



**Center for Energy Efficiency – XXI**

**Russian climate policies and activities**

**Q2, 2023**

**Igor Bashmakov Editor**

**Russian climate policy review**

**Q2, 2023**

# Contents

1	CENEF-XXI. POLICY PAPER - LOW CARBON TECHNOLOGIES IN RUSSIA: CURRENT STATUS AND PERSPECTIVES.....	3
2	SEMINAR - TECHNOLOGICAL GAP ON THE WAY TO THE DECARBONIZATION OF THE RUSSIAN ECONOMY. SCALES AND WAYS OF OVERCOMING.....	7
3	CLIMATE, ENVIRONMENTAL AND ENERGY POLICY SCEPTICS – BELLONA, GREENPEACE, AND WWF – ARE “UNDESIRABLE ORGANIZATIONS” IN RUSSIA .....	8
4	TOOTH FOR TOOTH, CBAM FOR CBAM.....	9
5	CLIMATE IS STILL ON THE RUSSIAN AGENDA, BUT MITIGATION IS NOT IN THE FOCUS .....	9
6	DRAFT ENERGY EFFICIENCY PROGRAMME .....	10
7	ENERGY AND MITIGATION WORKSHOPS.....	11

# 1 CENef-XXI. Policy paper - Low carbon technologies in Russia: current status and perspectives.

CENef-XXI has completed a policy paper “Low carbon technologies in Russia: current status and perspectives” (full Russian text (173 pp.) can be downloaded from: [https://cenef-xxi.ru/uploads/Tehnologicheskij\\_razryv\\_1c905a5aa1.pdf](https://cenef-xxi.ru/uploads/Tehnologicheskij_razryv_1c905a5aa1.pdf), and SPM in English from: [https://cenef-xxi.ru/uploads/Technology\\_gap\\_b0cf666d23.pdf](https://cenef-xxi.ru/uploads/Technology_gap_b0cf666d23.pdf)).

This paper estimates four gaps for Russia:

- **technology readiness level gap** – lack of affordable low-carbon technologies with a high level of technology readiness;
- **supply gap** – lack of technologies, installation and operation capacities in the markets at a scale that allows for moving along the traced pathways to carbon neutrality;
- **localization gap** – lack of self-sufficiency in equipment and critical materials manufacturing to mitigate the risks of possible interruptions in equipment imports, or the risks of monopolistic abuses by dominant suppliers, similar to what has been seen in the fossil fuel markets for decades;
- **scale gap** – relative scale of low carbon technologies penetration and production in Russia compared to the world champions, such as China, EU and USA.

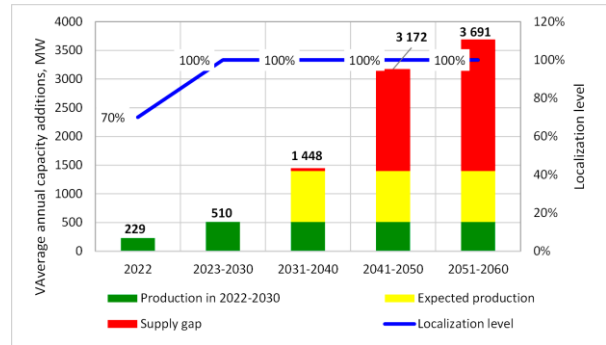
These gaps were assessed against the 2022 level of technologies penetration, current level of low carbon technologies (LCTs) production, and the announced plans for the expansion of production, on one hand, and against the LCTs application scale that would enable carbon neutrality in 2060, on the other. Key decarbonization indicators were estimated by CENef-XXI for 2023-2060 by decades. The "cloud" of models developed by CENef-XXI was used to determine the KPIs for Russia to reach carbon neutrality. This is the first attempt to set KPIs for low carbon development across all sectors in Russia. Altogether, 77 KPIs were set (15 for energy systems, 17 for industry, 14 for transport, 13 for buildings, 10 for hydrogen, and 8 for CCUS). These KPIs were then translated into annual uptakes for the 30 selected key low carbon technologies to enable Russia to reach its carbon neutrality target in 2060. Current localization levels and perspectives for penetration, manufacturing, and localization increase were assessed for each of these technologies. Seven metrics were selected to outline the analysis boundaries: market niche; technology implementation costs; technology readiness level; scale of penetration in Russia; level of production localization; availability of the necessary infrastructure; scale and sources of possible imports; export perspectives. These 30 selected technologies were compared with those which are currently in the focus of the technological sovereignty policy and were described in detail using the above metrics. Conclusions regarding the current penetration scale and the three gaps are presented below aggregated by sectors:

<p style="text-align: center;"><b>LOW CARBON ENERGY SYSTEMS</b></p> <p style="text-align: center;">TRL – 11</p> <p style="text-align: center;">Localization – 70-100%</p>	<ul style="list-style-type: none"> <li>• The level of localization is noticeably higher, than in the fossil fuel sector;</li> <li>• In 2020-2022, RES contributed 33-57% to the capacity additions;</li> <li>• The domestic market is large only for nuclear and hydro.</li> <li>• RES have reached price parity either in the wholesale electricity markets (wind), or retail markets (solar).</li> <li>• There is some (limited) technology export.</li> </ul> <p>The key tasks are as follows:</p> <ul style="list-style-type: none"> <li>• to scale up the use of low-carbon technologies; and</li> <li>• to further increase the level of localization</li> </ul>
---	--

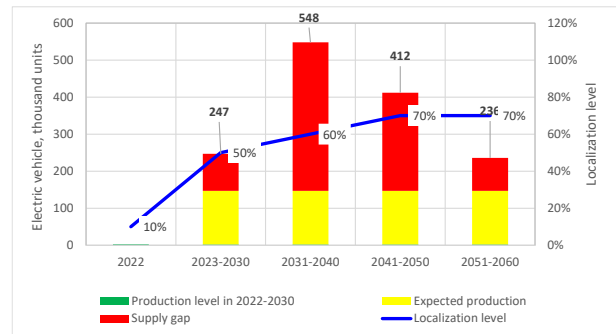
<p style="text-align: center;"><b>INDUSTRY</b></p> <p style="text-align: center;">TRLs – 5-11</p> <p style="text-align: center;">Localization – 0-100%. Even for BATs, localization level is 30-85% (except for aluminium)</p>	<ul style="list-style-type: none"> <li>• The level of localization is noticeably lower, than in low carbon energy systems.</li> <li>• There is no experience in CCUS or hydrogen technologies and no production of relevant equipment.</li> </ul> <p>The key tasks are as follows:</p> <ul style="list-style-type: none"> <li>• To untap the large BATs potential before 2030.</li> <li>• Technologies with low TRL (hydrogen and CCUS) will then be expected to penetrate the market.</li> </ul>
<p style="text-align: center;"><b>TRANSPORT</b></p> <p style="text-align: center;">TRLs – 9-11</p> <p style="text-align: center;">Localization – below 25%</p>	<ul style="list-style-type: none"> <li>• The park of electric vehicles and electric buses is growing rapidly.</li> <li>• Electric cars and electric buses are expected to reach cost parity (the cost of ownership) by 2040.</li> <li>• The infrastructure is dynamically developing.</li> </ul> <p>The key tasks are as follows:</p> <ul style="list-style-type: none"> <li>• To increase the level of localization for electric vehicles;</li> <li>• To launch domestic production of lithium</li> </ul>
<p style="text-align: center;"><b>BUILDINGS</b></p> <p style="text-align: center;">TRLs – 9-11</p> <p style="text-align: center;">Localization – 20-98%</p>	<ul style="list-style-type: none"> <li>• New low energy multifamily buildings (MFBs) and passive MFBs will reach life cycle cost parity with buildings that meet the energy efficiency requirements currently in force.</li> </ul> <p>The key tasks are as follows:</p> <ul style="list-style-type: none"> <li>• to scale up the use of insulation and heat supply regulation technologies until 2030;</li> <li>• to increase the level of localization of other technologies for buildings.</li> </ul>
<p style="text-align: center;"><b>HYDROGEN</b></p> <p style="text-align: center;">TRLs – 8-9</p> <p style="text-align: center;">Localization – 100% for hydrogen production, but very low for electrolyzes manufacturing</p>	<ul style="list-style-type: none"> <li>• In Russia, infrastructure development for hydrogen production and use outside of oil refining and petrochemicals is just dawning.</li> <li>• There are a few domestic technological developments.</li> <li>• The plans for hydrogen production and exports have been revised down by an order of magnitude.</li> </ul> <p>The key task is as follows:</p> <ul style="list-style-type: none"> <li>• To set up large-scale production of electrolyzers.</li> </ul>
<p style="text-align: center;"><b>CCUS</b></p> <p style="text-align: center;">TRLs – 4-9</p> <p style="text-align: center;">Localization – very low</p>	<ul style="list-style-type: none"> <li>• Like the global market, Russian CCUS market is only dawning.</li> <li>• According to Rosstat, Russia produced 1.4 Mt of CO<sub>2</sub> in 2022. In addition, another 6.9 Mt of CO<sub>2</sub> were captured from ammonia production and used for urea production.</li> <li>• Cost estimates for this technology vary greatly, because there is very little empirical evidence.</li> <li>• In Russia, CCUS technology is mostly at the planning and experimental stage.</li> <li>• Russia has a huge potential for CO<sub>2</sub> storage ranging between 10 and 160 Gt CO<sub>2</sub></li> </ul> <p>The key task is as follows:</p> <ul style="list-style-type: none"> <li>• To launch pilot projects before 2030 and do the groundwork for their subsequent replication.</li> </ul>

For each of the 30 technologies, the first three gaps and bridging prospects were estimated (see below wind power and EVs as examples). The supply gap (red zone) can be filled either by additional local production or by import, which with high probability may have Chinas as origin).

**Solar.** Currently, there is no technological gap; localization level is close to 100%. However, there will be a 2.2 GW supply gap in 2060. A wide range of products are being supplied to Europe and Asia (mainly Kazakhstan and Japan).

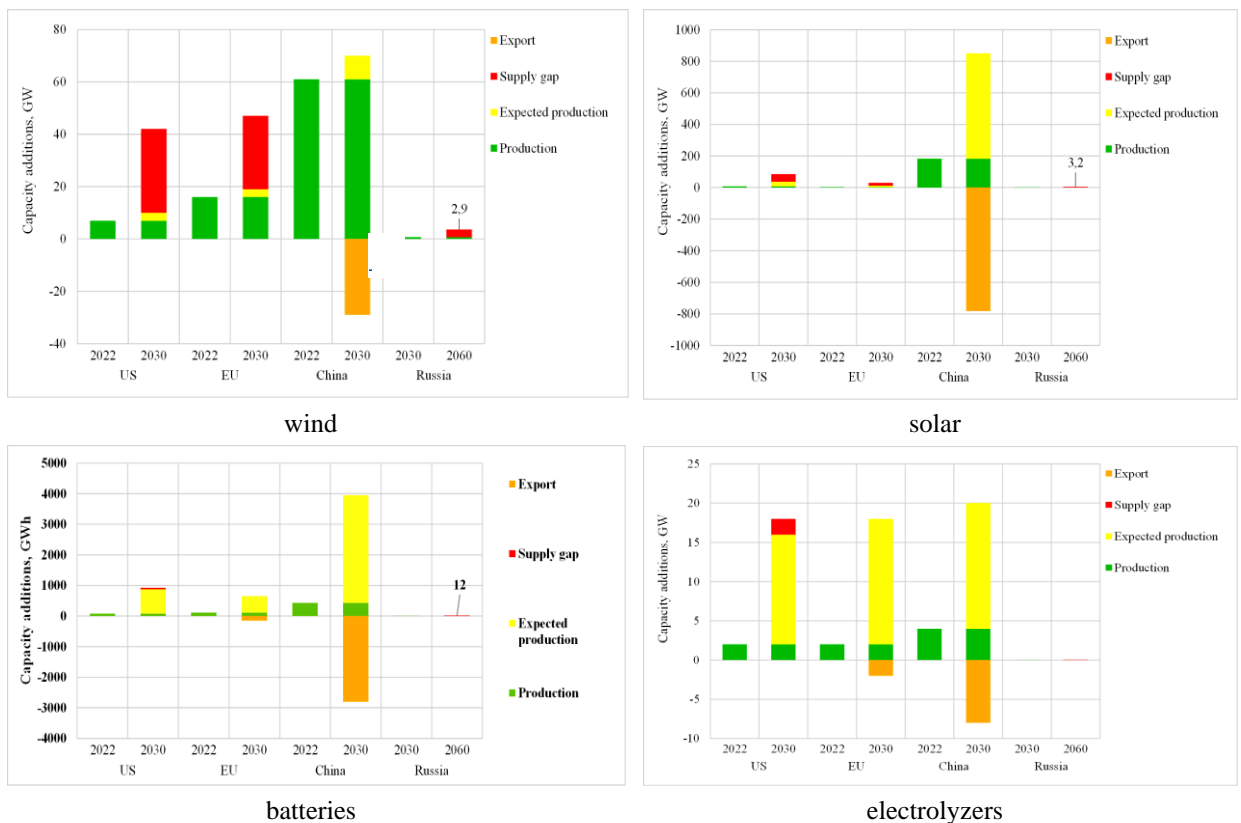


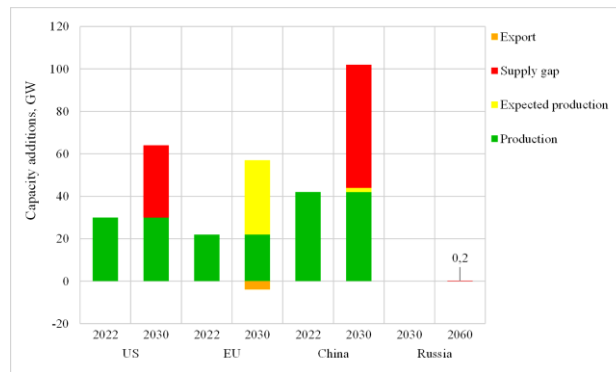
**Electric vehicles.** There is no global technological gap. In Russia, there are no domestic models, and localization level is 10% at the best. It is expected to gradually rise to 50% in 2030 and then further to 60-70%. Supply gap will be 100 thou. In 2030. It will peak at 400 thou. And then will eventually decline.



Finally, the fourth (scale) gap – between the expected penetration and production of low carbon technologies in Russia and in countries/regions, such as the EU, USA, and China (see Figure 1 below).

**Figure 1. Nothing-to-see view: annual outputs of low carbon technologies in Russia against global champions**





heat pumps

Sources: CENef-XXI and IEA. 2023. The State of Clean Technology Manufacturing. An Energy Technology Perspectives Special Briefing.

The important conclusions include the following:

- Total technological sovereignty policy is a dead-end road, which incurs exorbitant costs with no guarantee of success. The efforts made by the USSR since the early 1930s didn't work out;
- Diverse and geographically balanced international cooperation in low carbon technologies is a sustainable and effective strategy for Russia, which is not a gigantic market;
- The global low-carbon technology markets are, and will continue to be, dominated by China for a long time;
- In this regard, access to the imports of technologies and their components is not closed to Russia;
- The US and EU have recognized the risks associated with the reliance on China and are making significant efforts to mitigate them by localizing and developing their own production while maintaining the possibility for broad cooperation;
- The question is, to what extent is Russia going to increase its technological reliance on China and whether or not it is, or will be, able to overcome it.

The policy paper was widely disseminated after seminar was conducted (see below) to about 1000 recipients including government structures such as Administration of the RF President, Apparatus of RF Government, Ministry of Economic development), business and expert communities.

## **2 Seminar - Technological gap on the way to the decarbonization of the Russian economy. Scales and ways of overcoming**

Major findings of the CENEf-XXI policy paper - Low carbon technologies in Russia: current status and perspectives – were presented on July 11, 2023, Tuesday, at joint (CENEf-XXI and IMEMO RAS) seminar “Technological gap on the way to the decarbonization of the Russian economy. Scales and ways of overcoming». This seminar was conducted as part of Forum "GLOBAL ENERGY DIALOGUE".

The seminar was moderated by Academician Ivanova N.I., member of the Directorate of IMEMO RAS, Doctor of Economics, Professor.

The seminar concept was developed by CENEf-XXI with the goal to present and discuss CENEf-XXI policy paper findings and to dive deeper on three vintages of low carbon technologies – wind, EVs and CCUS. There were four speakers:

Bashmakov I.A., General director of the Center for Energy Efficiency-21st Century: “Low-carbon technologies in Russia. Current Status and Prospects”,

Bryzgunov I.M., Director of the Russian Wind Energy Association (RAWI),

Trofimenko Yu.V., Doctor of Technical Sciences, Professor, Head. Department of "Technospheric safety" MADI (Moscow Automobile and Road Construction State Technical University). “Forecast of greenhouse gas emissions by road transport in the Russian Federation until 2050, taking into account the transition of transport to the decarbonization trajectory”.

Grushevenko E.V., expert, Center for Energy Transition, Skoltech. “CCUS technologies in Russia”.

This list of speakers was joint by A. Klimentiev, Permanent Mission of the Republic of Sakha (Yakutia) under the President of the Russian Federation. Head of the LNG and Gas Chemistry Expert Group. Russian Gas Society with the presentation - DECARBONIZATION PROJECTS AND DEVELOPMENT OF THE HYDROGEN INDUSTRY IN REPUBLIC OF SAKHA (YAKUTIA).

Seminar was attended by over 80 people in person and by additionally by over 80 people on-line including government officials, business community representatives and experts.

Over 10 people participated in Q@A sessions and in active discussions.

The seminar lasted over 2.5 hours. Its recordings are available at: <https://www.youtube.com/watch?v=CoEgL5JC3PA>

Seminar presentations are available at: <https://www.imemo.ru/news/events/text/seminar-tehnologicheskii-razriv-na-puti-dekarbonizatsii-rossiyskoy-ekonomiki-masshtabi-i-puti-preodoleniy>

There are very positive feedbacks on the seminar from many participants.

### 3 Climate, environmental and energy policy sceptics – Bellona, Greenpeace, and WWF – are “undesirable organizations” in Russia

Since April, 2023, every month one internationally recognized environmental organization becomes *undesirable*<sup>1</sup> in Russia. In April, the Prosecutor General's Office of the Russian Federation recognized the Norwegian environmental organization Bellona as an undesirable organization with the reference that its activities are “*aimed at undermining the Russian economy*”, *discrediting domestic and foreign policy*, and Bellona also *threatens the foundations of the constitutional order and the security of the country*. It is stated, that since the beginning of the special operation, Bellona has been actively involved in the anti-Russian information campaign and discrediting the Army. Bellona is also *promoting opinions about the failure of the Russian environmental policy and the incompetence of the Russian gas and oil industries*.

This is a potential stigma for any environmental organization which is skeptical about Russia’s progress in climate and other environmental and energy policies. It wasn’t long before others followed.

In mid-May 2023, the Prosecutor General's Office named the Dutch international non-governmental non-profit organization Greenpeace International (Stichting Greenpeace Council), "Greenpeace Council Foundation", *undesirable* in the territory of the Russian Federation as it “*posed a threat to the foundations of the constitutional order and the security of Russia*”. It was accused of *active promotion of a political position, attempts to interfere in the internal affairs of the state and aiming to undermine its economic foundations, engaging in anti-Russian propaganda, calling for further economic isolation of Russia and tougher sanctions*.

Greenpeace stated that they "have always acted exclusively in the interests of Russia and its citizens", that their main goal was to address challenges, such as climate change and threats to biodiversity. They also noted, that their actions were not against the interests of the country, but against "the intentions of some entrepreneurs to cash in on the uncontrolled use of Russia's natural resources."

Next was WWF. It was included in the list of *undesirable organizations* based on the decision of the Prosecutor General's Office dated June 20, 2023. On June 22, in connection with this decision, WWF-Russia, which had been recognized as a *foreign agent* in the Russian Federation in March 2023, had to break up with the international World Wildlife Fund, WWF. The Ministry of Justice included the World Wildlife Fund registered in Switzerland in the list of undesirable foreign and international non-government organizations. According to the Ministry of Justice, the environmental organization used "*environmental and educational activities*" to implement projects that "*are security threats in the economic sphere*."

---

<sup>1</sup> Such status makes Russian citizens cooperation with those organization illegal.



## **4 Tooth for tooth, CBAM for CBAM**

Center for International and Comparative Legal Research published a paper “On some aspects of the development and implementation of the national CBAM”.

It comes up with a finding, that one way to achieve national climate goals (including carbon neutrality and NDC implementation under the Paris Agreement), address strategic decarbonization goals, and to reduce possible financial pressure on domestic producers resulting from CBAM and/or partially compensate this pressure (for example, through the earmarked funding received under the national CBAM – depending on its format), is to develop a mechanism to mirror other countries’ carbon regulation instruments, which are, in fact, extraterritorial in nature (including CBAMs). Such mechanism can be based on the carbon price concept and an assessment of economic (foreign and domestic) and social consequences.

This Center for International and Comparative Legal Research is a structure affiliated with the government, and so this initiative may be indicative of either search for climate policy tools, or for other fiscal instruments to mitigate the government budget deficit, rather than climate.

## **5 Climate is still on the Russian agenda, but mitigation is not in the focus**

On May 18, 2023, the Inter-Fractional Working Group of the State Duma with a mandate to provide legal support for the introduction of a "green" economy as one of the areas of sustainable development joined efforts with the Scientific Council of the Russian Academy of Science working on the problems of the Earth's climate and the Scientific Council of the Russian Academy of Science engaged in Global Environmental Problems to have a joint session "Changes in the environment: climate and ecology, opportunities for adaptation". They developed 20 recommendations, including the following:

To the Government of the Russian Federation:

- To intensify efforts to develop a unified system for the monitoring of climate change, associated anomalous processes and phenomena in the atmosphere, ocean and land in the territory of the Russian Federation, its regions and adjacent water-covered areas; develop a database for integrated monitoring, which should integrate the current databases of various departments.
- With the participation of the Russian Academy of Science to organize the development of an integrated economic and climate model to ensure consistency of indicators used in many strategic documents related to climate and ecology with the national sustainable development goals, including food security, which for Russia is largely in the field of land use, agriculture and forestry. In doing so, take into account:
  - the importance of setting the key parameters of the economic model and identifying the ways to achieve them, to ensure the optimal balance of adaptation and mitigation efforts based primarily on Russia’s national interests;
  - the importance of having a balanced approach to decision-making in the field of climate and sustainable development, as well as the importance of ensuring socio-economic growth based on energy efficiency improvements, resource conservation, and modernization;
  - the importance of harmonizing the indicators of adaptation to climate change with the sustainable development goals;
  - the importance of environmental education through all the media, including the national TV, and the Russian Geographical Society, the Russian Hydrometeorological Society, public academies, and other organizations;
  - the role of climate change adaptation in economic development models.

To the Russian Academy of Science

- develop proposals on how to update Russia's scientific and technical program in the field of environmental development and climate change for 2021-2030 by forming the following project: "Climate Change: Causes, Risks, Implications, Adaptation, Regulation and Implementation";
- organize in 2023 an All-Russian Conference with international participation "Climate change, risks, implications, adaptation and regulation";
- prepare and submit to the Head of the Russian Academy of Science a list of priority tasks related to the natural sciences (climatology, hydrometeorology, etc.) and social sciences (primarily, economics) to ensure the interests of the Russian Federation in the field of climate change, environmental protection and adaptation to climate change, with an account of the latest trends.

There are a few comments about these recommendations. First, climate change is still on the agenda of the Russian legislature, and even a Climate conference is to be held October 9-13, 2023 (I. Bashmakov registered to it to present CENef-XXI's vision on how carbon neutrality may be achieved in Russia). The document highlights, that "*it must be understood, that a failure to participate in international efforts to reduce global greenhouse gas emissions in the short-term will increase foreign policy risks*". Second, the priorities are set to focus on monitoring and adaptation, rather than mitigation. Third, the wording is quite general, with very low ambition. Forth, the document does not even mention Russia's 2060 climate neutrality pledge.

## **6 Draft energy efficiency programme**

The Ministry of economic development of the Russian Federation has drafted a comprehensive national programme "*Energy Saving and Improving Energy Efficiency*". The program aims to reduce the energy intensity of gross domestic product (GDP) by 35% in 2035 compared to the 2019 level.

However, this target is a pure declaration, since the draft programme does not specify:

- concrete mechanisms and relies on the provisions of other programmes: "*The programme was developed with an account of the state programmes of the Russian Federation and is comprehensive. At the same time, the draft resolution will not affect the achievement of the goals as set in the state programmes of the Russian Federation*";
- any additional mandatory requirements: "*The draft programme does not set mandatory requirements to the implementation of entrepreneurial or other economic activities that need to be enforced through the government or municipal control (supervision), licensing, accreditation, product conformity assessment or other forms of assessment*";
- any additional financing: "*The program will not require any additional funding from the federal budget or other budgets*".

In other words, the 15-page long draft programme is a pure declaration, which allows the RF Ministry of Economic Development to pretend that they have fulfilled the task given by the Russian President to develop such programme, and yet allocate no resources to reach the goal. The document cannot be called a Programme. A while ago, CENEf-XXI and some staff of the Ministry of economic development went through the national programmes in force trying to find any specific provisions related to energy efficiency – and failed. Therefore, there is no reason to believe that these programmes will add anything to the BAU trajectory of the Russian GDP energy intensity evolution. Russian energy intensity has been growing from 2015 onwards, and only if non-energy use is excluded from the accounting showed 0.5% decline per year on average in 2015-2021. If these decline rates persist into 2035, expected GDP energy intensity reduction may reach 8% at the best, not 35%.

This draft programme is an additional indication that the present Russian government does not seriously consider energy efficiency improvements as both an important economic policy and a climate mitigation policy. The reasons for no budget allocations include the current uneasy situation with the government budget and a reluctance of both businesses and government to launch mandatory mechanisms in order to avoid what they call adverse economic impacts.

## 7 Energy and mitigation workshops

**RAWI webinar “Electricity supply under direct contracts with wind farms: advantages and opportunities: (April).** The speakers: Oleg Barkin, Board member, Sovet rynka (market council) Association, and Valery Dzyubenko, Deputy Director, “Community of Energy Consumers”.

The key point, which the participants agreed on, was that bilateral agreements promote a completely new market, which is not subsidized by the government. Fixed low price of electricity is the backbone of the wind energy sector and ensures a reasonable and cost-effective development with an account of all risks. And formalization of this advantage within the framework of the legislation in force can take different forms. According to the “Community of Energy Consumers”, 1 GW is expected RES capacity demand in 2023 from the Russian industries. There is a potential market, and there should be a large variety of instruments to invest in renewable energy generation.

**Webinar by the Russian Partnership for Climate (April).** Russian industrial companies do not abandon the environmental agenda and continue to look for new climate projects.

I. Bakhtina, RUSAL, pointed out that: “The target scenario of the Russian LTS expects the absorption capacity of managed environments to grow to 1 200 Mt (more than two-fold). Such rapid growth can be ensured through the development of new technologies. The LTS makes a special focus on the research related to the GHG absorption and accumulation capacities of water bodies, including wetlands and, in particular, peatlands.

A. Romanovskaya: projects should result in net-emission reductions in excess of what is required by the legislation in force. The methodology for projects related to the irrigation of previously drained peat deposits is being developed and will be submitted for a public discussion in the summer of 2023.

Yu. Fursa: Our country has the largest peat reserves in the world, the area covered by peat deposits is more than 80 million ha. Abandoned drained peat bogs lead to peat fires, wind and water erosion, increasing GHG emissions to the atmosphere. It is important to water the peatlands and restore their natural functions.

R. Kazakov, Severstal: The challenges that are currently hindering the development of climate projects include the impossibility of selling carbon units in the international markets and lack of methodological support for the development of project documentation. In the near future, Severstal is planning to carry out research for the implementation of projects for re-watering of previously drained peatlands in the Vologda region.

One decision made at the webinar was to prepare a letter on behalf of the Russian Climate Partnership to R. Edelgeriev, Presidential Envoy for Climate, about a possibility of presenting wetlands as a new direction for Russian climate projects at COP-28 – for the international recognition of such projects.

**International workshop “On Sustainable Energy Pathway: regional cooperation in the global context”.** 18-19 May, 2023, Baku, Azerbaijan. Held by International scientific conference “Energy in the XXI century: economy, policy, ecology” and Azerbaijan State Economic University (UNEC). There were seven presentations from Russia, including I. Bashmakov – “*Key results of the IPCC Sixth Assessment Report*”.

Given the restrictions for Russian experts’ participation in international climate mitigation discussions, such meetings held in countries, where Russians can easily travel, could serve effective fora to keep in touch with the scientific and expert communities on climate mitigation and LTS.