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Myths and Reefs of the Climate Agenda[1]

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Abstract. The climate agenda in the context of the global warming threat has become the most important topic in world politics, economics, and ecology in recent decades, with greenhouse gas emissions, primarily carbon dioxide, recognized as the main cause. The paper questions this approach, from its climatic and physical-chemical foundations to the consequences of rising air temperatures. It shows the inadequacy of focusing most environmental and economic measures on fighting greenhouse gases to the detriment of other problems, which are much more important. Given this position, Russia's climate doctrine, whose geographic, environmental, economic and energy conditions have their own peculiarities, should be adjusted; including the inexpediency of forcing the pace of the fourth energy transition. The authors are convinced that the greenhouse-carbon concept and related policy calls and measures are actually a brake on the "green" economy.
Keywords: global warming; greenhouse-carbon concept; low-carbon economy; alternative energy; mythologization of consciousness; peculiarities of the Russian way

Introduction

The problems of climate change and related natural disasters (heat waves, tornadoes, heavy rainfall, floods, typhoons, storms) have rapidly – for several decades – moved from the framework of hydrometeorology and science in general, as well as media, into politics and economics.

In the UN document defining the goals of sustainable development as the main paradigm of humanity in the XXI century[2], there is a special Goal #13 for combating climate

[1] The work was carried out at the expense of the state assignment (AAAA-A21–121012190018–2).

[2] Transforming Our World: The 2030 Agenda for Sustainable Development. UN, 2015. URL: https://unctad.org/system/files/official-document/ares70d1_ru.pdf (accessed 13.01.2022).

change. It highlights important objectives: to increase resilience and adaptive capacity to climate-related hazards and natural disasters in all countries; to integrate climate change responses into policies, strategies and planning at the national level; and to improve education, information dissemination on climate change mitigation, adaptation and early warning. Other topics, such as energy, forests, cities, etc., are closely related.

It's hard to argue with that. Climate change as a global and long-term challenge encompasses a complex set of complex interactions between climatic, economic, technological, social, and political processes in society. Responding to this challenge requires coordinated action by all countries.

As usual, scientists were the first to realize this. At the International Conference on Atmospheric Change, held in 1988 in Toronto, it was concluded that the consequences of the climate change were second only to the global nuclear war. The United Nations immediately set up the Intergovernmental Panel on Climate Change (IPCC), which undertook a comprehensive study of the phenomenon. Since then, six IPCC reports have been issued, providing the scientific basis for decision-making in response to climate change.

From the outset, of all the possible negative consequences of climate change, global warming has been the only one in the spotlight. Based on the fact that the average temperature on the planet has increased by about 0.6 °C in the last 100 years, and that this process has been most active in recent years, it is argued that, if no action is taken, temperatures will rise by another 3–4 °C by the end of this century. As a result, there will be intensive melting of glaciers, which will cause a rise in the level of the world ocean by about 1 m with flooding of coastal areas; the frequency of natural disasters will increase, degradation of "permafrost" will begin; steppe landscapes will turn into deserts; previously unseen diseases will intensify, etc.

The main (and by many estimates, the only) cause of global warming has been determined to be the intensification of the greenhouse effect, that is, the retention by atmospheric gases of the Earth's effective radiation due to a change in the composition of these gases. And the main "culprit" has been determined to be

the increase in the content of carbon dioxide in the atmosphere, and exclusively at the expense of human activity, primarily, the burning of fossil fuels. Indeed, around 35 billion tons of carbon dioxide are emitted into the atmosphere every year as a result of fuel combustion in thermal power plants, industrial plants and automobile engines all over the world.

This concept has now captured the minds of most scientists and politicians. In June 1992, at the UN Conference on Environment and Development in Rio de Janeiro a special UN Convention on Climate Change was signed, which basically boiled down to the need to reduce greenhouse gas emissions. In December 1997 in Kyoto (Japan) the Kyoto Protocol[3] was prepared which set a goal for all countries to reduce greenhouse gas emissions by 20% of the current level by 2020, and also approved a special economic mechanism of selling their quotas if the average per capita emissions of the country are less than the planetary average. The apotheosis was the awarding of the Nobel Climate Change Prize to a group of climate experts and U.S. Vice President Albert Gore (2007). In 2015. The Kyoto Protocol, despite the failure of its implementation, was replaced by the Paris Agreement, which focused on the same goals. The terms "decarbonization," "carbon footprint," etc. entered the everyday vocabulary of scientists and politicians.

The slogans of the fight against carbon dioxide quickly moved from the discourse of "green" parties and environmental activists to the activities of businesses and the economy as a whole. The goal of "carbon neutrality" has become one of the priority long-term goals for the vast majority of the global economy, displacing, to some extent, the traditional goals of GDP growth, income, production, employment, consumption, etc. Environmental dominance may lead in the near future to radical economic, structural and technological transformations, reformation of traditional sectors, changes in state and market regulation, consumer behavior [Bobylev, 2021]. The most recent authoritative World Economic Forum in Davos

[3] Kyoto protocol to the United Nations framework convention on climate change (1998). Available at: https://unfccc.int/resource/docs/convkp/kpeng.pdf (accessed 13.01.2022).

(Switzerland, 2020), where all five global risks were for the first time actually designated as environmental risks, is illustrative in this regard.

Unfounded grounds for the climate doctrine

At the same time, there are plenty of arguments about the dubiousness and fallacy of most of the grounds for the so-called "climate agenda" that has been hastily adopted by the global community. We already wrote about this a decade ago [Korytnyi, 2011], and over the years the opinion of the absurdity of what is happening has only increased. Let us consider ten main objections.

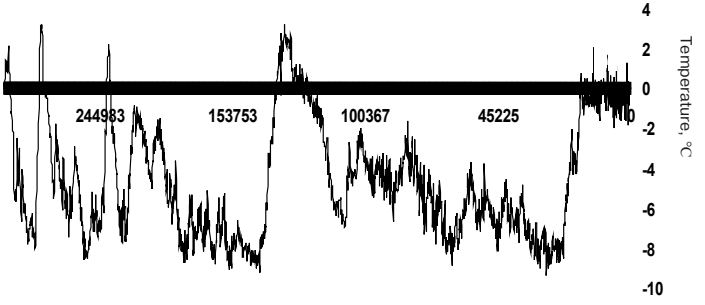
1. The very notion of "global temperature," which was the beginning of the "climate hysteria," is questionable. The reasons lie in the properties of the equation of state governing local thermodynamic equilibrium. "Since temperature is an intense variable, total temperature makes no sense from the point of view of the system being measured, and hence any simple average is meaningless. Clear and equally valid statistical rules show opposite tendencies with respect to the results of calculations from physical models and real data in the atmosphere. This temperature field can be interpreted as both "warming" and "cooling", which makes the concept of warming physically incorrect" [Essex et al., 2007. P. 3].

2. The fact of global warming cannot be considered proven. The accuracy of instrumental observations is not perfect; in many sparsely populated areas of the world, and especially in the two-thirds of the globe oceanic surface, observations are simply not carried out (they were not carried out before, and it is necessary to compare with past periods). Satellite observations do not confirm the warming trends everywhere, especially in the tropics and subtropics: the spatial trends in air temperatures differ significantly. The same applies to temporal variations: a hot summer can change into an extremely cold winter in the same location.

3. As confirmed by many facts, on the wave of repeatedly increased attention to climate problems a number of scientists have not avoided the temptation to defend their positions by

any methods: there are known cases of distorting the results of observations in order to confirm global warming ("climategate"), concealing information about the climate from opponents of the theory, preventing the publication of scientific papers promoting an opposite view [Ivanter and Kudiyarov, 2017; Alabuzhin, 2021]. In such an environment, one-sided expert assessments cannot be trusted.

4. Even if global warming occurs, it is not necessarily caused by the greenhouse effect. There are many other causes of climate change, for example, related to astronomical factors: fluctuations in solar activity and/or the intensity of solar radiation during cyclic changes in the Earth's distance from the Sun, changes in the tilt of the Earth's axis (Milankovitch cycles). Just because an increase in temperature is accompanied by an increase in atmospheric carbon dioxide does not mean that the latter is the cause of the former. On the contrary, it is more likely that it is an increase in temperature that causes an increase in the amount of carbon dioxide released from the ocean due to a decrease in its solubility in water. This is convincingly proved by the analysis of the deuterium content in ice cores from the Vostok Antarctic station [Petit et al. [Petit et al., 1999], which makes it possible to distinguish climatic cycles over the last 420 thousand years, when there was no anthropogenic influence (Fig. 1).



Source. URL: https://www.ncei.noaa.gov/access/paleo-search/study/2453 (accessed 19.01.2022).

Figure 1. Cycles of temperature fluctuations

Thus, the observed warming may simply be a positive branch of the usual cycle of fluctuations of meteorological parameters. And it is not excluded at all that it already in the near future will be replaced by a serious cooling, as has already happened more than once on our planet [Levy et al., 2014].

5. Even if warming continues, its negative consequences are greatly exaggerated. Melting of mountain glaciers is, of course, unpleasant from a landscape or recreational point of view, but it is also probably just a normal manifestation of the oscillatory cycle; the time will come and the glaciers will increase again. It will not cause a rise in global sea levels, nor will it cause the melting of the Arctic ice around the Northern Belt. This requires intensive melting of the Greenland and Antarctic glaciers, which are also thawing, but rather slowly, and the area of the main Antarctic dome is decreasing insignificantly. In addition, the level of the oceans is a self-regulating system, the complex processes and patterns of which are not yet fully understood and understood. So far, no catastrophic increase has occurred. The same applies to other "scare stories": the causation of most of them by global warming is absolutely unproven. Yes, various natural cataclysms occur more often now than before, and this is obviously the result of failures in the complex system "land-atmosphere-ocean", but it is a great simplification to explain them only by an increase in temperature. It is good that at least the COVID-19 pandemic is not explained by temperature rise, but the huge problems caused by it are evident, unlike the "climate agenda".

6. Even if we recognize the intensification of the greenhouse effect as dangerous, it is not clear why carbon dioxide is "assigned" as its main culprit? After all, the most significant natural greenhouse gas is ordinary water vapor. Of the 33.2 ^{0}C temperature increase in the surface layer of the atmosphere, which gives the "greenhouse effect," only 7.2 ^{0}C is due to the action of carbon dioxide, and 26 ^{0}C – to water vapor [Borisenkov, 1990]. Water vapor retains up to 60% of the Earth's thermal radiation, and carbon dioxide – no more than 20%. According to academician O.K. Favorsky [Favorsky and Kadaner, 1967], in the Cosmos-Earth radiative heat exchange, 60% of all radiation, from ultraviolet to infrared, is determined

by water vapor, and CO_2, only 4%. Therefore, climate is related to water vapor, not carbon dioxide. In turn, water evaporation is directly related to ocean temperature. And what the latter depends on, so far no one can explain – whether it is the influence of solar radiation, or – some processes going on in the depths of the earth, or maybe everything is much more complicated, because all the processes are not constant, but changing, and the increase in air temperature.

7. Methane is no less important as a greenhouse gas. Although today its contribution to temperature increase is estimated to be four times less than that of CO_2, methane enters the atmosphere much faster than carbon. Methane of anthropogenic origin is emitted from leaking gases in pipelines and apartments, and is formed in rice paddies. But there are also many sources of naturally occurring methane, from natural gas fields to swamp gases and exotic gas hydrates – ice-like formations existing at low temperatures and high pressures in permafrost areas at depths of over 100–200 meters and on the continental slope of oceans at depths of over 300 meters. Gas hydrates have recently been found at the bottom of Lake Baikal. Global warming may lead to the release of methane from these huge deposits into the atmosphere. But the "climate agenda" today mainly considers carbon dioxide (priority), nitrous oxide, and perfluorocarbons.

8. Even if carbon dioxide is to some extent "responsible" for warming, why is everyone collapsing only on its emissions into the atmosphere? It is well known that up to 2 billion tons of CO_2 are emitted every year by deforestation, especially of tropical forests. Forests are disappearing from the surface of the planet at a catastrophic rate, in the last two centuries their area has been halved. Forest vegetation, by absorbing carbon dioxide, emitting oxygen, and actively participating in the water balance in the process of transpiration, has always been the main regulator of both the structure of greenhouse gases and the composition of the atmosphere as a whole. Given this, it is the global anthropogenic factor of the catastrophic reduction of the planet's forest cover that the world community must focus its attention on. However, only at the last Glasgow Summit was this factor

added to the list of priorities, which is of course correct and good, but a little late.

9. Even if anthropogenic activity affects the content of carbon dioxide, how much does it ultimately determine this content? According to RAS corresponding member A.P. Kapitsa[4], the share of CO_2 emissions associated with human economic activity is a percentage of the total turnover of carbon dioxide in nature. The main natural sources of carbon dioxide in the atmosphere are volcanic eruptions and natural forest fires, and its main regulator is the world's ocean. The carbon dioxide entering the atmosphere due to volcanic activity is estimated at 175 million tons per year. Its deposition in the form of carbonates binds around 100 million tons. The oceanic reserve of carbon is large – it is 80 times greater than the atmospheric one. The carbon in the biota is three times more concentrated than in the atmosphere, and the productivity of terrestrial vegetation increases with increasing carbon dioxide content. How much evidence is there to suggest that the planet has already stopped coping with anthropogenic "addition" to the powerful natural processes?

10. Even if there is some truth in the "greenhouse-carbon" concept, can global warming predictions be trusted? We must frankly admit that there is simply no sufficiently reliable methodology for long-term and, even less so, ultra-long-term forecasting. All attempts at modeling supercomplex processes and interactions of the land-atmosphere-ocean system, even without taking into account anthropogenic impacts, are very approximate, despite the use of supercomputers and satellite data. It is not for nothing that we cannot accurately predict most of the climatic cataclysms affecting the planet. For example, the presence of "heat islands" in large cities confuses many calculations. After all, the IPCC forecasts are usually given as several scenarios, in which the parameters of future changes differ by almost an order of magnitude. Of course, the most terrible ones are chosen for presentation to the general public, and the others are modestly omitted.

[4] URL: http://www.aircon.ru/useful/details.php?item_num=501 (accessed: 20.01.2022).

The focus on a low-carbon economy and its problems

Since the above doubts were shared by many scientists and the economic decisions were supposed to be very demanding, the processes of ratification and then implementation of the Kyoto Protocol were long and tortuous. Even though it soon became clear that its goals were unattainable, the effort persisted. Preparations to replace the Kyoto Protocol continued for several years. Finally, after the failure of the Copenhagen Summit in 2014, in 2015 we managed to convince all countries to sign the Paris Agreement[5]. Its goals are to keep the global temperature increase at $2\,^0$C above the pre-industrial level and to make efforts to limit the temperature increase to $1.5\,^0$C.

For this purpose, countries, in contrast to the stringent standards of the Kyoto Protocol, independently determine their contributions (often very ambitious) to the global response to climate change. First of all, we are talking about setting targets to limit or reduce greenhouse gas emissions, as well as adopting "low-carbon" development strategies, national adaptation plans to climate change, developing mechanisms to stimulate public and private actors to develop "clean" energy, reduce greenhouse gas emissions, etc.

At present the problem of forming a low-carbon economy with minimization of greenhouse gas emissions has become a priority trend for the vast majority of developed countries. Economic and legal mechanisms of carbon regulation are rapidly developing. It is proclaimed that in the near future the key definition for the world's advanced economies will be low-carbon, associated with minimal impact on the climate system and high energy efficiency. Many developed countries, particularly in Europe, aim to become carbon neutral by 2040–2050. China intends to achieve such a target by 2060. In 2020. Denmark, France, Sweden, Great Britain and New Zealand have officially enshrined in the national legislation the target indicator of zero CO_2 emissions.

Along with states, business has become actively involved in the transition to low-carbon development. An increasing number

[5] URL: http: government. ru/docs/37917/ (accessed : 19.01.2022).

of multinational corporations are participating in various initiatives aimed at reducing greenhouse gas emissions, increasing renewable energy consumption, improving energy efficiency, and promoting sustainable development (UN Global Compact, Carbon Disclosure project (CDP), Science-Based Targets initiative (SBTi), Climate group). A number of major corporations have adopted their own strategies that outline ambitious plans to achieve carbon neutrality (Volvo, Bosch, BP, Volkswagen, Xcel Energy, Cenovus, Equinor, Qantas Group, etc.). However, not all of them; for example, the leading American and global ExxonMobil and Chevron continue to put emphasis on the development of oil and gas business [Pusenkova, 2021].

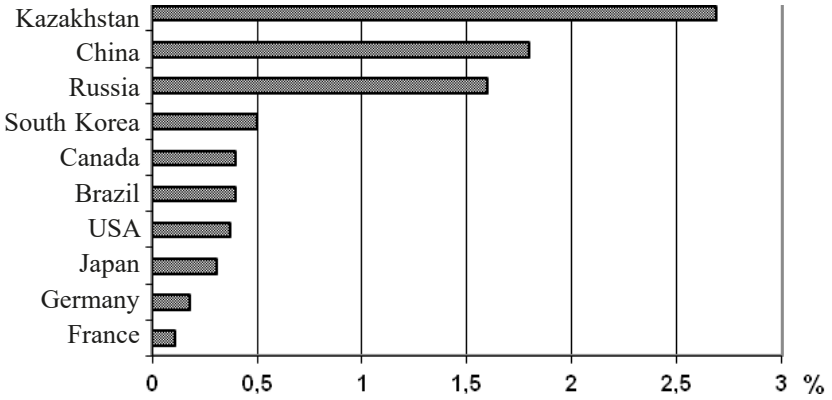
Cities actively participate in low-carbon programs. The intention to become carbon neutral by 2050 announced more than 100 municipalities, and some of them are planning to achieve carbon neutrality much earlier: Stockholm – by 2040, Helsinki – by 2035, Copenhagen – by 2025.

In the energy sector we are actually talking about the fourth energy transition [Smils, 2016], when fossil fuels are replaced by carbon-free sources.

Universal decarbonization should lead to the gradual reduction of fossil fuel production as an energy resource, replacing it with renewable energy sources (wind, solar, hydrogen, geothermal, biofuels, etc.), which entails the restructuring of the economy and infrastructure of many countries, intensive development of a new institutional, innovative and technological basis, completely different investment priorities. Already today, more than 800 institutional and over 58 thousand private investors all over the world, controlling a gigantic total of assets worth over $5.6 trillion, have decided to abandon investments in fossil fuels and quit the securities of the corresponding companies.

To feed this sentiment, the apologists for decarbonization, in addition to the already traditional manipulation of public opinion and political pressure, use science-based mechanisms. Thus, the concept of “carbon footprint” was introduced into scientific, economic and political discourse, forcing all countries to focus on monitoring carbon dioxide emissions as a priority environmental watch. The practice of mandatory carbon reporting – disclosure of

information about CO_2 emissions and measures to reduce them is spreading intensively. These data are included in all international standards of non-financial reporting, including the new standard GRI (2016) and the Guidance on Social Responsibility (ISO 26000:2010). As part of the "European Green Deal" it is proposed to introduce a "carbon tax" as early as 2023, in particular – a border tax, as a financial regulator of import-export[6]. The proposal seems very odious, because the countries – producers of energy resources or simply refusing to follow the path of a sharp reduction of carbon emissions are knowingly put at a competitive disadvantage (Fig. 2).



Source. Authors' calculations based on IPEM data.

Figure 2. The ratio of the potential carbon fee to GDP

In addition to the calculation of carbon tax, which monopolizes the IPCC, is often held discriminatory, in particular, for Russia (as we shall describe below). "Disobedient" are subject to mandatory punishment. European politicians see decarbonization, carried out solely under the scenario of the European Commission, as a way to create a competitive advantage for industries with

[6] URL: https://ercst.org/border-carbon-adjustments-in-the-eu-1ssues-and-options. (accessed : 19.01.2022).

low carbon intensity, primarily – European. The latest document, referred to as the "European Green Deal", without much evidence and calculations provides for annual growth of energy efficiency in the range of 3%, which will make it possible by 2050 to reduce energy consumption by a third, while increasing GDP by 60% [Alabuzhin, 2021].

But European views on decarbonization are not shared by all, even among the most developed economies. A typical example is the United States: only 16 American states out of 50 participate in The United States Climate Alliance, which has proclaimed a course towards carbon neutrality. At the same time, the federal government constantly fluctuates in its climate agenda depending on the political process: it withdraws from the Kyoto Protocol under Bush and the Paris Agreement under Trump, and supports them under Obama and Biden.

The difficulties of implementing this agenda became clear at the end of 2021. The next climate summit in Glasgow (the 26th conference of the UN Framework Convention on Climate Change) almost failed, demonstrating the inability to implement the goals of the Paris Agreement. Global energy consumption is rising, as are carbon dioxide emissions (table). In 2019, CO_2 emissions were 34 billion tons per year, 16% more than in 2009. True, this was mainly at the expense of China and India, while other countries reduced their emissions, but only slightly. The events of 2021 – autumn in Europe and February in Texas – showed, among other things, that the focus on wind and solar energy, very dependent on climate fluctuations, is too optimistic. This is despite the fact that solar and wind installations are still not that cheap, and do not operate year-round, so that combined-cycle installations will be both cheaper and more economical for a long time to come. While the calls and slogans of the greenhouse-carbon concept remain on the agenda, France has already announced a return to nuclear power. China, on the other hand, continues to increase its power generation primarily with coal and gas, but it does not neglect renewables either.

Energy production and emissions trends in 2009, 2019

Country	Energy production, 1018 J			Carbon dioxide emissions, mln t		
	2009	2019	%*	2009	2019	%*
China	97,5	142,0	45,6	7710,1	9810,5	27,2
USA	89,9	94,9	5,5	5289,1	5029,4	-4,9
RF	26,9	29,9	11,1	1445,0	1595,7	10,4
India	21,5	33,9	57,5	1596,2	2471,9	54,9
Japan	19,8	18,4	-7,4	1130,0	1117,7	-1,1
Germany	13,2	13,1	-0,8	753,6	681,5	-9,6
France	10,3	9,7	-6,5	354,8	299,0	-15,7
Great Britain	8,7	7,7	-11,4	513,5	380,2	-26,0
Italy	7,1	6,5	-8,8	391,6	330,3	-15,7
Spain	6,0	5,6	-6,2	317,4	271,0	-14,6
TOTAL	301,0	361,6	20,1	19501,3	21987,2	12,7
WORLD AS A WHOLE	482,8	581,5	20,4	29745,2	34356,6	15,5

***Note.** Difference 2019 and 2009 to 2009.

Source. BP Statistical Review of World Energy 2020. 69th edition. 68 p; BP Statistical Review of World Energy 2021. 70th edition. 72 p.

One of the main obstacles to the implementation of the climate agenda from the outset has been the unevenness of economic development. While the developed countries, which pay lip service to the slogans of the agenda, in fact continue to increase (or slightly decrease) their consumption, including energy consumption, thereby increasing the ecological burden on the planet, the developing economies are still far from reaching even average standards of consumption and, accordingly, an acceptable level and quality of life (a well-known contradiction between the conditional North and South).

In addition, European companies traditionally take their production with a powerful "carbon footprint" to the "Third World" countries. Not only economically, but also ecologically unequal

exchange is evident [Glazirina, 2021]. In this environment, appeals to the countries of the conditional North to make repeatedly higher commitments to reduce emissions of the same carbon dioxide are in vain, and their promises to invest in the decarbonization of developing countries are systematically not fulfilled [Alabuzhin, 2021].

Note that in Glasgow, Mark Carney, head of the Glasgow Carbon Neutrality Finance Alliance, created in 2021, made a statement about "mobilizing an enormous amount – $130 trillion – to transform the world into a carbon-neutral one. – in making the world carbon-neutral." The alliance includes more than 150 financial institutions. That's the kind of power that would be used for reasonable purposes!

Russia must have its own view

The attitude to the climate agenda, especially to its main part – the greenhouse-carbon concept – is developing in our country in a peculiar way. Already at the turn of the century, the question arose – whether to sign the Kyoto Protocol or not? Most scientists of the Russian Academy of Sciences have actively opposed it. In the spring of 2001, in the famous main building of the Russian Geographical Society in Grivtsov Lane in St. Petersburg one of the authors of this article had a chance to listen to a speech by the leading Russian climatologist, Academician Kirill Yakovlevich Kondratyev: "In 2000, the United States and Russian governments have changed, the Bush and Putin administrations came to power. Soon I sent to both addresses my strong objections to ratification of the Kyoto Protocol, with scientific argumentation. I quickly received a response from the U.S. president with thanks; I don't think it was just because of my letter, but the fact remains that Bush soon announced the U.S. withdrawal from the Kyoto Protocol. There is no response from the native president …".

In May 2004, a joint Opinion of several departments of the Russian Academy of Sciences was prepared. Natural scientists unambiguously stated that the Kyoto Protocol: 1) has no scientific substantiation, 2) is ineffective in terms of its impact on the climate and 3) bears considerable risks for Russia related to limitation of

economic growth rates. However, opponents of this point of view have been found in the academic world. In particular, the Institute of Energy Research of the Russian Academy of Sciences prepared a report in which it spoke in favor of ratification of the Kyoto Protocol. According to experts of this institute, trade in carbon dioxide quotas can be beneficial for Russia; this was confirmed by some economists.

Thus, President Vladimir V. Putin and the Russian government were given conflicting recommendations on the advisability of ratifying the Kyoto Protocol. As usually happens in such cases, subjective circumstances, economic and political considerations, for example, insistent requests from the leaders of the European Union, who unconditionally support this initiative, were decisive. Apparently, the "beauty of a gesture" also played its part: after the protocol was ratified by the State Duma in November 2004 and signed by the Russian President on February 16, 2005, it came into force throughout the planet – the required 50% threshold for this was exceeded.

Since then, Russia has intensified its climate activism both internationally and domestically. In 2009, the Climate Doctrine was adopted, the Paris Climate Agreement was signed and ratified (2015), and drafts of the Strategy for socio-economic development of the Russian Federation with low greenhouse gas emissions until 2050 (2020) and the Law on carbon regulation (2020) were prepared.

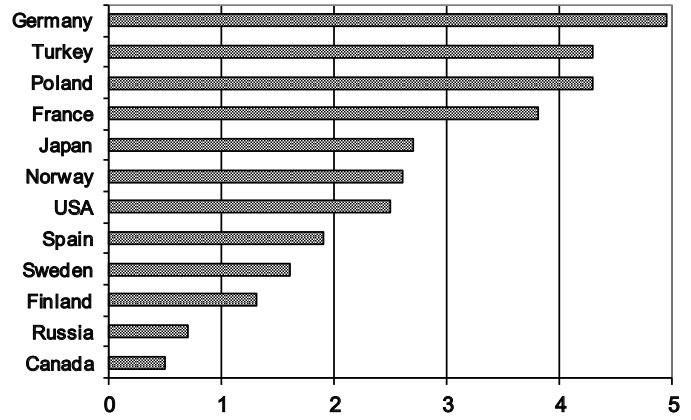
Business was also forced to respond adequately. On the one hand, the traditional task of improving the energy efficiency of the economy fits into the main trend of the climate agenda. But on the other hand, low-carbon development is often disguised as the usual improvement of technology. For example, one of the leaders in decarbonization is En+ Group[7], which is successfully replacing electrolysers at its aluminum smelters, while reducing fluoride emissions, modernizing hydroelectric power plants, and working on hydrogen power.

At the same time, low-carbon development is a serious challenge for Russian business structures and the entire economy in general.

[7] Sustainability Goals Report 2021. En+Group. URL: https://enplusgroup.com/upload/iblock/d00/EN_SDG_report_2021_RUS_1110_1830.pdf (date of reference: 13.01.2022).

Although the need to remove it from the resource, primarily oil and gas, "needle" is long overdue, but the pace and ways of this process should not be dictated by external pressure in any way. In addition, there is an unequal economic and environmental exchange between the conditional North (the role of which is played by the developed center, primarily the capital) and the South – the vast periphery [Glazirina, 2021].

The situation with the carbon tax, actively promoted by the EU, is indicative in this regard. European experts consistently underestimate the absorption potential of Russian forests and do not take into account the potential of carbon sequestration in wetlands and territorial waters of the country (Fig. 3) [Ivanter and Kudiyarov, 2017]. This is despite the fact that Russia has 20% of the world's boreal forests and the largest on the planet West Siberian wetland.



Source. Authors' calculations based on IPCC data.

Figure 3. Absorption capacity of the world's forests, t/ha

Recent studies of consulting company BCG convincingly proved that the real value of the absorptive capacity of the Russian forests should be at least tripled, up to 1.8–2.2 billion tons of CO_2 equivalent, and that Russia is the largest "shareholder" by this indicator, holding at least one third of the value of the planet's

forests[8]. This is the reason for the debate, otherwise, if we agree with the current EU calculations, the losses of Russian exporters in one year alone will amount to at least $3.5 billion, according to the international consulting group KPMG.

The projected natural consequences of rising air temperatures in Russia are far from indisputable. The greatest risks are related to the degradation of permafrost, which occupies about half of the country's territory, although it is the least populated and economically developed. It can lead to accidents in the energy sector and the infrastructure of settlements. A kind of chain reaction cannot be ruled out, as melting of permafrost will stimulate release of methane into the atmosphere, and then the greenhouse effect will intensify. The number of atmospheric droughts is likely to increase, as well as a shortage of water resources, which may result in a shortage of agricultural products in the southern agrarian regions.

However, our country's territory is very large. Along with the noted undoubted problems and risks, due to the diversity of natural and climatic conditions for Russia, climate change also creates new opportunities:

– Reducing the severity of winters will change the consumer climate, expanding opportunities for winter tourism;

– reduction of the heating period will lead to lower consumption of energy resources;

– in agriculture, an increase in the heat supply of northern territories will cause an increase in crop productivity on lands that are still low-productive and the development of grassland ecosystems in a number of regions;

– extending the navigation period within the Northern Sea Route opens up new opportunities for the socio-economic development of the North and the development of new oil and gas fields in these waters.

[8] URL: https://bcg.com>ru/publications/2021/unexploredwealth

Conclusion

The reader may wonder: even if all is not well in the current state of the climate agenda, but what is wrong with reducing emissions, developing alternative energy sources, reducing atmospheric pollution, etc., etc. – in line with the sustainable development of the "green economy" as the main trend of our time? This argument is one of the main ones among supporters of green movements and most politicians, as well as scientists who share the greenhouse-carbon concept.

The bad thing is that there is a deliberate deception involved. The hysteria around CO_2 and Goal 13 obscures all other sustainability issues and goals. The main negative consequences for public health, vegetation and wildlife come from atmospheric emissions of substances other than carbon dioxide – sulfur oxides, nitrogen, organic compounds (methylmercaptan, etc.), hydrogen fluoride, carbon monoxide, ash, etc. However, many specialists in recent decades have been forced to switch to the problems of reducing CO_2, including its measurement (in Russia even began to create special carbonic landfills). Focusing attention and resources solely on the fight against carbon dioxide has significantly weakened all truly high-priority activities and thus only caused tangible harm to environmental protection. Not to mention the fact that the reduction of CO_2 in the air (if it could be achieved) is not at all harmless to the environment and can lead to a decrease in crop productivity, exacerbating one of the world's current problems – the food problem.

Thus, the prevailing current trend of the climate agenda in the form of the greenhouse-carbon concept and related activities is actually a brake on the "green economy". [Korytny, 2021; Efimov, 2021; et al.] For many years now, many scientists have been trying to shout down to the public and explain that the "greenhouse effect" is not even a hypothesis, but an outright hoax. At the same time, Bill Gates, one of the outstanding representatives of high-tech industry, is so much imbued with the ideas of greenhouse-carbon concept, that he not only strongly urges to reduce greenhouse gas emissions to zero by 2050 [Gates, 2021. P. 11], but also invests

considerable funds in this. But he, as the book suggests, is more aware than many of the enormous technological, economic and political difficulties that stand in this way.

Most of the structures and countries of the global community are simply mindlessly following the directions and actions of the climate agenda, which greatly harms this community, including our country. Just the introduction of a carbon levy at an emission rate of $35 per ton of CO_2 equivalent will lead to a loss of up to 10% of GDP [Alabuzhin, 2021]. Large losses are inevitable in the country's budget, which, as we know, is filled primarily by the export of energy resources. And who of the developed countries will need oil and gas in large volumes in 20–30 years if this trend persists? These changes in the global energy market are extremely important for Russia.

Moreover, current Russian documents on climate regulation do not analyze the economic consequences of the country's transition to a low-carbon path of development, and therefore do not take into account the relevant risks. The price of implementation of aggressive scenarios to reduce greenhouse gas emissions, which do not take into account the limitations of the Russian economy, may be very high – almost double the average annual rate of economic growth until 2050, with the main losses falling on the first 5–10 years of implementation of stringent measures to reduce CO_2 emissions and will be associated with an internal price increase (primarily for energy) and increasing dependence on imports [Shirov, 2021]. If the obligations under the Paris Agreement are to be fulfilled, such a scenario of the development of the Russian economy should be designed and implemented, which would allow to use the existing potential of reducing CO_2 emissions on the basis of modernization of the main core of Russian energy and industry, and in a few decades could become the basis for the transition to carbon neutrality of the domestic economy. However, the recent Ukrainian events will inevitably lead to a reformatting of the Russian economy without regard to the dubious "postulates" dictated by the West, and the energy sector is the first in line.

Understanding of the importance and ambiguity of the climate agenda in our government began to emerge in the second half of 2021. This is particularly evident in the change in the tone of statements by leading politicians and businessmen at the Vladivostok Eastern Forum in September 2021 compared with the St. Petersburg Forum held six months earlier[9]. A typical speech by Herman Gref, the head of Sberbank, forecasting a possible annual drop in the country's energy exports to 200 billion dollars by 2050, budget losses – to 5 trillion dollars, and personal income – by 14%.

Of course, the materials of our analysis do not mean that it is necessary to stop studying environmental and climatic problems and their economic consequences. On the contrary, they should be strengthened in the direction of studying the interaction between the atmosphere and the ocean, forecasting extreme situations, comparing the positive and negative effects of warming on the economy, improving alternative, in particular, hydrogen energy [Kovalev, Blam, 2020], which has the best prospects in Russia, etc. It is very important for our country to increase funding and technical equipment of hydrometeorological services, increase the number and quality of their specialists, expand the network of observations and research. Only any one-sided approach which is presented as the only correct and supposedly consensual approach is inadmissible.

We fully agree with Academician V.M. Kotlyakov, Russia's geographer number one, who repeatedly, including based on Antarctic core studies, called the hype around the climate agenda a falsification. In a 2014 interview on the eve of the Copenhagen conference, he said that global warming is not causing an increase in natural disasters[10]. Everything that has happened before is happening on Earth. It's just that humanity has a short memory. Without affecting the previous epochs, when there was no global system of observations, during the XX century,

[9] URL: http/svpressa.ru>Общество>article/18055 (date of reference: 12.01. 2022).
[10] URL: bfm.ru>nevs/480560 (date of reference: 19.01.2022).

with an undoubted increase in human influence on the climate, there were not only periods of warming, but also two cooling spells: one at the beginning of the century, and the second in 1960–1970. And the second cooling was very significant –

there were glaciers everywhere in the mountains. Then a warming began, which inevitably, and maybe in our lifetime, will be replaced by a cooling.

Let us state: mankind already suffers a lot by devoting gigantic efforts and resources to a problem which turned out to be a myth, to the detriment of many others which are quite real. In this situation Russia should work out its own approach prompted by its economic peculiarities, common sense and geopolitical events.

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