



Low Carbon Ukraine

Policy advice on low-carbon policies for Ukraine

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Exemption of electricity exports from EU-CBAM

Conditions for exemption and assessment for Ukraine

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About Low Carbon Ukraine

Low Carbon Ukraine is a project that continuously supports the Ukrainian and Moldovan governments with demand-driven analyses and policy proposals to promote the transition towards a low-carbon economy.

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Executive summary

- The **EU CBAM** has come into force in October 2023 and will require all importers of cement, iron and steel, aluminium, fertilizers, electricity, and hydrogen to the EU to **pay for embedded GHG emissions from 2026 onwards**.
- An **exemption for Ukrainian electricity exports** to the EU is available, if Ukraine can meet the following conditions:
 - **Agreement on applying EU law** in the field of electricity, incl. renewable energy sources (RES) and other rules in the field of energy, environment and competition
 - **Main provisions** of EU electricity market legislation (incl. RES, **market coupling**) **implemented in domestic legislation**
 - **Submission of a roadmap** with detailed timeline on the following conditions:
 - ➔ **Climate framework legislation** aligned with EU climate law incl. **commitment to 2050 climate neutrality**, submission of **long-term low greenhouse gas emissions development strategy** to UNFCCC aligned with 2050 target
 - ➔ **Implementation of ETS with a price equivalent to EU-ETS by 2030**
 - Effective **system to prevent indirect import of electricity** into EU from other third countries not in compliance with exemption
- **Ukraine still requires significant progress in all areas** to reach compliance.¹
- Introducing an **ETS with price-equivalence to EU-ETS by 2030 is especially demanding**
 - Ukraine requires a well-designed **carbon leakage protection** system based on partial free allocations and/or a domestic Ukrainian CBAM, and a well-calibrated carbon price path to **avoid excessive adverse impacts on Ukraine's energy-intensive industries**.²
- A first **report on compliance** with the conditions is due by **1 July 2025**.
- **Non-compliance** has serious repercussions: It would not only mean CBAM and associated payments on electricity exports, which could decrease the attractiveness of Ukraine's electricity exports, but also a potential **roll-back of electricity market coupling** with the EU, which would be a serious setback in Ukraine's European integration and EU accession process.

¹ Except the first condition, which is fulfilled as a contracting party to the Energy Community.

² See Low Carbon Ukraine (2024). *Designing a suitable Emissions Trading System for Ukraine*. ([Link](#))

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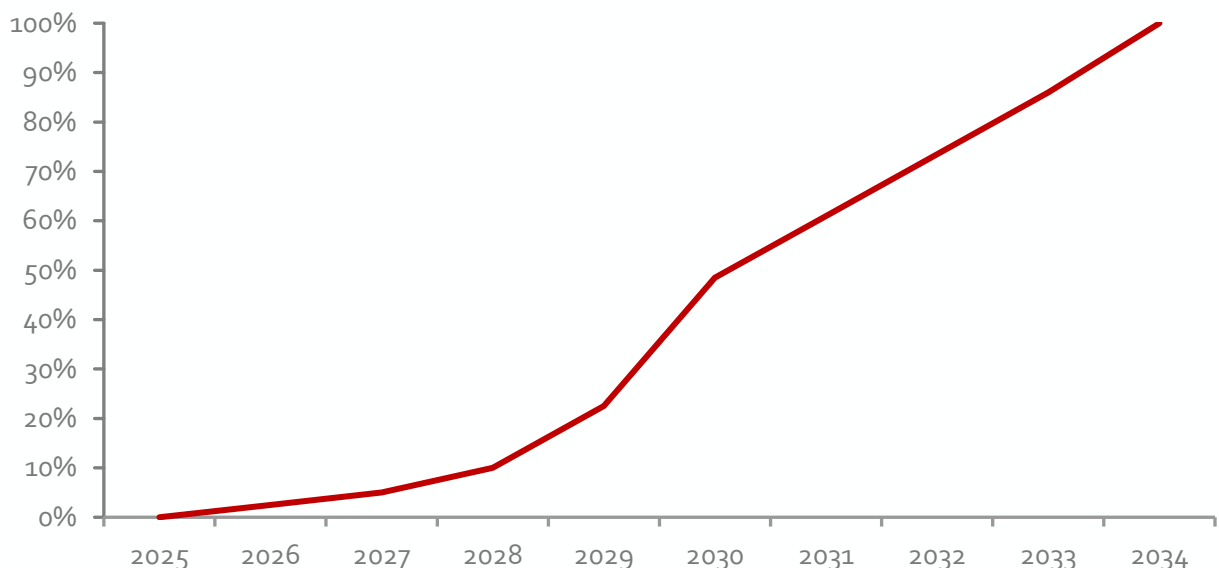
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1 Introduction and background

In October 2023, the European Union's Carbon Border Adjustment Mechanism (CBAM) came into force. It aims to **prevent carbon leakage** by putting a price on the carbon emissions of certain goods imported to the European Union (EU), corresponding to the average EU Emissions Trading System (EU-ETS) allowance price. Thereby, the mechanism reduces the adverse impact of the EU-ETS on the **competitiveness** of European companies covered by the scheme and creates a level playing field between foreign and local producers on the common market. CBAM also **incentivises** third countries to increase **decarbonisation efforts** and/or to **implement a domestic carbon pricing scheme** to collect carbon price revenues domestically, as effective carbon prices³ paid in the country of origin are deducted from the CBAM price charged to importers.

Initially, CBAM covers imports of **cement, iron and steel, aluminium, fertilizers, electricity, and hydrogen**.⁴ During the transitional phase (2023-2025), importers report greenhouse gas emissions embedded in their imports without financial obligations. From 2026, importers must declare yearly imported goods' emissions and buy corresponding CBAM certificates, priced at a pre-determined and increasing fraction of EU-ETS allowances and converging to the full price of EU-ETS allowances until 2034 (see Figure 1). Together with the **gradual introduction of CBAM**, free allocations of allowances within the EU-ETS are phased-out symmetrically. The mechanism's scope and functionality will be reviewed before 2026.

Figure 1: Phase-in trajectory of EU-CBAM (% of EU-ETS price level)



Source: Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism.¹

³ Domestic carbon prices net of any rebates or discounts, including free allocations.

⁴ Regulation 2023/956. Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism. ([Link](#))

Given Ukraine's substantial **economic ties and growing trade relations with the European Union**, a detailed evaluation of the prospects for exemption from CBAM is critically important. Ex-ante analyses predict that the implementation of CBAM could lead to an annual decrease in Ukraine's overall GDP by approximately 0.08% to 0.4%.^{5,6} Furthermore, considering Ukraine's path towards EU accession, the **coupling of its electricity market** with that of the EU is of critical importance. Failure to meet CBAM exemption requirements could necessitate a reversal of electricity market coupling, resulting in a considerable trade barrier and a significant setback for institutional and market convergence. Efforts to meet the exemption criteria **overlap with the steps required for EU accession** and would have to be undertaken anyway in the course of Ukraine's EU accession path.

2 Ukraine's electricity sector ambitions

The Ukrainian power and heat generating sector was **heavily damaged by targeted Russian missile attacks**, especially in the winter of 2022/23. Nonetheless, despite disruption and rolling black-outs, the system has demonstrated **resilience and stability**. While a significant amount of electricity generation was either damaged or fully destroyed, Ukraine is at certain periods still able to produce excess volumes of electricity which it has **exported** to neighbouring ENTSO-E countries. As the reconstruction of Ukraine's energy sector progresses, **large capacity additions are expected across most major power-generating segments**, including wind, solar and nuclear, among others.

The Ukrainian government has repeatedly expressed **ambitions of becoming a net energy supplier to the European Union**, contributing to the bloc's energy security through the supply of traditional fossil fuels, but also low-carbon hydrogen and electricity. While estimates differ between documents and the variety of conducted modelling exercises, the Ukrainian government has previously announced targets of 35 TWh of electricity exports by 2050, which would have the potential to bring in substantial revenues.

Nonetheless, as Ukraine currently does not fulfil the required conditions for obtaining an exemption, electricity exports would be subject to the EU CBAM from 2026 onwards. Given the **importance of electricity exports** in the government's reconstruction strategy and ambitions for the energy sector at large, the rest of this policy brief assesses the possibilities for CBAM exemption.

⁵ Chepeliev, M. (2021). *Possible Implications of the European Carbon Border Adjustment Mechanism for Ukraine and Other EU Trading Partners*, Energy Research Letters. ([Link](#))

⁶ Kyiv School of Economics (2022). *Research of the impact on the economy of Ukraine from the introduction of CBAM by the European Union*. ([Link](#))

3 Conditions for an exemption from CBAM for the electricity sector

Article 2(7) of CBAM Regulation: If a third country or territory has an electricity market which is integrated with the Union internal market for electricity through market coupling, and there is no technical solution for the application of the CBAM to the importation of electricity into the customs territory of the Union from that third country or territory, such importation of electricity from that country or territory shall be exempt from the application of the CBAM, provided that the Commission has assessed that all of the following conditions have been fulfilled in accordance with paragraph 8.

(a) the third country or territory has concluded an agreement with the Union which sets out an obligation to apply Union law in the field of electricity, including the legislation on the development of renewable energy sources, as well as other rules in the field of energy, environment and competition;

→ **Ukraine fulfils Condition (a).** Ukraine is a contracting party to the Energy Community Treaty which includes the application of EU acquis on energy, renewables, environment, and competition.

(b) the domestic legislation in that third country or territory implements the main provisions of Union electricity market legislation, including on the development of renewable energy sources and the market coupling of electricity markets;

→ **Ukraine does not fulfil condition (b) yet.** The most recent EU electricity market acquis was integrated in the Energy Community treaty in December 2022 with the transposition period for contracting parties ending in December 2023. Ukraine took measures, including in drafting amendments to the law “On the Electricity Market” to transpose the electricity market acquis which however still needs more progress.⁷ To reach compliance with the EU electricity market acquis, the proposed amendments by the Energy Community Secretariat have to be included.⁸ An updated draft law “On Amendments to Certain Laws of Ukraine Regarding the Transposition of Acts of the Energy Community” developed in cooperation with the Energy Security Secretariat aims to address these concerns.⁹

With regard to the development of renewable energy sources, Ukraine adopted the law “On Amendments to Certain Laws of Ukraine Regarding the Restoration and Green Transformation of the Energy System of Ukraine (3220-IX)” in July 2023 to transpose the

⁷ Energy Community Secretariat (2023). *Ukraine Energy Market Observatory: Assessment of the draft amendments to the Law of Ukraine “On the Electricity Market” regarding the Coupling of the Ukrainian Market and the European Union Markets*, 9/23. ([Link](#))

⁸ Energy Community Secretariat (2023). *Third Quarterly report of Ukraine Energy Market Observatory*, Q3/23. ([Link](#))

⁹ NEURC (2023). *Оприлюднюється проєкт Закону України «Про внесення змін до деяких законів України щодо транспонування актів Енергетичного Співтовариства»*. ([Link](#))

Renewable Energy Directive (REDII). The Energy Community Secretariat reviewed the respective draft and concluded that it did not yet ensure full transposition of REDII.¹⁰ While some changes have been implemented during the adoption process in comparison to the draft law reviewed by the Energy Community Secretariat, the adopted law is still not fully compliant with REDII in some areas.

Ukraine has taken some measures towards market coupling with the EU, including the certification of the TSO Ukrenergo under the ISO model, Ukrenergo's full ENTSO-E membership, as well as the nomination of the Market Operator as nominated electricity market operator (NEMO). However, fully compliant transposition of electricity market acquis as well as the implementation of single day-ahead coupling (SDAC) and single intraday coupling (SIDC) remains to be done.

(c) the third country or territory has submitted a roadmap to the Commission which contains a timetable for the adoption of measures to implement the conditions set out in points (d) and (e);

→ **Ukraine has yet to develop and submit a roadmap** containing a timetable for the adoption of measures to implement conditions (d) to (e). A roadmap for the implementation of a domestic ETS in Ukraine is currently under development. A timetable consistent with condition (e), i.e. reaching a price equivalent to the EU-ETS by 1 January 2030, would have to be considered within the currently developed roadmap in order to comply with this condition. It is unclear whether this timetable is respected in the current draft of the roadmap. Furthermore, the roadmap would have to entail a timetable on condition (d) as well, i.e. the formulation of a commitment to climate neutrality by 2050 and the development of a long-term low greenhouse gas emissions development strategy aligned with that objective.

(d) the third country or territory has committed to climate neutrality by 2050 and, where applicable, has accordingly formally formulated and communicated to the United Nations Framework Convention on Climate Change (UNFCCC) a mid-century, long-term low greenhouse gas emissions development strategy aligned with that objective, and has implemented that commitment in its domestic legislation;

→ **Ukraine does not fulfil condition (d) yet.** Within the latest NDC submission, Ukraine committed to net zero GHG emissions by 2060. The Clean Energy Roadmap 2023¹¹ commissioned by the Ministry of Energy stated that the Energy sector can reach net zero

¹⁰ Energy Community Secretariat (2023). *Ukraine Energy Market Observatory: Analysis of the draft Law of Ukraine "On Amendments to Certain Laws of Ukraine Regarding the Restoration and Green Transformation of the Energy System of Ukraine"*, 8/23. ([Link](#))

¹¹ Net Zero World Initiative et al. (2023). *Clean Energy Roadmap: From Reconstruction to Decarbonization in Ukraine*. ([Link](#))

by 2050. Other sectors need to increase their efforts. Moreover, the (cross-sectoral economy-wide) 2050 climate neutrality objective should be included into the National Energy and Climate Plan (NECP) which is supposed to be developed and submitted to the Energy Community Secretariat until June 2024. EU accession is a second incentive to expedite net zero by 2050 as it is a legally binding target within the European climate law. Following the updated climate neutrality commitments, implementation into national legislation needs to follow.

A mid-century, long-term low greenhouse gas emissions development strategy was already formulated and communicated to UNFCCC. However, this strategy is not aligned with climate neutrality by 2050. Hence, the strategy must be updated and re-submitted.¹²

(e) the third country or territory has, when implementing the roadmap referred to in point (c), demonstrated its fulfilment of the set deadlines and the substantial progress towards the alignment of domestic legislation with Union law in the field of climate action on the basis of that roadmap, including towards carbon pricing at a level equivalent to that in the Union in particular insofar as the generation of electricity is concerned; the implementation of an emissions trading system for electricity, with a price equivalent to the EU ETS, is to be finalised by 1 January 2030;

➔ **Ukraine does not fulfil condition (e) yet.** The roadmap from condition (c) with deadlines fulfilling the exemption conditions needs to be developed and submitted in time. A climate framework legislation is currently in development in Ukraine. Alignment with the EU climate law should be ensured in the process.

Ukraine is actively developing a domestic ETS. Currently, several design features, as well as the timetable for the introduction of Ukraine's future ETS are still up for consideration. In order to fulfil the exemption condition, a convergence to EU-ETS price levels would be required by 1 January 2030.

It needs to be noted that such a price trajectory, compared to the current carbon tax of under 1 EUR/tCO₂, is very ambitious and could significantly affect the competitiveness of Ukrainian energy- and carbon-intensive industries without additional measures to reduce carbon leakage. Measures against carbon leakage could entail (partial) free allocations of allowances to certain energy-intensive industries or a domestic Ukrainian CBAM mirroring the EU-CBAM. A more detailed proposal for designing Ukraine's ETS while squaring EU convergence, price certainty and competitiveness is currently being developed by the Low Carbon Ukraine project.¹³

¹² A long-term strategy with a 30 years perspective and consistent with the Energy Community's climate objective also needs to be submitted to the Energy Community Secretariat, independently from CBAM exemption conditions.

¹³ Low Carbon Ukraine (2024). *Designing a suitable Emissions Trading System for Ukraine*. ([Link](#))

(f) the third country or territory has put in place an effective system to prevent indirect import of electricity into the Union from other third countries or territories that do not fulfil the conditions set out in points (a) to (e).

➔ **Ukraine does not fulfil condition (f) yet.** The country must establish an effective system to prevent indirect electricity imports to the EU especially regarding imports from Moldova. If Moldova, also an EU candidate country, fulfils conditions (a) to (f) and Ukraine does not transit electricity from other non-EU sources, this mechanism is not necessary. Ukraine could consider inviting Moldova to implement a joint ETS. However, Moldova would also have to fulfil all other conditions in order for Ukraine to avoid the requirement to implement a mechanism against indirect electricity imports to the EU.

If such a mechanism would be required, a domestic Ukrainian CBAM, mirroring the design of the EU-CBAM, might be an option for fulfilling this condition. In case of Moldovan non-compliance, this would mean a roll-back of potential electricity market coupling between Ukraine and Moldova and application of the Ukrainian CBAM to Moldova.

4 Timeline to fulfil exemption conditions

Article 2(8) of CBAM Regulation: A third country or territory that fulfils all the conditions set out in paragraph 7, shall be listed in point 2 of Annex III, and shall submit two reports on the fulfilment of those conditions, the first report by 1 July 2025 and the second by 31 December 2027. By 31 December 2025 and by 1 July 2028, the Commission shall assess, in particular on the basis of the roadmap referred to in paragraph 7, point (c), and the reports received from the third country or territory, if that third country or territory continues to fulfil the conditions set out in paragraph 7.

Figure 2: Reporting timeline according to Article 2(8) of CBAM Regulation



Source: Own illustration based on Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism.

To fulfil the exemption criteria Ukraine must follow two timelines. The first is the reporting timeline, laid out in Article 2(8) of the CBAM Regulation and illustrated by Figure 2 above. The second is the compliance timeline, concerning the deadlines of fulfilling condition (b) as well as conditions (d) to (e) which shall be discussed within the reports. Within the Energy Community acquis, the deadline concerning condition (b) on transposing the Union's legislation on electricity market and on market coupling was in December 2023. For transposing the renewable acquis, also condition (b), the deadline expired in December 2022. Both dates were

not met by Ukraine. While the CBAM regulation does not directly refer to those deadlines set within the Energy Community, Ukraine should strive for full compliance with the relevant acquis as soon as possible. In particular, full transposition of all electricity market acquis required for market coupling, as well as full implementation of market coupling in practice by the end of 2025, is required such that the first sentence¹⁴ of Article 2(7) of the CBAM Regulation, and thus the exemption clause in its entirety, can apply.

The first version of the report on fulfilment of the conditions, due 1 July 2025, should entail a roadmap, including a detailed timeline for:

- Adopting Ukraine's 2050 climate neutrality target (if not adopted by then)
- Implementing a climate framework legislation aligned with EU climate law (if not implemented by then)
- Developing and submitting an updated long-term low greenhouse gas emissions development strategy aligned with the climate neutrality by 2050 objective to UNFCCC (if not submitted then)
- developing and implementing a Ukrainian ETS that reaches price equivalence with the EU-ETS by 1 January 2030 (with demonstrated progress by then).

5 Repercussions in case of non-compliance

Electricity is in many ways a **special commodity** that stands out from the other CBAM goods. Since it is mostly traded on **dedicated markets organised through anonymous auctions**, assessing and tracing the embedded indirect emissions of one MWh of electricity imported to the EU is quite difficult. The CBAM Regulation tackles this problem by applying **default values** for embedded indirect emissions on a per-country level. The CBAM Regulation and its accompanying Implementing Regulation provide two options for how the default value can be calculated, either via "the average emission factor of the country of origin electricity grid"¹⁵ or "the CO₂ emission factor of price-setting sources in the country of origin".¹⁶

The recently communicated default values by the Commission make clear that the second option, i.e. "the CO₂ emission factor of price-setting sources in the country of origin"¹⁷ has been chosen as the basis for calculation. Specifically, the Commission assumes that fossil-powered electricity generators are the price-setting sources and determines the default values as "the

¹⁴ „If a third country or territory has an electricity market which is integrated with the Union internal market for electricity through market coupling...”

¹⁵ Regulation 2023/1773. *Commission Implementing Regulation (EU) 2023/1773 of 17 August 2023 laying down the rules for the application of Regulation (EU) 2023/956 of the European Parliament and of the Council as regards reporting obligations for the purposes of the carbon border adjustment mechanism during the transitional period.* ([Link](#))

¹⁶ Regulation 2023/956. *Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism.* ([Link](#))

¹⁷ Ibid.

average emission factors of the electricity produced from fossil fuels in the country of origin".¹⁸ This is quite disadvantageous for Ukraine: If no exemption is secured, electricity exports to the EU and covered by CBAM would be priced for the **weighted average emissions intensity from coal and gas-fired electricity generation** inside Ukraine.

However, the more serious **looming threat** from non-compliance with the CBAM exemption criteria is the potential incompatibility of applying CBAM to electricity exports between countries which coupled their electricity markets. Assigning default values to imported electricity is feasible in the case of un-coupled electricity markets where importers to the EU can be clearly identified to pay CBAM charges for the embedded emissions of imported electricity. However, in the case of a coupled electricity market, i.e. a single anonymous cross-border market, importers of electricity cannot be identified. This makes **coupled electricity markets possibly incompatible with the application of CBAM**.¹⁹

In practice, this would mean that – if Ukraine did not secure an exemption of its electricity sector from CBAM – the country could not proceed with its declared intentions of integrating into the European electricity market before full price-equivalence for carbon emissions with the EU-ETS is achieved. Potentially even worse – in case electricity market coupling is implemented before the end of 2025 but some other conditions are not fulfilled – the achieved **electricity market coupling might have to be rolled back** leading to decoupling from the European market.²⁰ This would substantially affect Ukraine's electricity trade with its EU neighbours. Furthermore, it would be a serious setback in Ukraine's efforts for European integration and EU accession.

6 Conclusion

The comprehensive evaluation of Ukraine's progress in meeting the conditions for exemption from CBAM suggests a promising trajectory in several key areas. However, there remains **significant work ahead**. Ukraine must **fully transpose the latest EU electricity market acquis**, encompassing market coupling, and ensuring its renewable energy legislation is fully compliant with EU regulations and directives. Critical steps involve submitting a **detailed roadmap** for implementing the requisite measures, solidifying a commitment to achieving **climate neutrality by 2050** within its domestic legislation, and presenting a corresponding **long-term strategy** to UNFCCC. Additionally, implementing an **ETS with pricing aligned to the EU-ETS by 2030**, although demanding, is essential. Substantial progress in implementing Ukraine's climate framework legislation in alignment with the EU climate law is also a pivotal requirement. Finally,

¹⁸ EUROPEAN COMMISSION. DIRECTORATE-GENERAL TAXATION AND CUSTOMS UNION. Indirect Taxation and Tax Administration. CBAM, Energy and Green Taxation (2023). *Default values for the transitional period of the CBAM between 1 October 2023 and 31 December 2025*. ([Link](#))

¹⁹ This is the main reason the EU CBAM Regulation provides the possibility of an exemption for the electricity sector of countries with coupled electricity markets in the first place.

²⁰ Energy Community Secretariat (2023). *CBAM-Readiness Tracker*, p. 12. ([Link](#))

an **effective system to curtail indirect electricity imports** from non-EU countries, such as a **Ukrainian CBAM**, must be established to safeguard the integrity of these efforts.

The decision on whether Ukraine should continue striving to meet the CBAM exemption criteria for its electricity sector hinges on a delicate trade-off between two potential risk factors. On the one hand, these are the potential risks associated with the **speed required in implementation of the exemption criteria**, in particular the ETS with price-equivalence to the EU-ETS by 2030. These risks could be managed through a **well-designed carbon leakage protection** based on partial free allocations and/or a domestic Ukrainian CBAM, and a well-calibrated carbon price path to avoid excessive adverse impacts on Ukraine's energy-intensive industries.²¹ On the other hand, there are **risks and repercussions associated with a potential roll-back of Ukraine's future electricity market coupling with the EU** in case of non-compliance with the CBAM exemption criteria. In light of Ukraine's intentions for near-term electricity market coupling and medium-term EU accession, we deem the second set of risks potentially more pronounced. Unorderly decoupling from the single European electricity market as a consequence of non-compliance with the CBAM exemption conditions, potentially shortly after initial market coupling, could create considerable market uncertainty and constitute a significant setback in Ukraine's EU accession path.

Considering these factors, it is advisable that Ukraine **pursues efforts to meet the exemption conditions**. Importantly, as a candidate country for EU membership, Ukraine's efforts to fulfil these conditions are not only beneficial for CBAM exemption but also serve as **fundamental steps towards EU accession**. The earlier Ukraine aligns with these pre-requisites, the quicker it can progress on its path to EU membership.

²¹ Low Carbon Ukraine (2024). *Designing a suitable Emissions Trading System for Ukraine*. ([Link](#))