

## European carbon border adjustment mechanism - consequences for Russia's economy

ЦИКЛ СЕМИНАРОВ ДЕПАРТАМЕНТА МИРОВОЙ ЭКОНОМИКИ

Nikolai Zakharov | January 27, 2021 |

On the 27<sup>th</sup> of January 2021, the School of World Economy and the Laboratory for Climate Change Economics held an open joint online seminar titled “European carbon border adjustment mechanism: consequences for Russia's economy”. During this seminar, the distinguished speakers were Andrei Marcu, Executive Director of the European Roundtable on Climate Change and Sustainable Transition (ERCST), and Igor A. Makarov, HSE Head of School of World Economy. George V. Safonov, HSE Director of the Centre for Environmental and Natural Resource Economics, was its moderator.

At the start of the seminar, George Safonov expressed his opinion on the discussed topic. He stated that the world is changing towards something new in many spheres (economy, energy, and others). He specifically pointed out the movement towards deep decarbonization. And there are, according to him, a lot of reasons why it is happening. One of them is the need to fight climate change.

Nowadays the European Union is one of the major leaders in these changes and it has already done a lot. In 2019, it created some new ambitious targets for the EU and new instruments to achieve them. And it will affect Russia a lot since it is a major supplier of metals and fuels.

According to the moderator's calculations, Russia's export carbon footprint was at least 1 billion tons of CO<sub>2</sub> in the previous year. If the EU implements the carbon tax on the import and if the price becomes comparable to today's carbon price in the EU trading scheme (25-27 euro per CO<sub>2</sub> ton), it will cause a dramatic change in all Russia's export models. George Safonov also noted that not only the EU suggested some targets of climate neutrality by 2050, but also some of our other importers such as Japan, South Korea, China, the USA, Canada, and Kazakhstan. Therefore, when talking about these new climate targets, both the EU and the rest of the world should be considered since they may impose various carbon regulation measures.

Andrei Marcu started with some insights on the Carbon Border Adjustment Mechanism (CBAM). He stated that CBAM was the EU Commission's political commitment and it is going to become complicated over time. Prof. Marcu outlined that the Paris agreement regime dictates

some targets and about half of them have been with the Emission Trading System (ETS). The asymmetry that resulted from carbon pricing (that started from 5 euros and went up to 30 euros) was addressed by free allocation. However, when the cap goes down, free allocation starts to run out that, in turn, prevents the countries from reaching the set target levels (for instance, 50% by 2030). For sectors less exposed to carbon leakage, free allocation is foreseen to be phased out by 2030. Therefore, the CBAM was proposed to represent an alternative to free allocation against carbon leakage. Under the CBAM, the imported carbon is taxed at the border and the same price level is ensured. Thus, according to the speaker, the main idea behind the CBAM is that everybody pays the same amount of money on the carbon.

Then Andrei Marcu turned his attention to the current debate on why it is done: to level the playing field, to allow the EU to move from 45% to 50% emission target, or to push others to do things in the EU way. Prof. Marcu believes that the main explanations are the environmental reasons and leveling of the playing ground.

The history of the border carbon adjustment (BCA) began with the EU Inception Impact Assessment. Then Public Consultations and Impact Assessment took place. All of this is expected to finish with a Proposal together with the Fit for 55% package in June 2021.

The speaker underlined four main ways to carry out the CBAM:

1. A tax applied on imports at the EU border
  - The tax would be applied to the products whose production is in sectors that are at risk of carbon leakage;
  - This tax could be a border tax or customs duty.
2. An extension of EU Emission Trading Scheme to imports
  - It would require the purchasing of emission allowances under the EU ETS by either foreign producers or importers.
3. Carbon tax (e.g. excise or VAT type) at the consumption level
  - The tax would be applied to the products whose production is in sectors that are at risk of carbon leakage;
  - The tax would apply to EU production and to imported produce.
4. The obligation to purchase allowances from a specific pool outside the ETS
  - The allowances would be dedicated to imports which would mirror the ETS price.

Under the European Roundtable on Climate Change and Sustainable Transition ([ERCST](#)) activities, the speaker and his colleagues launched a paper where they tried to unpack the CBAM in the several components. In the second part of the activities, they are already looking at a sectoral assessment to write a BCA proposal. Then they will analyze the EC's CBAM proposal and will

look at a proposal for a framework and pathway for introducing different policy measures to address carbon leakage and competitiveness. Andrei Marcu also mentioned that he and his colleagues study whether there is something typical among different sectors and whether they should be treated equally.

The goal of their sectoral assessment is to set out the objectives of the study and their methodology.

To achieve this, they talk to the representatives of various sectors like chemical, electrical sectors. During their conversation, they try to see if there is a characteristic in each sector that would militate for different types of CBAMs.

They also try to set up a detailed profile of each of the main sectors under discussion for potential inclusion in the scope of the CBAM that:

- includes quantitative and qualitative information on each sector with relevance for the suitability and design of a CBAM;
- presents all data for each sector in a largely uniform format, allowing easier comparison/analysis across sectors;
- offers takeaways for each sector on the implications of sector characteristics for a CBAM.

Their key questions during these sectoral assessments are about the following topics:

- Market structure and dynamics in the specific sector in the EU;
- Environmental considerations in the EU;
- Foreign production: emissions intensity and resource shuffling;
- Trade patterns in the specific sector;
- and some others.

Research methodology includes three steps: decomposition, evaluation, and comparison since they look at their problem from different perspectives.

Design Elements are:

- Coverage of trade flows (options: imports or imports and exports);
- Policy mechanism;
- Geographic scope;
- Sectoral scope (options: to cover only basic-material sector or to go down to the value chain);
- Emissions scope;
- Determination of embedded emissions;
- Calculation of adjustment;
- Use of revenue.

With the Evaluation Criteria, the authors discuss the following aspects:

- Environmental benefits;
- Competitiveness benefits;
- Legal feasibility;
- Technical and administrative feasibility;
- Political feasibility;
- Material neutrality;
- Global environmental benefits.

They also consider the following scenarios during the Scenario-Building stage:

- ‘Most Probable’;
- ‘Play it Safe’;
- ‘Go Getter’.

They also carry out comparisons with alternative instruments. According to Prof. Marcu, these aspects should be considered carefully since it may be important to distinguish the CBAM for different sectors or may not include some sectors to the CBAM regime based on their characteristics.

Prof. Marcu briefly mentioned these key issues and challenges:

- Trade flow coverage (with consideration of the role of European exports and their competitiveness in the foreign markets);

- Free allocation:

Replacing free allocation will face considerable pushback in the EU, making a phased approach more likely. Also, the CBAM may not provide the same level of protection as free allocation does.

- Sectoral scope:

Basic goods with relatively low trade-intensity – such as cement – may offer a good piloting opportunity;

- Avoiding resource shuffling and evasion tactics will be challenging;
- Revenue use:

International revenue transfers face political obstacles since it is unclear what to do with the money;

- Crediting for foreign policies (such as WTO) – a complex question but likely necessary.

After key challenges, the speaker started to talk about high-level takeaways. He derived the following five ones:

1. Context

Europe’s CBAM is being elaborated as several important crossroads are approached.

2. Raising ambition and solving leakage are intertwined

EU's announced global leadership on climate is welcomed and necessary, but unlikely to materialize if no solution to leakage and competitiveness problems is introduced. It is not a sufficient condition, but a necessary one.

### 3. Legal challenges

WTO compatibility and GATT Article XX environmental exemptions – are they constraints? This question requires some implications for BCA design and implementation.

### 4. Complexity makes it impractical for a large number of complex products

### 5. CBAM: a silver bullet?

The EC has high hopes on border carbon adjustment. However, it puts pressure on a useful but not a silver bullet instrument since several problems may keep it from ever being adopted. Thus, the CBAM needs a framework emerging at different levels of governance in the EU - internal vs external.

ERCST started an exercise aimed at estimating the economic costs that an EU CBAM could potentially impose – as an additional tax burden – on importers (or foreign exporters) of products to the EU market. Their analysis has considered different design options of the CBAM instrument, assessing how the key challenges could be addressed:

- Each scenario depicts a specific storyline influencing the design of the CBAM;
- Each design approach has consequences on the total additional costs imposed by sector/product and on the degree of legal feasibility under World Trade Organization (WTO) trade law.

The speaker then revealed that he and his colleagues started their analysis by investigating the cost of the CBAM for various countries by doing a static model with several assumptions. He presented some of them in the following list:

- The most carbon-intensive and imported products would likely be affected;
- The CBAM would initially cover imports of several selected products and would be gradually extended;
- The additional cost imposed on imports could be based on a default value (for example, the average carbon intensity of EU producers) or depend on the carbon content of imported products;
- One way to prevent carbon leakage would be to include imports under the EU ETS;
- The CBAM should be fully compliant with WTO rules.

The speaker and his colleagues' six scenarios are presented in the table below:

Scenario	Approach to calculating CBAM	Explanatory notes
(1)	$EUA_{CO_2 price} * EU_{CO_2 intensity}$	<ul style="list-style-type: none"> <li>Carbon price for imports to EU equals price of EU ETS allowances (<math>EUA_{CO_2 price}</math>)</li> <li>Exporters emissions determined based on average <math>CO_2</math> intensity of EU producers (<math>EU_{CO_2 intensity}</math>)</li> </ul>
(2)	$EUA_{CO_2 price} * non - EU_{CO_2 intensity}$	<ul style="list-style-type: none"> <li>Carbon price for imports to EU equals price of EU ETS allowances (<math>EUA_{CO_2 price}</math>)</li> <li>Exporters emissions determined based on average <math>CO_2</math> intensity in exporting countries (non-<math>EU_{CO_2 intensity}</math>)</li> </ul>
(3)	$EUA_{CO_2 price} * \Delta_{CO_2 intensity}$	<ul style="list-style-type: none"> <li>Carbon price for imports to EU equals price of EU ETS allowances (<math>EUA_{CO_2 price}</math>)</li> <li>Exporters pay for the part of average <math>CO_2</math> intensity in exporting countries in excess to the average EU <math>CO_2</math> intensity (<math>\Delta_{CO_2 intensity}</math>)</li> </ul>
(4)	$\Delta_{CO_2 price} * EU_{CO_2 intensity}$	<ul style="list-style-type: none"> <li>Crediting for foreign carbon pricing policies (carbon tax or ETS), carbon price for imports equals the difference between EU ETS allowance price and carbon prices in exporting countries (<math>\Delta_{CO_2 price}</math>)</li> <li>Exporters emissions determined based on average <math>CO_2</math> intensity of EU producers (<math>EU_{CO_2 intensity}</math>)</li> </ul>
(5)	$\Delta_{CO_2 price} * non - EU_{CO_2 intensity}$	<ul style="list-style-type: none"> <li>Crediting for foreign carbon pricing policies (carbon tax or ETS), carbon price for imports equals the difference between EU ETS allowance price and carbon prices in exporting countries (<math>\Delta_{CO_2 price}</math>)</li> <li>Exporters embedded in imports determined based on the average <math>CO_2</math> intensity in exporting countries (non-<math>EU_{CO_2 intensity}</math>)</li> </ul>
(6)	$\Delta_{CO_2 price} * \Delta_{CO_2 intensity}$	<ul style="list-style-type: none"> <li>Crediting for foreign carbon pricing policies (carbon tax or ETS), carbon price for imports equals the difference between EU ETS allowance price and carbon prices in exporting countries (<math>\Delta_{CO_2 price}</math>)</li> <li>Exporters pay for the part of average <math>CO_2</math> intensity in exporting countries in excess to the average EU <math>CO_2</math> intensity (<math>\Delta_{CO_2 intensity}</math>)</li> </ul>

Figure 1. Six possible scenarios (screenshot taken from the speaker's presentation)

They assume that the CBAM will be based on 2 components: the carbon price and the carbon content of imports.

They also presuppose that each design option would have different implications in terms of legal feasibility (WTO rules), technical and administrative feasibility, and political and diplomatic feasibility (risk of controversy).

He also made several additional comments on the scenarios:

- The first scenario would treat all imports equally and no less favorably than the average European producer;
- Foreign producers could be granted the possibility to individually prove that they are cleaner than the default emission intensity.

The results of the analysis for the Russian Federation are presented in the picture below:

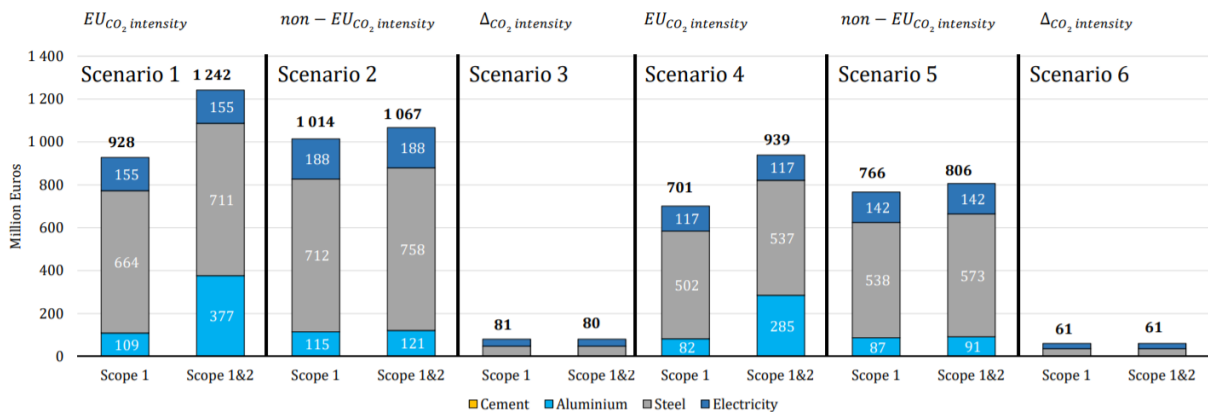


Figure 2. The results of the six scenarios analysis (screenshot taken from the speaker's presentation)

In all of the scenarios, the key factors are trade volumes and emissions.

For the first three of them, the average annual additional costs can vary considerably across sectors and the adoption of EU default emission intensities would generate the highest total costs when including Scope 1 (pay the EU price with EU intensity) and Scope 2 (pay the EU price with different intensity) emissions. Also, the largest tax burden is expected on steel since it is a highly traded product.

For the second three of them, crediting for foreign carbon pricing policies could significantly reduce the total tax burden compared to the first three ones.

Moreover, the adoption of EU default emission intensities would generate the highest total costs when including Scope 1 and Scope 2 emissions.

The speaker once more stated that the design is going to make a big difference since it is still unclear what the form of the final solution will be.

At the end of his presentation, the speaker mentioned several key observations and issues:

1. The EU CBAM could have highly diversified impacts depending on the adopted design, sectoral and emission scope (up to 1.2 €billion for Russia in 2023).
2. The CBAM is a complex policy tool and numerous issues need to be addressed.
3. Use of EU or foreign default emission intensities

He believes that it should be product-specific and change over time to reflect the technological change.

There are problems for implementation related to data availability, especially in foreign countries such as Viet Nam and Thailand.

4. Allow for the process to challenge carbon intensity default values

The question is whether foreign producers could be granted the possibility to individually prove that they are cleaner than is required by the set threshold. If it is granted, it could potentially reduce the tax burden imposed by the EU CBAM.

5. Allow for crediting of existing policies in non-EU countries

The question is which policies should be credited: ETS systems, carbon taxes, or other environmental policies.

The second speaker was Igor Makarov who made a special focus on Russia and some applications to Russia. Igor Makarov agreed with the previous speaker that there are a lot of uncertainties with the CBAM and the specific application of it to Russia will depend on its design and scope. The speaker added that they concern many aspects such as:

- Sectors (sectors with the largest carbon leakage intensity - trade intensity multiplied by emissions intensity);

- Countries (“all third countries which are not yet part of an effective carbon pricing scheme, or equivalent measures with similar goals and costs to those of the EU ETS”);
- Form (for instance, buying allowances at the EU ETS);
- Emissions scope (Scope 1 or Scope 1&2);
- Part of carbon footprint covered (full emissions or excess over benchmark);
- Calculation (for each product or based on the average).

Prof. Makarov believes that the CBAM will start with several pilot sectors (not all of them at once). And the most obvious candidates to be these pilot sectors are the ones with the largest carbon leakage intensity: iron and steel, non-ferrous metals, cement, and potentially electricity. According to the speaker, Russia is one of the export leaders to the EU in all listed sectors. So he expects that the CBAM will start with Russia since it is not a participant of the effective carbon regulation scheme or equivalent measures with similar goals to those of EU ETS.

Here the expert raised the important question that is what would be recognized as “similar goals and costs”. For example, it is unclear what to do in the case of the USA since it has no national carbon price regulations, but many states within it have their own carbon scheme regulations. Another example provided by the speaker was China that has a national carbon regulation scheme but the prices are lower than in the EU so the costs of carbon are different. The last example was Russia that has no carbon regulation scheme but has high energy taxes and these energy taxes might be interpreted as an indirect carbon price.

It is the expert’s opinion that this question is central in the debates whether this measure is protectionism or not.

Igor Makarov strongly believes that the CBAM will not be implemented in 2022 or 2023 because there are a lot of difficulties with it. He listed them:

- Real carbon leakage is very small;
- There are many opportunities to protect industries affected by carbon leakage;
- To make CBAM WTO-compatible, it would be necessary to link it with the EU ETS and reform it significantly (the speaker is sure that this one is not a major problem because it is a problem of design and implementation, but it is still an issue worth discussing);
- The reaction of other countries, especially the USA and China.

He also pointed out that the previous attempt to regulate emissions, which was targeted at international aviation, failed. It was substituted by the sectoral regulation afterward.



The speaker then started to talk about how the countries view the CBAM. In his opinion, several Russian officials' perspective is that it is protectionism and/or political weapon, while from the perspective of the EU, it's leveling the playing field and coping with free-riding since the EU companies pay additional costs because of the environmental reasons and their competitors should pay the same costs so it will be fair if they start to pay. However, it is extremely difficult to separate environmental and political reasons so this discussion might be senseless.

The expert pointed out that there are a lot of discussions and estimates of damage to Russian exporters. He presented the following three estimates conducted by different organizations:

1. KPMG with three possible scenarios of the potential damage:

- pessimistic: 50.6 bn euro in 2022-2030;
- baseline: 33.3 bn euro in 2025-2030;
- optimistic: 6 bn euro in 2028-2030.

2. BCG with the potential damage of 3-4.8 bn dollars per year, including damage to oil and gas in the amount of 1.4-2.5 bn dollars per year and damage to metals in the amount of 0.4-0.6 bn dollars per year.

3. Institute of Economic Forecasting of Russian Academy of Science (RAS) with the potential damage of 3.6 bn euros per year.

In Igor Makarov's opinion, these estimates are extremely pessimistic and likely to overestimate the damage. There are several reasons for this such as:

- oil and gas industries are unlikely to be included to the CBAM while in the provided estimates they are included;
- re-orientation of exports to other countries would decrease the costs;
- some competing countries are also likely to be affected.

The expert paid some attention to the fact that the CBAM is only part of the story of the green transition in the world economy. Other countries may create similar regulations to the CBAMs and already there are several other barriers (financial barriers, for instance) for the Russian exporters. It means that they are quite vulnerable to the ongoing green transition, in the expert's opinion.

The speaker suggested several potential responses to overcome the presented issue:

1. An option to do nothing and wait – to wait for the final CBAM design, analyze it and then start to think about what to do

It is dangerous and counterproductive because Russia definitely is going to face similar barriers in other countries and sectors and it is better to be prepared.

2. An option to hope for the WTO

It may be regarded as irrational optimism and “window dressing” since the EU will make sure that the final CBAM design will be compatible with the WTO rules.

3. An option to introduce its own emissions regulation scheme

It will start some efforts which may be like the CBAM and will mitigate the damage from the it. However, according to the exports from the Institute of Economic Forecasting, if it is introduced just to exported goods, it would probably be interpreted as an export duty which is not compatible with the WTO rules. And if it is introduced to all the goods in affected industries, it would probably be more costly for Russian business than the CBAM.

But the expert stressed that what more costly for business does not mean worse for the national economy since it is two different situations if Russian companies pay to the EU or to the Russian budget. Also, the regulation may be introduced in a fiscally neutral way if some taxes are substituted by carbon taxes. And finally, carbon emissions regulation is much more important for Russian than just a response to the CBAM. The expert once again pointed out that Russia should look at the whole picture to the number of risks is much bigger than just the CBAM.

At the end of his speech, Igor Makarov showed his joint results with MIT for Russia’s exports of fossil fuels. Their results are presented below:

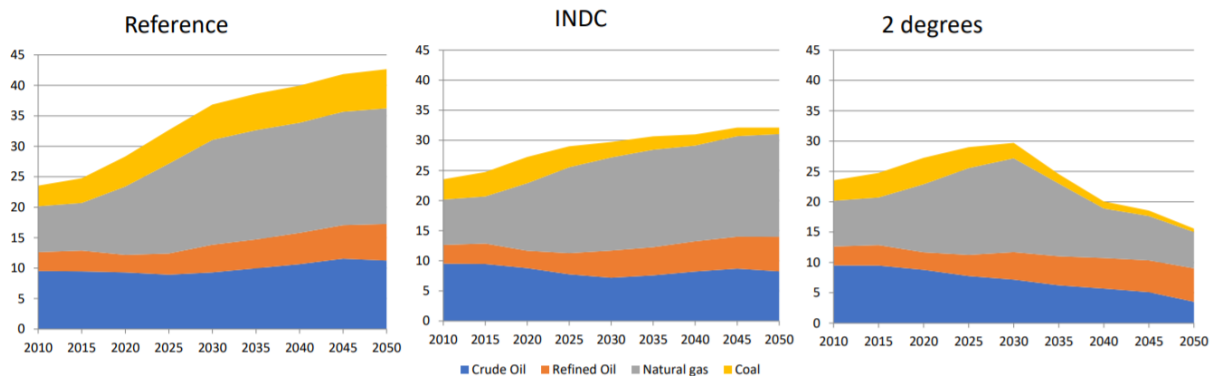


Figure 3. Russia's exports of fossil fuels (screenshot taken from the speaker's presentation)

In any scenario of global green transition (Reference, Intended Nationally Determined Contributions (INDC), and 2 degrees scenarios) considering the Paris Agreement, Russian energy exports in 2030 are 20% lower (in energy terms) relative to the Reference scenario. By 2050, the corresponding reduction reaches 25% for INDC and 64% for 2 degrees since the countries are becoming more and more ambitious. The speaker concluded that the global green transition brings much more risks for Russia than just related to CBAM and these risks should be addressed accordingly.

Overall, the two speakers have the same view of the problem. They both see it as a complex task and point out that its realization is still hard to predict. Nevertheless, they are certain that proactive measures should be taken to forecast the potential CBAM and other measures influence on Russia.

The online recording of the seminar can be found [here](#).

The presentation of Andrei Marcu can be found [here](#).

The presentation of Igor Makarov can be found [here](#).

The news about this seminar can be found on the NRU HSE website [here](#).