



The Natural Monopolies Research Institute

Carbon border adjustment mechanism in the EU: risks of discrimination for Russian exporters

July 2021



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- Our mission is to provide analysis on domestic and global economic policy issues based on scientific approach. More than 500 completed research projects in 15 years makes IPEM strong player with reputation of independent thought and strong expertise in such vital areas as energy and transportation sectors, economic forecasting, ecology and technology.
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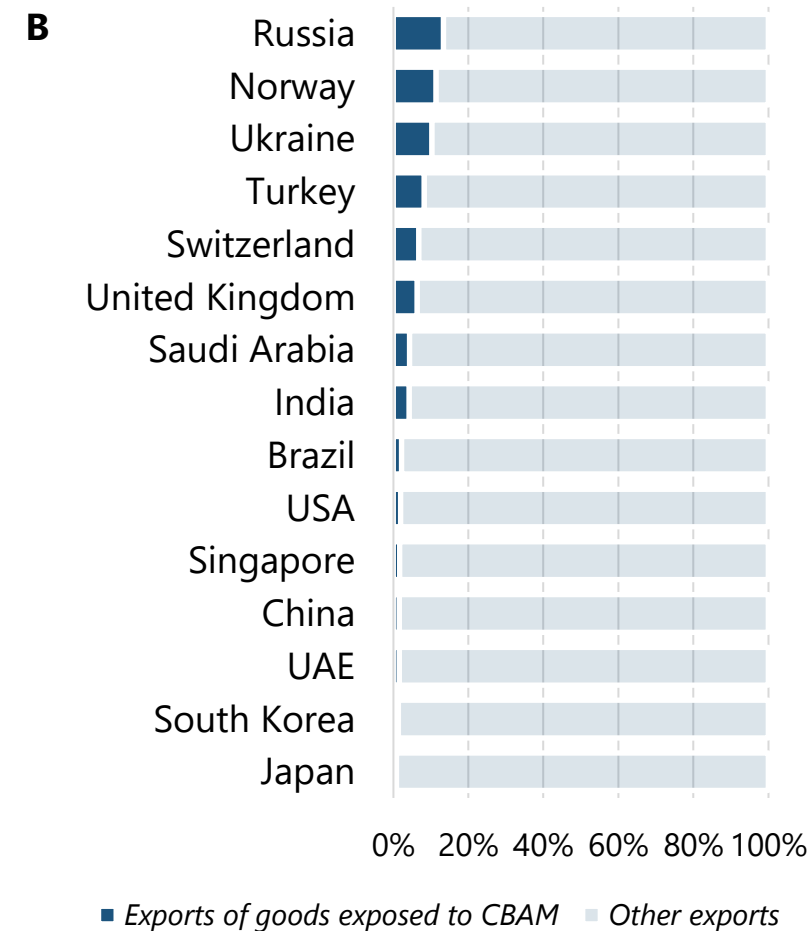
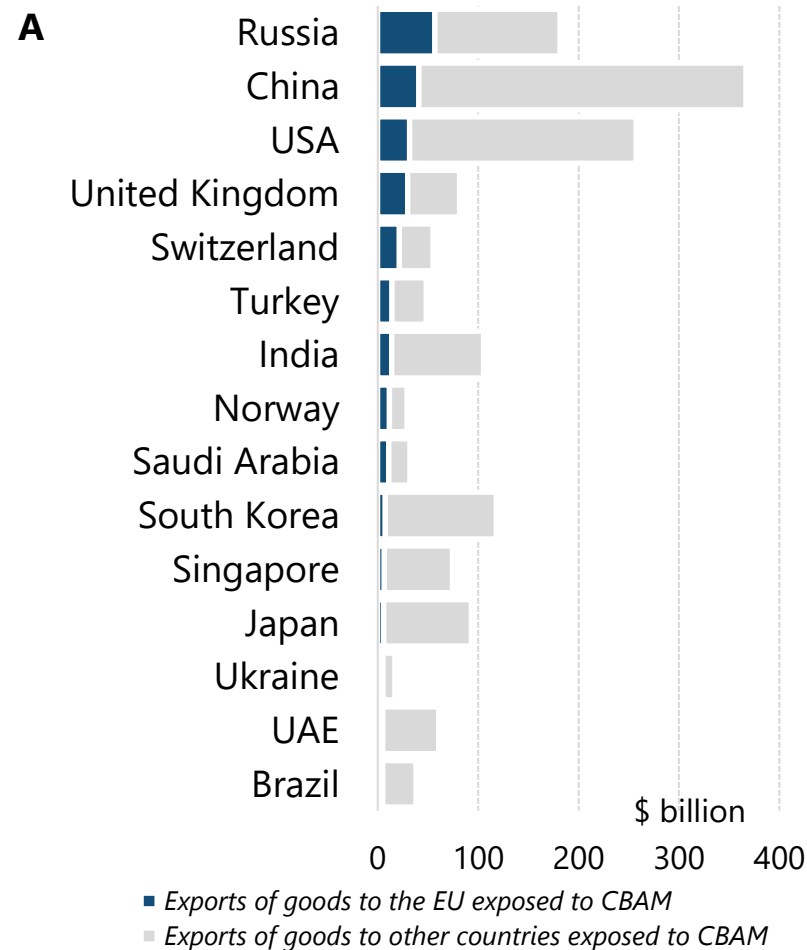
CBAM is a risk for the Russian economy

- Since 2019 the European Union (EU) is in the process of establishing a carbon border adjustment mechanism (CBAM). **The European Commission plans to present its CBAM proposal on 14 July, 2021.**
- CBAM in the EU aims to **price greenhouse gas (GHG) emissions embodied in imports of certain goods.**
- CBAM is a **potentially discriminatory mechanism.** It bears significant **risks** for all EU trading partners **especially for Russia.** **Russia has the most significant volume of exports to the EU exposed to the planned EU CBAM.**

Russia is the most at risk of CBAM introduction

Comparing to other EU trading partners Russia has:

- The most significant volume of exports to the EU exposed to CBAM – **52–57 \$ billion** (based on 2019 data depending on options for CBAM coverage),
- The largest share of exports exposed to CBAM in the total volume of country's exports – **12–13%.**



The volume of Russia's and other countries' exports to the EU exposed to CBAM: A) in absolute terms, B) in relative terms

Based on data from the Federal Customs Service and International Trade Centre



CBAM: impact on Russia's exports

EU climate policy threatens the supply of non-resource energy-intensive goods that are Russia's second largest export group (after raw materials).

CBAM is likely to cover:

- Russia's **non-resource exports** produced by those sectors that **are already covered by the European Union Emissions Trading System (EU ETS)**:
 - steel industry,
 - production of coke and oil refining,
 - production of chemicals,
 - pulp and paper industry,
 - production of raw materials for construction,
 - electricity generation.

} energy-intensive manufacturing industries

The volume and structure of Russia's exports to the EU exposed to CBAM in 2019, \$ billion

Based on data from the Federal Customs Service, Russian Export Center's classification of goods

Industry	Non-resource energy-intensive goods	Non-resource non-energy goods		
		raw materials	semi-finished goods	finished goods
Production of coke and oil refining	37,28	-	-	-
Pulp and paper industry	-	-	0,51	0,05
Production of chemicals	-	4,87	0,08	0,03
Production of raw materials for construction	-	0,05	0,21	0,09
Steel industry	-	9,45	3,43	0,16
Electricity generation	0,63	-	-	-
All industries	37,91	14,37	4,23	0,33

Note – colours show different options for the coverage of CBAM (ERCST¹), see further):

- Upstream
- Upstream+ electricity generation
- Upstream+ electricity generation + downstream

¹) ERCST – European Roundtable on Climate Change and Sustainable Transition is an independent non-profit organization working on European and Global climate change policies.



CBAM: legal and technical aspects

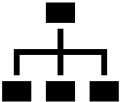


CBAM options don't impact on the scale of effects and adaption measures

Option	Description	Legal feasibility	Technical and administrative feasibility
Consumption Tax	Importers and exporters pay a tax (indirect, similar to VAT) calculated based on the volume of CO ₂ emissions and the payment rate	Requires unanimous vote in the Council	Relatively easier to implement due to absence of trading component, however synchronization of payment rates with EU ETS (if it stays in place) is required
Customs Duty	Importers are required to pay a customs duty calculated based on the volume of CO ₂ emissions and the payment rate	Can be adopted with qualified majority vote	May be easiest to implement due to ability to build on existing customs infrastructure, however EU's customs duties are close to maximum allowed under WTO / GATT rules and it limits the possibility of their further growth
Extension of the EU ETS	Importers are required to purchase allowances under the EU ETS, European producers are already covered by the EU ETS	Can be adopted with qualified majority vote, but potentially riskier under WTO rules	Relatively more difficult to implement due to integration in / link to EU ETS market
Notional ETS	Importers are required to purchase allowances from a separate pool outside the EU ETS		Relatively more difficult to implement due to the need to create a new emissions trading system



Options for the EU CBAM

The scale of CBAM's effects on the Russian economy depends on its key design elements

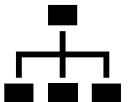


Design elements	Option	Description
 Sectoral scope	Upstream	Energy-intensive raw materials: <ul style="list-style-type: none"> ▪ oil products and coke, ▪ pig iron and non-alloyed steel, ▪ primary aluminium, ▪ ammonia, fertilizers, ▪ lime, concrete etc.
	Upstream + electricity generation	+ electricity
	Upstream + electricity generation + downstream	+ semi-finished and finished energy-intensive goods: <ul style="list-style-type: none"> ▪ Alloyed steel, rolled steel, ▪ products made of ferrous and non-ferrous metals, ▪ pulp, paper, cardboard etc.
 Emissions scope	Scope 1	Direct emissions
	Scope 1, 2	Direct and indirect emissions from purchased electricity, heat and steam
	Scope 1, 2, 3	Direct emissions
		Indirect emissions from purchased electricity, heat and steam All other indirect emissions
Scope 1, 3	Direct and all other indirect emissions	
 Determination of embodied carbon	Benchmark	Best practice
		European average Global average
	Direct calculation	Actual GHG emissions

Based on ERCST's reports and papers



Most probable CBAM design

The main combinations of CBAM elements are scenarios to determine CBAM's effects of the Russian industry

Design elements	«Most safe»	«Most probable»	«Most ambitious»	«Optimal for a pilot phase»
 Sectoral scope	Upstream (production of energy-intensive raw materials)	Upstream + electricity generation	Upstream + electricity generation + downstream (production of semi-finished and finished goods)	All sectors and sub-sectors deemed to be exposed to a significant risk of carbon leakage under the EU ETS, including downstream
 Emissions scope	Direct emissions (Scope 1)	Direct and indirect emissions from purchased electricity, heat and steam (Scope 1, 2)	Direct and all indirect emissions (Scope 1, 2, 3)	Direct and all other indirect emissions (Scope 1, 3)
 Determination of embodied carbon	Benchmark (best practice)	Benchmark (European average)	Product-based approach	Benchmark (Global average)

Based on ERCST's reports and papers



Methodology of assessing CBAM's effects on the Russian economy

The methodology of quantifying economic effects on goods allows to differentiate CBAM's effects on different groups of exported goods and CBAM's designs

The methodology of quantifying economic effects:

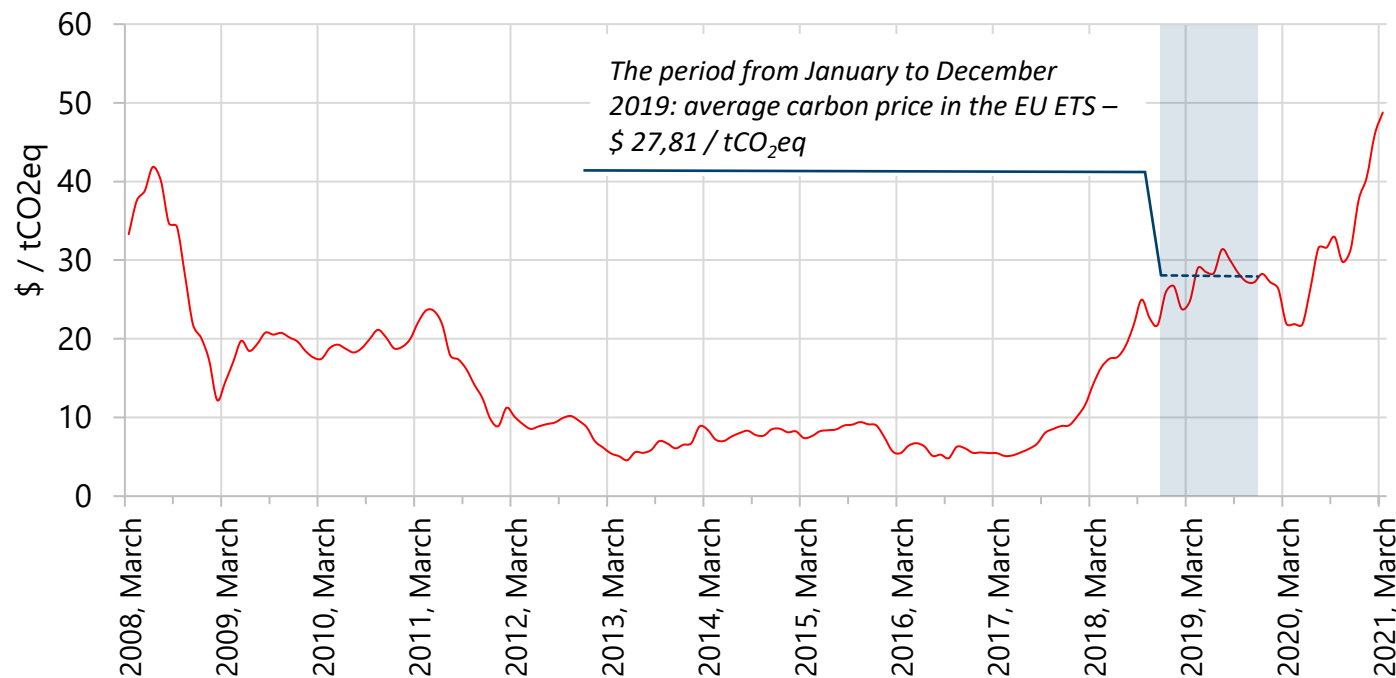
- certain groups of goods exported to the EU (up to 4 characters of EAEU CN of FEA),
- assessment of actual direct and part of indirect GHG emissions per unit of exported goods,
- assessment of GHG emissions based on the quantity of exported goods and potential CBAM payments.

Data sources:

- the Federal Customs Service,
- Rosstat,
- national reports of the Russian Federation on GHG emissions.

The amount of potential CBAM payments is based on:

- average carbon price in the EU ETS in 2019 – **\$27,81 / tCO₂eq**



Carbon price in the EU ETS in 2008–2021

Based on data from International Carbon Action Partnership

CBAM's direct effects on the Russian economy






CBAM's direct economic effects are associated with the emergence of a new payment when exporting to the EU. It will affect both the exporters' revenues and the volume and structure of Russia's exports due to changes in competitiveness of supplies from different countries to the European market.



Additional costs of Russian exporters

Costs of Russian exporters could amount to \$0,7-1,8 billion depending on sectoral and emissions scope of CBAM.

Potential costs of Russian exporters depending on emissions scope of CBAM, \$ billion

			Scope 1	Scope 1, 2	Scope 1, 2, 3*	Scope 1, 3*
 Upstream	27% of exports to the EU \$52,0 billion	85% of emissions	0,70	1,12	1,34	0,90
	Oil products, coke, pig iron, non-alloyed iron, aluminium, ammonia, fertilizers etc.					
 + electricity generation	28% of exports to the EU \$52,6 billion	96% of emissions	0,83	1,26	1,48	1,05
	Upstream + electricity					
 + Downstream	30% of exports to the EU \$57,2 billion	100% of emissions**	0,86	1,31	1,77	1,30
	Upstream + electricity + alloyed iron, rolled iron, products made of ferrous and non-ferrous metals, pulp, paper, cardboard etc.					

Note:

- 1) * – taking into account Scope 3 emissions only for ferrous metallurgy,
- 2) ** – 100% of emissions is the volume of emissions embodied in all exported goods exposed to the EU CBAM with the maximum coverage.

3) Colours show the following scenarios:

	«Most safe»		«Most ambitious»
	«Most probable»		«Optimal for a pilot phase»



Additional costs of Russian exporters – II

Exporters of **oil products, chemicals and steel** will face the maximum potential costs.

Assessments of potential CBAM payments for different industries (max sectoral coverage) and different options of emissions scope*, \$ million

Industry	Scope 1	Scope 1, 2	Scope 1, 2, 3	Scope 1, 3
Pulp and paper industry	1,0	20,2	-	-
Production of coke and oil refining	249,2	401,0	-	-
Production of chemicals	257,0	379,2	-	-
Production of raw materials for construction	2,0	2,3	-	-
Steel industry	205,2	365,2	825,6	644,9
Power generation, gas and water supply industry	141,7	141,7	-	-
Total	856,1	1309,7	1770,0	1295,8

Note:

- 1) part of Scope 3 emissions were assessed only for ferrous metallurgy.
- 2) * – different options of sectoral and emissions scope of CBAM are shown on Slide 6.



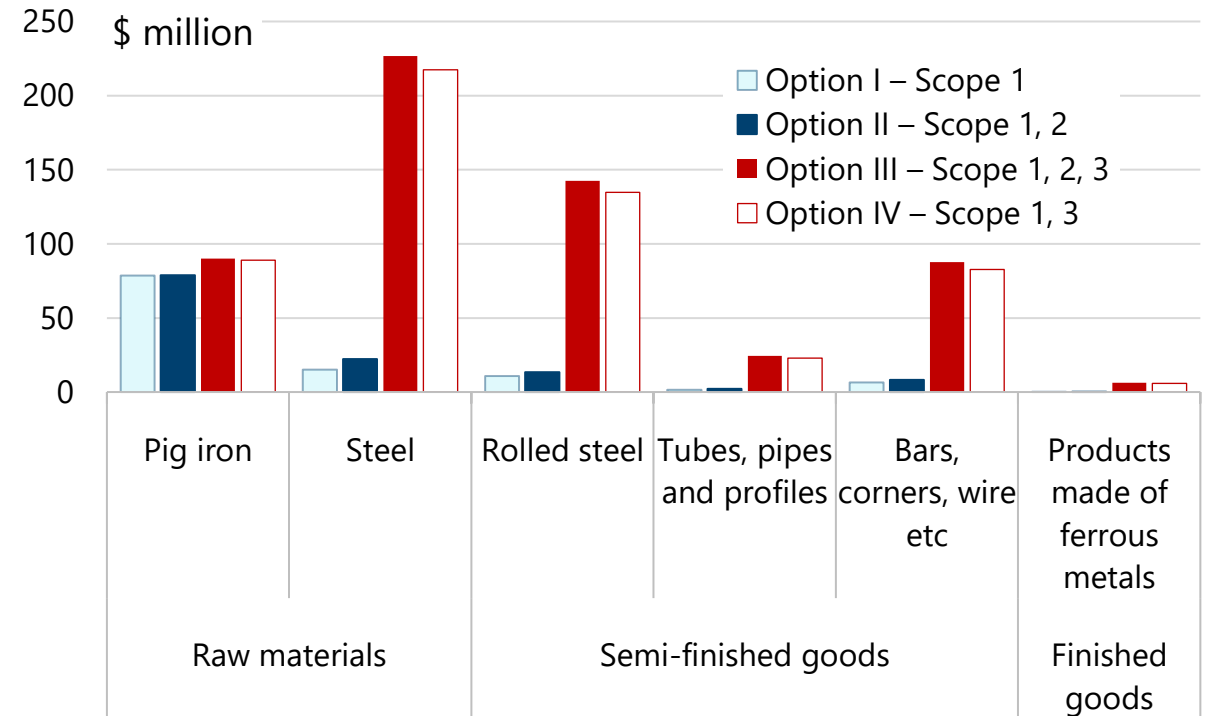
Additional costs of Russian exporters – III

In comparison with other CBAM elements **emissions scope** has a more significant impact on the financial burden.

Difference in exporters' costs when CBAM has the minimum and maximum emissions scope reaches **\$0,6-0,9 billion** depending on the covered sectors (Slide 10).

The maximum emissions scope implies taking into account **Scope 3 emissions**. Compared to the coverage of Scope 1 + Scope 2 emissions (for example, for ferrous metallurgy) it will lead to higher costs of exporters of:

- Semi-finished goods – **10+ times more**,
 - Finished goods – **20+ times more**.
- } Downstream



Comparison of potential payments for ferrous metallurgy for different options of emissions scope

Options for reducing risks for Russia are:

- to prevent the extension of CBAM emissions scope to **Scope 3 emissions** and / or
- to prevent the extension of CBAM sectoral scope to the production of **semi-finished and finished goods (downstream)**.



Additional costs of Russian exporters – IV

Applying benchmarks entails the significant risk of discrimination for a range of companies comparing to European producers.

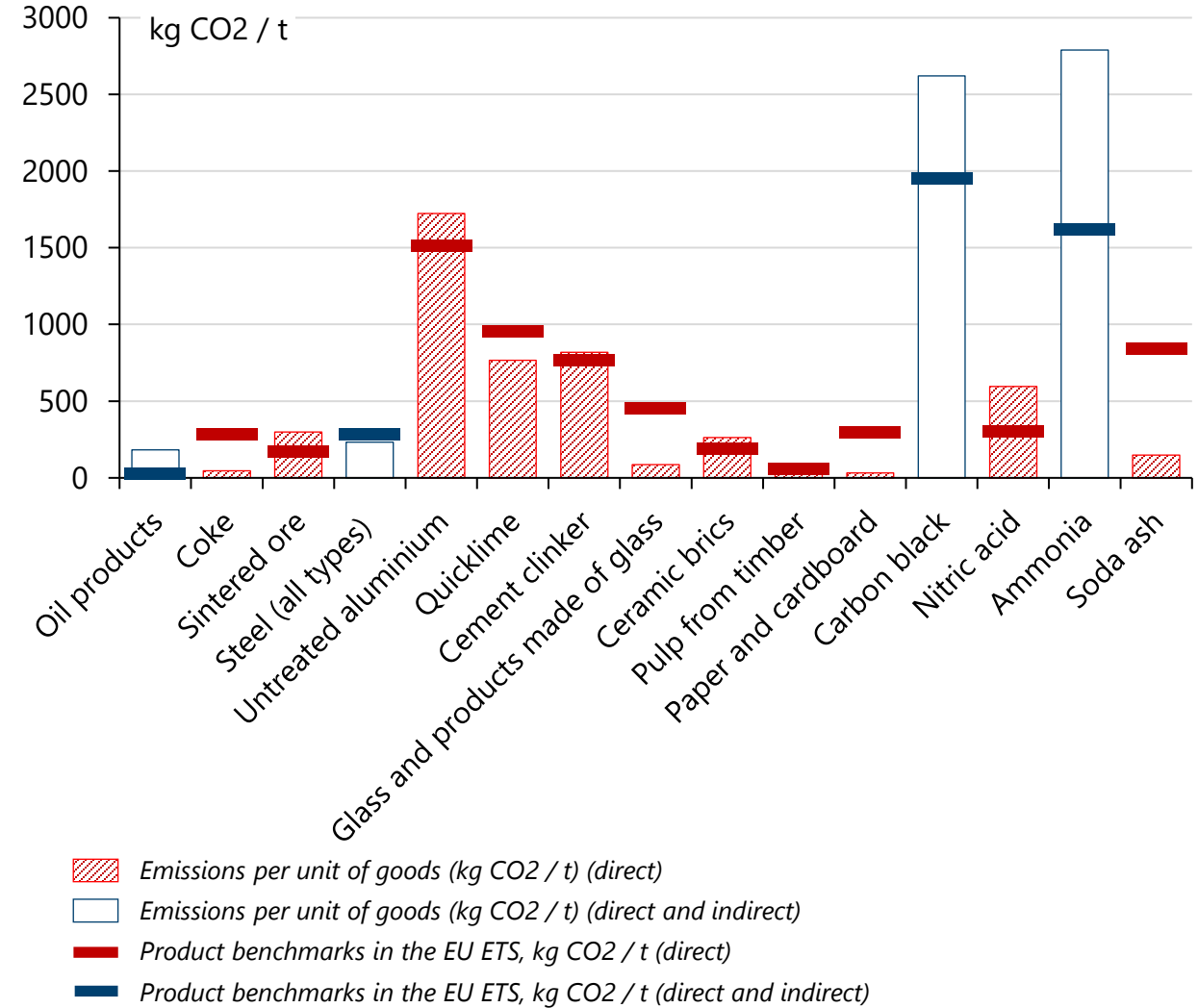
Two possible approaches under CBAM:

1) Payment for GHG emissions exceeding the benchmark:

- Carbon footprint of Russian goods compared to current benchmarks in the EU ETS (in general):
 - raw materials – above the benchmark,
 - semi-finished goods – below the benchmark.
- Current benchmarks in the EU ETS **aren't suitable** for CBAM (**different process boundaries**).

2) Payment for GHG emissions based on the single benchmark for all producers :

- Discrimination of individual companies which carbon footprint is below the benchmark.



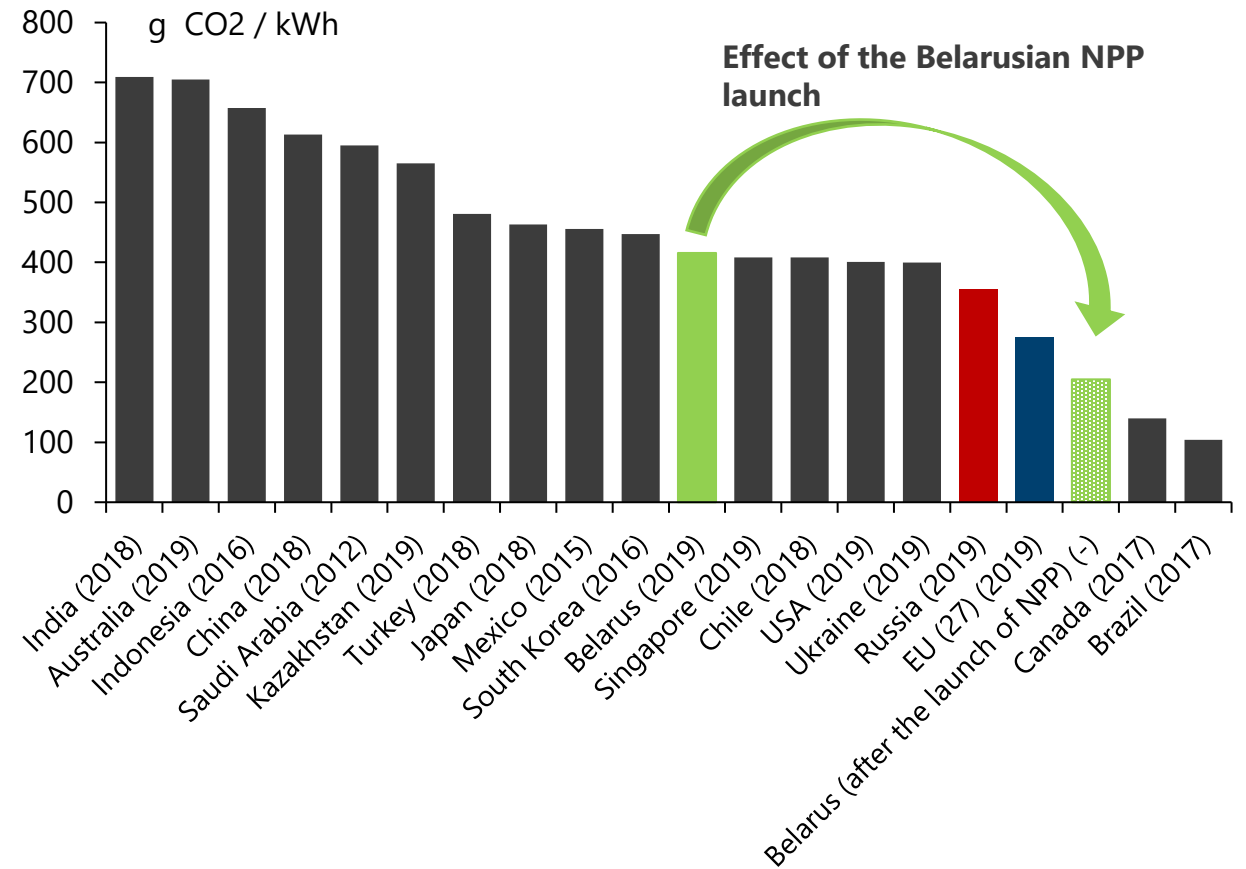
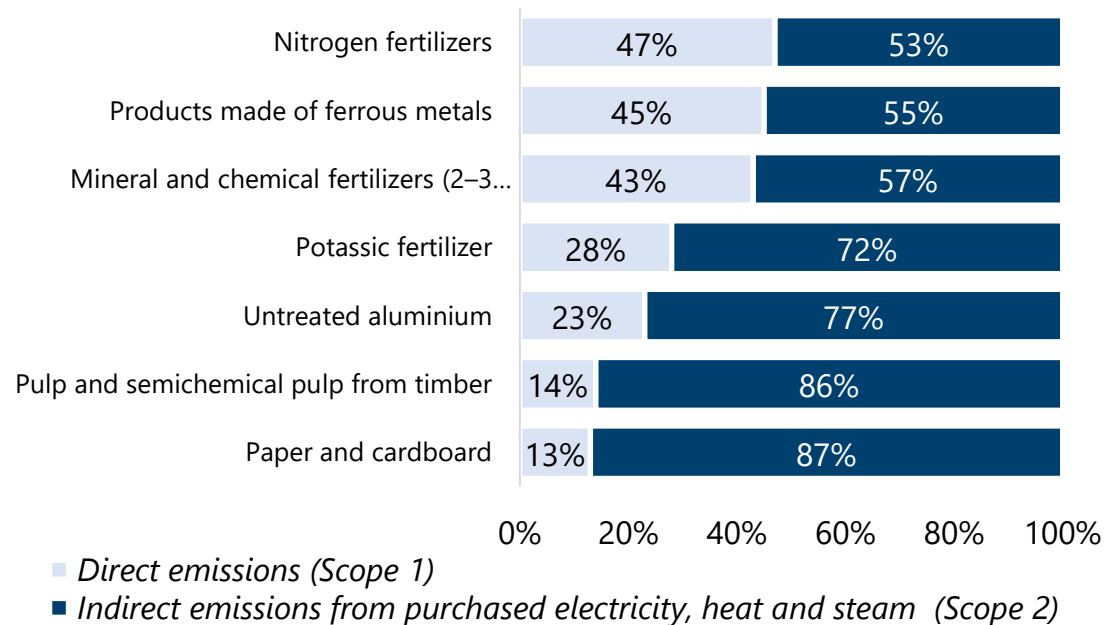
Comparison of emissions embodied in production of goods with current benchmarks in the EU



Loss of market share due to declining competitiveness of Russian exporters

CBAM with the coverage of Scope 2 emissions could lead to declining competitiveness of Russian companies in comparison with companies from countries with low-carbon electricity generation

Goods with significant Scope 2 emissions like **pulp, paper, aluminium, products made of ferrous metals, mineral fertilizers** are at risk.



Carbon footprint of electricity in the world's largest economies and neighboring countries of the EU

Based on data from national reports on GHG emissions, national statistical agencies and other sources

Note – the launch of carbon-free generation facilities could lead to a significant drop in the carbon footprint of electricity. For example, the first unit of the Belarusian nuclear power plant (NPP) was launched in June 2021 and the second unit will be launched in 2022.



Decrease in the volume of exports and product diversification of non-resource exports

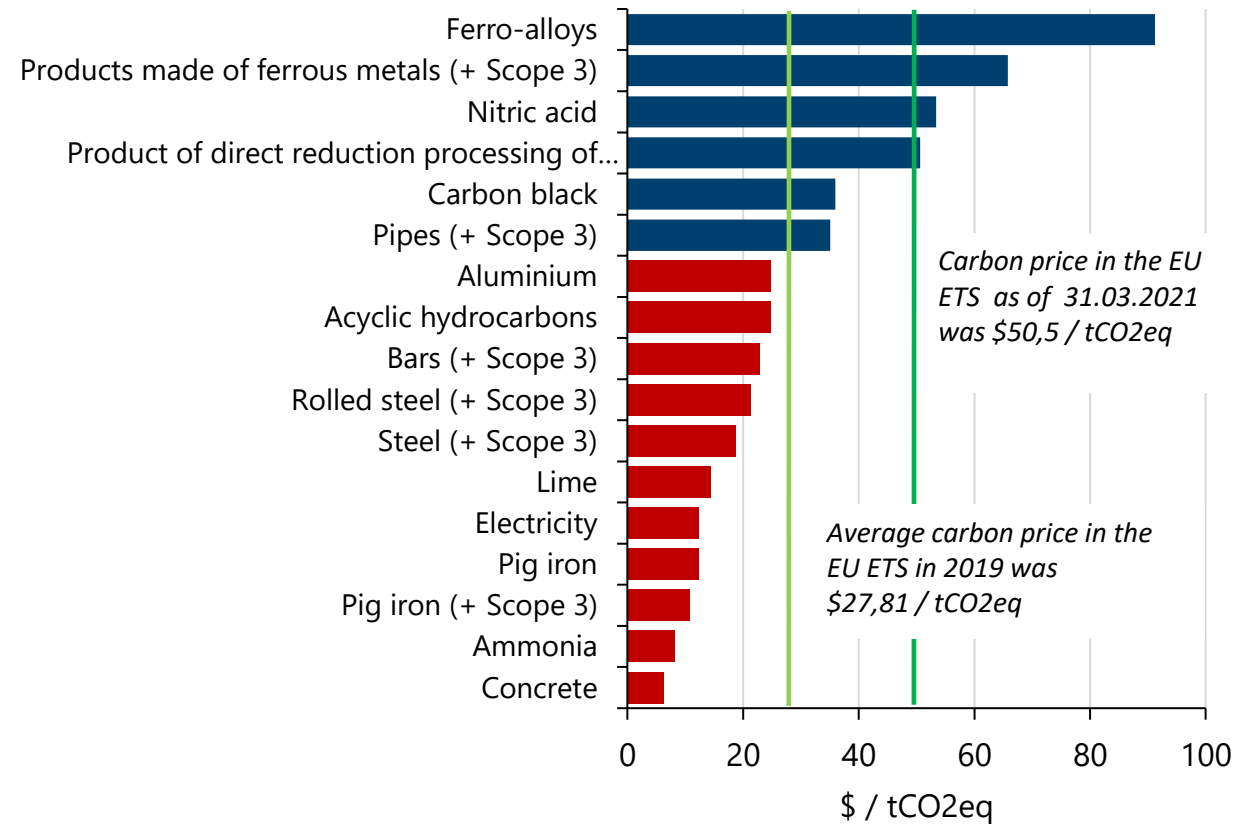
For a range of goods CBAM could become the key factor determining supply profitability and competitiveness in the EU market

The most vulnerable to CBAM carbon-intensive goods are:

- electricity,
- pig iron,
- raw material for construction (lime, concrete),
- ammonia.

CBAM payment threshold* for these goods amounts to \$ 6 – 14 / tCO₂eq (far lower than the carbon price in the EU ETS).

Production of chemicals (carbon black, acyclic hydrocarbons), aluminium, pulp and wood pulp are also at risk (up to \$45 / tCO₂eq).



CBAM payment threshold* in comparison with the carbon price in the EU ETS

Note:

1) * – CBAM payment threshold is the estimated payment rate at which the expected costs of CBAM exceed 10% of the export value,

2) «+ Scope 3» – including Scope 3 emissions (only for ferrous metallurgy).



Indirect effects of CBAM on the Russian economy

Indirect effects of CBAM could manifest themselves in decline in raw materials production due to lower demand from sectors exposed to the mechanism

This **risk is most apparent** for goods like:

- **electricity**
- **heat**
- **oil**

Additional indirect effects of CBAM amounts to **\$0,4 billion** a year.

The total direct and indirect effects of CBAM on the Russian industry amounts to **\$2,2 billion**.

Potential decrease in electricity and heat generation and oil production

Based on calculations made using data from Rosstat and Russian energy agency

Economic activity	Potential decrease in production		Production volume in 2019 (\$ billion)	Potential decrease in production (\$ million)	
	Excluding Scope 3 emissions for ferrous metallurgy	Including Scope 3 emissions for ferrous metallurgy		Excluding Scope 3 emissions for ferrous metallurgy	Including Scope 3 emissions for ferrous metallurgy
Electricity generation	0,19%	0,22%	61,3	115,4	136,3
Heat generation	0,10%	0,11%	25,2	24,9	28,6
Oil production		0,13%	170,2		227,0
Total	-	-	256,7	367,3	391,9



How to address the discrimination of Russian exporters?

- **To participate in the international discussions at all stages of CBAM development** and focus the EU's attention on the feasibility of **implementing a less discriminatory CBAM design for Russian exporters:**
 - limiting the sectoral coverage of CBAM to a small list of carbon-intensive goods with a simple supply chain,
 - suspension of CBAM implementation for sectors that will continue receiving free allowances under the EU ETS,
 - limiting the emissions scope of CBAM to direct emissions (Scope 1),
 - using benchmarks only to determine direct emissions (Scope 1),
 - if CBAM will cover indirect emissions from purchased electricity, heat and steam (Scope 2) – using actual data to determine them,
 - securing the producer's right to challenge the default if the can beat it,
 - taking into account different climate policies of importing countries, including carbon offsets.
 - mutual recognition of results of monitoring and verification with the EU.
- **To advocate that WTO rules shouldn't be changed** to accommodate the implementation of CBAM.
- **To develop internal regulatory framework** to allow producers to reduce their carbon footprint:
 - development of national methodology of calculating indirect emissions,
 - development of mechanisms to minimize the carbon footprint of consumed electricity and heat (green certificates),
 - support of «green» and «low carbon» power generation (primarily hydro and nuclear power plants and highly efficient combined cycle gas turbines in thermal power plants),
 - calculation and publication of the effective carbon price for electricity and heat
 - stimulation of voluntary compensatory projects.



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