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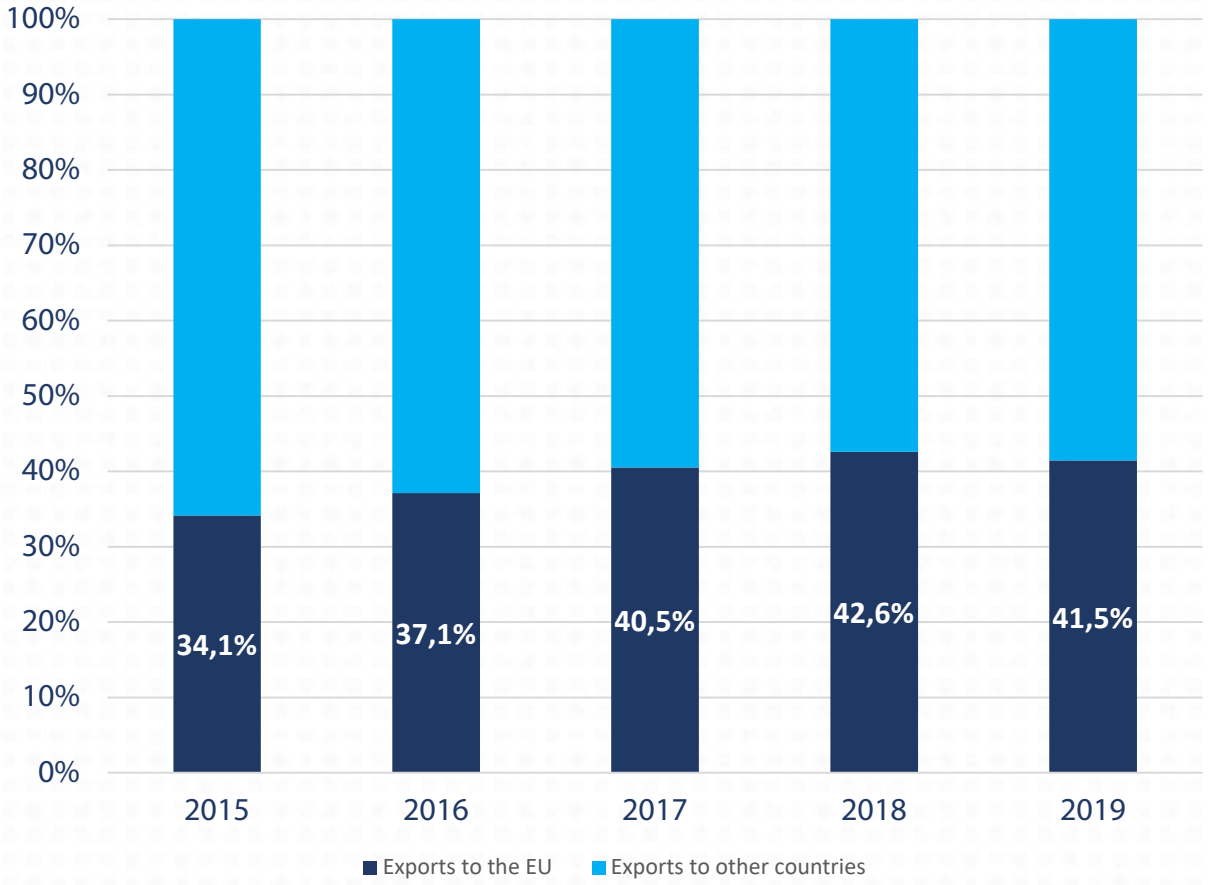
ASSESSED IMPACT OF THE CARBON BORDER ADJUSTMENT MECHANISM ON UKRAINIAN EXPORTS

Ukraine's economy is highly internationalized — the share of exports in its 2019 GDP reached 32.6%

Ukrainian exports geography



Source: State Statistics Service of Ukraine

- Ukraine's key trade partner is the EU.
- In 2015–2019, the share of the EU in the structure of Ukraine's exports increased from 34.1% to 41.5%.
- In monetary terms, Ukraine's exports in the same period increased from $13.0 billion to $20.8 billion.
- Trade restrictions that the EU imposes on imports create barriers to:
  - production growth in Ukraine;
  - increase in currency earnings and tax revenues;
  - maintaining employment and personal income levels.

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Carbon border adjustment (CBA)

Definition	CBA is a fee* imposed on carbon-intensive products imported to the EU.
Timeframe	The CBA introduction is provided for by the European Green Deal presented on 11 December 2019. The European Commission proposes to introduce CBA by 2023 at the latest.
Goals	1) Prevent movement of carbon-intensive production to jurisdictions with less strict environmental standards (carbon leakage), thus facilitating CO2 emissions reduction at the global scale. 2) Ensure that European producers and importers have equal conditions for competition (European producers pay for their CO2 emissions under the EU emissions trading system, while importers pay no such fees, which gives them an advantage);
Scale	According to the European Commission's forecast, CBA will bring additional €5–14 billion into the EU budget.
Mechanism	The procedure for calculation and collection of CBA is now being discussed.

** - special fiscal instrument*

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Potential CBA solutions include, but are not limited to:

1. Taxation of producer-specific direct CO2 emissions

The amount of CBA depends on the actual volume of emissions produced by the exporter, and the market price of the greenhouse gas emissions allowances at the time of the product delivery.

2. Taxation of producer-specific estimated direct CO2 emissions

The volume of emissions that the exporter is expected to produce is calculated based on the sector-average emissions per ton of product and the exporter's output. The market price of the greenhouse gas emissions allowances as on the time of delivery is used for the purpose of calculating CBA.

3. Taxation of the difference between the country-specific sector-average direct CO2 emissions and the same in the EU

The amount of CBA depends on that difference and the market price of the greenhouse gas emissions allowances at the time of the product delivery.

4. Taxation of direct and indirect CO2 emissions

The amount of CBA is calculated by multiplying sector-average direct and indirect emissions by the market price of the greenhouse gas emissions allowances.
Indirect emissions include: a) energy-related CO2 emissions; b) CO2 emissions of all the suppliers in the production chain.

GMK CENTER'S ASSUMPTIONS

- Only direct CO2 emissions are taxed
- CO2 emissions per ton of product are set based on benchmark companies
- The price of CO2 allowances is set at €22.2/ton.

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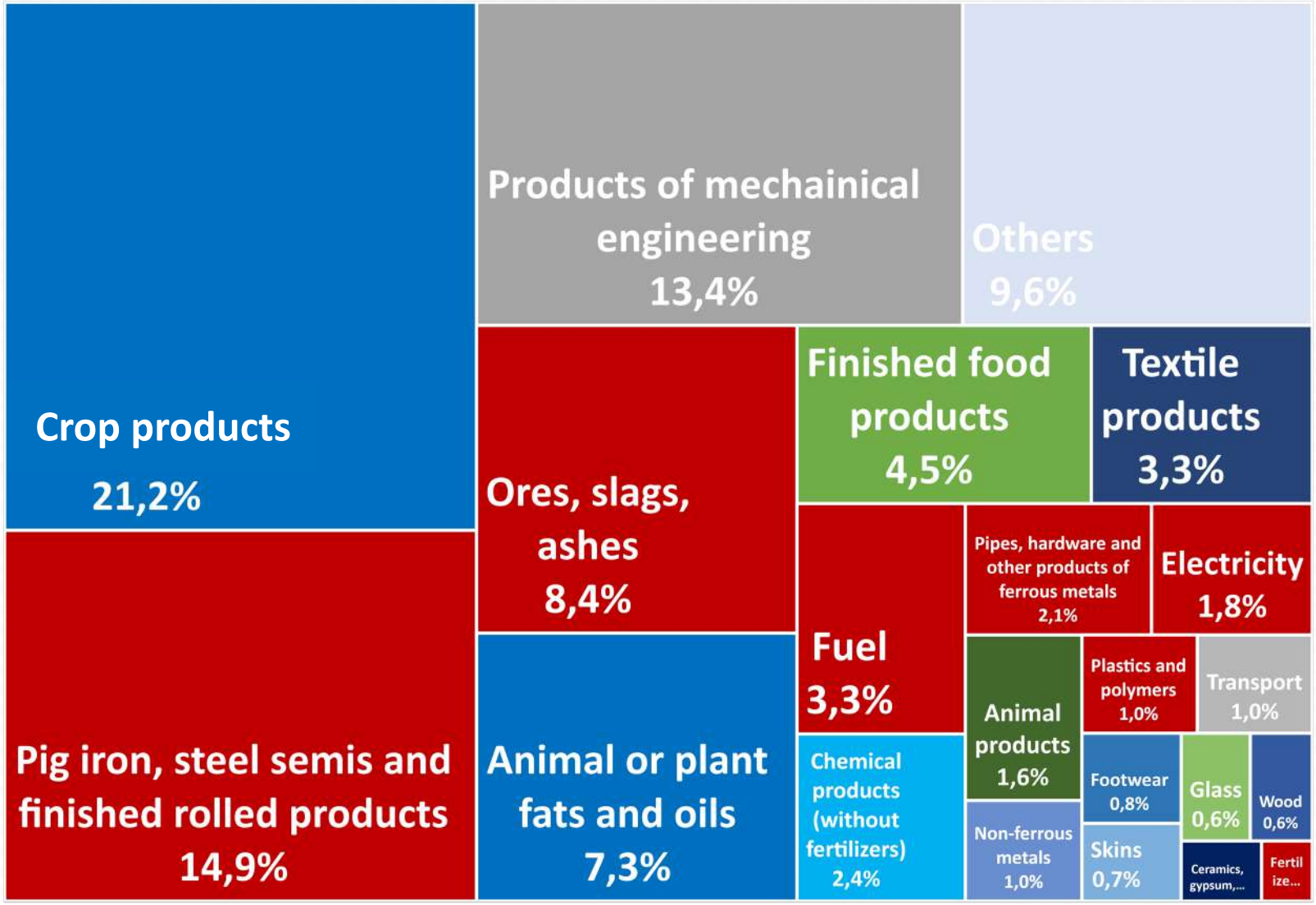
Ukrainian exports to the EU by product



Source: State Statistics Service of Ukraine

- In 2019, Ukraine's exports to the EU amounted to €21.1 billion.
- One third of this amount is potentially subject to CBA.
- The following commodity groups are classified as carbon-intensive:
  - pig iron, steel semi-finished products, rolled products;
  - pipes, metalware and other articles made of ferrous metals;
  - ores;
  - chemical products;
  - fertilizers;
  - plastics and polymers;
  - electricity.

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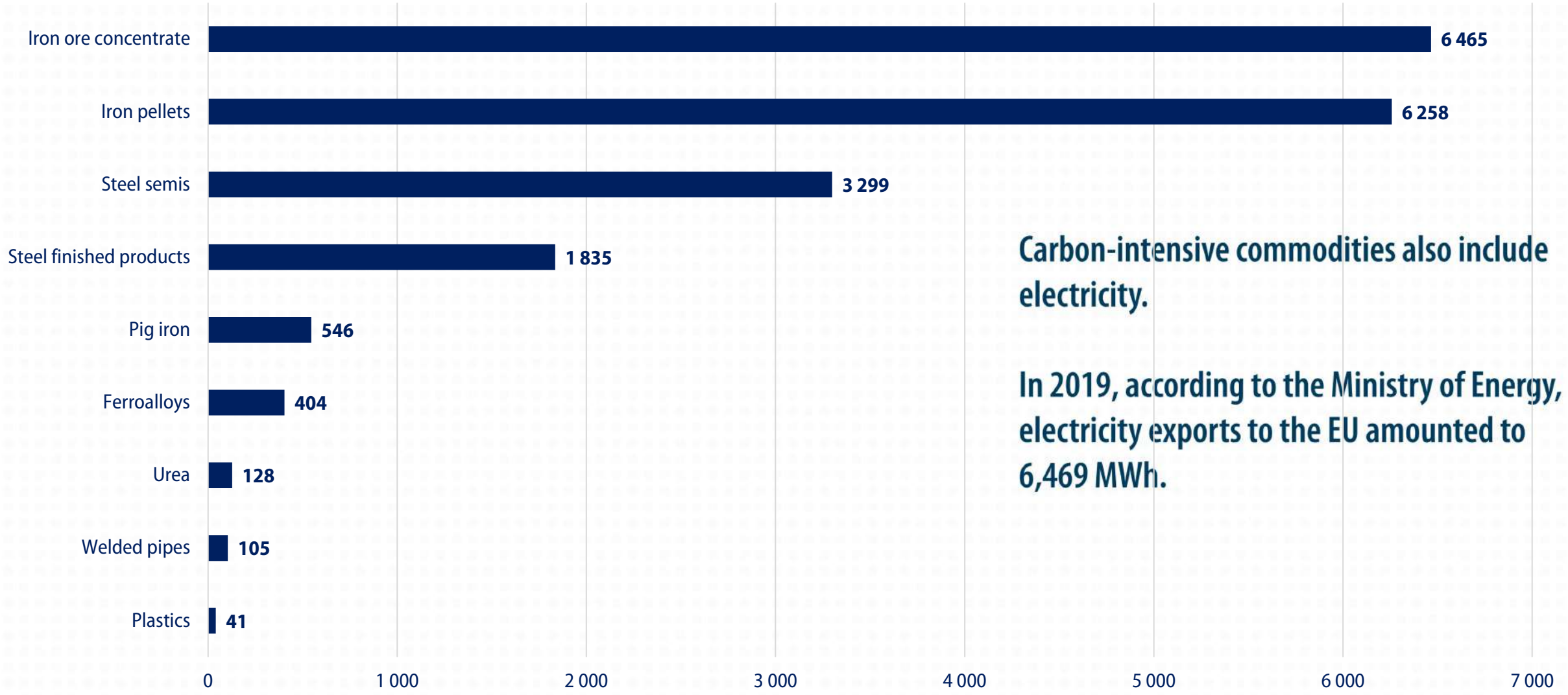
Ukraine's exports of major carbon-intensive commodities to the EU in 2019, thousand tons

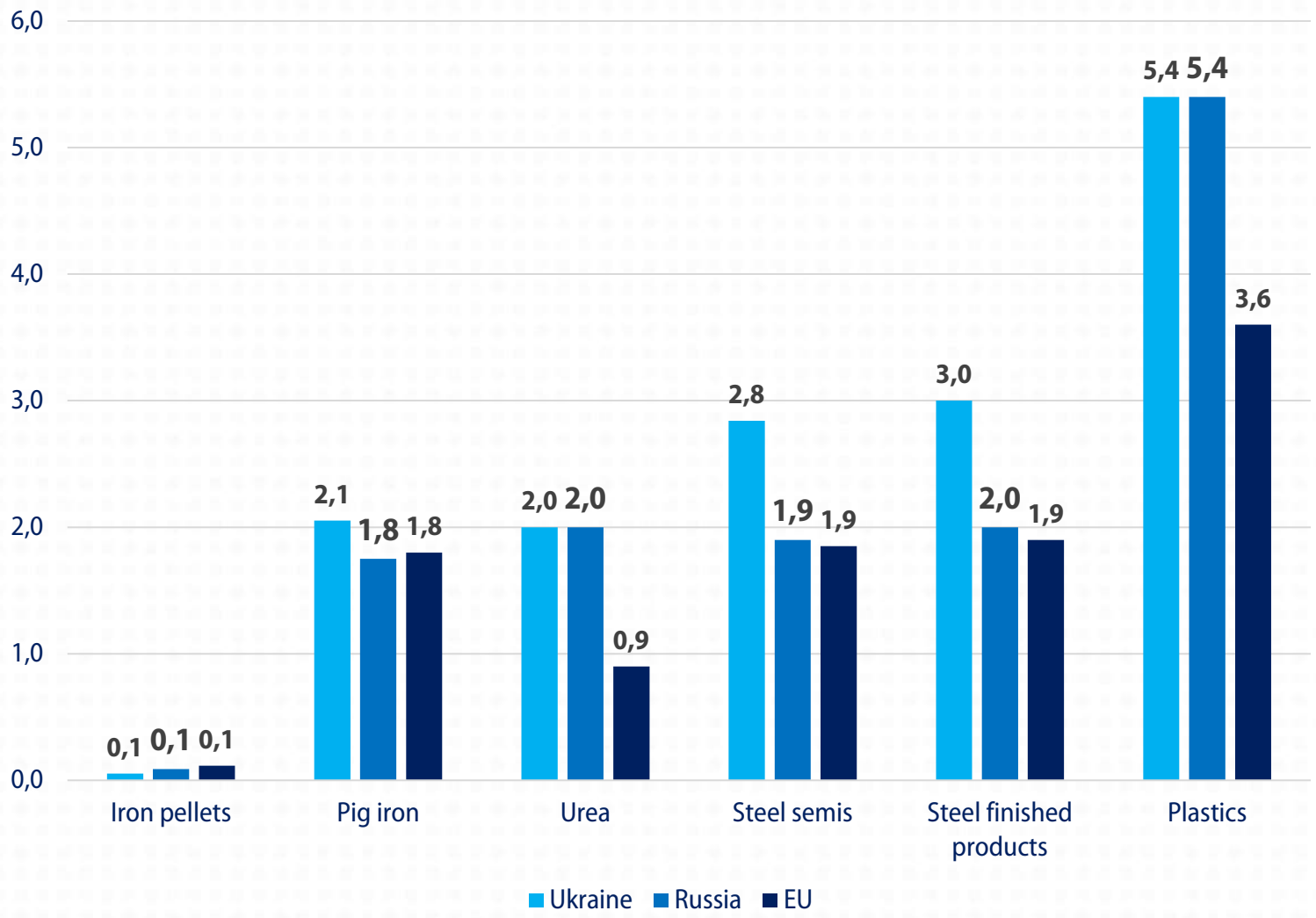


Carbon-intensive commodities also include electricity.

In 2019, according to the Ministry of Energy, electricity exports to the EU amounted to 6,469 MWh.

Source: State Statistics Service of Ukraine

Carbon-intensity of major export commodities, tons of CO2 per ton of product



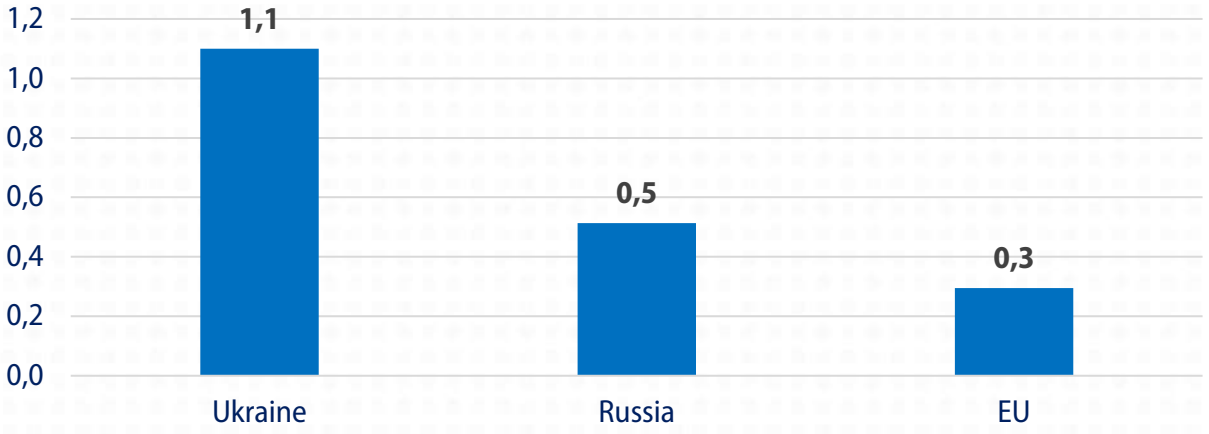
Almost all Ukrainian export commodities are more carbon-intensive than their European analogues.

The biggest difference in carbon-intensity is recorded for urea. In Ukraine CO2 emissions per ton of urea 2.2 times exceed the same in the EU.

Source: companies' reports, mass media, World Steel Association, KPMG, Eurostat, GMK Center's estimates

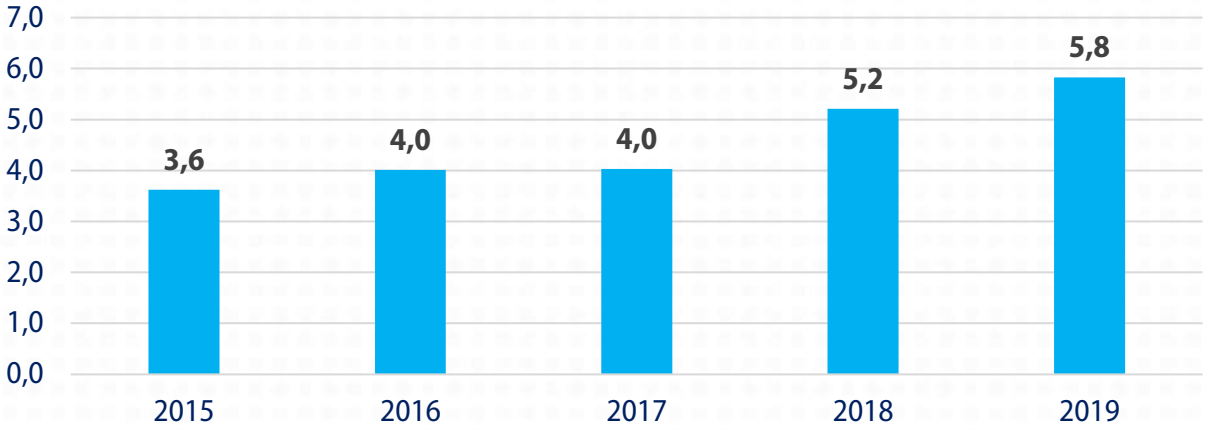
CBA impact on energy sector

Carbon-intensity of electricity generation, tons of CO2 per MWh



Source: companies' reports, KPMG

Electricity exports from Ukraine to the EU, billion kWh



Source: Ukrenergo, GMK Center's estimations

In Ukraine, CO2 emissions per MWh of electricity 3.7 times exceed the same in the EU.

In 2016–2019, electricity exports from Ukraine to the EU increased by 61%.

In 2023, Ukrenergo is going to fully synchronize the Ukrainian energy system with the European power grid (ENTSO-e). This step will allow free supplies of electricity both ways (from Ukraine to the EU and vice versa).

This will open opportunities for increasing electricity exports. In 2019, Ukraine exported 5.8 billion kWh of electricity. After the synchronization with ENTSO-e, according to Ukrenergo, annual exports may increase to 18–20 billion kWh.

Presently, Ukraine exports coal-based electricity from Burshtyn Power Island. Full synchronization will make it possible to export electricity from other sources, including CO2-free ones.

The uncertainty around the CBA calculation methodology may result in this instrument becoming a barrier to increasing electricity exports from Ukraine.

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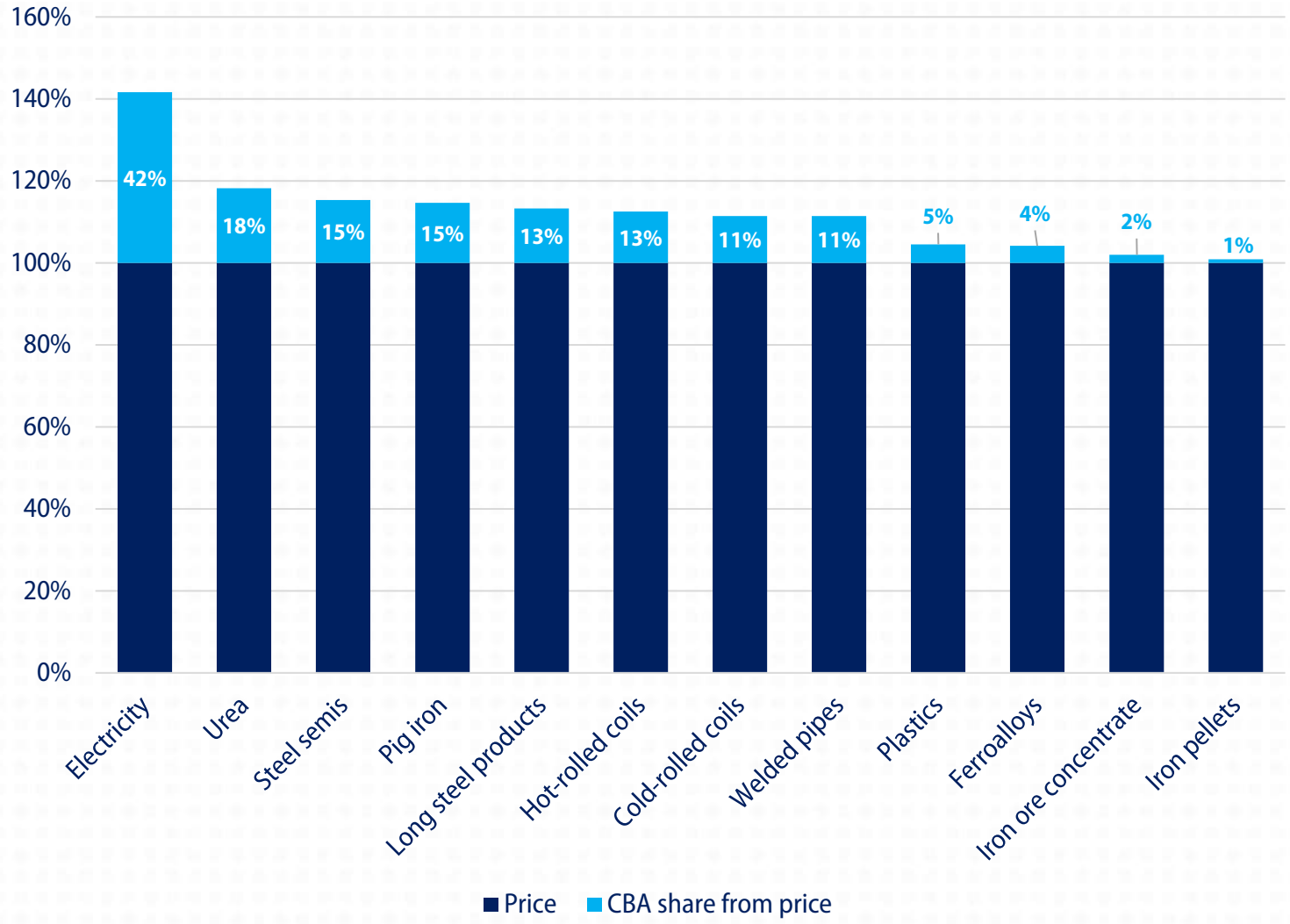
Assessed impact of the CBA introduction on Ukraine's exports

Products	Export volumes 2019	Unit of measurement	CO2 emission rates	Average price of emissions in 2023–2027, € per ton	Tax amount per annum, million €	Tax amount for 2023–2027, million €
Pig iron	546	thsd t	2.1	22.2	24.8	124
Semi-finished products	3,299	thsd t	2.8	22.2	208.0	1,040
Rolled products	1,835	thsd t	3.0	22.2	122.1	611
Welded pipes	105	thsd t	3.0	22.2	7.0	35
Ferroalloys	404	thsd t	2.1	22.2	18.8	94
Iron pellets	6,258	thsd t	0.1	22.2	7.4	37
Iron ore concentrate	6,465	thsd t	0.1	22.2	9.8	49
Electricity	6,469	MWh	1.1	22.2	157.8	789
Plastic	41	thsd t	5.4	22.2	4.9	25
Carbamide	128	thsd t	2.0	22.2	5.7	28
Total	**-**	**-**	**-**	**-**	**566.3**	**2,831**

Source: GMK Center's estimations

As a result of the CBA introduction, additional payments of Ukrainian companies exporting to the EU may increase by €566.3 million per annum. Almost 94% of that amount be will a burden of steelmaking and power companies.

Additional fiscal burden for Ukrainian exporters resulting from the CBA introduction



The introduction of CBA will most significantly increase the fiscal burden for producers of:
electricity (+42% of the final product price);
urea (+18%);
pig iron, semi-finished products (+15%).

So, this will negatively affect Ukrainian exports, especially for power, chemical and steelmaking companies.

Source: GMK Center's estimations

Accession to the European Green Deal

1. Since Ukraine and the EU have signed free trade area agreement, it is hypothetically possible to have a dialogue about exemption of Ukrainian producers from CBA. The success of this format is unlikely, because the EU have similar agreements with other countries. Exemptions based on free trade agreements destroy the CBA concept. Moreover, if Ukraine wants to be exempted from CBA because of free trade agreement with the EU, it means that Ukrainian enterprises will have to comply with emission standards of the EU.

2.The EU is now discussing the idea of complete or partial cancellation of CBA for economies that will follow the same decarbonization policy as the EU.
This idea may take the form of agreements of equivalence that will determine the conditions of decarbonization for non-EU countries. In this case Ukraine might get special softer conditions of decarbonization and CBA.

Conditions of Ukraine's accession to the European Green Deal

• In the process of accession to the European Green Deal, different starting points of Ukrainian and European companies should be taken into account. Environmental projects of European companies received support from the European Commission in the form of grants, subsidies, interest refunds.

• Ukrainian companies, first of all, implemented environmental projects with no available government instruments of financial support. Secondly, they had no such access to financial resources as their European competitors.

• Therefore, the deadlines for achieving carbon neutrality should be extended for Ukraine in comparison to European producers. In addition, accession to the European Green Deal should open access for Ukrainian companies to financial resources provided by European funds.

Possible ways to mitigate the CBA impact

Ukraine as a developing economy should be exempted from CBA

The EU is also discussing the idea of exempting companies from developing countries from CBA, as this instrument puts their sustainable development at risk.

Why Ukraine is a developing country

- according to the IMF, Ukraine ranks **112th** in the world in the GDP per capita index (when adjusted by purchasing power parity);
- among all European countries, Ukraine ranks **2nd** in the UN Human Development Index, preceded only by Moldova;
- according to Growth from Knowledge, Ukraine is the poorest country in Europe;
- in the World Economic Forum's Global Competitiveness Report, Ukraine ranks **58th** out of **141** world economies;
- in the Legatum Prosperity Index, Ukraine ranks **96th** out of **167** countries;
- in the Index of Economic Freedom, Ukraine ranks **134th** out of **180** countries.

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