

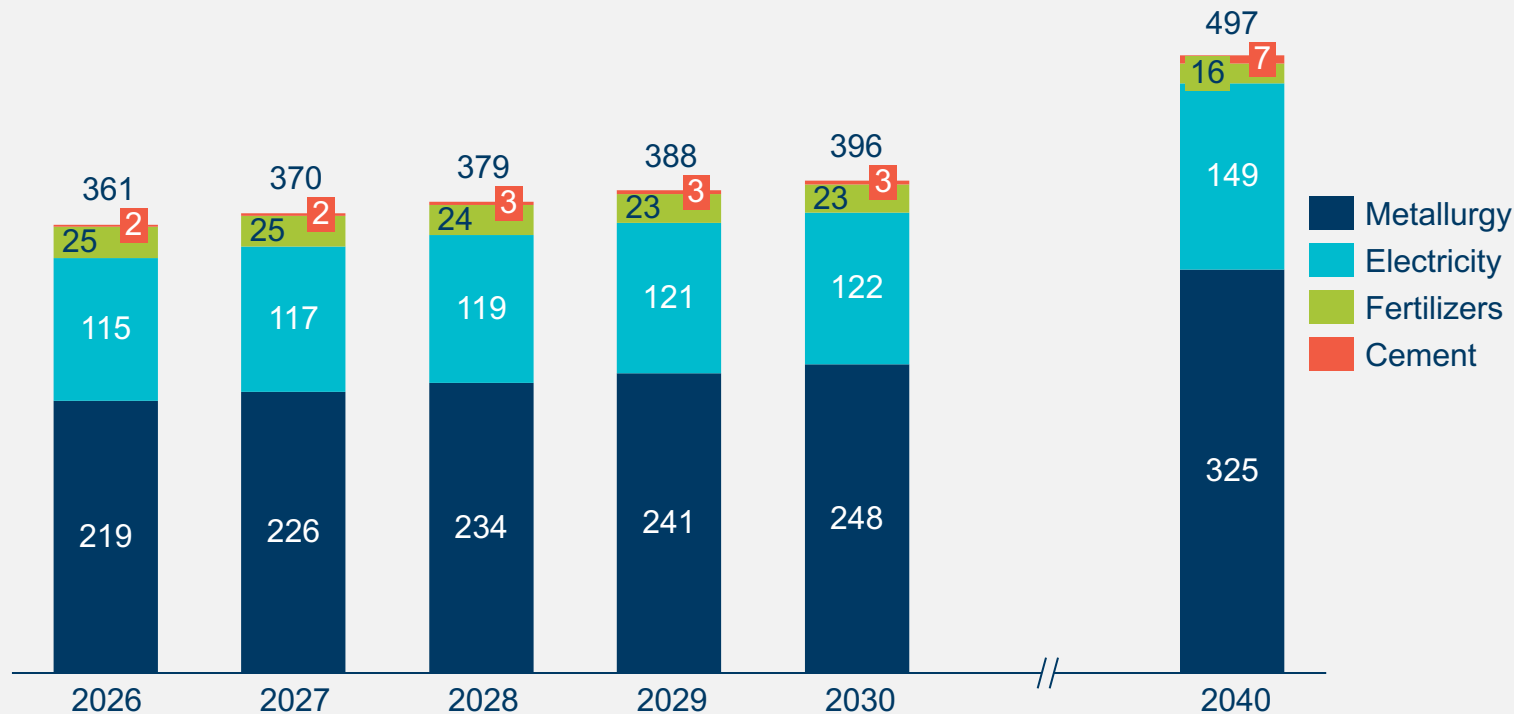
Research of the impact on the economy of Ukraine from the introduction of CBAM by the European Union

Summary

- **The Ukrainian economy is highly dependent on the EU market (36% to 42% of exports are accounted for by the EU), therefore, the CBAM introduction can lead to negative consequences for Ukrainian exports and dependent sectors of the economy - USD 2.9 billion per year of exports are under threat.**
- The purpose of CBAM introduction is to **combat carbon leakage**. Analysing the dynamics of Ukraine-EU trade, one can say there was no carbon leakage **from the EU to Ukraine**.
- The introduction of CBAM will lead to annual **losses up to EUR 396 million** in 2026-2030 for Ukrainian manufacturers (slide 3) and **reduction in the GDP of Ukraine by 0.08% per year** (slide 8). In combination with the implementation of the Ukrainian Emissions Trading System (UA ETS), the additional burden on Ukrainian business will be **EUR 3.2 to 25.9 billion** in 2025-2030. (slide 9)
- For the Ukrainian economy, which suffers from the loss of control in Crimea and ORDLO and the military aggression of Russia, **it is necessary to develop and apply individual CBAM conditions**, which will take into account the current achievements in reducing emissions and have a balanced impact on the Ukrainian industry - stimulate the modernization and reduction of emissions without significant negative consequences for the economy
- Individual conditions for Ukraine may include the following:
 1. **Providing access to innovative green technologies** and participation in **substantial projects on decarbonization** (e.g. on the development of hydrogen production and use)
 2. **Additional trial period** for implementation of CBAM
 3. **Financial support for climate transformation** of Ukrainian economy (using CBAM revenue and EU green funds)
 4. **Separate mechanism of CBAM, considering Ukrainian situation** (other formula, more favorable benchmarks and/or specific groups of goods covered by CBAM)
 5. **Reduction or cancellation of existing restrictions on exports to the EU** (as compensatory mechanisms)

The total effect of CBAM on producers due to the reduction in export volumes and tariff payments will be up to EUR -396 million EBITDA in 2030

Decrease in EBITDA for Ukrainian exporters due to the CBAM introduction, EUR million



- The introduction of CBAM by the EU for all external suppliers will lead to an increase in the cost of exports, which will lead to a decrease in the profits of exporters and a decrease in the volume of sales of certain types of products
 - Up to EUR 295 mln per year – decrease in EBITDA as a result of export volume reduction
 - Up to EUR 101 mln per year – decrease in EBITDA as a result of the additional tariff

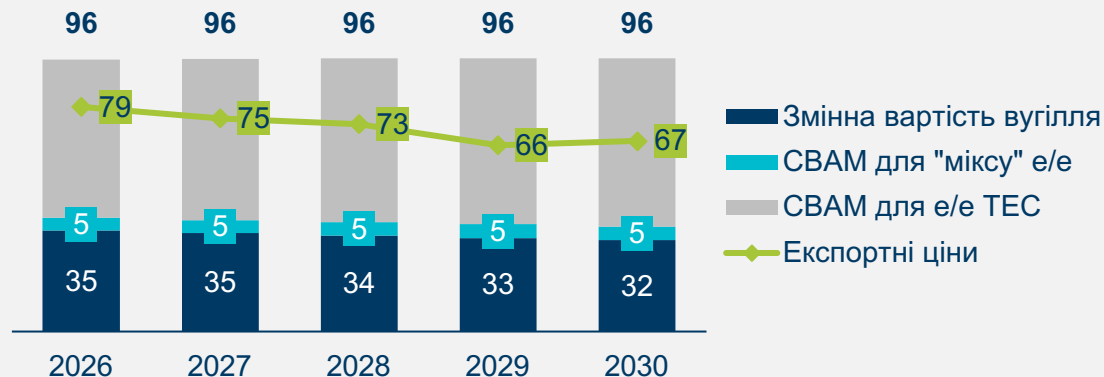
Source: KSE Institute calculations

Effect of CBAM on the electric energy sector: annual decrease in EBITDA up to EUR 122 mln in 2026-2030

- The volume of the EU electric energy market in 2019 was **2,782 TW-year**, and the share of import amounted **2%**. The share of Ukraine in the structure of the EU electric energy import was **6.5% - 9.6%**
- With the CBAM introduction, the minimum cost of coal-fired generation in Ukraine will exceed the average price of electric energy in the nearest export markets
- Thus, Ukraine will no longer be able to export only the TPP electricity, but will export a "mix", which consists of **8%** of TPP electric energy and **92%** of nuclear and renewable energy.

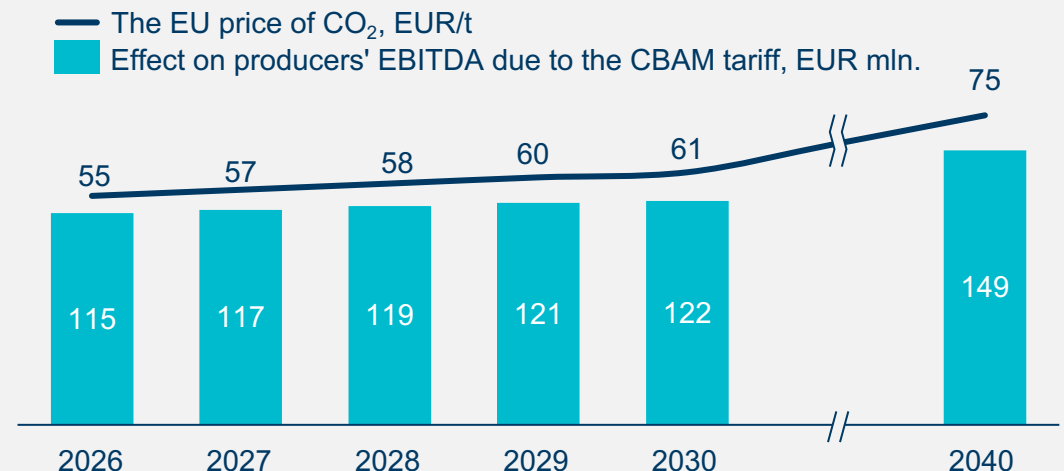
- It is expected that after the Ukrainian power system joins **ENTSO-E**, Ukraine will be able to significantly increase the volume of electricity exports to the EU market.
- From 2023, the capacity of energy bridges between Ukraine and countries that buy electricity will allow exporting up to **25 TW*h/year**, and Ukrainian producers will use this opportunity

Comparison of variable costs of electricity generation and export prices for electricity, EUR/MW-year



Source: KSE Institute, UN Comtrade, Eurostat

Decrease in EBITDA of Ukrainian electricity producers due to the CBAM tariff



Effect of CBAM on the iron and steel sector: annual decrease up to EUR 248 mln EBITDA in 2026-2030 and reduction of export volumes by 9%

- The EU domestic market of steel products amounts 152.2 mln. t, of which 27% is import
- The CBAM introduction will reduce the Ukrainian export of steel products to the EU by 9%, which will be up to 0.6 mln. t in 2030

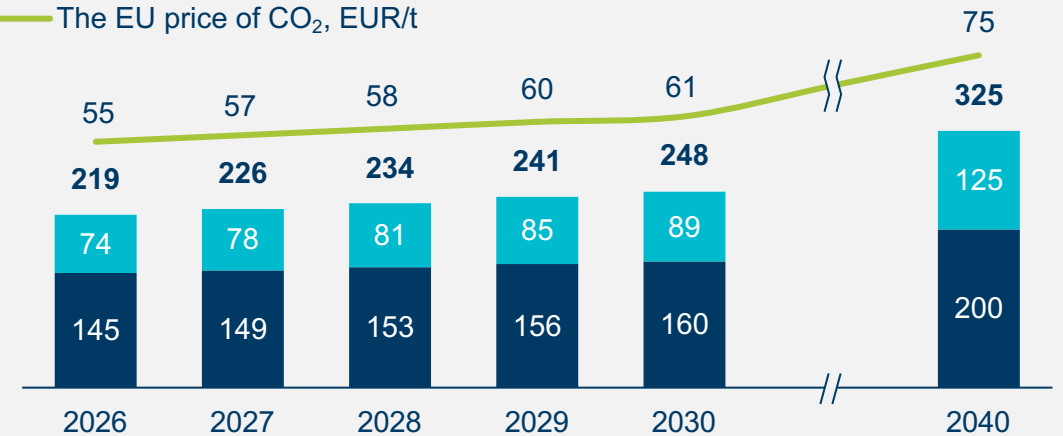
- In 2030 the CBAM for Ukraine per one ton of steel will amount to EUR 77/t, of which EUR 45/t will be compensated by the price increase in the EU market

Effect of the CBAM on the export volumes of Ukrainian steel products to the EU, mln.t



Effect of the CBAM on the iron and steel sector

- Ефект на EBITDA виробників через зменшення обсягів експорту, млн EUR
- Ефект на EBITDA виробників через тариф CBAM, млн EUR
- The EU price of CO₂, EUR/t



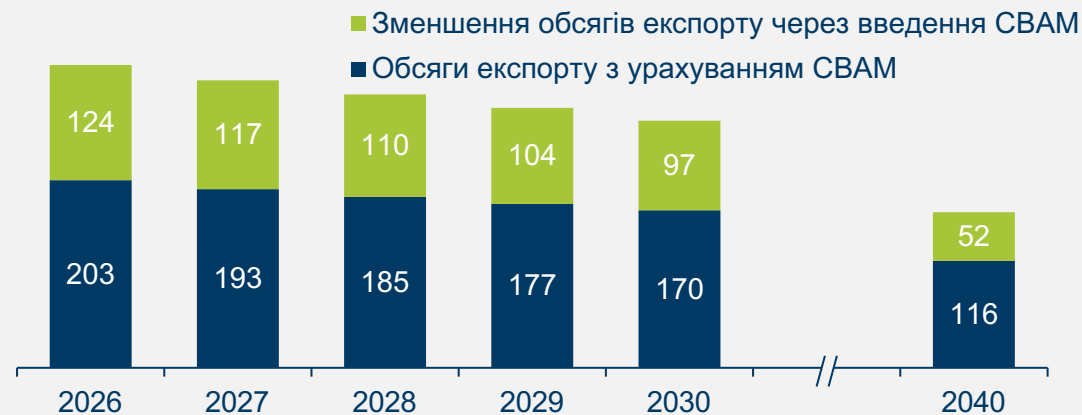
Source: KSE Institute, UN Comtrade, Eurofer

Effect of CBAM on the chemicals sector: annual decrease up to EUR 25 mln EBITDA in 2026-2030 and reduction of export volumes by 38%

- The EU domestic market of fertilizers and chemicals influenced by the CBAM amounts to **24.4 mln. t of nitrogen (N)**, of which the import is **16%**
- The CBAM introduction will reduce the export volume of fertilizers to the EU in 2026-2030 by **38%**

- The CBAM will be partially compensated by the increase in prices (up to EUR 36/t), thus the income of Ukrainian producers will reduce by EUR 3-70 per ton in 2030

Effect of the CBAM on the export volumes of Ukrainian chemicals to the EU, mln t of N



Effect of the CBAM on the chemicals sector

- Ефект на EBITDA виробників через зменшення обсягів експорту, млн EUR
- Ефект на EBITDA виробників через тариф CBAM, млн EUR
- The EU price of CO₂, EUR/t



Source: KSE Institute, UN Comtrade, Eurostat

Effect of CBAM on the cement sector: annual decrease up to EUR 3.5 mln EBITDA in 2026-2030 and reduction of export volumes by 2-5%

- The EU domestic market of cement amounts **173.1 mln.t, including 4% of import**
- The CBAM introduction will reduce the export volume of cement to the EU **up to 2-5% per year**, which will amount up to **31 ths. t** in 2030

- In 2030 the CBAM for Ukraine per one ton of cement will amount to EUR 13 per ton, of which EUR 10 per ton will be compensated by the price increase in the EU market

Effect of the CBAM on the export volumes of the Ukrainian cement to the EU, mln t



Effect of the CBAM on the cement sector



Source: KSE Institute , UN Comtrade, Eurostat

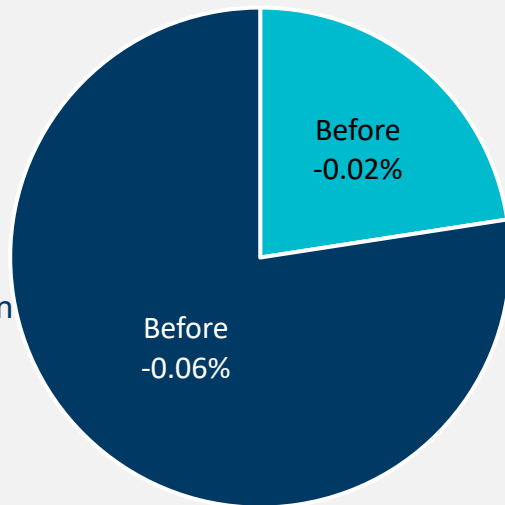
Losses of Ukrainian business from CBAM introduction will lead to a decrease in the GDP of Ukraine to -0.08% in 2030

CBAM impact on the GDP of Ukraine (2030)

Direct effect

includes the following effects:

- Loss of export volumes, which leads to the loss of EBITDA by Ukrainian manufacturers
- Expenses for payment the CBAM tariff, which are not compensated by the increase in the price of Ukrainian manufacturers



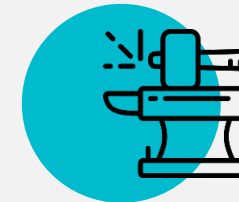
Indirect effect

- Decrease in export volumes leads to a decrease in domestic production.
- Secondary impact occurs when this further leads to a decrease in the manufacture of products that are raw materials for the goods under consideration.



Electricity

up to -0.031% of the GDP



Steel

up to -0.042% of the GDP



Cement

up to -0.0005% of the GDP



Fertilizers

up to -0.004% of the GDP

Source: KSE Institute calculations

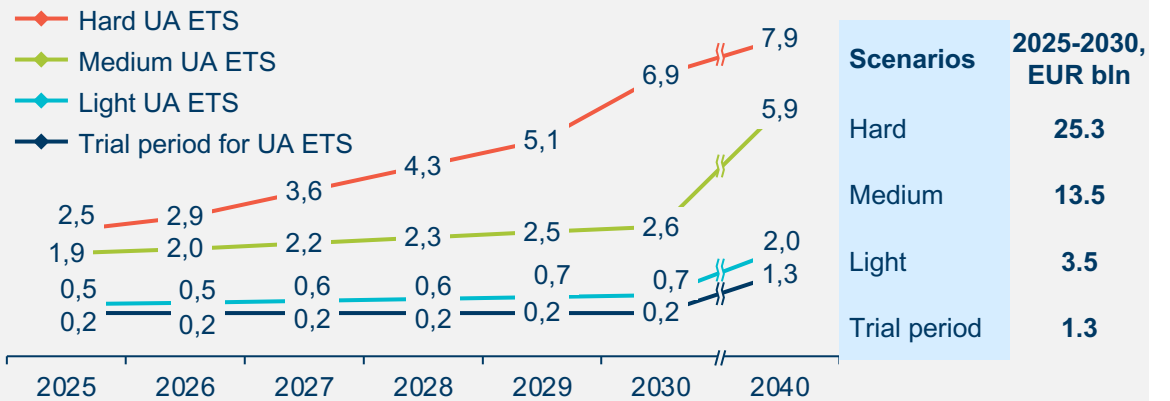
Modeling parameters for creation of the Ukrainian emission trading system were made in 4 main scenarios

Basic hypothesis to scenarios

- **Start** of the Ukrainian emission trading system (UA ETS) from 2025
- **Effectuated** sectors: power sector, iron and steel sector, cement, ammonia and fertilizers
- **CO₂** tax in Ukraine is collected from those sectors that do not fall within the scope of the UA ETS, and from 2023 it will increase to EUR 1 per ton of CO₂e
- **Reduction in benchmarks** by 0.9% per year within 2021-2025, from 2026 – 1.35% (average percentage of the benchmark reduction for relevant period in the EU ETS (before 2025 – 0.2%-1.6%, after 2025 – 0.2%-2.5%))

Scenarios -	Trial period for UA ETS	Light UA ETS	Medium UA ETS	Hard UA ETS	
UA ETS price (% of EU ETS)	25%	25%	75%	100%	
Reduction in total quotas (% per year)	1.74%	2.2%	2.2%	2.2%	
The CBAM is charged with export	Yes	Yes	Yes	No	
Free distributed quotas are calculated as a percentage of	Total emissions	EU ETS benchmarks	EU ETS benchmarks	EU ETS benchmarks	
	2025	90%	90% / 100%	75% / 100%	75% / 100%
Free distributed quotas for power/ other sectors	2030	90%	65% / 100%	50% / 100%	0% / 60%
	2035	65%	20% / 50%	0% / 50%	0% / 10%
	2040	40%	0%	0%	0%

Amount of the UA ETS according to scenarios, EUR bln



Effect from the CBAM according to scenarios, EUR bln

