A Carbon Border Adjustment Mechanism fit for the power sector

Eurelectric position paper

March 2025

Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:
- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

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WG Climate Change & Decarbonisation
WG Market Integration and Network Codes
WG Financial Regulation and Market Integrity

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A Carbon Border Adjustment Mechanism (CBAM) fit for the power sector

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KEY MESSAGES

- We welcome the introduction of the Carbon Border Adjustment Mechanism (CBAM), as an instrument to address the impact of carbon leakage in industries which engage in global or cross-border competition with third countries, and thus level the playing field between EU and non-EU producers.

Improving and clarifying the functioning of CBAM for the case of electricity

- We call on policymakers to consider the specific features of electricity when adjusting CBAM ahead of the definitive phase (i.e. consumption at time of production, trade on Power Exchanges, etc). This implies ensuring methodologies for calculating default values, as well as the conditions to report actual emissions need to be adjusted. Specifically, we recommend:
    - Ensuring the formulas for calculating the CO2 emissions factor and default values properly reflect the CO2 content of imports. Ideally, these should be hourly and account for all generation technologies.
    - Ensuring the cumulative criteria for reporting actual emissions are workable, in particular, on congestion, PPAs and verification requirements.
    - Putting in place clear, simple, robust rules and requirements before the start of the compliance cycle.
- We believe that the applied methodologies and criteria require improvements and further consultation with stakeholders. We urge the Commission to undertake a thorough impact assessment on electricity imports, including a cost-benefit analysis.
- The delays in the publication of the secondary legislation (such as the treatment of the carbon price paid abroad) and the time needed for the sector to implement the rules are impacting commercial decisions. We call on the EC to urgently publish the remaining legislation to improve the visibility for market parties.
- While we welcome the provision regarding the publication of default carbon prices in the Simplification Omnibus, we regret that small, occasional electricity imports do not qualify for exemptions. We call for a non-discriminatory treatment of CBAM sectors and a power sector specific *de minimis* threshold.

Linking the EU ETS with similar schemes and progressing on market coupling

- We call for linking the EU ETS with similar emissions trading systems in neighbouring countries to ensure a level playing field and more efficient trading.
    - We reiterate our call for the EU and UK to start discussions in view of linking their respective ETSs, with negotiations to begin as part of the upcoming EU-UK Summit in May and ideally conclude their negotiations by COP30.
    - It is essential to have a recognition of the UK carbon pricing (carbon price support and UK ETS) to prevent double-charging for CO2 emissions in the EU.
    - While linking ETSs, an effective mechanism to address price volatility, ensure market stability and transparency should be in place
- Following ETS linkage we recommend pursuing the price coupling of electricity markets and implementing it once a level playing field has been ensured (notably regarding carbon pricing). We strongly oppose any delays on price market coupling due CBAM implementation delays. We urge the EU to continue coupling efforts with neighbouring countries considering their benefit for consumers.

Fine Tuning the Carbon Border Adjustment Mechanism

Eurelectric welcomes the introduction of the Carbon Border Adjustment Mechanism (CBAM), as an instrument to address the impact of carbon leakage in industries which engage in global or cross-border competition with third countries.

The Paris Agreement tells us that greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030, to limit global warming to 1.5°C. The EU currently contributes 7% of total GHG emissions, its share having fallen from 15.2% in 1990. Global action is urgently needed and the implementation of the "Fit for 55" package will already bring us closer to this objective.

Eurelectric encourages policymakers to adopt a robust approach to climate diplomacy, particularly related to carbon pricing, to address the intricate balance between decarbonisation, security of supply and competitiveness. Therefore, we encourage the EU to continue:

1) The works of the taskforce on international carbon pricing and markets diplomacy, to ensure the ETS community is growing and moving in the same direction. This could increase the likelihood of new parties joining the EU ETS I, and thus increase market liquidity.
2) To set the standard for carbon market credibility and environmental integrity, considering the growing appetite among UNFCCC parties to use international carbon credits and transfers to achieve their climate targets.

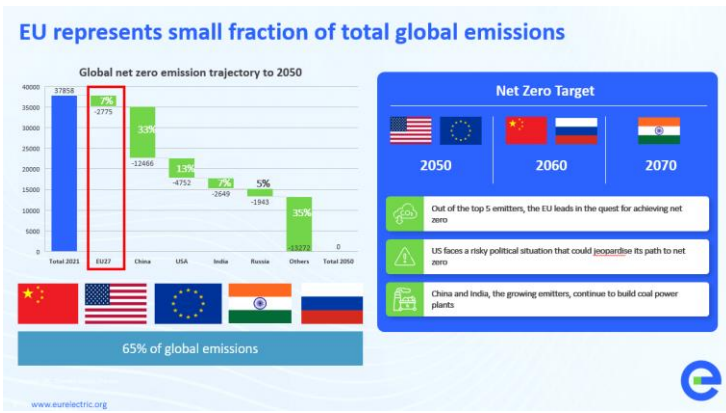

Figure 1 Eurelectric Power Barometer 2024

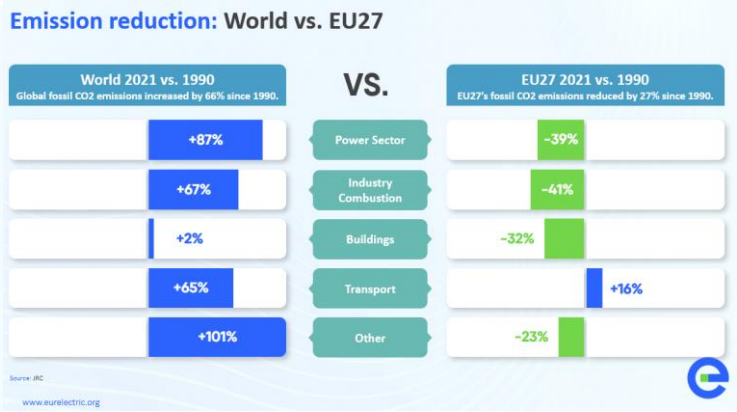

Figure 2 Eurelectric Power Barometer 2024, based on JRC

Eurelectric's view is that the EU should promote mechanisms to make domestic producers more carbon efficient, while at the same time encourage third countries to become more climate friendly. From the onset, in our position on CBAM in March 2020[1], we encouraged policymakers to put forward complementary policies and tools with the ultimate goal of developing a more global carbon price and market, which would reduce the necessity of unilateral measures.

[1] Eurelectric Position Paper. "Carbon Border Adjustment: opportunities to complement efforts under the Green Deal". March 2020, https://www.eurelectric.org/wp-content/uploads/2024/06/eurelectric_position_on_carbon_border_adjustment-2020-030-0170-01-e.pdf

Experience with the Transitional Period

At this stage of the CBAM implementation, the power sector estimates that current rules could impact **electricity markets (short-term and forward markets), trade flows and prices.**

By nature, and contrary to other goods and services, electricity cannot be easily traced back to its producer and the technology it used for generating it. Physically, generation from all different types of technologies is pooled together and delivered to consumers through the transport and distribution networks. Financially, electricity will be traded multiple times on anonymised Power Exchanges by a variety of market participants (which are not necessarily generators). Outside some specific and marginal cases, these properties have the following effects:

a. Impossible to identify the originator of the exported electricity.
b. Most market participants do not have documentation with regards to the origin of the traded electricity (such as guarantees of origin or renewable energy certificates), and other taxes or levies applied to the traded unit (i.e. non-asset backed traders buy and resell electricity providing necessary liquidity on the market)
c. Documentation on origin, carbon content, taxes and levies paid on the specific unit may not be available to importers.

The CBAM Regulation enables EU importers to access a rebate equivalent to the carbon price paid in the country of origin, should they be able to prove the goods have been subject to such a price. However, in practice, EU importers may not be able to access the rebate for units traded on Power Exchanges. This subjects the imported electricity to a potential double payment of carbon, ultimately leading to higher costs for end-users, at a time when European industry faces competitiveness issues.

As an example, when a non-asset backed trader purchases power in the UK spot market, they will pay the carbon cost of the marginal producer in the merit order, which is an implicit component of the electricity price, but will not have a UK-ETS certificate to show EU authorities. In such cases, CBAM certificates will need to be purchased for these imported units, thus being subject to a double payment of a carbon price.

In addition, while default values represent an important and less complex reporting solution for electricity bought on wholesale markets, the current methodology still bears adverse economic effects. A normative default factor can be applied to EU imports indistinctively of the actual carbon content of the electricity produced at the time of the import. Moreover, their current calculation methodology (based on the average emissions from fossil fuel generation during the past five years) also neglects latest decarbonisation efforts and electricity mix evolutions. These shortcomings could thus:

- Hinder the smooth functioning of the electricity market by blocking flows that would otherwise be economically viable and are necessary to meet European electricity demand.
- Increase CO2 emissions in the EU by reducing third countries' imports of net-zero[2] electricity, which would be offset by increased electricity generation in the EU, partly from fossil fuel power plants.

Furthermore, electricity contracts are already being concluded on forward markets, with delivery past the start of the CBAM definitive period. The uncertainty triggered by the lack of visibility on the treatment of the carbon price paid abroad (delayed secondary legislation) can negatively affect

[2] Net-zero electricity to be understood as electricity generated with net-zero generation technologies included in the Net Zero Industry Act

these market time-frames, driving liquidity away. As an example, if the carbon price in a source jurisdiction is not recognised for CBAM, this has serious implications on the cost of electricity imports. This could also cause suppliers to under-hedge or over-price a CBAM charge, both of which have the net impact of raising electricity costs for consumers.

Lastly, uncertainty with regards to CBAM applicability risks deterring renewable investment in the North Sea, where projects are carried by both EU and non-EU investors and may not necessarily be subject to PPAs.

Eurelectric believes that we need to work swiftly on the linking of the EU ETS with ETSs of neighbouring areas implementing such system, especially those with significant electricity exchanges with the EU. Such an approach would contribute positively to the global reach of the EU's ambitious climate objectives while allowing to avoid the adverse fallouts from the application of CBAM to the electricity sector. It would also set the basis for electricity market coupling with those areas without risking harming the level playing field between market participants.

With regards to market coupling, Eurelectric notes that an implicit allocation could simplify the application of CBAM for purchases through power exchanges while explicit allocation may simplify it for net-zero cross border PPAs. Eurelectric underlines that the linking of electricity markets should be pursued whilst guaranteeing the enforcement of a level playing field, notably ensuring a consistent carbon pricing across the coupled regions. Ongoing negotiations and timelines for market coupling should not be undermined by pending questions about the implementation of the CBAM regulation.

In our view, the Regulation needs to account for the nature of electricity traded on Exchanges. In order to find solutions, we recommend to:

- ➔ Initiate joint working groups between the EU and (market-coupled) non-EU countries to align emissions monitoring and reporting standards;
- ➔ Link the ETS with neighbouring geographies implementing such emission systems and with which important electricity exchanges are in place as implemented with Switzerland or as envisaged in the 2020 Trade and Cooperation Agreement (TCA) between UK and the EU;
- ➔ Ensure a more representative calculation for the default emission values and CO2 emissions factor; This should also consider integrating a more reflective carbon price, based on hourly levels, especially in a context of negative prices becoming increasingly common. This would lead to CBAM being applicable only during hours when fossil fuels are price-setters.
- ➔ Ensure workable requirements to demonstrate actual emissions;
- ➔ Acknowledge that a carbon price has been paid for electricity purchased on Power Exchanges;
- ➔ Explore whether the use of Guarantees of Origin or similar tools (e.g. RECs) can be used for the traceability of electricity in these circumstances.

Consultation with stakeholders is also crucial, as the CBAM will be fully applied to all electricity imports on 1 January 2026. Electricity generation does not receive free allowances under the EU ETS and therefore does not benefit from a gradual phase-in of CBAM requirements. In this context, we urge the Commission to undertake a thorough impact assessment on electricity imports, including a cost-benefit analysis. This could seek to identify i. (methodological) improvement needs, ii. impact on consumers and investments, as well as iii. elements for simplification, such as providing a rigorous basis for setting a *de minimis* threshold for exempting small, occasional electricity importers from declaring under CBAM.

Determination of default values and possibility to declare actual emissions

a. Default values

Annex III (D.2.1) of the Implementing Regulation stipulates that the CO2 emission factor values for a third country will be based on data from the International Energy Agency (IEA). Eurelectric understands that default factors provide a standardised, simplified approach for estimating emissions, thus reducing complexity and administrative burden. However, this approach comes with the risk of a skewed picture of imported emissions and an inadequate incentive to decarbonise generation in third countries, as it is not reflective of the latest decarbonisation efforts.

Importers appreciate the flexibility provided by the possibility to use alternative dataset for reporting purposes. However, we encourage having datasets and methodologies agreed in advance, to maintain the level playing field between reporting parties and ensure the options used are acceptable for authorities.

Additionally, the current methodology for the calculation of default values does not properly reflect the rapid evolutions of the power mix. For instance, an AFRY study[3] showed that the carbon intensity applied to flows from GB to the EU, calculated as a five-year historic weighted average of fossil fuel generation CO2 emission factors, starts at 463gCO2/kWh in 2026. However, in 2026, the GB emissions intensity at times when it exports to Belgium is expected to be around 80gCO2/kWh 50% of the time, and less than 300gCO2/kWh, in all scenarios.

In our view, the Commission/ competent authorities should agree on alternative sources of data that are more accurate, recent and acceptable to provide certainty, consistency, to reduce bureaucracy, risk of error, and risk of disputes with competent authorities. If any alternative datasets are accepted, this should be communicated to the entire market.

- ➔ CBAM needs to be a fair instrument that properly recognises efforts and provides a positive incentive for third countries' decarbonisation. Thus, we recommend revising the formula for calculating the default values, to reflect the proper carbon content of imports. This implies, among other, reducing the five-year average, or by allocating greater weight to the more recent years/ the year prior to the export. Ultimately, a shift to hourly carbon intensity would be most representative.
- ➔ Importantly, a change to the calculation of emissions factors is also needed. Currently, this is calculated based on fossil fuel generation in the exporting county. It is desirable that the methodology properly accounts for the presence of renewable and low-carbon generation in the mix.
- ➔ The specific features of the power sector, including the fact that generated electricity follows the path of least resistance and is mostly consumed at the time when it is produced (limited storage options) and the variations seasonal/hourly need to be considered. Ideally, a meaningful emission factor should reflect the CO2-content in the relevant hour considering all generation technologies.
- ➔ In addition, we call on the European Commission to publish third-country default value calculation methodologies earlier than Q4 2025, which is the current announced timeline, in order to give importers more visibility for the coming year.

[3] AFRY. "EU CBAM Study: Summary Report." March 6 2024. https://afry.com/sites/default/files/2024-03/afry_eu_cbam_impact_study_summary_report_mar_2024_v200.pdf

b. Actual emissions

Europe should seek to have the most accurate view on imported emissions. Therefore, it is important to ensure that criteria enabling reporting on actual emissions can be used by obliged parties. Currently, the cumulative criteria are too stringent, involving too many third-party data holders and not aligned with market practices to be applicable. In particular, the references to PPAs, congestion and the frequency of third-party verification would require re-assessment.

For instance, it is our understanding that imports from a renewable energy-based producer that has not purchased any UK-ETS-certificates because it did not emit any CO2, will still require CBAM certificates, when importing into the EU via Power Exchanges. This is the case even when the power is sold directly in an EU Member State, by reserving capacity on an interconnector, but no (direct) Power Purchase Agreement (PPA) has been concluded.

On Power Purchase Agreements (PPAs) several issues have been identified:

1. There are inconsistencies between the CBAM definition of PPAs and the Electricity Market Design definition, the CBAM one being more restrictive, requiring a direct contractual relationship between the importer (authorised CBAM declarant) and the power generator. This excludes situations where other market actors play an intermediary role in pooling supply from various producers and offering more tailored supply to the end consumer (cf. definition used in the RED III).
2. It should be noted that PPAs mainly serve as derisking instruments and not a traceability instrument;
3. The obligation to be part of PPAs excludes other long-term contracting instruments, such as Contracts for Difference (CfDs), and runs the risk of driving liquidity away from Exchanges – ultimately leading to increases in spot wholesale prices;
4. At this stage, we are not aware of the existence of PPAs concluded between non-EU & EU parties.
5. Clarity is needed on whether virtual PPAs can also be considered for this purpose.

On congestion:

1. It might be pertinent to consider whether it is possible to guarantee that over the duration of a PPA (5-10 years) no congestion will emerge across the transited grid. This adds significant risks to the PPA contract, particularly as conditions leading to congestions often cannot be foreseen.
2. In addition, real-time congestion data is not available everywhere.
3. Importantly, the congestion management decisions are the prerogative of the TSO, thereby making carbon pricing on certain imported volumes completely unpredictable and outside the influence of importers.

On third party-verification: frequency and access to data

The required third-party verification of fulfilment of the cumulative requirements adds another costly administrative constraint on the feasibility of reporting actual values, also considering that some data (such as the congestion data) might only be available retroactively and that a monthly verification is excessively frequent considering the quarterly reporting obligations.

Beyond the stringency of the Regulation, reporting parties also face difficulties to access data in third countries. In some cases, data is either unavailable or only provided in the language of the exporting country. But most importantly, importers are not in position to cross-check its validity.

We recommend:

- ➔ Exploring more EU TSO - Non-EU TSO collaboration for data sharing, while encouraging TSOs in the country of origin to play a greater role in ensuring imports are not attributed an inaccurate level embedded carbon emissions.
- ➔ Setting up a transparent system where market players have access to all information.
- ➔ Reconsidering the frequency and pertinence of external verification of the fulfilment of cumulative requirements.

The Omnibus Simplification Package brings some improvements, but major issues at play still need to be addressed in upcoming CBAM and ETS developments

The Omnibus I simplification package, revealed on February 26 by the European Commission, ambitions to ease the administrative burden caused by the CBAM Regulation. While proposed changes do not solve major issues highlighted in previous pages, we welcome the provision regarding the possibility for the EC to publish default carbon prices.

Moreover, we regret that electricity importers do not benefit from a reduction of administrative burden in case of small, occasional imports, as introduced for four other CBAM sectors. We believe the European Commission should provide equal treatment for all CBAM sectors and that setting a specific *de minimis* threshold for electricity importers would be beneficial. As mentioned above, electricity trading has multiple specificities which must be considered.

Additionally, larger CBAM importers that are not concerned by this threshold can now delegate submissions to a third party (e.g. consultants or environmental experts). This is a step in the right direction, and we call to explore extending this simplification to CBAM certificate purchasing and surrendering.

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