the quality of life and well-being of its own people.

International environmental cooperation should be promoted as an important unifying agenda that can smooth over geopolitical contradictions and strengthen interaction between competing countries. In particular, intensified cooperation in this area could improve relations between China and India, which is entirely in Russia's interests, and become an important part of the SCO agenda, which is clearly stagnant today. It is advisable for Russia to advance environmental issues both at the SCO, RIC, and BRICS. **But most importantly, in cooperation with other SCO and BRICS countries, Russia should offer a joint environmental agenda to developing countries and the world, broader and fairer for them than the one being proposed by the West.**

[57] Ibid.

The Russian environmental agenda for the world we propose is based on five fundamental principles:

1. Habitat problems (not only purely environmental ones, but also, for example, epidemics) are a key challenge of the 21st century. Environmental degradation and its consequences have always been a challenge to global security, but this problem is particularly acute now. Global problems caused by environmental destruction should not be seen as secondary to economic growth, just as traditional security challenges are not. Ignoring global challenges now will lead to greater losses in the future, including a decline in economic growth and material well-being. The COVID-19 pandemic is the proof.

2. Environmental issues should be addressed in a comprehensive manner. Combating climate change is an important issue, but not the only one, especially for developing countries. Dealing with air, water, soil, and waste pollution, deforestation, and loss of biodiversity is important not only in the context of mitigating climate change, but also all by itself. These are priority problems in many developing countries.

3. Coping with environmental problems requires a restructuring of the global economy, but the "green" transformation must be inclusive and take into account the interests of not only developed but also developing countries. Particularly so since the ongoing processes in developing countries will determine the future of the planet due to their superiority in terms of population, economic activity, and economic growth.

The approach to combating environmental problems, particularly climate change, that Western countries are advancing today contradicts a number of Sustainable Development Goals: specifically elimination of poverty and reduction of inequality. In fact, it is difficult or even impossible for developing countries to develop "green" technologies and at the same time provide the poor with food, water and electricity.[58] This is especially difficult in countries that specialize in the export of traditional natural resources and carbon-intensive products. The transfer of "dirty" industries to developing countries addresses local environmental problems in developed countries at the expense of developing nations and shifts the burden of responsibility for global problems to them,

[58] Grigoriev, L.M., Makarov, I.A., Pavlyushina, V.A., Sokolova, A.K., Stepanov, I.A., 2020. Izmenenie klimata i neravenstvo: potentsial dlya sovmestnogo resheniya problem [Climate Change and Inequality: A Potential for Joint Problem-Solving]. *Vestnik mezhdunarodnyh organizatsyi*, Vol. 15, No. 1. https://iorj.hse.ru/2020-15-1/341825851.html; Grigoriev, L.M., Medzhidova, D.D., 2020. Global Energy Trilemma. *Russian Journal of Economics*, Vol. 6, No. 4. https://www.researchgate.net/publication/347072099_Global_energy_trilemmahttps://www.researchgate.net/publication/347072099_Global_energy_trilemma

without actually solving environmental issues globally**. It is necessary to move towards clean development jointly, develop such rules and instruments of international economic relations and global governance that would ensure real support from rich developed countries for this transition globally. This is not about international development aid or foreign aid policy, but about organizing joint work to determine future guidelines for solving environmental problems.**

4. The economy of consumer society cannot be sustainable.[59] It is the consumer economy, which underpinned the economic development of Western as well as most non-Western countries, that is to be blamed for the current scale of environmental problems in the world. **Attempts to solve environmental problems by introducing clean technologies without changing consumer behavior are doomed to failure. Consumers are liable for environmental problems just as much as producers of pollution-intensive goods are, and should bear joint responsibility for solving these problems.** The wealthiest segments of the population, mainly in developed countries, but also (albeit in a much smaller proportion) in the developing world, bear particularly high responsibility.[60] **The policy Russia is advancing should focus on human beings, their overall well-being and security, not on material consumption. Most participants in the situation analyses agreed that the emphasis should be on joint international efforts to create new models of economic growth for leading developing countries that will not be able to use Western consumer behavior patterns due to environmental restrictions.**

5. It is necessary to start solving global environmental problems where it is least expensive. Consolidating huge financial resources to reduce 9% of the world's emissions, as the European Union is doing, without looking at what is happening outside its borders would be pointless in terms of combating climate change. **A global "green" financial system must be created in order to link the financial resources of rich countries available for low-carbon development with low-cost emissions reduction projects**

[59] Danilov-Danilyan, V.I., 2013. Prirodno-resursny sector v structure mirovogo hozaystva i prichiny globalnogo ekonomicheskogo krizisa [Natural Sector in the Global Economy Structure and Reasons for the Global Economic Crisis]. *Vestnik RAN*, No. 4. http://naukarus.com/prirodno-resursnyy-sektor-v-strukture-mirovogo-hozyaystva-i-prichiny-globalnogo-ekonomicheskogo-krizisa

[60] Grigoriev, L.M., Makarov, I.A., Pavlyushina, V.A., Sokolova, A.K., Stepanov, I.A., 2020. Izmenenie klimata i neravenstvo: potentsial dlya sovmestnogo resheniya problem [Climate Change and Inequality: A Potential for Joint Problem-Solving]. *Vestnik mezhdunarodnyh organizatsyi*, Vol. 15, No. 1. https://iorj.hse.ru/2020-15-1/341825851.html

located mainly in developing countries. This system should include common "green" funding standards, **emissions offsets between regulatory systems of different countries,** as well as an active role of international development institutions in redirecting "green" financial flows to developing countries.

However, the main, "zero," principle that was not questioned by any of the participants in the situation analyses concerns Russia itself: **it can offer its own environmental agenda to the outside world only if real and visible changes in this area take place inside the country first**. Environmental problems in Russia have been piling up for decades, and they cannot be solved quickly. However, **from the point of view of global leadership in this area, what is important is not so much the current state of the environment as the dynamics, but most importantly, determination and intensity of the measures being taken.** It is enough to look at China, which in less than a decade has turned from the main "culprit" blamed for environmental problems in the world into one of the main engines of the global "green" transformation. Another example is Germany: the fact that it still has a "dirtier" energy balance than Russia does not prevent it from being a recognized leader of the "green" agenda in Europe.

3.2.2. Interaction with BRICS and SCO countries, and developing states in general

Russia's key partners in shaping and promoting a new global environmental agenda are the BRICS and SCO countries, and developing nations in Asia, Africa, the Middle East, and Latin America as a whole.

Firstly, China, India, and South Africa, as well as the surrounding developing countries in Africa and Asia lack most of the basic natural resources such as fresh water, arable land, fertile soil, clean air, forests, and fish resources (Fig. 10). Russia is rich in natural resources and **can supply the developing world with water- and energy-intensive goods, agricultural products, and ecotourism services. This should probably be viewed as one of the key elements of Russia's preferred international specialization in the 21st century.**

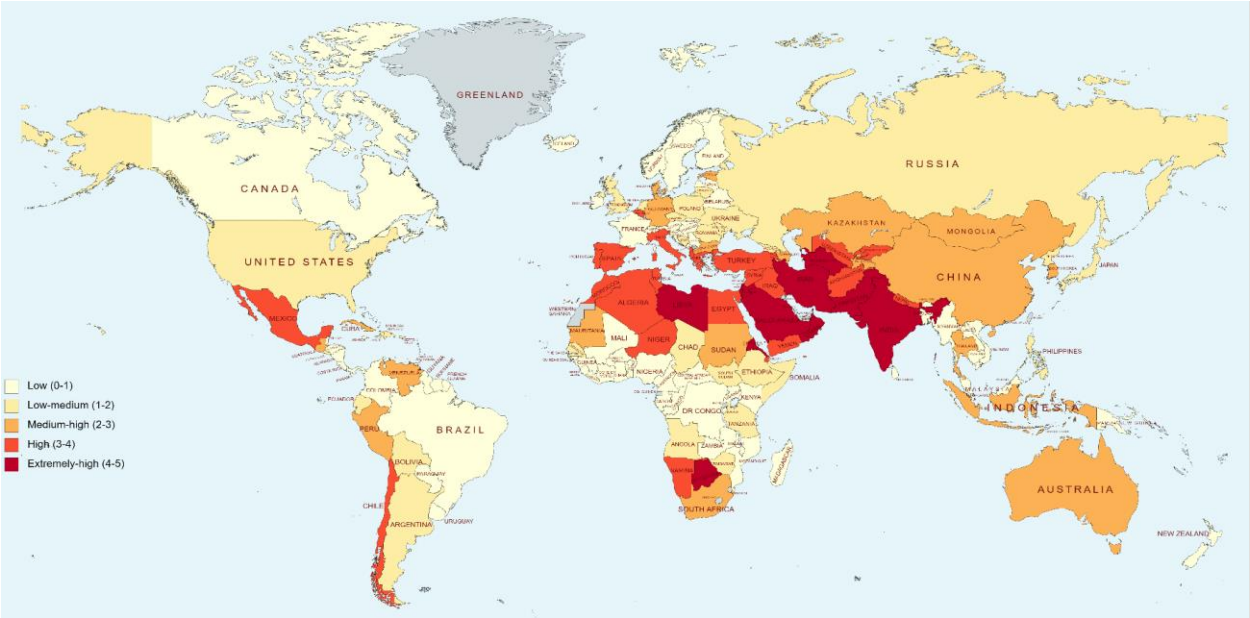


Fig. 10. Fresh Water Consumption to Available Renewable Resources Ratio

Source: compiled by the authors on the basis of Baseline Water Stress data, World Resource Institute

Secondly, BRICS countries are the first to move from low to middle and high income levels under the most stringent environmental constraints. For this reason, they cannot continue to catch up, following the example of developed countries and copying their consumption patterns. Added to environmental restrictions in the BRICS and SCO countries are social ones: they are characterized by a high level of inequality, compounded by regional, ethnic, religious, and other disparities. Traditional economic growth will exacerbate existing wealth inequality between different groups of the population. The BRICS and SCO countries need a new model of "green" and inclusive economic development. In the future, this model will be replicated in other developing countries that will take guidance from BRICS.

Currently, climate issues are not among key priorities on the BRICS and SCO agendas because of disagreements between member countries: both groupings, especially BRICS, put these issues aside. Given the growing importance of environmental and climate issues in international relations, their further neglect may weaken the authority of these institutions in world affairs and global governance, or even become a factor in marginalizing them. Russia should show leadership and help intensify the discussion on environmental issues in these organizations. This is important for BRICS because it can thus strengthen its role as a global governance institution, as all member countries agree.

This is also important for the SCO since environmental and climate issues are turning into important security problems. It is worth starting with consultations and dialogues among experts. In the long run, when member states become ready, the BRICS and SCO countries should start **intensive dialogue at the level of governments and experts in order to discuss how to build a clean economy and move on to a new development model, which would offer the golden mean between the accumulation of material wealth and nature protection.**[61]

In the meantime, BRICS and the SCO should focus on joint promotion of a fairer and more inclusive global environmental agenda. At Russia's insistence, the BRICS and SCO countries should at last (for the first time) announce their key role in solving global environmental problems. This role is determined by their large share in the world population and economy. However, acknowledging importance does not mean assuming all responsibility for global issues. **Global problems must be addressed according to their global nature: in particular, consumer countries are responsible for these problems just as much as producing countries are.**

Jointly with its BRICS and SCO partners, Russia should propose a new principle to the world, according to which not only producers, but also consumers of "dirty" products should pay for environmental pollution, including greenhouse gas emissions. This applies both to the core of the global consumer society in Western countries and to the growing, but still minority, wealthy groups of people within developing countries. The approach being advanced by the West, according to which all responsibility for "dirty" production falls on manufacturers despite the fact that these goods are exported primarily to the West, is aimed at perpetuating current asymmetric economic specializations and related inter-country inequality and is simply unfair.

Based on that, Russia, together with the BRICS and other developing countries, should offer to the European Union, the U.S. and other developed nations (possibly at the UN) a "Global/World Clean Deal" cooperation program, which implies pairing the European Green Deal and environmental programs of other countries with the

[61] BRICS Development Strategy, 2020. Strategia razvitiya BRICS i prioritety dlya Rossii [BRICS Development Strategy and Priorities for Russia]. In: T.A. Meshkova (ed.). *XXI Aprelskaya mezhdunarodnaya nauchnaya konferentsiya po problemam razvitiya ekonomiki i obscchestva* [The 21st April International Scientific Conference on the Development of Economy and Society]. Moscow: NRU-HSE. http://www.nkibrics.ru/ckeditor_assets/attachments/5ed4ec526272691715b50000/strategiya_razvitiya_briks-na_sayt-29_05.pdf?1591012434

environmental goals of Russia and other BRICS states in order to build a truly global approach to protecting the environment as a universal value. Russia should openly say wherever possible that regional measures of the EU and other developed countries cannot solve global problems. Instead they create the risk of shifting these problems to other countries, which is unacceptable to them, will undermine necessary cooperation, and are harmful for the world as a whole.

As a concrete step towards implementing such an initiative, it is worth proposing the creation of a global emissions offset mechanism to be applied through projects designed to reduce greenhouse gas emissions primarily in developing countries, including BRICS, SCO, and EAEU states. Since emissions reduction in developing countries is much cheaper than in developed Western countries, Western companies could regard emissions reduction projects in Russia and other developing nations implemented with their support as fulfillment of their own reduction commitments (particularly under the EU emissions trading system). The purpose is to universalize global environmental and climate financing: it should go to where emissions reductions is least expensive. Naturally, this will require the establishment of global "green" finance standards, and leading developing countries should be actively involved in this work.

This proposal largely echoes the ideas of joint implementation and Clean Development Mechanism projects carried out during the first commitment period of the Kyoto Protocol (in 2008-2012). They were eventually abandoned, primarily on the European Union's initiative, partly for objective reasons—due to the inability to verify compliance with the principle of additionality, that is, prove that a low-carbon project was implemented owing to Western funding; and partly due to growing dissatisfaction caused by the fact that during the economic crisis European companies had invested in and transferred clean technologies to other countries, including China, which was turning into a competitor of Western economies. Whereas t**he rationale of the idea that emissions should be reduced primarily where it is least expensive was never questioned: it was rejected due to implementation difficulties.** Currently, emissions accounting and low-carbon project verification have reached a completely different level, "green" standards are gradually being harmonized, and the financial market has successfully mastered the "green" bond mechanism, and, faced with similar accounting problems, has successfully

solved them. In this regard, **there are no technical difficulties in returning to the system of international emissions offset mechanism, and the BRICS and SCO countries should be interested in advancing this idea globally.**

In the future, according to some participants in the situation analyses, Russia jointly with BRICS and SCO partners can raise the question of **resetting the Sustainable Development Goals by the UN General Assembly, emphasizing their close interconnection with each other and the inability to solve global environmental problems without curbing excessive consumption.** These experts believe that the idea of resetting the SDGs is particularly timely now because the COVID-19 pandemic, firstly, will inevitably delay their implementation for several years, and secondly, has highlighted new priorities, in particular the fight against epidemics.[62] Other participants insisted that the current SDGs were well balanced and that Russia should advance them further as they are at the global level jointly with developing countries, while constantly reminding leading countries of them.

Developing countries in Asia, Africa, the Middle East, and Latin America are important potential allies of Russia in advancing the new global environmental agenda and environmental cooperation in general. They are interested in a more equitable global environmental regime that does not conflict with the objectives of their economic and social development and, in particular, implies the transfer of clean technologies to them. However, in order to ensure broad support for the Russian approaches among these countries, including the new environmental agenda proposed in this report, Russia **needs to advance it more actively at the international level and also build a more intensive expert dialogue with the developing world on environmental and climate issues on the basis of conclusions and estimates prepared by Russian fundamental science.** This will give Russia more confidence in defining the global agenda and competing with Western countries which commit massive scientific resources to justifying their environmental and climate policies. In order to disprove or correct their arguments, Russia needs comparable analytical and conceptual capabilities.

Another important area of cooperation between Russia and its partners in BRICS, SCO, and other developing countries is adaptation to climate change. The Paris Agreement

[62] Bobylev, S.N., Grigoriev, L.M., 2020. In Search of the Contours of the Post-COVID Sustainable Development Goals: The Case of BRICS. *BRICS Journal of Economics*, Vol. 1. No. 2. https://www.brics-econ.org/sys/raw.php?o=1993&p=ArticlePDF

states that countries' efforts to combat climate change should include both emissions reductions and adaptation as equal priorities. In reality, however, adaptation remains in shadow, although it is no less important for developing countries. There must be an expert dialogue on this issue with partners in the developing world, and exchange of experience, including at the regional and municipal levels. Further consolidation of developing countries in their dialogue with developed countries on the importance of adaptation as a global priority will also be useful.

It is advisable for the BRICS and SCO countries to make cooperation in combating epidemics, which occur largely due to environmental degradation, a key priority directly related to environmental issues. According to many experts, a predatory attitude towards nature and its pollution will lead to the emergence of more and more epidemics in the foreseeable future, and cooperation to prevent them, and minimize and overcome their consequences is highly necessary. Since the U.S. politicizes this issue and uses it as an instrument of information war and confrontation (in particular, against China and partly against Russia) and cooperation in combating pandemics at the global level is difficult for this reason, it is BRICS and SCO countries that can become centers of global epidemic management, increasing their own resilience to pandemics and offering best practices to others, working in cooperation with developing countries as part of the BRICS+ and Outreach mechanisms. It is noteworthy that even despite the aggravation of the border conflict between India and China, the BRICS and SCO countries did not politicize the issue of the pandemic and did not blame each other for its outbreak.

BRICS and SCO cooperation in this area may include coordination of activities within the WHO and support for the organization as a whole, joint studies of specific aspects of pollution that are most dangerous in terms of the emergence of infectious diseases and ways to deal with them, development of the best models of behavior during epidemics, joint development and mass distribution of vaccines, and assistance to countries with less developed health systems. The latter may become one of the SCO's key priorities: Russia, China, and India are interested in the sustainability of Central Asian health systems. In fact, a large-scale epidemic in the region would be fraught with a serious economic crisis and political destabilization of the entire region.

Another important BRICS priority, directly related to environmental issues, is cooperation in the prevention and management of natural and man-made disasters.

The former are often the result of environmental degradation and, above all, climate change, and the latter cause enormous environmental damage. Moreover, the dramatic increase in the number and scale of disasters since the beginning of the 21st century and their increasingly transboundary impact—simultaneously affecting several regions—make it a global challenge. It objectively necessitates a qualitative improvement of **international emergency and rescue activities**. We believe (although not all participants in the situation analyses supported this idea) that interstate cooperation in this area could be overseen by a **Global Emergency and Rescue Company** (GERC), which could best be created on the basis of BRICS. (*The HSE Faculty of World Economy and International Affairs has studied this issue and can provide relevant materials*). BRICS is able to ensure global coverage and manageability since the number of participants is limited and they have the resources needed for establishing such a company. This initiative objectively serves the interests of the participating countries for several reasons.

- Firstly, there is unique expertise of the Russian Ministry of Emergency Situations and specialized companies: air carriers and manufacturers of long-haul cargo aircraft.
- Secondly, other members of the grouping can also engage their companies in GERC activities to organize humanitarian relief supplies, create food reserves, and arrange joint weather and seismic monitoring using both the Russian GLONASS satellite system and eventually China's BEIDOU. India and China are likely to be interested in advancing their own medicines and medical equipment, etc.
- Thirdly, when implementing joint projects requiring significant capital investments, GERC can automatically serve as additional insurance and thus allow raising capital on more favorable terms.
- Finally, this initiative is in the interests of BRICS itself, since it allows it to build a positive agenda and create an effective tool for consolidating its soft power.

It is in Russia's interests to strengthen the environmental agenda at the SCO.[63] Over the past several years, the Shanghai Cooperation Organization has been in a state of stagnation caused by an agenda deadlock, geopolitical contradictions between member

[63] Makarov, I.A., 2015. Perspektivy uglubleniya sotrudnichestva po voprosam okruzhayushchei sredy v ramkah ShOS [Prospects for Deepening Cooperation on Environmental Issues in the SCO Framework]. In: IMI *Annual. Reports, 2(12): 10th Panel of the Shanghai Cooperation Organization, Khanty-Mansiysk.* Moscow: MGIMO University. https://publications.hse.ru/chapters/178766059

countries (India-Pakistan, China-India), low activity of Russia and China, which have not been offering a new future-oriented agenda for the organization, and the inability to move from the role of a regional structure tasked with combating new security challenges to the role of the institutional foundation of Greater Eurasia. This stagnation, which may cause fragmentation of the Eurasian space and emasculate, or even destroy, one of the most important multilateral structures involving Russia and China, does not serve the interests of either Moscow, or Beijing, or New Delhi. Russia needs to galvanize the organization into action, and environmental cooperation could help break the deadlock, lead the SCO out of stagnation, and give it a new unifying and future-oriented agenda. Moreover, environmental degradation is becoming an increasingly urgent problem for all SCO member countries and can be legitimately considered a top priority security threat. Environmental protection should probably be proclaimed one of the SCO's priority objectives along with the fight against terrorism, separatism, and extremism.

While developing multilateral environmental cooperation within the BRICS and SCO framework, Russia should also step up bilateral cooperation in this area with China. In particular, the two countries could develop joint standards for "green" infrastructure, which could be quite appropriate in light of the efforts to pair China's Belt and Road Initiative with the Eurasian Economic Union. China's large-scale infrastructure projects launched as part of this initiative will determine the scale and nature of pollution in Greater Eurasia for decades to come, which makes the development of and compliance with environmental standards extremely important. This will be particularly necessary during the implementation of bilateral transport projects currently under consideration, including transport corridors in Primorye and possible trans-Eurasian transport routes.

In the future, it will be inevitable and desirable to expand exports to China of Russian environmentally-intensive and ecological goods and services, particularly products of agriculture, forestry and fishing, data center services, and ecotourism. It is important that these mutually beneficial opportunities should be fulfilled in compliance with environmental standards, which often requires joint work of relevant agencies on both sides. This is particularly appropriate in such areas as timber export control, tourism flows, agricultural, forest and fish certification, etc.

3.2.3. Interaction with the European Union and EU Countries

In parallel with the development of environmental cooperation in BRICS and the SCO, and initiation of a new global environmental agenda, most participants in the situation analyses believe that it is also **important for Russia to engage in environmental dialogue with Europe. In the short term, Russia can conduct bilateral dialogues with key EU member states, and in the future, when appropriate political conditions are in place, with the European Union as a whole.** At the same time, there was no general agreement on this issue among the participants in the situation analyses.

All participants agreed that due to internal problems and the chosen strategy of recovery from the current economic crisis, as well as a deep impasse in relations with Russia and strong mutual estrangement, the European Union will not be ready to seriously discuss large-scale Russian initiatives, even if they are proposed, let alone adjust its own climate policy. A new downward spiral in Russia-EU relations in 2020 and early 2021 increases the likelihood of further shrinkage of the Russia-EU political dialogue (there is already practically none) and Russia's interaction with EU institutions. However, despite this, it is important for Russia to keep trying to prod Brussels, and especially EU member states, into starting a substantive dialogue on the entire range of environmental and climate issues.

The European Union is currently the most active party in developing environmental initiatives and transforming environmental protection into a key element of economic development. The European Green Deal commits $1 trillion to a "green" transformation of the economy and achievement of carbon neutrality by 2050. Although its full implementation is doubtful, the very fact that the EU is determined to move along this path will have a significant impact on Russia, both by reducing the import of fossil fuels and by introducing a carbon tax on imports from Russian.

Although the EU's carbon border adjustment mechanism has not been developed yet, some of the participants in the discussion insisted that Russia should not wait for details, but should **immediately invite the European Union to start working jointly for the benefit of nature protection, including its climate aspects**. According to these experts, making such a proposal will do Russia no harm, and even if Brussels rejects it (which is quite likely in the current situation), Moscow will earn additional credibility in the eyes of the international community, while the EU will actually demonstrate that its

Green Deal is aimed at increasing its own economic competitiveness rather than protecting nature.

These experts also pointed out that amid downright unfriendly relations between Russia and the EU, dialogue on environmental protection can become one of the few elements of a positive agenda in Russia's relations with the EU and its key member states. At the same time, despite the fact that the overall state of political relations between Russia and the EU will most likely deteriorate in the coming years, the aforementioned experts believe that Russia will still be interested in maintaining elements of a positive agenda both with the European Union as a whole and with leading Western European countries in particular. The reason for this is the need to maintain balanced relationships with other global and regional players, especially when the Biden administration continues and even steps up its confrontational policy and China's foreign policy becomes more assertive.

Other participants insisted that the time for serious dialogue with the EU on environmental and climate issues had not come yet, on the one hand, because the European Union is not ready for normal interaction with Moscow, and on the other hand, because Russia needs to step up its environmental policy inside the country first before making serious offers to others. Therefore, it would be desirable to put forth initiatives concerning close environmental cooperation with the EU not now, but in the future when the political atmosphere in Russian-European relations improves and when, and if, Brussels gets out of its anti-Russian dive. For the time being, Russia can develop dialogue among experts and on a bilateral level with key EU member states.

Some suggested preparing in advance a compensatory package of tariff and non-tariff restrictions if Brussels introduces its carbon border adjustment mechanism unilaterally.

In any case, the participants in the situation analyses agreed that Russia has much to offer to the European Union and its individual member countries in the future. The objectives set by the European Green Deal are extremely ambitious and technically difficult to achieve. Firstly, the EU economy is already quite energy-efficient, and each next greenhouse gas emissions reduction will prove to be very costly. Secondly, **decarbonization in the EU with consumption remaining constant will result in the substitution of its own production with imports. This will lead to an increase in emissions outside the EU, while responsibility for climate change will be shifted to the**

countries where these emissions are mainly concentrated, including Russia, even though rich countries, including EU states, add just as much to the growth of greenhouse gas emissions simply by consuming large quantities of energy-intensive products.

Achieving real (that is, crucial for combating climate change) carbon neutrality in the EU without reducing emissions in Russia is extremely costly and ineffective for reversing climate change. This creates conditions for a new format of cooperation between Russia and Europe—a "Russia-Europe Clean/Green Deal", comparable in scale and long-term impact with the 1970 gas-for-pipes deal between the Soviet Union and Germany. The basic objectives of this project are as follows:

- It is much less costly to reduce emissions in Russia than in the EU. **Russia can create its own emissions accounting and regulation mechanisms that could be compatible with the European emissions trading system. This will make it possible** to implement low-carbon projects in Russia, including jointly with European investors. These projects can be launched in many sectors, including renewable energy (many European companies already work in this field in Russia), industrial sectors supplying basic goods to the EU (metals, chemistry, etc.), forestry, and energy efficiency.
- **Russia, with its ample nuclear power and hydropower resources, can gradually become the world's largest producer of hydrogen.** With a lower carbon footprint than natural gas, methane-hydrogen mixtures also have good prospects, especially at the initial stage. **Russia could implement several pilot projects in cooperation with the European Union to produce hydrogen and then supply it to European markets through the existing gas pipeline system.** Some participants in the situation analyses were skeptical about this idea. However, others insisted that if these projects were successful, a joint plan could be prepared to gradually replace Russian gas supplies with hydrogen by the middle of the century. This will reformat the Russian-European gas interdependence in line with the new realities. At present, the EU is not interested in the types of hydrogen that Russia is ready to offer it: "gray", produced from gas, and "yellow", made through electrolysis with atomic power. However, hydrogen technologies change rapidly, new data become available, and new opportunities open up, including the production of "blue" hydrogen from gas by capturing and disposing of greenhouse gases, and cost-

effective production of “green” hydrogen based on RES or hydro resources, etc. So, there is a basis for dialogue.

At first—and this was confirmed even by those participants in the situation analyses who called for more vigorous environmental cooperation with the EU already now—such initiatives will most likely meet a lukewarm reaction among European partners because of the general political situation and the high level of mistrust between Russia and the EU, and because the EU, for a variety of economic and political reasons, seeks to concentrate investments in emissions reduction on its own territory. Moreover, **there are no reasons to expect restoration of normal Russia-EU dialogue or the lifting of at least sectoral anti-Russian sanctions** in the short and medium terms.

Nevertheless, some experts insisted that although such initiatives on the part of Russia may not prevent the introduction of a carbon tax on imports from Russia in the short term, they will at least make it more difficult for the EU to do so, since such decisions will require proof that Russia’s efforts to combat climate change are insufficient and it is not willing to engage in dialogue. Russia’s active position in the dialogue with the EU and in advancing the proposed agenda will create an unfavorable political and information background for the introduction of a carbon border adjustment mechanism. The preparation in advance of a package of compensatory duties on EU goods will also complicate this process and make the EU aware that its carbon border adjustment mechanism may lead to an all-out trade war against the European Union.

Finally, such initiatives are an important part of interaction with the green part of the political spectrum, which will gradually begin to perceive Russia not as a threat to environmental ideals, but as an opportunity to achieve them, an opportunity that the European Union does not use. Since the Greens are very likely to come to power in many European countries in a few years, this will create the basis for more active economic cooperation at a time when the political situation in the EU begins to change and Brussels starts looking for ways to work with Moscow.

In the long term, the EU will have to change its unilateral commitment to imposing restrictions on the producers of “dirty” goods, but not its own consumption.

3.2.4. Interaction with the United States

Although the U.S. is likely to continue its confrontational policy towards Russia and even step it up in the coming years, and the agenda of Russian-American relations as a whole may be minimized as distracting and largely unproductive, dialogue with Washington on climate change and environmental protection seems to some participants in the situation analyses to be one of the few areas (these also include strategic stability and non-proliferation of nuclear weapons) where selective interaction would be justified. However, there was no consensus among the panelists on this issue.

For the Biden administration, climate is one of the top priority issues, including in foreign policy: it seems to be one of the important tools for restoring the declining U.S. authority, making up for failures in Afghanistan and Iraq, and supporting the Arab Spring. Positioning the U.S. as a "benevolent hegemon" and a key producer of global public goods, occupies an important place in Democrats' concept of American "global leadership" and ways to strengthen it. In addition, this topic is important for the progressive wing of the Democratic Party, which has become significantly stronger recently and played a key role in the 2020 Democratic campaign. It is noteworthy that a new position has been created at the Cabinet level — special presidential envoy for climate—to be held by a political heavyweight, former Secretary of State John Kerry. Thus, the issue of international climate cooperation is actually removed from under the control of Secretary of State Antony Blinken to become a separate area overseen by the president himself. Kerry's task is to restore the United States' position as the leader of the international climate action agenda (which the U.S. abandoned during the Trump presidency) and edge the European Union out.

Given the priority of climate issues for the new administration, the Russian-American environmental and climate dialogue could become one of the very few, where cooperation between the two countries would be aimed not at managing confrontational relations and preventing the worst (direct military clash, an arms race), but at bringing a positive and objective improvement into the surrounding world. At the same time, taking into account the extremely negative political atmosphere in relations, it would be desirable to develop this dialogue not so much on a bilateral basis as in various multilateral formats.

In particular, **Russia, the United States, and China could join forces in opposing EU plans to introduce a carbon border adjustment mechanism**. The U.S. and China are the largest (number two and number one, respectively) exporters to the EU, including

a number of carbon-intensive goods, and the new EU mechanism can hit them no less, and in total much more, than Russia. In the past, it was the consolidated position of these countries that prevented the EU from including foreign air carriers in its system of greenhouse gas emissions trading in 2012. That experience of joint efforts to protect one's own interests may become useful today, too.

In addition, Russia should develop environmental cooperation with the U.S. in the Arctic, where the two countries are neighbors, and the climate changes two to three times faster than in the rest of the world. This creates serious risks not only for the Arctic ecosystem, which is particularly fragile, but also for the economy and infrastructure of Arctic countries and people living in Arctic regions, as well as significant challenges to military and military-political security. Due to the receding ice cover in the Arctic Ocean, the Arctic, as the U.S. Department of Defense's Arctic Strategy[64] adopted in 2019 states, ceases to be a natural buffer and is regarded by the U.S. military as a platform for projecting global power. As a result, the overall confrontation between the U.S. and Russia and between the U.S. and China is shifting to this region, accelerating its militarization. Due to its geographical proximity, the Arctic, which for the past forty years has been viewed mainly as a region of cooperation, may turn into one of the central arenas of Russian-American confrontation.

Cooperation in combating climate change, adapting to it, studying its dynamics and its consequences for the Arctic, as well as protecting the Arctic ecosystem as a whole can at least slow down this negative trend, eventually opening up more opportunities for the economic development of Russia's Arctic regions and expanding the Northern Sea Route. In addition, this cooperation provides at least a hypothetical chance to maintain an international legal regime in the Arctic, which gives Arctic countries the right to exclusive control over a 200-mile area.

This interaction should be developed not only on a bilateral basis between Russia and the U.S., but also within the framework of the Arctic Council, the chairmanship of which passes to Russia in 2021 for the next two years. Moreover, the Arctic Council's European members appear to be Moscow's most natural partners both in cooperation to protect nature in the region as a whole and in updating the international legal regime in the

[64] Department of Defense, 2019. *Report to Congress. USA Department of Defense Arctic Strategy*. June 2019. https://media.defense.gov/2019/Jun/06/2002141657/-1/-1/1/2019-DOD-ARCTIC-STRATEGY.PDF

Arctic, which allows littoral states to maintain exclusive control over their Arctic waters. Russia's cooperation with the Arctic Council's European member countries, in turn, will create a more favorable atmosphere for developing interaction with the United States and for changing its approaches to Russia in the Arctic: the Biden administration will listen to Europeans partners more than the previous one did.

Finally, given the drastic intensification of the climate agenda in the United States under Biden, it is advisable for Russia to discuss the "Global/World Green Deal" we suggest and an inclusive global regime for the development of a low-carbon "green" economy with both the EU and the United States, naturally after debating this initiative with BRICS and SCO partners.

3.2.5. The Arctic, Siberia, and the Far East

Siberia and the Far East, and the Arctic should become important regional priorities on Russia's international environmental cooperation agenda. Although both regions should be presented as a natural heritage, the preservation of which is in the interests of entire humankind, the approaches to them should be different.

International cooperation to protect nature in Siberia and the Far East should be combined with active development of a "clean" economy there: the production of ecological goods for export to Asian countries, high-tech agriculture, water- and environmentally-intensive industries, environmental tourism. The emphasis should not be on the exploitation of natural resources, but on their rational use. For example, reforestation programs could be offered to China and other Asian countries.

International cooperation in the Arctic should focus more on nature protection than on the extraction of natural resources. The focus on environmental protection does not exclude economic development of the region, but it should not be carried out extensively through new large investment projects, including international ones. It will most likely be based on local knowledge and local competence centers, with the help of which new generation projects will be implemented in such spheres as ecotourism, data storage, vertical farming, renewable energy, etc. However, the implementation of such projects requires international cooperation as well, both in the form of attracting capital from large corporations, and to a lesser extent, in the form of exchanging technologies and practices with other Arctic regions.

It is also important to engage international partners in the development of the Northern Sea Route, while understanding that Russia needs this artery primarily as an internal (and partly export) route, not as a transit one, and that its development should go along with the construction of meridional transport corridors connecting the Northern Sea Route with industrial and scientific centers in the Urals and Siberia.

Environmental cooperation should undoubtedly become a new priority of international interaction in the Arctic. Preserving nature in the Arctic for all residents of Russia and the planet can become a slogan of the Russian foreign policy agenda in the region, including during Russia's chairmanship in the Arctic Council in 2021-2023.

Moreover, it is environmental cooperation that most of the participants in the situation analyses believe is the only way to fulfill one of Russia's top priorities in the Arctic—preserve the international legal regime that allows Arctic states to maintain exclusive control over shipping within their exclusive economic zones (200 miles). At present, this regime, provided for in Article 234 of the UN Convention on the Law of the Sea, is linked to the Arctic ice cover. At the same time, the accelerated melting of Arctic ice threatens to turn the Arctic seas off the Russian coast into ordinary international sea waters, as a result of which Russia will lose the right to legally and legitimately control its own Arctic waters beyond 12-mile territorial waters, and U.S., NATO, and Chinese warships will navigate coastal seas on a regular basis. Washington has already adopted a doctrine declaring its intention to ensure the freedom of navigation in the Arctic through military presence in its seas, despite objections from Russia (the U.S. adheres to a similar position in the South China Sea) and emphasizing the importance of the Arctic as a region of military-political containment of Russia.[65]

Experts believe that, for Russia to maintain exclusive control over its Arctic waters through cooperation, rather than confrontation and an arms race, which at any time may develop into a direct clash and lead to further escalation of tension, it is necessary to revise the interpretation of the regime envisaged by Article 243, with an emphasis not on the Arctic ice cover, but on the fragility of its ecosystem, which needs constant and careful protection. Getting a new interpretation of this article accepted by at least other countries of the Arctic Council, and at best by the UN as a whole will require Russia to drastically raise the priority of environmental protection issues in its

[65] Ibid.

Arctic policy, strengthen its position in the Arctic Council, and develop environmental cooperation with other Arctic countries, primarily European ones and Canada (which, like Russia, seeks to preserve exclusive control over its own Arctic waters—the Northwest Passage). However, other participants in the discussions did not agree with these arguments.

Annex 1. Environmental Problems of the Modern World and the Development of the Global Environmental Agenda

"90 percent of all commercially-exploited fish species could become extinct by 2048 if current consumption trends continue".[66] "The current rates of species extinction are 1,000-10,000 times higher than the background rate."[67] "The world is losing 50 soccer fields' worth of forest every minute of every day!"[68] "…if we don't act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more."[69] All these and many other frightening conclusions have long been coming not only from green NGOs, but also from leading scientific journals.

Developed countries consider global climate change the number one environmental issue. In 2019, the average global surface temperature exceeded the 1880 level by 0.98°C,[70] and in the last decade the average annual temperature was 1.4°C higher than the 20th century average (Fig. 11). In general, the period of 2010-2019 was the warmest decade in history: of the ten warmest years for the entire period of observation, eight occurred in the 2010s.[71]

[66] Worm, B. et al., 2006. Impacts of Biodiversity Loss on Ocean Ecosystem Services. *Science*, Vol. 314, No. 5800. https://www.researchgate.net/publication/6715208_Impacts_of_Biodiversity_Loss_on_Ocean_Ecosystem_Services
[67] Singh, L.S., 2002. The Biodiversity Crisis: A Multifaceted Review. *Current Science*, Vol. 82. https://www.researchgate.net/publication/229003263_The_biodiversity_crisis_A_multifaceted_review
[68] Sizer, N., Hansen, M., Moore, R., 2013. New High-Resolution Forest Maps Reveal World Loses 50 Soccer Fields of Trees per Minute. *World Resources Institute*. https://www.wri.org/blog/2013/11/new-high-resolution-forest-maps-reveal-world-loses-50-soccer-fields-trees-minute
[69] Stern, N., 2007. *The Economics of Climate Change: The Stern Review*. Cambridge University Press.
[70] NOAA National Centers for Environmental Information. State of the Climate, 2020. *Global Climate Report for Annual 2019.* https://www.cambridge.org/core/books/economics-of-climate-change/A1E0BBF2F0ED8E2E4142A9C878052204
[71] Ibid.

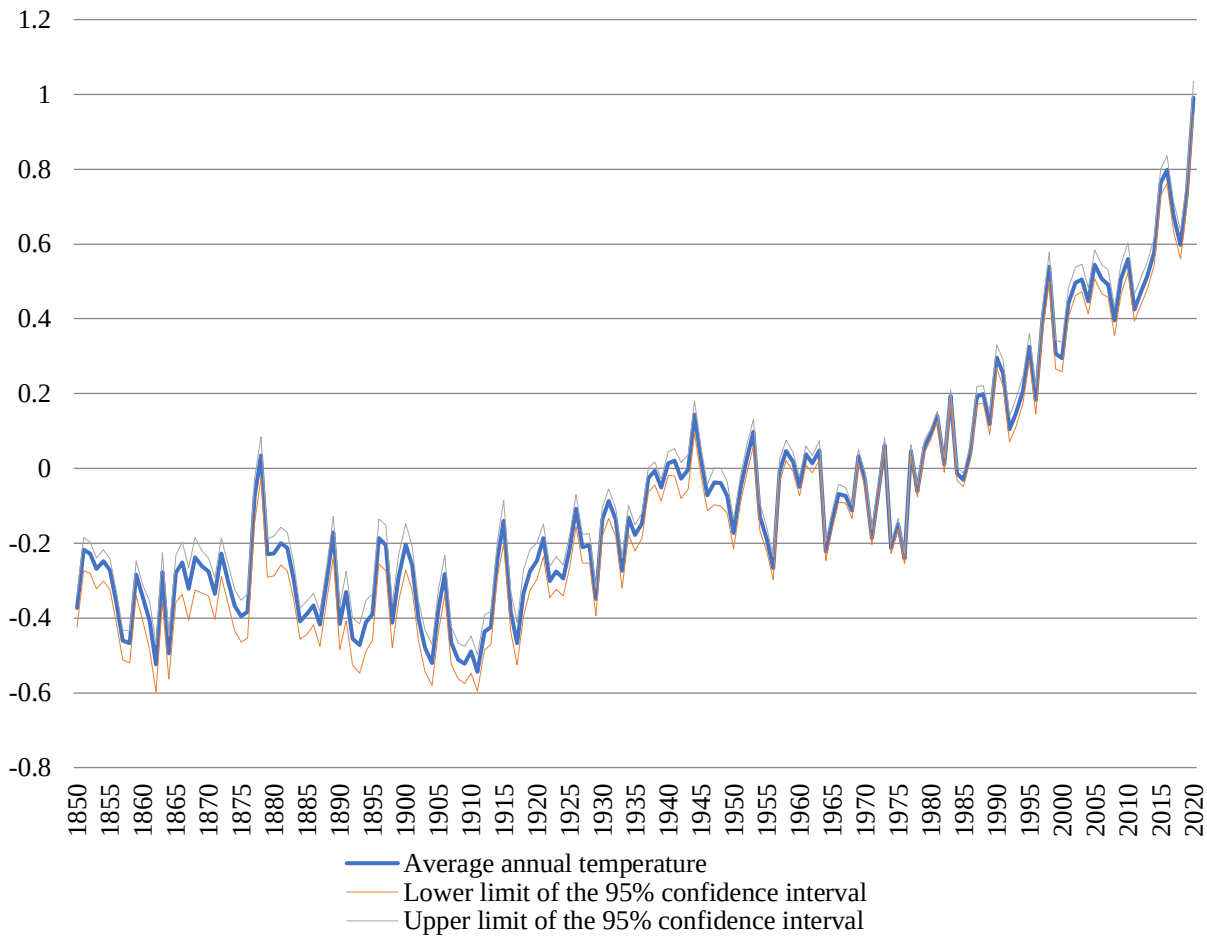


Fig. 11. Deviation of Average Surface Temperature on the Earth in 1980-2019 from the Average in 1961-1990, °C

Source: The Met Office Hadley Centre for Climate Science and Services https://www.metoffice.gov.uk/weather/climate/met-office-hadley-centre/index#:~:text=The%20Met%20Office%20Hadley%20Centre,carrying%20out%20world%20leading%20research.

The main cause of climate change is the growing concentration of greenhouse gases in the Earth's atmosphere due to human activities.[72] There is basically the consensus of opinions on that both in the world scientific literature and among the experts who participated in our situation analyses. More than two-thirds of anthropogenic emissions come from fossil fuels (coal, oil, and natural gas), the burning of which releases carbon dioxide (CO_2) and other greenhouse gases into the air. In addition to the burning of fossil fuels, other sources of emissions include agricultural activity, the spread of landfills and

[72] IPCC, 2013. *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.* https://www.ipcc.ch/site/assets/uploads/2018/03/WG1AR5_SummaryVolume_FINAL.pdf

dump sites, and deforestation or degradation of forests which are the main natural carbon sinks, etc.[73]

The increase in the Earth's temperature leads to the melting of perennial ice and, as a result, to a sea level rise. In the 20th century, it rose by 20 cm, and over the past twenty years, it went up almost twice as fast as in the last century.[74] By the end of this century, the level of the world's oceans is estimated to be 0.3 meters higher than in 2000.[75]

Climate change also manifests itself in increased climate "nervousness"—bigger temperature amplitudes and more frequent weather anomalies, such as droughts, extreme precipitation, gusting winds, etc.[76] These and other climate-related risks have a significant and mainly negative impact on the life of millions of people around the world and the functioning of various sectors of the economy from agriculture and housing and communal services to health care and transport.

Although the main impacts of climate change on the economy and population are quite obvious, the specific parameters of these impacts are barely predictable. In many ways, they depend on how severe further climate change will be. The threshold for moderate climate change is considered to be a temperature rise of 1.5-2°C from the pre-industrial period, although even in this case the consequences for many countries and regions will be very severe. Under any global warming scenario, climate change will be a significant factor in destabilizing the international situation in the 21st century: in many regions it will cause domestic political crises, international conflicts, and mass migration.

Industrial production, agriculture, and the burning of fossil fuels, including in the transport industry, are the main sources of large-scale air, soil, water, and ocean pollution. Air pollution causes 6.7 million deaths per year as a result of heart, lung, and respiratory diseases, etc.[77] (Fig. 12). Soil pollution undermines the functioning of ecosystems

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[73] Abdel-ShafyaMona, H., Mansourb, S., 2018. Solid Waste Issue: Sources, Composition, CCS, Recycling, and Valorization. *Egyptian Journal of Petroleum*, Vol. 27, No. 4. https://www.sciencedirect.com/science/article/pii/S1110062118301375?via%3Dihub

[74] IPCC, 2013. *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.* https://www.ipcc.ch/site/assets/uploads/2018/03/WG1AR5_SummaryVolume_FINAL.pdf

[75] Lindsey, R., 2021. Climate Change: Global Sea Level. *NOAA Climate.gov*. https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level.

[76] IPCC, 2013. *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.* https://www.ipcc.ch/site/assets/uploads/2018/03/WG1AR5_SummaryVolume_FINAL.pdf

[77] State of Global Air, 2020. Number of Deaths Attributable to Air Pollution. Health Effects Institute https://www.stateofglobalair.org/data/#/health/plot

dependent on groundwater and microelements in soils. The consumption of crops growing on soils contaminated with toxic chemicals and hazardous materials has serious consequences for human health. According to the WHO, freshwater pollution caused by contaminants in bodies of water is responsible for 485,000 diarrhea deaths each year.[78] Over the past fifty years, the number of dead zones in the world's oceans, that is, areas where oxygen levels are too low due to pollution, has increased fourfold and reached 400, occupying an area larger than the territory of Great Britain.[79]

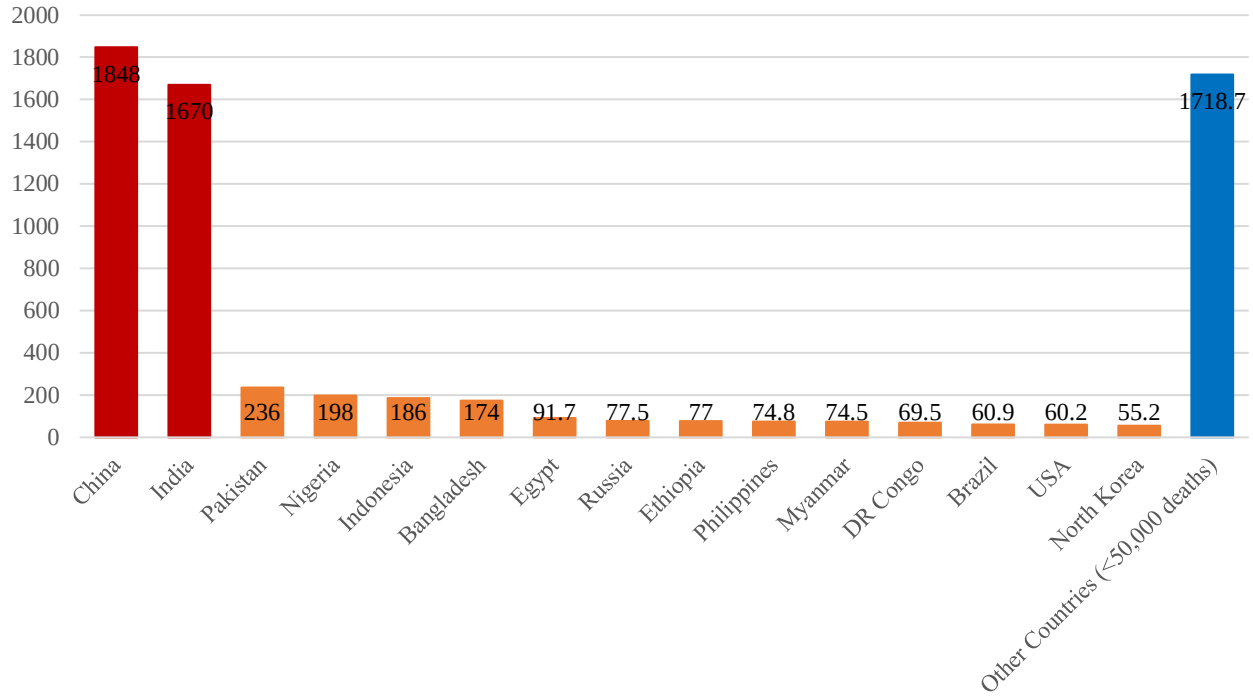


Fig. 12. Mortality Due to Air Pollution, million people, 2019

Source: State of Global Air Organization. https://www.stateofglobalair.org/data/#/health/plot

The loss of biodiversity is an extremely acute problem. From 1970 to 2016, the population of mammals, birds, fish, amphibians, and reptiles decreased by 68%[80] (Fig. 13). A decline in biodiversity is not only a serious environmental problem, but it is also directly related to economic risks: biodiversity is essential for providing people with food, natural

[78] WHO, 2019. Drinking-Water. *World Health Organization*, 14 June. https://www.who.int/news-room/fact-sheets/detail/drinking-water

[79] World Economic Forum, PwC, 2020. Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy. *World Economic Forum, PwC.* http://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf

[80] WWF, 2020. *Living Planet Report – 2020: Bending the Curve of Biodiversity Loss.* https://f.hubspotusercontent20.net/hubfs/4783129/LPR/PDFs/RUSSIAN%20-%20SUMMARY.pdf

fiber, water, energy, medicines, and various genetic resources. Biodiversity also plays a key role in climate regulation, mitigating the risks of floods and storms, reducing water and air pollution, and pollinating agricultural crops.

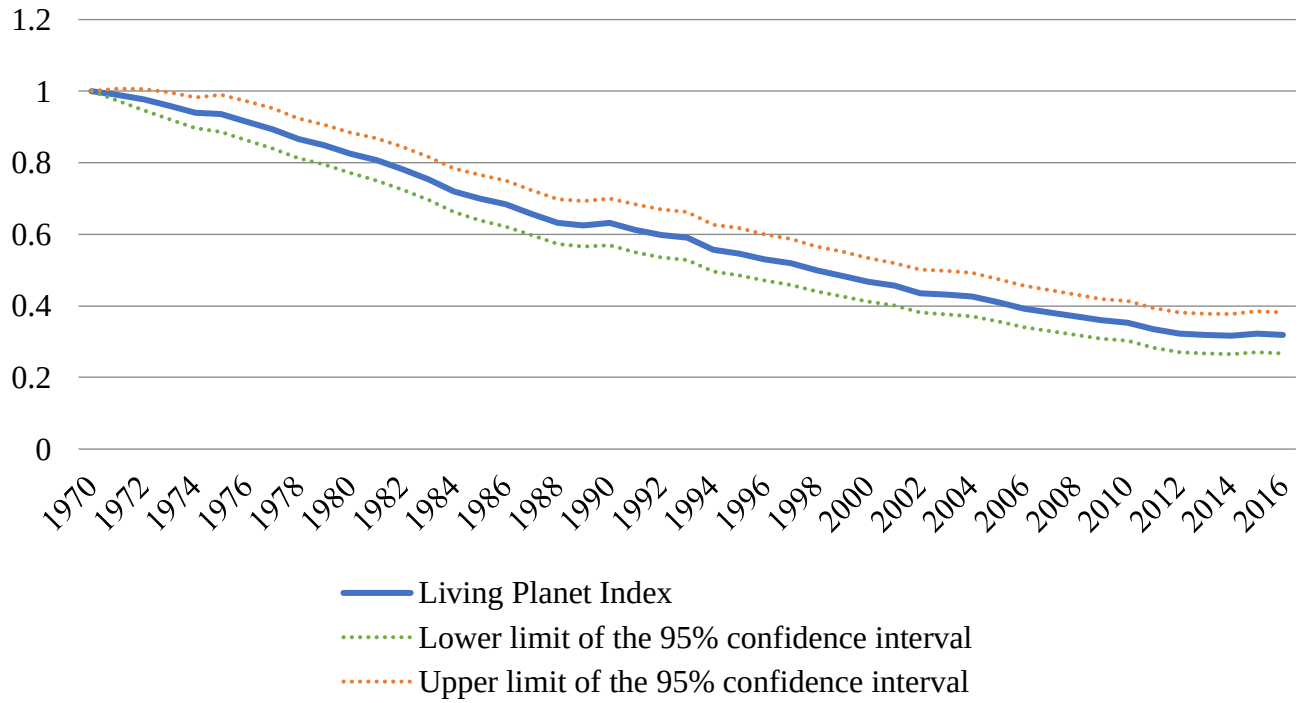


Fig. 13. Living Planet Index, global, 1970-2016

Note: The Living Planet Index (LPI) is a measure of the state of the world's biological diversity based on population trends of vertebrate species from terrestrial, freshwater and marine habitats.
Source: The Living Planet Database. http://stats.livingplanetindex.org/

One of the reasons for the loss of biodiversity is a decrease in the forest cover of the Earth. The Food and Agriculture Organization of the United Nations (FAO) estimates that the world has lost approximately 420 million hectares of forests since 1990 as a result of deforestation. In 2015-2020, ten million hectares of forests disappeared from the face of the earth—slightly less than in the previous five-year period (12 million hectares in 2010-2015) (Fig. 14).[81] Positive changes have been registered in several regions of the world, particularly in Europe and especially in China. The greatest concern is caused by the shrinkage of tropical rainforests in Equatorial Africa and Brazil, one of the most

[81] The United Nations, 2020. Deforestation Has Slowed Down But Still Remains a Concern, New UN Report Reveals. *UN News*, 21 July. https://news.un.org/en/story/2020/07/1068761#:~:text=The%20annual%20rate%20of%20deforestation,million%20more%20than%20in%201990

biologically productive ecosystems in the world. The consequences of the decrease in the Earth's forest cover due to forest fires and illegal logging include not only losses for the forestry, but also declining biodiversity, accelerating climate change, and deteriorating air quality.

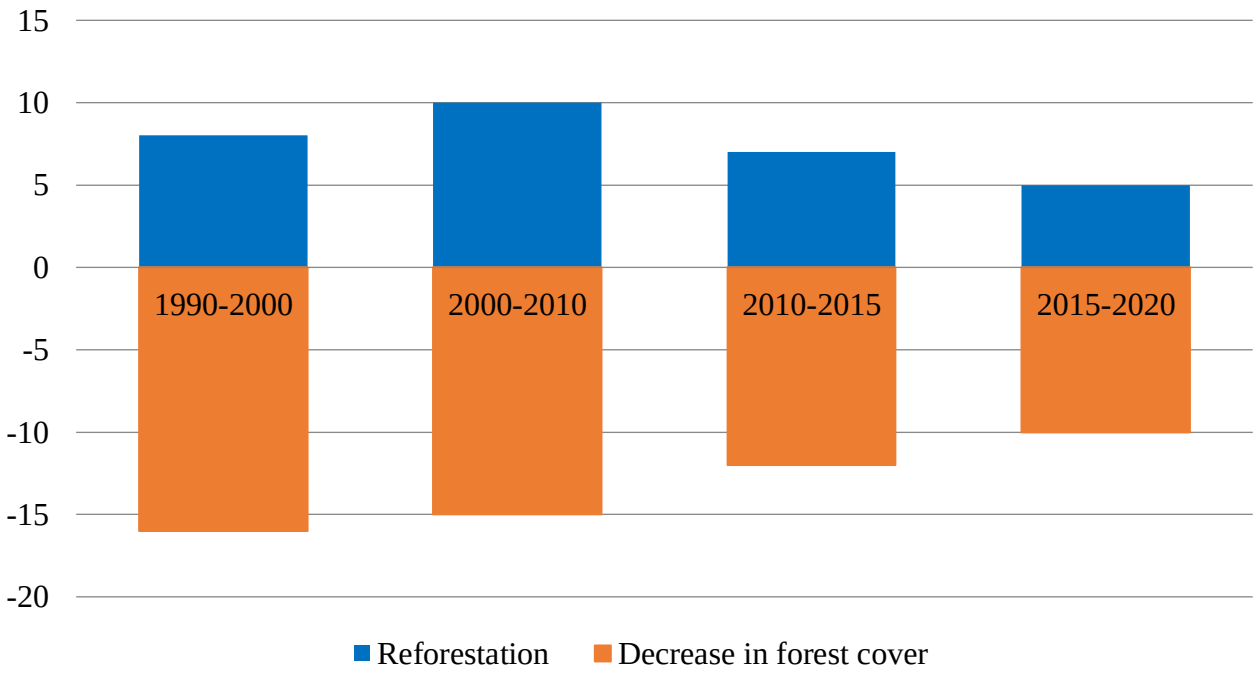


Fig. 14. Annual Reforestation and Deforestation Rates, million ha, 1990–2020

Source: FAO. *Global Forest Resources Assessments.* http://www.fao.org/forest-resources-assessment/en/

About two billion tons of household solid waste are generated annually in the world. By 2050, this amount is expected to reach 3.4 billion tons, growing more than twice as fast as the projected population growth rate in the same period. Landfills in poor countries cause landslides and landfalls, water and soil pollution, as well as the spread of respiratory and other diseases. Another negative consequence of the growing landfills is the release of methane, which is a powerful greenhouse gas. Landfills generate it in the amount of 1.6 billion tons of CO_2-eq. per year (5% of global greenhouse gas emissions), and by 2050 this volume is expected to reach 2.4 billion tons of CO_2-eq (Fig. 15).[82]

[82] The World Bank, 2016. What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050. *Trends in Solid Waste Management.* https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html

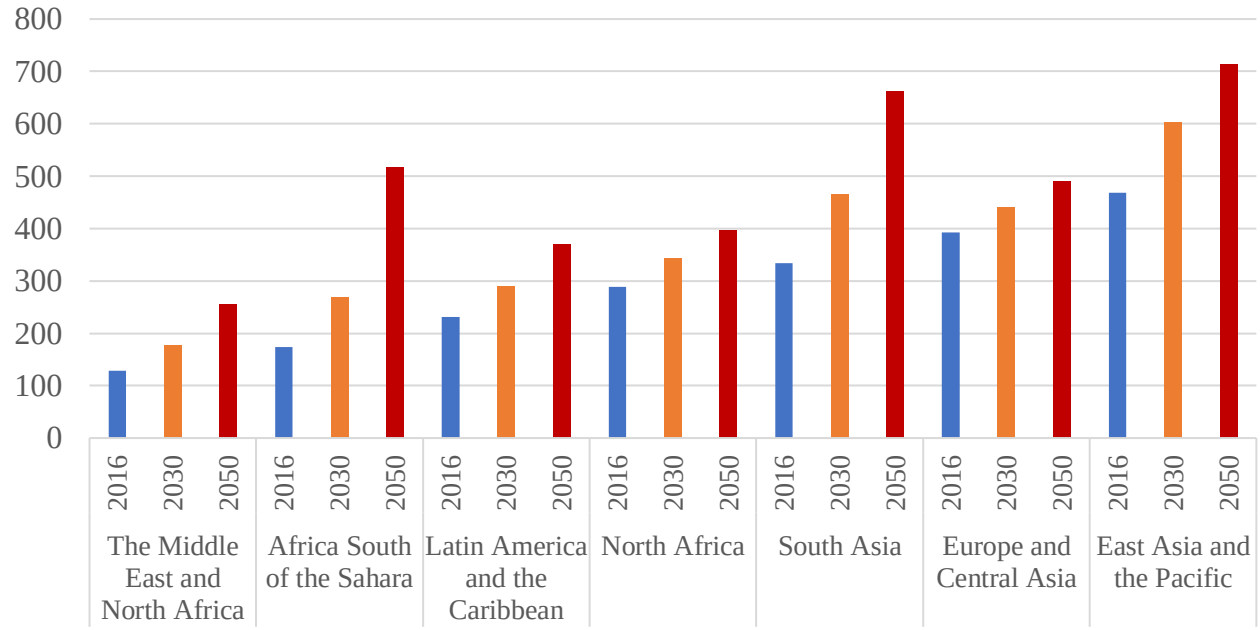


Fig. 15. Projected Waste Generation by Region, million tons a year

Source: The World Bank, 2016. What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050. *Trends in Solid Waste* Management. https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html

The negative impact of economic activity on the environment became a global concern already in the 1960s and 1970s. It was then that the modern system of international environmental cooperation began to take shape. In particular, in 1972, the UN Conference on the Human Environment was held in Stockholm, which, among other things, led to the creation of the UN Environment Program (UNEP). The main leitmotif of the discussions at that time was general concern about the lack of natural resources due to demographic and economic growth. In 1972, the Club of Rome published its famous report "The Limits to Growth,"[83] indicating that current trends in population growth, consumption of natural resources and environmental degradation would inevitably lead to the impossibility of further economic growth, as it would reach its limits. Such reasoning suggested that traditional economic growth excluded environmental protection. The Club of Rome

[83] Meadows, D.H., Meadows, D.L., Randers, J., Behrens, W.W.III, 1972. *The Limits to Growth.* Potomac Associates: Universe Books. https://collections.dartmouth.edu/ebooks/meadows-limits-1972.html#epubcfi(/6/20[contents]!4/4/1:0)

advocated a transition to zero economic growth. It said it would happen anyway, but it was important to do this in a controlled fashion.[84]

The decades that followed seem to have dealt a serious blow to these prophecies. The Green Revolution, which provided billions of people with access to relatively cheap food, showed that neo-Malthusian fears had been exaggerated. Developed countries adopted intensive economic growth models. Technological progress had accelerated so much that the discovery of new natural resources outpaced their depletion. The range of substitutes for traditional types of minerals had also expanded: it became clear, for example, that "the Stone Age didn't end for lack of stone, and the oil age will end long before the world runs out of oil."[85]

The birth of the sustainable development concept, introduced in 1987 in the UN report "Our Common Future," was a reflection of those changes. On the one hand, it is defined as development that allows humankind to meets the needs of the present without compromising the ability of future generations to meet their own needs.[86] At the same time, it is conceptualized as development that requires a balance between the economy, the social sphere and the environment. This interpretation eventually became dominant and does not exclude economic growth.

At the same time, the focus of concern has shifted from depletion of natural resources (especially minerals) to environmental degradation. **Previous decades have shown that scientific and technological progress can cope quite successfully with resource constraints and much less so with environmental ones.** The latter have reached unprecedented proportions, and some have become irreversible.

In 1992, the United Nations Conference on Sustainable Development was held in Rio de Janeiro, the so-called Earth Summit, which largely determined the international environmental cooperation agenda. Since then, environmental problems have been getting more and more attention on the world agenda every year. Gradually, business joined in the discussion: while the Rio Conference was attended mainly by official delegations, global

[84] Ibid.
[85] A comment by Sheik Ahmed Zaki Yamani, cited by Peter Maass, 2005. The Breaking Point. *The New York Times*, 21 August. https://www.nytimes.com/2005/08/21/magazine/the-breaking-point.html
[86] UN World Commission on Environment and Development, 1987. *Report of the World Commission on Environment and Development: Our Common Future*. http://www.environmentandsociety.org/mml/un-world-commission-environment-and-development-ed-report-world-commission-environment-and

companies were equally represented at the following international forums on sustainable development (Rio+10 in 2002 and Rio+20 in 2012).

And yet, environmental issues gained center stage worldwide in the 2010s. Environmental forums today are among the few dialogue formats that can bring together more than a hundred heads of state and government. The concepts of “green” growth, “green” finance, and “green” jobs are now found not only in press release of environmental NGOs, but also in reports of international organizations, official strategies of leading states, political party programs, and reports of major companies and banks around the world. The leader of European environmental activists, Greta Thunberg, is one of the most recognizable people on the planet.

Annex 2. The Current State of the Environment in Russia

The basic principles of the current environmental management model in Russia were laid down in Soviet times, when conquering nature was the dominant motif in mass consciousness. The administrative and command system did not create any incentives for saving natural resources, but, on the contrary, motivated enterprises to overstate their need in them. This caused catastrophic environmental damage in a considerable part of the country, which, however, was hushed up and sometimes was not even assessed.

Environmental issues appeared in political discourse only in the late 1980s. During the *perestroika* period, the taboo on discussing environmental problems was among the first to be lifted due to tremendous public interest fueled by the publication of information on the catastrophic damage caused to nature by the Soviet regime, as well as the horror of the Chernobyl nuclear accident. In the late 1980s and early 1990s, the level of concern over environmental problems was very high. A 1990 survey showed that the state of the environment in their home town was "rather disturbing" or "very disturbing" for 92% of Russians.[87] These concerns helped establish a system of regulatory bodies responsible for the public environmental policy. In 1988, the Central Committee of the CPSU and the Council of Ministers of the USSR adopted a resolution titled "On the Radical Restructuring of Nature Protection in the Country," followed by the creation of the USSR State Committee for Environmental Protection first and then the Ministry of Environmental Management and Nature Protection. After the collapse of the USSR, the Ministry of the Environment and Natural Resources of the Russian Federation was established.[88]

All sorts of green environmental organizations (from moderate liberals to anarcho-syndicalists) began to appear in large numbers at about the same time. They had a noticeable influence on the sociopolitical life of the country for a while, but in the end failed to unite and become a political force like European green parties, which had grown out of environmental activists of the 1960-1970s. With time, the focus of people's attention gradually shifted to social and economic problems, and environmental protection was increasingly seen as an obstacle to their solution. In the minds of both elites and society, there developed a view that environmental protection was a burden on the economic

[87] Khaliy, I.A., 2015. Ekologicheskoye soznanie naseleniya sovremennoi Rossii [Public Ecological Consciousness in Modern Russia]. *Istoriya i sovremennost'*, No. 1. https://www.socionauki.ru/journal/files/iis/2015_1/189-205.pdf
[88] Later renamed as Ministry for the Protection of the Environment and Natural Resources of the Russian Federation.

development of the country. A favorable environment, which had recently been perceived as an integral part of building a free country, had become a secondary and largely neglected task.

At the same time, the economic downturn and the subsequent restructuring of the economy significantly mitigated environmental damage caused in Soviet times. Air emissions and wastewater discharges decreased dramatically. Clean felling areas shrank fourfold. Greenhouse gas emissions had been more than halved by 1998 from the 1990 level (Fig. 16).[89] However during the same period, specific pollutant and greenhouse gas emissions soared and the overall carbon intensity of the economy increased due to the general economic slump and the lack of industrial modernization. This problem was addressed during structural reforms and modernization in the 2000s.

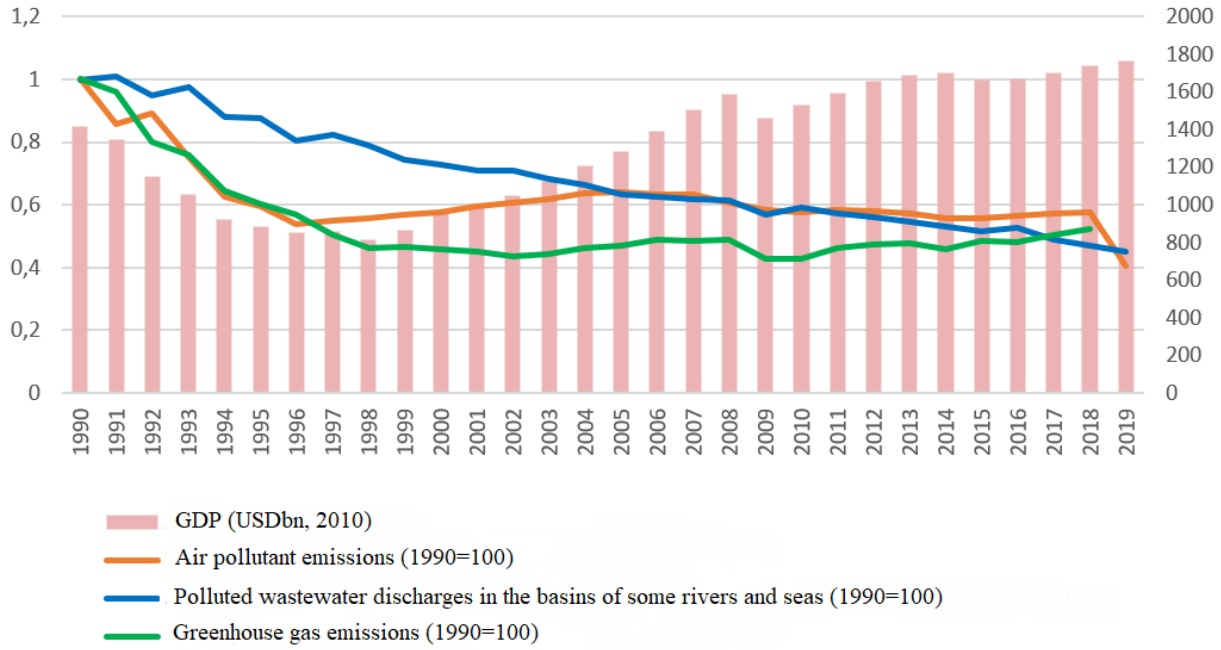


Fig. 16. Air Pollutant Emissions, Polluted Wastewater Discharges, Greenhouse Gas Emissions, base index 1990=100 (left axis), GDP, USDbn, 2020 (right axis) in 1990-2019

Source: calculated by the authors on the basis of Met Office, World Bank, UNFCCC data

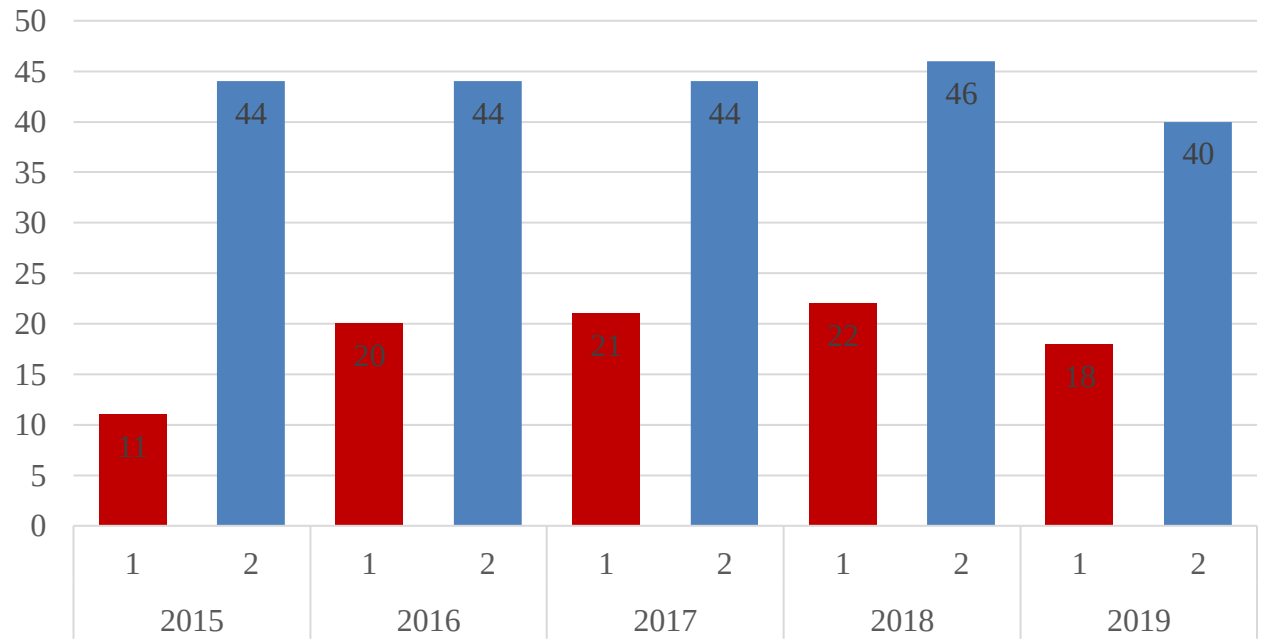
However, since the late 1990s, environmental degradation has intensified due to rapid economic growth and critical obsolescence of equipment. In addition, in order not to disrupt recovery needed after the 1998 crisis, state environmental policy was consistently

[89] With account of land tenure, and changes in land tenure and forestry.

curtailed, and this also played a role. The Ministry of the Environment was abolished in 1996, followed in 2000 by the State Committee for Environmental Protection established in its place. The word "environment" appeared in the name of the ministry only in 2008, and was placed at the end: the Ministry of Natural Resources and the Environment.

Today, Russia is facing the same environmental problems as other countries are: air, water, and soil pollution, the problem of waste, decrease in forest cover, and climate change.

In 46 Russian cities with a total population of 13.4 million, the level of air pollution is estimated as high and very high (Fig. 17). Most of these cities are located in the Asian part of the country. **Among all major countries, Russia is one of the leaders in terms of damage from air pollution: in 2018 it amounted to 4.1% of GDP**[90] (Fig. 18). **The number of premature deaths for this reason is estimated at 80,000 to 140,000 per year.**[91] In 2020, despite the economic decline during the pandemic, the number of extreme air pollution cases set a new record over the past 16 years.[92]



[90] Russia's annual loss in GDP due to deterioration of the environment and related economic factors is estimated at 4-6%, which, with account of damage to human health, may amount to 10-15% of GDP (Rosgidromet, 2016. *Doklad ob ekologicheskom razvitii Rossiyskoi Federatsii v interesah budushchih pokoleniy* [Report on Environmental Development of the Russian Federation in the Interests of Future Generations]. http://www.cenef.ru/file/Doklad.pdf

[91] Farrow, A., Miller, K.A., Myllyvirta, L., 2020. Toxic Air: The Price of Fossil Fuels. *Greenpeace Southeast Asia*, 12 February. https://www.greenpeace.org/southeastasia/publication/3603/toxic-air-the-price-of-fossil-fuels-full-report/

[92] Rossiyskaya gazeta, 2020. V RF pobit shestnadtsatiletniy record po urovnyu zagryazneniya atmosfery [Russia Has Broken the 16-year Record in Air Pollution]. *Rossiyskaya gazeta*, 17 November. https://rg.ru/2020/11/17/v-rf-pobit-shestnadcatiletnij-rekord-po-urovniu-zagriazneniia-atmosfery.html

Fig.17. Number of Cities with High and Very High Pollution Levels (Air pollution index>7) (2), including cities from the Priority List (1)[93]

Source: Met Office

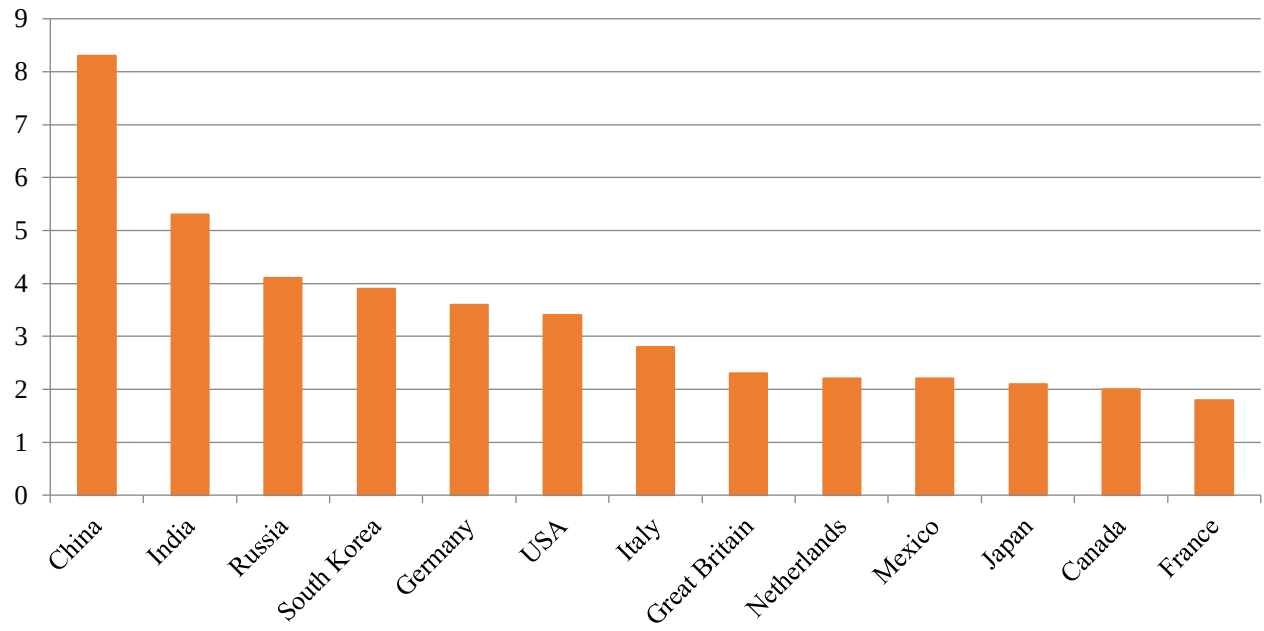


Fig.18. Damage from Air Pollution, estimated average, % of GDP, 2018

Source: calculated by the authors on the basis of data from: Farrow, A., Miller, K.A., Myllyvirta, L., 2020. Toxic Air: The Price of Fossil Fuels. Seoul: *Greenpeace Southeast Asia,* February.; World Bank

Soil pollution in Russia, that is, the background concentrations of pollutants in soil, in recent years has almost not differed from the world average. And yet this problem is quite acute in several regions and cities. Some hazardous sources of soil pollution by metals are located in the cities and environs of Svirsk (Irkutsk Region), Norilsk (Krasnoyarsk Territory), Vladikavkaz (Republic of North Ossetia-Alania), and some cities in the Sverdlovsk Region, etc. In 2015-2019, 3.1% of populated localities fell into the category of dangerous soil pollution, and 9.3% were placed in the moderately dangerous category (Fig. 19).[94]

[94] Rosgidromet, 2020. *Obzor sostoyaniya i zagryazneniya okruzhayushchei sredy v Rossiyskoi Federatsii za 2019 god* [Results of the Monitoring of the State and Contamination Level of the Environment in the Russian Federation in 2019].

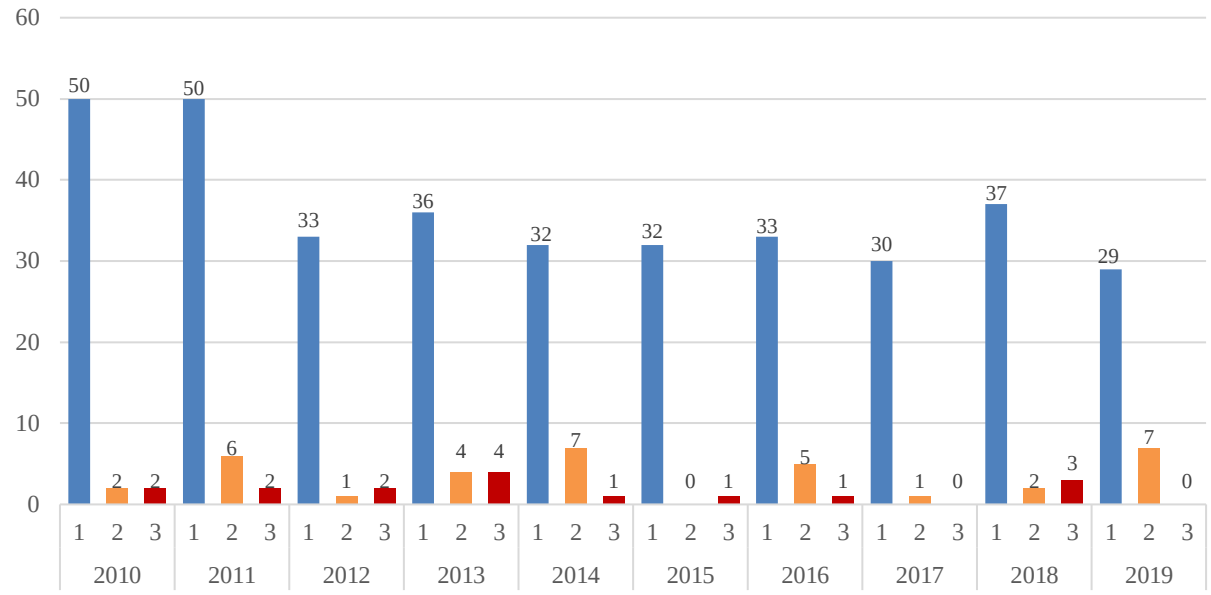


Fig.19. The Number of Populated Localities in Different Soil Pollution Categories, 2010-2019 (1 – total number of populated localities inspected, 2 – moderately dangerous soil pollution category, 3 – dangerous soil pollution category)

Source: Met Office

A high or extremely high level of pollution is registered in the basins of Russia's main rivers: Volga, Ob, Amur, Yenisei, Don, Northern Dvina, Ural, Kolyma, etc. High levels of surface freshwater pollution are recorded in 55 Russian regions, especially in the Sverdlovsk, Moscow, Nizhny Novgorod, Murmansk, Smolensk, Chelyabinsk, Novosibirsk, and Tula Regions, Khabarovsk Territory, and the Yamalo-Nenets Autonomous Area. The main sources of water pollution are industrial enterprises located in such cities as Norilsk, Monchegorsk, and Nickel, oil and gas complexes in the north of the European part of Russia and Western Siberia, pulp and paper mills in the Arkhangelsk Region, as well as gold-mining enterprises in Yakutia. Wastewater discharges in settlements by housing and communal service companies, transport, and fishing vessels are also a major source of pollution.[95]

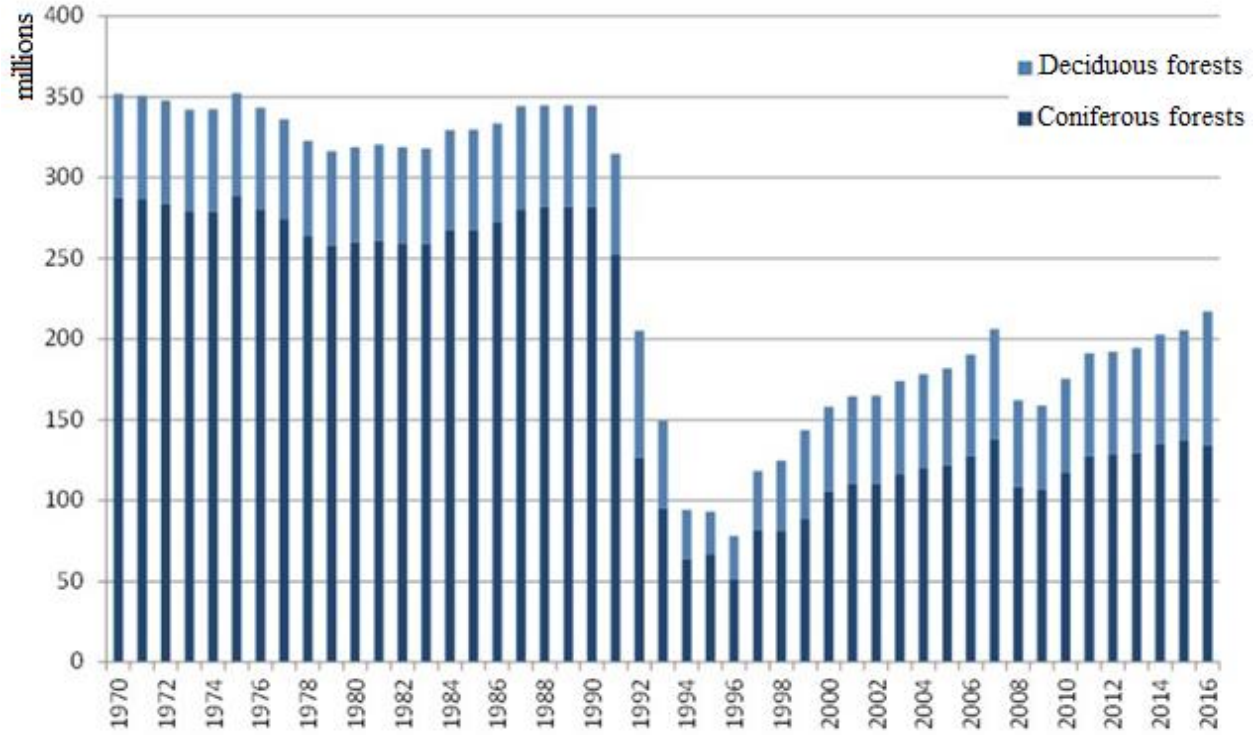
In 2019, Russia generated 65 million tons of municipal solid waste (about 450 kg per person), and this amount increases by 1-2% each year. At the same time, only about 7% of waste is recycled, and **more than 90% of waste in Russia is still disposed of at**

http://www.meteorf.ru/upload/iblock/9d7/Обзор%20состояния%20и%20загрязнения%20окружюащей%20среды%20в%20Российской%20Федерации%20за%202019%20год.pdf

[95] Ibid.

landfills. At the same time, landfills in many regions are operating at full capacity and there is no room for expansion.[96] The growing number and size of landfills, which often do not meet environmental legislation requirements, cause air, water, and soil pollution and ultimately harm people's health.

Russia has large forest reserves and is one of the few countries where forested areas are expanding.[97] The volume of logging operations has increased significantly since the 1990s, but still remains a third below the Soviet-era level (Fig. 20). However, **the area affected by forest fires has increased dramatically in recent years** (Fig. 21). From 2000 to 2019, their area grew by more than 400,000 hectares per year, on average.[98] In 2019, more than 14,000 forest fires were registered across Russia, as a result of which about 15 million hectares (about 1% of the country's forests) were destroyed.[99] Damage from forest fires is estimated at no less than 15 billion rubles.[100]



[96] RF Chamber of Accounts, 2020. *Otchyot o vypolnenii meropriyatiy, obespechivayushchih ekologicheskuyu bezopasnost Rossiyskoi Federatsii…*[Report "On Measures Providing Ecological Safety of the Russian Federation…]. https://ach.gov.ru/upload/iblock/41b/41b02dc50697e6fc57ec2f389a8b68f0.pdf

[97] RIA Novosti, 2015. Rosleshoz: ploshchad' lesov v Rossii vyrosla na 79 mln gektarov za 20 let [Federal Forestry Agency: Forested Area in Russia Has Expanded by 79 mln hectares over 20 years]. *RIA Novosti,* 9 December. https://ria.ru/20151209/1339071992.html

[98] Data by ISDM-Rosleshoz.

[99] Kommersant, 2019. Priroda svoyo sozhzhyot [Nature Will Burn Down Everything What Belongs to It]. *Kommersant,* 13 August. https://www.kommersant.ru/doc/4059734

[100] TASS, 2019. Minprirody otsenilo ushcherb ot lesnyh pozharov v 2019 godu v 15 mldr rublei [The Ministry of Natural Resources and Environment Estimated the Damage from Forest Fires in 2029 at 15 billion rubles]. *TASS,* 17 December. https://tass.ru/v-strane/7362573

Fig. 20. Felling Outturn in Russia, million m^3

Source: forestry Internet portal *proderevo.net*

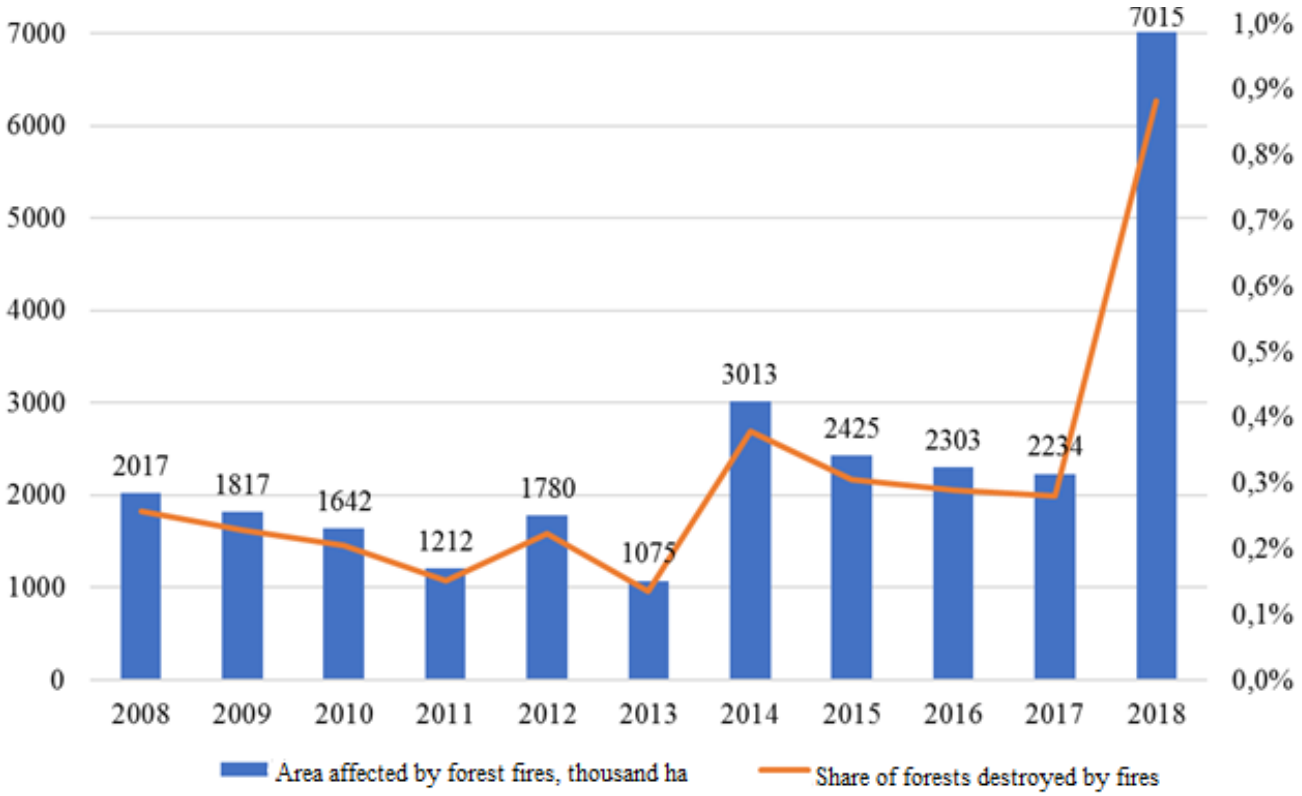


Fig. 21. Area Affected by Forest Fires (left axis) and the Share of Forests Destroyed by Fires (right axis) in Russia

Source: compiled by the authors on the basis of the Federal Forestry Agency data

Climate change is one of the factors that increase the likelihood of forest fires. Climate change is about 2.5 times more intense in Russia than in the world on average (Fig. 22). Climate change opens up new opportunities for Russia, but at the same time creates serious risks. Comparing them in terms of costs and value is a complex task, but most participants in the situation analyses agreed that while risks occurred all by themselves, opportunities could be tapped only if the country pursued an active policy of adaptation to climate change.

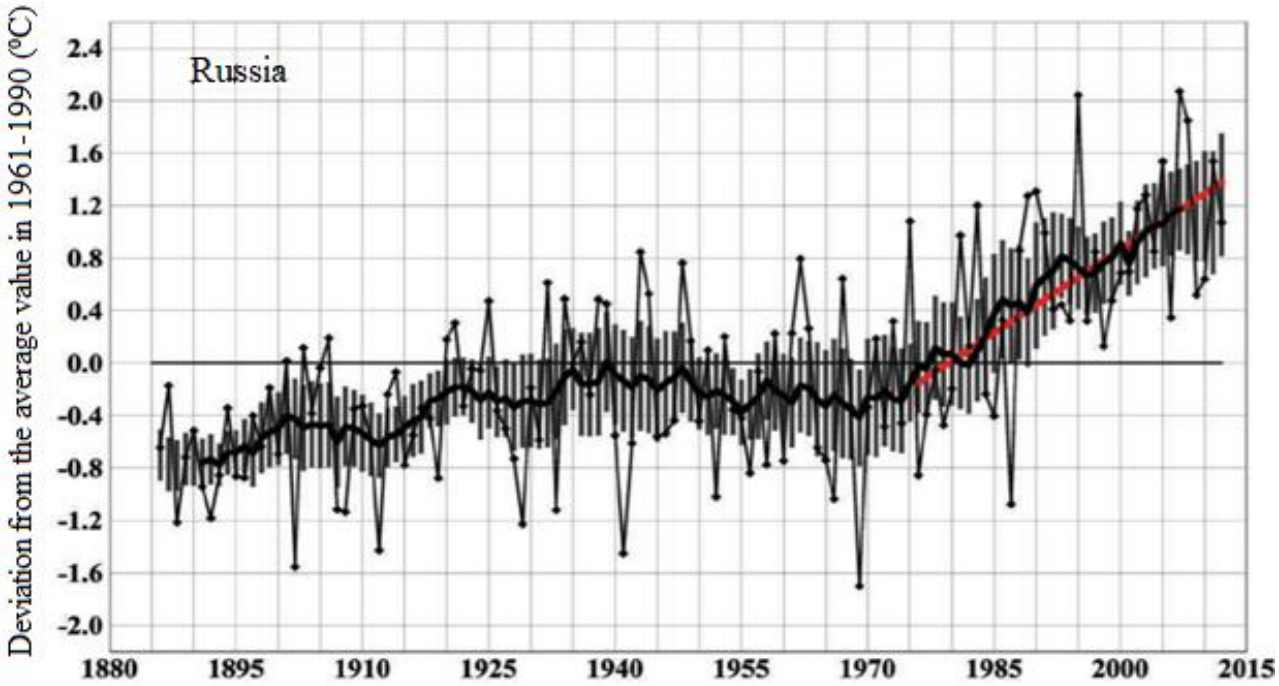


Fig. 22. Changes in Average Annual Surface Air Temperature Anomalies in Russia in 1886-2012

Source: Rosgidromet

On the one hand, the rise of air temperatures in Russia will allow it to shorten the heating season, expand agricultural land (big opportunities will open up for agriculture in South Siberia), get access to previously inaccessible natural resources, and improve transport possibilities in the Arctic. However, in order to use most of these opportunities, it is necessary to consolidate resources in the relevant areas such as intensive development of agriculture in South Siberia and the Far East or the creation of Northern Sea Route infrastructure in order to overcome the "continental curse" of Siberia.

On the other hand, there are a number of risks. The main danger for northern and northeastern regions is the melting of permafrost, while southern regions may face changes in humidity, severer droughts and at the same time more frequent and violent rainfall floods.[101]

[101] Rosgidromet, 2011. V.M. Katsov and B.N. Porfiriev (eds.) *Otsenka makroekonomicheskih izmemeniy klimata na territorii Rossiyskoi Federatsii na period do 2030 goda i dalneishuyu perspektivu* [Estimation of Macroeconomic Consequences of Climate Change in the RF Territory for the Period until 2030 and Longer Term]. RIF D'ART. https://cc.voeikovmgo.ru/images/dokumenty/2015/Mokryk.pdf

Annual damage from extreme weather events, if it also includes the loss of human lives, may amount to about 2-3% of GDP by 2030, and in some regions it may reach 5-6% of GRP[102] (excluding mortality, it varies from region to region, ranging from 1.5% to 3%). Although the farming zone is shifting northward, the traditionally agrarian southern regions of the country are affected by abnormal hot weather spells and droughts, which lead to significant crop losses. People also suffer from high temperatures: a heat wave in the European part of Russia in 2010 caused more than 50,000 additional deaths[103] and economic losses worth 450 billion rubles.[104] The melting of permafrost creates additional risks for infrastructure, causes oil and gas leaks from pipelines, and increases the cost of field development in the Arctic. The load carrying capacity of soil in the permafrost zone decreased in 2019-2020 by 17% from the 1970s, and in some regions even by 45%.[105]

A vivid example of how permafrost melting is dangerous is the environmental disaster in Russia caused by a large-scale oil spill in Norilsk in 2020. According to the Rosprirodnadzor federal environmental watchdog, economic damage from this disaster has amounted to 147 billion rubles.[106] Permafrost melting also creates serious risks for gas pipelines and housing, and requires large-scale financial investments to reduce their emergency vulnerability.[107]

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[102] RF Chamber of Accounts, 2020. *Otchyot "Monitoring hoda realizatsii natsionalnogo proekta 'Ekologia'"* [Report on the Monitoring of the Implementation of the "Ecology" National Project]. https://ach.gov.ru/upload/iblock/697/6974665033576448bae98baa0e9626e4.pdf?fbclid=IwAR0Jy7p7viF_s-QxnCEebkGFcrVx-ZcaxyFjeLaiBFP3YjzMLP124Cie0k0

[103] Revich, B.A., 2011. Volny zhara, kachestvo vozduha i smertnost naseleniya evropeiskoi chasti Rossii letom 2010 goda [Heat Waves, Air Quality, and Death Rate in the European Part of Russia in the Summer of 2010]. *Ekologia cheloveka*, No. 7. https://cyberleninka.ru/article/n/volny-zhary-kachestvo-atmosfernogo-vozduha-i-smertnost-naseleniya-evropeyskoy-chasti-rossii-letom-2010-goda-rezultaty-predvaritelnoy

[104] Porfiriev, B.N., 2013. Ekonomicheskaya otsenka lyudskih poter' v rezultate chrezvychainyh situatsiy [Economic Assessment of Casualties as a Result of Emergency Situations]. *Voprosy ekonomiki*, No. 1. https://www.vopreco.ru/jour/article/view/497

[105] RF Chamber of Accounts, 2020. *Otchyot "Monitoring hoda realizatsii natsionalnogo proekta 'Ekologia'"* [Report on the Monitoring of the Implementation of the "Ecology" National Project]. https://ach.gov.ru/upload/iblock/697/6974665033576448bae98baa0e9626e4.pdf?fbclid=IwAR0Jy7p7viF_s-QxnCEebkGFcrVx-ZcaxyFjeLaiBFP3YjzMLP124Cie0k0

[106] Interfax, 2020. *Rosprirodnadzor otsenil ushcherb ekologii ot avarii v Norilske v 148,2 mldr rublei* [Rosprirodnadzor Estimated the Environmental Damage from the Accident in Norilsk at 148.2 billion rubles]. billhttps://www.interfax.ru/russia/716138

[107] Porfiriev, B.N., Eliseev, D.O., Streletsky, D.A., 2019. Ekonomicheskaya otsenka posledstviy degradatsii vechnoi merzloty pod vliyaniem izmeneniy klimata dlya ustoychivosti dorozhnoi infrastruktury v Rossiyskoi Arktike [Economic Assessment of the Aftermath of the Permafrost Degradation Caused by Climate Change for the Stability of the Road Infrastructure in Russian Arctic]. *Vestnik rossiyskoi Akademii hauk*, Vol. 89, No. 12. https://journals.eco-vector.com/0869-5873/article/view/18758

Annex 3. Key Project Objectives and Measures under the National Project "Ecology"[108]

Federal project	Key objective
Clean Country	Eliminate by 2024 all illegal dumpsites identified in cities before January 1, 2018. At least 191 such sites are to be eliminated. In addition, at least 75 more landfills harmful to the environment are to be closed, too. These areas of at least 3,700 hectares are to be reclaimed.
Integrated Municipal Solid Waste Management	Increase the share of utilizable municipal solid waste to 36%, and that of recycled MSW to 60% by 2024, by commissioning treatment facilities capable of processing 31.7 million tons of MSW and utilizing 23.1 million tons of MSW after treatment.
Class I-II Hazardous Waste Management Infrastructure	Create modern infrastructure for safe class I-II hazardous waste management
Clean Air	Reduce air pollution in major industrial cities, including a reduction of total air pollutant emissions in the most polluted cities by at least 20%
Clean Water	Improve the quality of drinking water for the Russian population
Restoration of the Volga River	Improve the ecological state of the Volga River and ensure the sustainable functioning of the Lower Volga river basin system by reducing the amount of dirty discharge into the river by two-thirds by the end of 2024, and by implementing a set of measures to restore bodies of water in the Lower Volga area, including measures to increase the inflow of water into the Akhtuba River
Preservation of Lake Baikal	Carry out ecological restoration of Lake Baikal by reducing the volume of dirty discharges into it and other bodies of water in the Baikal natural area by 28.2% by the end of 2024, as well as reduce the total area affected by high and extremely high pollution and having an impact on Lake Baikal by 448.9 hectares by the end of 2024

[108] Russia's National Projects, 2019. *Natsionalhy proekt "Ekologia"* [National Project "Ecology"] https://национальныепроекты.рф/projects/ekologiya

Preservation of Unique Bodies of Water	Preserve by 2024 at least 98 unique bodies of water through restoration and environmental rehabilitation of at least 23,500 hectares of water bodies, by clearing no less than 260 km of riverbeds, and cleaning up the shores and littoral zones of lakes and rivers
Biodiversity Conservation and Development of Environmental Tourism	Preserve biodiversity, including by creating at least 24 new nature reserves
Forest Conservation	Balance out deforestation and reforestation by 2024
Introduction of the Best Available Technologies	Create conditions for introducing a regulatory system for enterprises that have a significant negative impact on the environment. Modernize these enterprises or create new capacities with higher environmental and resource efficiency