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The EU has a transformative mechanism to reduce carbon leakage, but challenges loom ahead

When companies face steep carbon prices in a country, they often move production to places with lower or no pricing. To address this problem, the European Union created the Carbon Border Adjustment Mechanism. But, for developing countries, the mechanism imposes trade barriers that could stifle their growth and green transition. Ram Smaran Suresh Kumar breaks down the policy's key features, examining its challenges and opportunities for a sustainable future.



The European Union has been a global leader in climate policy, with the EU's emissions trading system (ETS) at its core. However, European industries face a competitive disadvantage due to the higher carbon prices they face compared to firms in non-EU countries, leading to potential carbon leakage, when companies shift production to regions with lower or no carbon pricing.

European firms operating in sectors covered by the EU ETS face carbon prices that are currently around €60-70 per tonne of CO₂. Many non-EU countries do not impose carbon prices on their industries, creating a cost advantage for firms operating outside the common market. To address this competitive imbalance and prevent leakage, the EU introduced the Carbon Border Adjustment Mechanism (CBAM), which imposes a tariff on imports of carbon-intensive goods based on their embedded emissions. CBAM, which will take full effect in January 2026, aims to create a level playing field for EU and non-EU producers while advancing global decarbonisation efforts.

Free allowances are currently provided to EU firms in ETS-covered energy-intensive sectors that are most susceptible to leakage. These allowances disincentivise firms from relocating outside the EU

by letting them emit freely, without paying a carbon price, up to a threshold. However, this undermines firms' incentives to invest in emissions reductions. Free allowances will be gradually phased out as CBAM is implemented, giving these firms an incentive to invest in decarbonisation, since they will no longer be shielded from carbon prices.

Key features

Sectoral coverage

CBAM will initially apply to carbon intensive goods that are most susceptible to leakage. This includes cement, iron and steel, aluminium, fertilisers, electricity and hydrogen.

Phased implementation

The mechanism will be gradually phased in starting from January 2026, accompanied by a phase-out of free allowances (see Table 1). It is currently in a transitional phase where importers of CBAM goods declare emissions embedded in their imports, but do not pay for them.

Emissions scope

For iron and steel, aluminium and hydrogen, CBAM covers only CO₂ directly emitted during production. However, for cement and fertilisers, the mechanism covers direct and indirect emissions from the electricity used in the process.

Price

The price of CBAM certificates will be identical to the weekly average auction price of EU ETS allowances (measured in € per metric tonne of CO₂). This makes the price of imported carbon equivalent to the domestic price. If a non-EU producer pays a carbon price in their home country, this price can be deducted from their CBAM obligation.

Table 1. Timeline for CBAM phase-in and free allowances phase-out

	2026	2027	2028	2029	2030	2031	2032	2033	2034
CBAM (%)	2.5	5	10	22.5	48.5	61	73.5	86	100
Free allowances (%)	97.5	95	90	77.5	51.5	39	26.5	14	0

Source: European Parliament, "Climate change: Deal on a more ambitious Emissions Trading System (ETS)," [Press release](#), 18 December 2022.

While the EU's CBAM is an ambitious and innovative policy, many issues need careful assessment.

Impact on developing countries

Developing countries need to carefully balance their growth needs with their climate ambitions. Since they typically export carbon-intensive goods, CBAM imposes a disproportionate burden on them. They also typically have dirtier power grids, and firms may face higher costs from their indirect emissions, despite having limited control over the energy mix of power grids. These costs may slow down the green transition of developing countries, while also hampering their growth ambitions.

Additionally, CBAM's one-size-fits-all approach to carbon pricing ignores the principles of equity and common but differentiated responsibilities from the Paris Agreement. Developing countries with historically lower emissions and fewer resources will face a uniform carbon price regardless of their development status. To mitigate these impacts, the EU could have recycled CBAM revenues to support developing countries' transition efforts, but this provision was not included in the final legislation.

To avoid paying CBAM tariffs to Brussels, developing countries may implement their own carbon pricing systems (and retain associated revenues). However, many lack the institutional capacity to develop such systems and require technical assistance from developed nations, which the EU has committed to providing. Moreover, these countries face compliance costs, which could be exacerbated if other developed nations adopt CBAM schemes with different compliance requirements, adding to the regulatory burden.

Product coverage

As it stands currently, CBAM may still be vulnerable to carbon leakage due to incomplete product coverage.

Substitute goods

CBAM products may have carbon-intensive substitutes that are not covered by the mechanism, and EU firms may gradually switch to these dirtier substitutes.

Intermediate vs final goods

If CBAM covers an intermediate good used in production but not the final good, EU firms in these sectors will become uncompetitive in domestic and foreign markets since they face higher input costs compared to their global counterparts and non-EU firms can export the final good to the EU without incurring CBAM. This increases the likelihood of leakage in downstream sectors and undermines the competitiveness of export-facing industries in the EU. Although the issue of export competitiveness could be mitigated by export rebates, such measures may not be WTO compliant.

These issues suggest that CBAM does not go far enough in terms of product coverage. Although there is merit in starting with a few sectors, CBAM needs to be expanded to cover all goods under the EU's ETS to be more effective in preventing leakage.

Dumping concerns

The mechanism could result in polarised production patterns and supply chains, with dirty firms redirecting their exports to markets without carbon border taxes, and clean firms serving the EU market. This makes other developed countries without a CBAM susceptible to dumping, risking harm to their domestic industry. The UK steel industry has **expressed** such concerns; the UK is an attractive destination to redirect exports of cheap, dirty steel given its geographic proximity to the EU. Non-EU countries may implement their own CBAM to avoid this.

WTO compliance

The EU insists that CBAM is compliant with World Trade Organization (WTO) rules. However, there is some legal uncertainty around this.

GATT Article I (most favoured nation principle)

This mandates that imported goods from any country should be treated equally. However, CBAM imposes different tariffs based on the existence and level of a carbon price in the exporting country. The EU contends that this is not discriminatory, given different countries adopt different approaches to carbon pricing.

GATT Article III

This stipulates that internal regulations, laws and trade practices do not provide preferential treatment or protection for domestic goods over imported products. CBAM imposes higher tariffs on imported goods with higher emissions intensity than their EU counterparts. However, the WTO may consider that same products with different emissions intensities (because they were produced using different manufacturing methods) are not “like” products.

CBAM’s compliance with WTO rules will formally be tested only when a country brings a dispute to the WTO. The EU has indicated that it will pursue a GATT Article XX(B) defence, which provides exemptions for policies that are “necessary to protect human, animal or plant life or health”, only as a last resort.

The road ahead

It remains to be seen how CBAM will impact future trade and climate policy. It could incentivise countries to join the EU in implementing carbon pricing and carbon border taxes. The UK is planning to introduce its own carbon boarder adjustment mechanism by 2027. However, it could also result in increased protectionism and trade frictions, with retaliation from developing countries. This can result in higher prices and possibly slow down the adoption of green technologies.

CBAM is a pioneering step in aligning trade and climate policy, but its long-term success will depend on how it addresses the concerns of developing nations and the potential for increased global trade frictions. The EU should monitor its impact closely, ensuring that developing countries receive adequate support and avoid unfair burdens. It remains to be seen how transformative CBAM will be, but it certainly has the potential to reshape global trade and climate policy for years to come.

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- This blog post follows an LSE Event on “Trade and climate change: managing policies on the road to net zero”, which took place on 25 September 2024 as part of LSE Environment Week. A recording is available [here](#).
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