INEVITABLE POLICY RESPONSE

Global Carbon Pricing: Assessing the potential of the EU CBAM and Climate Clubs

Report prepared by Kaya Advisory for the Inevitable Policy Response

May 2022

Kaya

Policy analysis by Kaya, foreword by IPR

This short paper by Brian Hensley and Marie Louise Gammelgård-Larsen at Kaya Advisory, a specialist climate policy consultancy, has been commissioned by the Inevitable Policy Response (IPR). It assesses the state of global carbon pricing, evolving policies around the EU Carbon Border Adjustment Mechanism (CBAM) and concepts such as Climate Clubs. The views in this report do not necessarily reflect the views of IPR.

IPR is a research consortium commissioned by the Principles for Responsible Investment (PRI) whose aim is to prepare investors for the portfolio risks and opportunities associated with accelerating policy responses to climate change. The output of IPR consists of the 1.8°C Forecast Policy Scenario (FPS) and the 1.5°C Required Policy Scenario (RPS). Both the FPS and the RPS are intentionally designed to be long-term, running out to 2050 and beyond. Both scenarios assumed emissions rose slightly out to 2025/6 when published last October 2021.

PRI commissioned the Inevitable Policy Response in 2018 to advance the industry's knowledge of climate transition risk, and to support investors' efforts to incorporate climate risk into their portfolio assessments.

PRI Principles for Responsible Investment

This report is funded in part by the Gordon and Betty Moore Foundation through The Finance Hub, which was created to advance sustainable finance.

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A research partnership led by Energy Transition Advisers and Vivid Economics undertakes the initiative's policy research and scenario modelling and includes Kaya, 2Dii, Carbon Tracker Initiative, Climate Bonds Initiative, Planet Tracker and Quinbrook Infrastructure Partners.

The consortium was given the mandate to bring leading analytic tools and an independent perspective to assess the drivers of likely policy action, and the implications on the market.

Leading financial institutions joined the IPR in 2021 as Strategic Partners including BlackRock, Fitch Ratings, Nuveen, BNP Paribas Asset Management and Goldman Sachs Asset Management.

IPR Foreword: The long-term Forecast Policy Scenario (FPS) remains unchanged

IPR forecasts a significant advancement in carbon markets as well as increased prices. The emergence of the CBAM was predicted as a tool for encouraging such developments as the EU sought to address free allowances and give a fair outcome for EU industry. The CBAM has been championed by President Macron and is currently making its way through complex EU policy making procedures.

This paper by policy expert group Kaya explores that in detail. While Kaya expect adoption of a CBAM framework, moving to full implementation is expected to meet many hurdles.

Even if not fully implemented, 'Climate Clubs', as suggested by Chancellor Scholz, could be further stimulated to emerge in response to the CBAM process. These 'clubs' might be defined as bespoke alliances between nations which allow for the embedding of carbon content into trade. They would operate at a sectorial level reflecting a combination of explicit and implicit carbon pricing features (measuring the impact of other policies in carbon price equivalents) and include industry incentives. In effect anything that might shift the dial.

In impact terms, the IPR forecasts remain valid: an acceleration in climate policy, including a proliferation of carbon pricing globally and higher carbon prices.

Figure 1 IPR 2021 Carbon Price Policy Forecast

Tier	Country	Forecast Policy Response
Tier 1	Canada	Signal or backstop of US$85 by 2030
	France Germany Italy UK	US$75 by 2030
	USA	US$65 by 2030
	China Australia Japan Korea	US$60 by 2030
Tier 2	India Mexico South Africa Turkey	US$50 by 2030
Tier 3	Argentina Brazil Indonesia Vietnam	US$45 by 2030
	Nigeria Russia Saudi Arabia	US$35 by 2030

Legend ▲ higher ambition ▼ lower ambition ● no change

Notes: carbon prices are in real 2020 US Dollars (US$)

Source: Vivid Economics

Mark Fulton, IPR Project Director

Executive Summary

- Carbon pricing will grow, inevitably, as a tool used by policy makers. But it is important to recognise that carbon pricing can take many forms. To date, results for *market-based* pricing have been patchy and challenges persist for this avenue. New tools, such as the EU's Carbon Border Adjustment Mechanism (CBAM) are attempting to remedy for that.
- A historic energy crisis and the Russia-Ukraine War have sharpened focus on a significant variable in this space, namely geostrategic considerations of nations in a new world order defined by conflict, national energy security and 'friendshoring' of supply chains.
- The EU stands at the vanguard of market carbon pricing with its advanced Emissions Trading System (ETS). A proposed Carbon Border Adjustment Mechanism is currently being negotiated in the EU Parliament and Council. Its aim is to create a level playing field for European industry and, if implemented, could help spur the spread of carbon pricing globally.
- While the CBAM might be 'agreed' and 'adopted', our analysis finds it will need to overcome significant hurdles in order to be fully 'implemented' in the form currently proposed by the European Commission. The distinctions between these stages and their associated hurdles are discussed in this paper.
- Regardless, the proposed CBAM is pivotal in the evolution of global carbon pricing. It's most powerful feature: serving as a negotiation tool which brings heavier emitting trade partners to the decarbonisation table.
- Should full implementation of an EU CBAM not occur, global carbon pricing can still progress. One avenue for this would be via 'Climate Clubs' (otherwise known as carbon clubs), which for the purposes of this note can be described as *bespoke alliances between nations which allow for the embedding of carbon content into trade.* Structured correctly, these would represent a concrete advancement on current high-level country promises.
- Climate Clubs have the advantage of being more politically feasible than a CBAM. They allow for the incorporation of a broader suite of emissions policies which can be combined to extract an 'implicit' carbon price as opposed to an 'explicit' carbon price as seen with market derived carbon trading regimes.
- In the friendshoring world, Climate Club flexibility could allow for greater inclusion of nations, the achievement of geostrategic goals by nations and bring in new sponsorship for carbon considerations in policy. As a potential, fortunate consequence they could accelerate carbon pricing's role in the transition.

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1 Introduction

Global carbon pricing has a record of mixed success. This is not surprising given the complexity and existence of competing interests. But carbon pricing is important for the transition: if set at a high enough price, it induces behavioural change, thus forcing heavy emitters to either pay the price or develop less harmful ways to conduct business. Carbon *markets*, such as a 'cap and trade' systems, have proliferated in recent years. As we highlight below, this has not coincided with prices reaching levels sufficient to induce effective change. All the while, emissions are still rising.

Importantly, *carbon pricing is about more than trading a tonne of emissions in formalised markets.* Historically, environmental regulation and policies delivered the side benefit of lowering the pace of harmful greenhouse gas emissions. The growing recognition that this side benefit must become the primary aim has led to more concerted efforts by public and private actors to lower emissions. These efforts take many forms such as industrial policy measures (e.g. targeted use of subsidies), regulation (e.g. renewables as a % of primary energy) or outright taxes on emissions. A fourth avenue lies in market-based measures such as 'cap and trade' systems. *All of these measures infer a form of carbon pricing.* Industrial policy and regulation can be seen as imposing an *implicit* price on CO_2 while taxes and trading entail *explicit* pricing.

How might this all develop further? In this paper we focus carefully on the world's leading carbon market, the EU's ETS and its accompanying solution for 'carbon leakage', the CBAM. The CBAM is elegant in theory and simple in construction but is plagued by challenges. So much so that *we feel its full implementation as a functioning tariff and as currently proposed by the EU Commission will be very challenging*. Indeed, the Commission's own proposal hints at this[1]. This does not mean that an '*agreement*' and, indeed, '*adoption*', will not occur. Nor does it mean the CBAM is not a powerful tool for decarbonisation even if it falls short of full '*implementation*'.

Enter the new variables: an energy crisis of nearly unprecedented proportions combined with a structural shake-up of global relations as a result of the Russia-Ukraine War. These elements together have ushered in a new world order. Nothing will be the same again, and that goes for carbon pricing too.

In a recent piece written for the Inevitable Policy Response entitled *Ukraine War: The new geo-politics of energy and implications for climate policy*[2] , we postulate that nations will be forced to consider national security for energy and food much more carefully.

The long-term implications of this shift have serious ramifications for decarbonisation efforts. Globalisation as a phenomenon has likely seen its high-water mark, nations are picking their friends and enemies. As a result, dependence upon once-trusted national and corporate actors will no longer be taken for granted, supply chains will be restructured, and domestic industries created where little existed before. The 'silver lining' for the climate as a result of these geostrategic shifts will likely be that renewables development accelerates given the energy independence they offer.

When it comes to supply chain realignment, the new strategy of 'friendshoring' will increasingly dominate. This involves nations cutting out actors on who they feel they cannot or should not depend upon. Friendshoring will create new industries in places they did not previously exist and, accordingly, will have significant micro and macroeconomic impacts.

[1] European Commission (2021) Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a carbon border adjustment mechanism. Available at: https://ec.europa.eu/info/sites/default/files/carbon_border_adjustment_mechanism_0.pdf
[2] IPR (2022) Ukraine War: The new geo-politics of energy and implications for climate policy. Available at: https://www.unpri.org/inevitable-policy-response/ukraine-war-the-new-geo-politics-of-energy-and-implications-for-climate-policy/9766.article

And here we come to carbon pricing. *The same tools used to impose implied carbon prices can also be used to carry out geostrategic aims.* Trade policy between nations is both a carrot and a stick. Embedding carbon-aligned policies can and likely will become a weapon (of sorts) which incentivises alignments that also achieve domestic national policies, up to and including protectionism for industry.

Thus, national security and climate policy become aligned and new sponsorship for carbon pricing is created. We discuss how even the Republicans in the US are supportive of a protectionist trade policy linked to climate change mitigation (albeit not dependent upon an explicit carbon price).

The US-EU Steel agreement[3] is one precedent whereby two trading partners, unlikely ever to be bound by a formal CBAM, can conduct trade in a way that incorporates emissions of the underlying product: a mini Climate Club. Climate Clubs are eminently flexible, indeed as a consequence of not specifically being defined as of time of writing. By allowing for both implied and explicit pricing of carbon, they can be crafted to each countries needs and allow usage of the tools at hand (e.g. existing environmental regulation) as opposed to being constrained by aspirations for formalised border adjustment mechanisms between nations at different stages of carbonisation. They are not easy to construct but offer the chance to use every means available to account for carbon, something the world needs now.

[3] White House (2021) Joint US-EU Statement on Trade in Steel and Aluminum, Available at: https://www.whitehouse.gov/briefing-room/statements-releases/2021/10/31/joint-us-eu-statement-on-trade-in-steel-and-aluminum/

2 The state of global carbon pricing

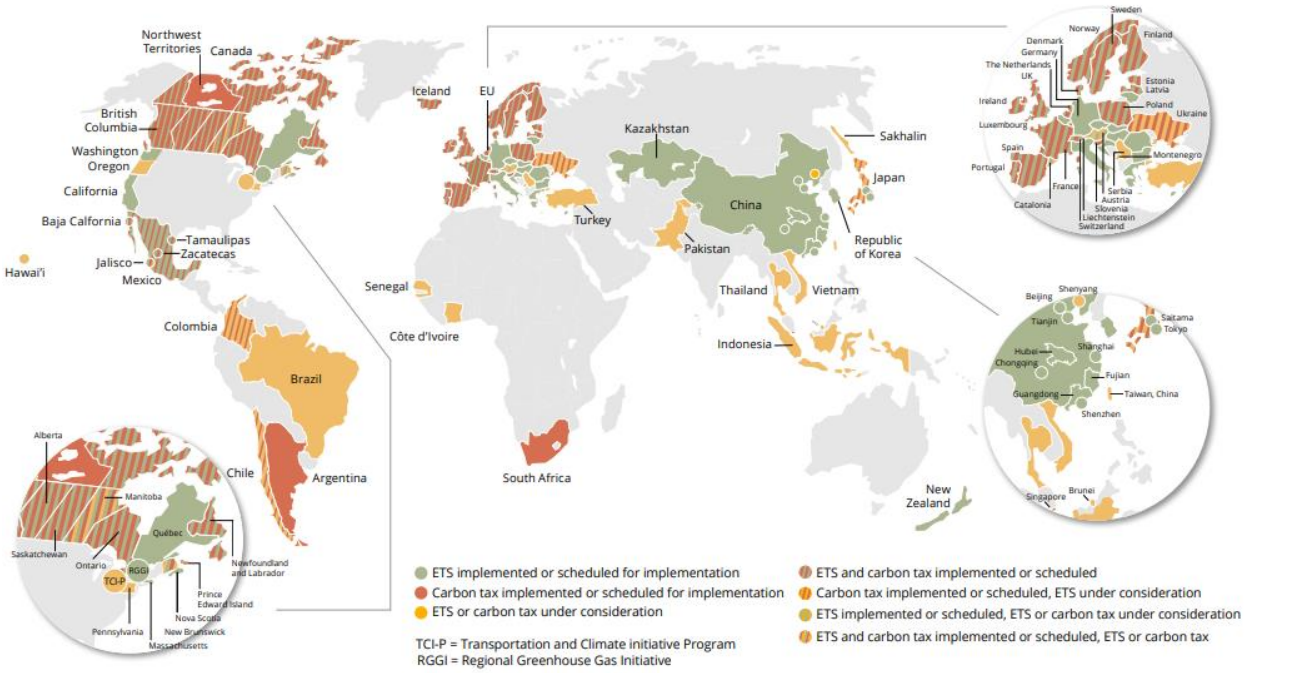
Carbon pricing regimes continue to proliferate and expand. The most recent data from the World bank shows sixty-five different carbon pricing initiatives globally covering 11.6GT of emissions, nearly 22% of the annual global total[4], see Figure 2. China has recently implemented the largest Emissions Trading System in the world, albeit one that is currently weak in structure given a lack of a 'cap' or limit, on total emissions in the system. Varying degrees of robustness aside, the momentum among nations and/or geographical regions within nations towards carbon pricing continues.

A critical element in carbon pricing is not only the existence of the pricing regime but also that the price is high enough to achieve the ultimate aim, namely that industries in the relevant sectors will eventually find it cheaper to develop lower-emission ways of doing business compared to buying emission certificates in the marketplace. In a 2021 study[5], the World Bank found less than 4% of emissions trade at a level consistent with achieving the aim of the Paris Agreement, an initiative in which 196 nations agreed to work towards keeping the rise in global emissions by century's end to no more than 2°C and ideally 1.5°C.

If only 4% of carbon prices trade at required levels and given 22% of the world's emissions are currently covered by carbon trading regimes, then one can reason that less than 1% of global emissions are subject to a carbon price which induces significant emission reduction.

With the exception of a brief sell-off during the initial phases of the Russia-Ukraine War, carbon prices have risen substantially in the last year. Policy developments favour further expansion of carbon trading regimes in some form. Crucial in this dialogue is an understanding of which actual mechanisms will assist this process.

Figure 2 Map of carbon pricing 2021



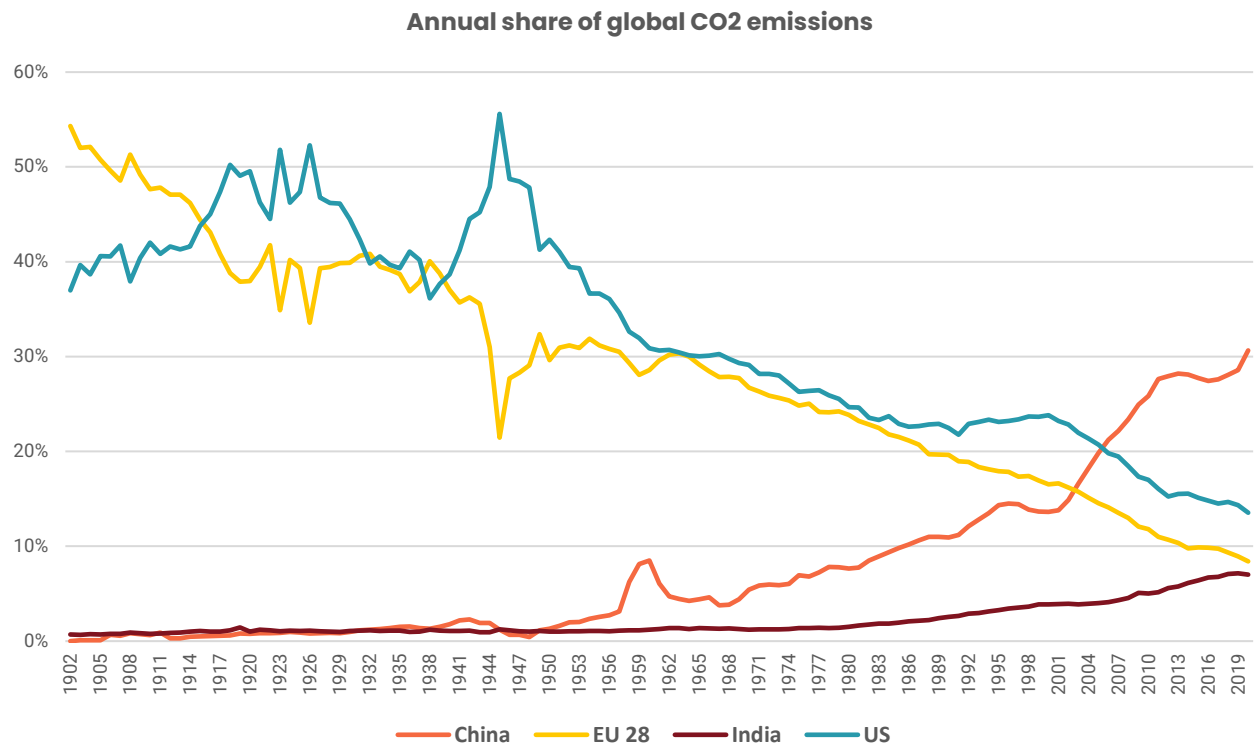
Source: The World Bank, May 2021

[4] World Bank (nd) Carbon Pricing Dashboard Available at: https://carbonpricingdashboard.worldbank.org/map_data
[5] World Bank (2021) State and Trends of Carbon Pricing, Available at: https://openknowledge.worldbank.org/handle/10986/35620

Timing matters when it comes to influencing global carbon pricing from an international perspective. As a region, the EU is adopting a mantle of leadership with its ETS and CBAM. It is able to do this because of the bloc's large economic clout as shown by its share of global GDP at a still robust 14%-15%. The EU's share of emissions however are under 10% and falling steadily relative to the rest of the world.

Figure 3 below shows historical emissions for the EU, the US, China and India. Going forward, developing countries will dominate the global emissions profile. It is key that those nations and regions with current economic power and who wish to influence global emissions on a forward basis pursue policies now, which are correctly designed to foster a robust following from the future high emitters.

Figure 3 Annual share of global CO2 emissions



Source: Kaya Research

3 Carbon Pricing in the EU

To understand our view that the CBAM may never see full implementation as currently envisaged, we need to explain in some detail how it all works. Section 4 explores further.

In the EU, climate ambitions are enshrined in legislation. The European Climate Law legally obliges the European Union to achieve climate neutrality by 2050 and to reduce greenhouse gas emissions by 55% by 2030 compared to 1990 levels. To implement this increased ambition, on 14 July 2021, the EU Commission presented a first series of legislative proposals known as the "Fit for 55" package. This package sets out to revise the entire EU 2030 climate and energy framework. There are 15 separate legislative items, or 'files', in the Fit for 55 package. All of these items are being negotiated currently by both co-legislators in the EU decision-making process: the European Parliament and the Council.

The whole process is complex but for the sake of this paper the important files to know are the revision of the EU ETS, the proposed ETS2 and the proposed CBAM.

The heart and soul of carbon pricing in the EU is the Emissions Trading System which is the most advanced carbon pricing system in the world, putting a cap on emissions on the most energy-intensive industries (e.g. oil refineries, steelworks and producers of iron, aluminium, cement paper and glass, as well as civil aviation within the EU).

The EU ETS has successfully brought down emissions from these sectors by more than 40% over the past 16 years[6]. The cap on emissions is enforced by artificially creating a limited pool of allowances. These can then be traded freely among industrial players.

The ETS is a 'cap and trade' structure whereby a maximum amount of emissions is allowed for certain sectors and the industry players within those sectors reach a tradable price for each tonne of these emissions according to how much they emit. The allowable emissions are pre-ordained to decline over a certain amount of years on a pre-determined schedule. If the system works as designed, the ETS should provide a powerful mechanism to help the EU meet its legally mandated climate goals.

Due to 'free allowances' being handed out to heavy polluters to protect their competitive positions vis-à-vis third countries, the system was not always successful in ensuring a high enough price on carbon to incentivise investment in cleaner options. However, with a consistent evolution of the system to accommodate a speedier phase-out of free allowances and a steeper reduction of total allowances in the system, the ETS price rose to over sixty euros per tonne of CO_2 in 2021 and has reached levels as high as 90 euros per tonne of CO_2.

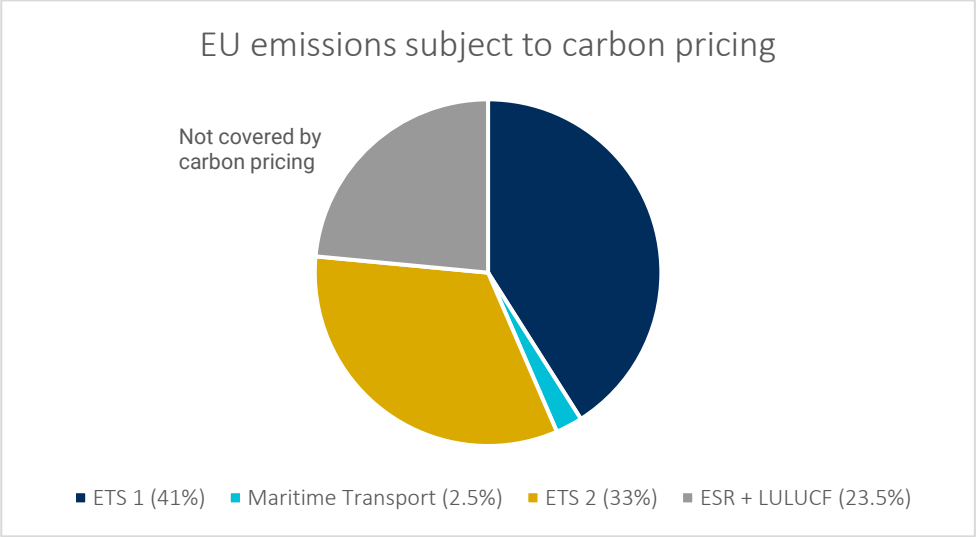
This 'market-based' mechanism is different from a traditional carbon tax which works in the opposite way in that a tax fixes the price and leaves the amount of emissions to fluctuate. Alternate tools for reducing emissions include the use of industrial policy measures (e.g. subsidies) or regulation. Market-based, tax, industrial policy and regulation are all emission reduction strategies, each with its own pros and cons, supporters and detractors. One idiosyncrasy of the tax strategy is that it is harder to implement from a policy perspective given, as a fiscal measure, it normally requires a much higher voting threshold.

[6] European Commission (2021) European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions. Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541

The current EU ETS scope, which includes sectors such as steel and cement, represents 41% of EU emissions. As part of the Fit for 55 package, a proposal is underway to expand the current ETS system to include maritime transport (covering an additional 2.5%), as well as the establishment of a new ETS2 covering buildings and road transport (an additional 33% of emissions).

Thus, the proposed measures would roughly double the share of emissions covered, leaving only a quarter of emissions unaddressed. That last quarter contains the vestiges of emissions including from 'Land Use, Land-Use Change and Forestry' (LULUCF) and areas for binding national climate targets amongst EU member states in the Effort Sharing Regulation (ESR). See Figure 4 below.

Figure 4 EU Emissions subject to carbon pricing

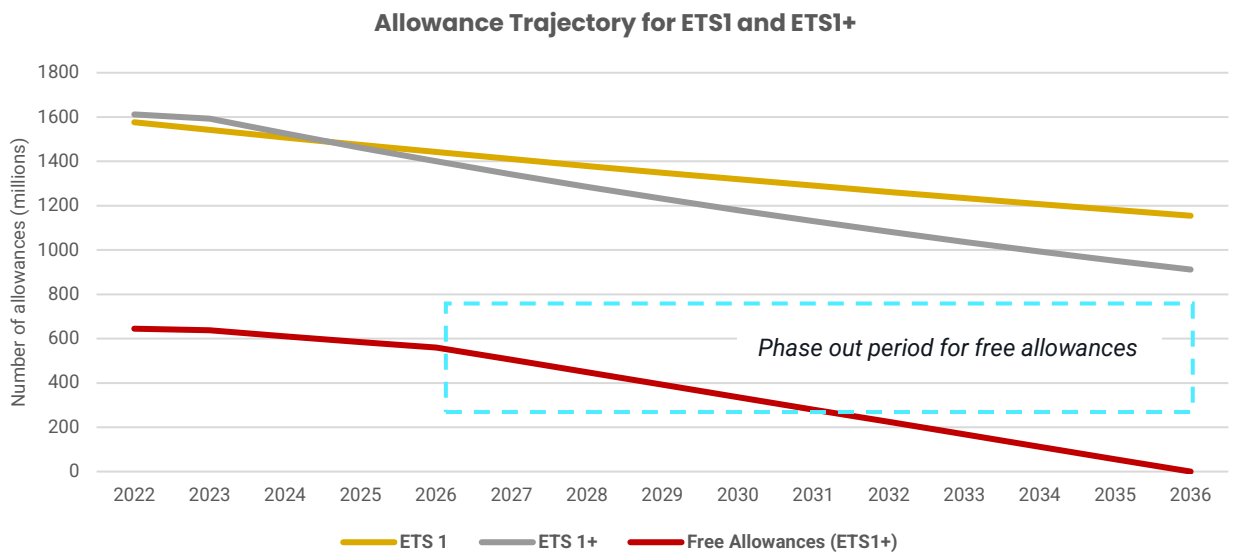


Source: Kaya Research

The declining allowance trajectory for the existing ETS system (here referred to as ETS1) is being re-negotiated with a proposed increase in the rate of decline, see Figure 5. Also, maritime transport will be included (ETS1+). Free allowances given to heavy industry are proposed to be phased out from 2026-2036 as the CBAM is phased in. We will elaborate on this point below.

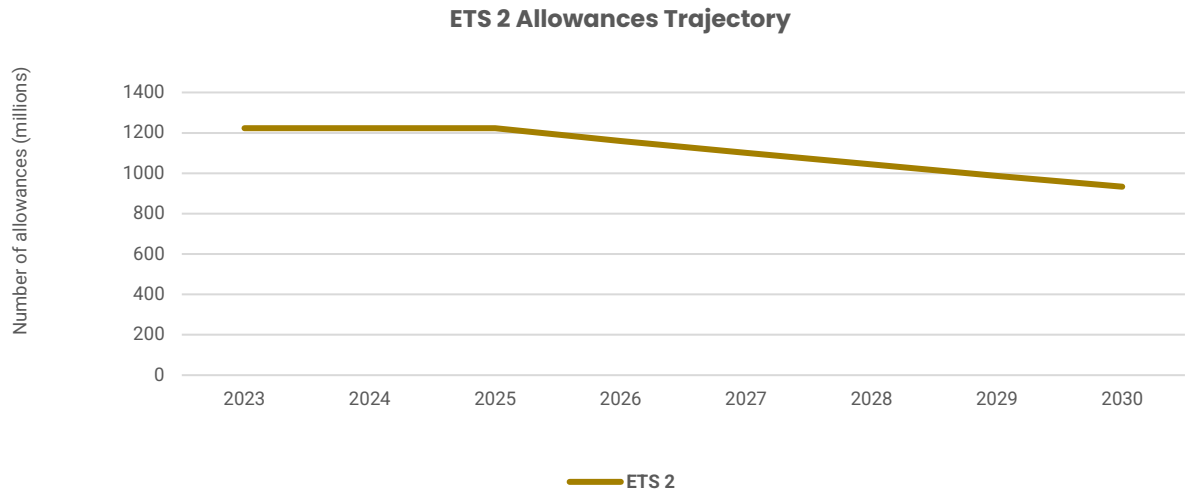
The trajectory for allowance reduction as foreseen under the new ETS2 for buildings and road transport is shown in Figure 6. There are no free allowances foreseen under the ETS2 and the CBAM will not apply to ETS2 covered emissions.

Figure 5 Allowances Trajectory for ETS1 and ETS1+



Source: Kaya Research

Figure 6 ETS 2 Allowances Trajectory



Source: Kaya Research

4 Carbon Border Adjustment Mechanism (CBAM)

To understand the CBAM, one first needs to know about 'free allowances' under the EU ETS system, as the CBAM is meant to replace these.

In the current ETS system, about 40% of allowances are given freely to heavy industry. This is done to disincentivise 'carbon leakage,' whereby domestic companies forced to pay for emissions move the base of their operations to cheaper, and often more polluting, regions where a carbon price may not exist or is traded at cheaper levels. However, the sustainability of free allowances is actively challenged given they protect some of the worst emitting industries and prevent the price on emissions from reaching the high level needed to incentivise investment away from fossil fuels. In other words, they muffle an important 'price signal' necessary to transition away from fossil fuels and toward renewables. It is also expensive for the EU to miss out on the value of the free allowances that could instead raise revenues from auctioning.

Despite the unsustainability of free allowances, something is needed to ensure a level playing field for EU industry to be able to compete with actors not facing the same carbon price. Thus, while carbon pricing is a feature in around forty countries worldwide, nowhere has the price of carbon reached a level near the EU ETS. China, who introduced the world's largest ETS system in 2021, is handing out all allowances for free. A more stringent carbon pricing structure leaves EU industry at a disadvantage vis-à-vis third country actors.

The proposed CBAM would gradually eradicate free allowances and the accompanying protection they provide to heavy emitters. Rather than allowing industry to continue to pollute, the CBAM would target companies importing certain products into Europe and make them also pay the internal EU price of carbon. In this way, the CBAM sets out to create a level playing field for products produced in Europe and imported products to enable fair competition at the European market the CBAM, in effect, acts as a tariff.

The phase out of free allowances on a pre-defined schedule is a prerequisite for phasing in CBAM. If that were not done, there would be double protection for EU industries. By default, the design of the CBAM incentivises all industries in Europe to move forward in their decarbonisation efforts, as they will no longer be afforded a free lunch in terms of emissions. Only once industry is forced to decide between spending money on allowances or developing cleaner production methods will actual emission progress take place. This of course includes a passing on of these costs to the consumer who will ultimately pay a higher price for any products subject to emission costs.

The CBAM is a powerful negotiation device already. It incentivises non-EU governments to move forward on their own carbon pricing schemes, allowing them to benefit from the revenue created by selling emission allowances rather than having their industrial products being subject to an import tariff when they arrive at the EU market. If these non-EU governments introduce their own carbon pricing by way of an ETS or similar, they would be exempted either fully or partially from having the CBAM applied to their products.

So, the CBAM serves multiple roles. It signals internally that the EU is protecting its industry from carbon leakage while signalling externally that the EU is taking a climate leadership role, advocating for exporters to move forward on their own decarbonisation agendas and for national trading counterparts to construct their own carbon pricing structures. Essentially, EU policymakers use the EU CBAM as leverage to encourage other regions to develop carbon markets.

The complex negotiation picture around the EU CBAM (policy wonks warning)

To get from Commission proposal to formal agreement between the EU institutions, the CBAM proposal will need to be negotiated under the so-called "EU ordinary legislative procedure." This means that both the European Parliament and the Council will need to draw up their respective positions to the Commission proposal.

When Council and the European Parliament respectively have reached an agreement internally, negotiations between both institutions and the Commission will begin. Only thereafter will adoption be possible. Considering the complexity of the proposal, it may well take at least a year to finish negotiations even in an accelerated procedure.

During negotiations, a number of central questions will be subject to discussion. These include sectors and emissions covered, whether exemptions should be broadened to take into account more indirect carbon pricing in countries of origin, whether revenue should be channelled to EU 'own resources' as suggested or be given to member states, or even to Least Developed Countries to fund decarbonisation efforts in a 'just transition' fashion.

While not on the table, a rebate on European exports having been subject to the EU ETS price for its emissions will also be part of the discussion among co-legislators, as it is considered essential by industry.

So will it happen? And what is 'it'? Agreement vs Adoption vs Implementation

- An 'agreement' is something that occurs in the Council, between countries. An agreement in Council has recently been reached on the CBAM, spearheaded by the French Presidency of that body. However, this agreement left the most difficult questions facing the related ETS to be addressed in other political negotiations. There are also signs that political stakeholders are playing up their official support of the CBAM scheme while privately expressing doubts. In that sense it is a hollow agreement as it stands.
- 'Adoption' would occur after final 'trilogue' negotiations between all three EU governing bodies are completed. Given the huge differences that exist on views currently, an adopted CBAM may look very different from the Commission's recommendation at the moment. It is possible that the adoption will occur but it should not be seen as a foregone conclusion.
- Full 'implementation' means a system that is actually working with documentation, certification and enforcement by (customs) authorities in place to check certificates for the goods covered.

The hurdles to overcome during this process are numerous. For example, industries currently receiving free allowances will be disinclined to relinquish this source of income; powerful lobbying will be brought to bear. Huge trading partners of the EU will also not want to see their industries encounter a protectionist measure. Consumers and the politicians representing them will argue against a measure which would ultimately see higher prices passed on to them. Proper and fair reporting and disclosure will be a challenge.

To accommodate these issues and more, the Commission has suggested a testing and transition phase running from 2023-2025. After this, the Commission would be able to evaluate how the CBAM is working, the reactions from trade partners outside of the EU, and whether to adjust its scope either by extending it to cover a larger part of the value chain or by increasing the number of products covered within the selected sectors.

So, the currently (hollow) agreement in Council on the CBAM, will face hurdles to get adopted by all branches in its current Commission version and even then might not be implemented fully.

What makes the negotiations so difficult?

Tensions are arising internally with member states and industrial players both. Industry is mostly concerned that the CBAM will not be an attractive substitute for the free allowances they are currently receiving. Also, the rules of global trade in the World Trade Organization (WTO) and the General Agreement on Tariffs and Trade (GATT) prevent the allowance of both a CBAM and free allowances as this would be a double protection of European industry. As a global trade agreement, the WTO is losing favour however, no longer fit for purpose in many ways. But it will take a long time for a restructuring of that body to transpire if at all. Export rebates have also been discussed as a substitute for free allowances but this will need further clarification so as not to encounter the same problem.

Further, the war in Ukraine is raising the question of whether now is the right time to make policy decisions that would lift industrial prices higher as emitting companies relinquish free allowances, forcing them to adopt more expensive production methods or pay for emissions. *This issue is exacerbated by the fact that an agreement on CBAM is ultimately tied to an agreement on a further tightening of the current EU ETS system*, with higher ETS prices also pushing consumer prices. As mentioned, pressure against the EU CBAM is also building from major external trading partners unwilling or unable to enact their own versions of a carbon pricing scheme, thus exposing their industries to EU tariffs.

The proposed CBAM will initially only cover direct emissions (scope 1) of selected sectors: Iron and steel, cement, aluminium, fertilisers and electricity. The greenhouse gas emissions covered will be carbon dioxide (CO_2) and where relevant nitrous oxide (N_20) and perfluorocarbons (PFCs).

As a wider policy instrument, it is worth noting that extending the scope of emissions from 1 and 2 (indirect emissions) to scope 3 (emissions down the value chain) will be a challenge due to concerns that applying the CBAM to indirect emissions could result in 'resource shuffling' where exporters send their cleanest products to the EU and redirect their most carbon-intensive products to other markets. This 'export arbitrage' would result in a lack of global emissions reductions while creating a competitive disadvantage for European industry. These issues are not considered as apparent for the current scope, where more stable product portfolios are the norm and where EU products are highly competitive even with low carbon products exported from third countries. Therefore, the Council and European Parliament may only be able to agree on the suggested scope 1 emissions.

The result of this is that negotiations are expected to drag out and 'adoption' is unlikely before 2023 or 2024, while full 'implementation' will be a significant challenge. There is historical evidence of EU legal texts being adopted with implementation dragging out due to numerous hurdles, resulting in some legal texts never becoming implemented. While the CBAM could in one scenario face the same destiny, *a prolonged CBAM negotiation process may turn out to - at the very minimum - become a device to signal climate leadership by EU policymakers and promote decarbonisation from trading partners.*

We group the main hurdles as follows:

1. Internal EU hurdles
    a. In Council, e.g. between nations
    b. In Parliament, e.g. between different party ideologies
    c. From Industry

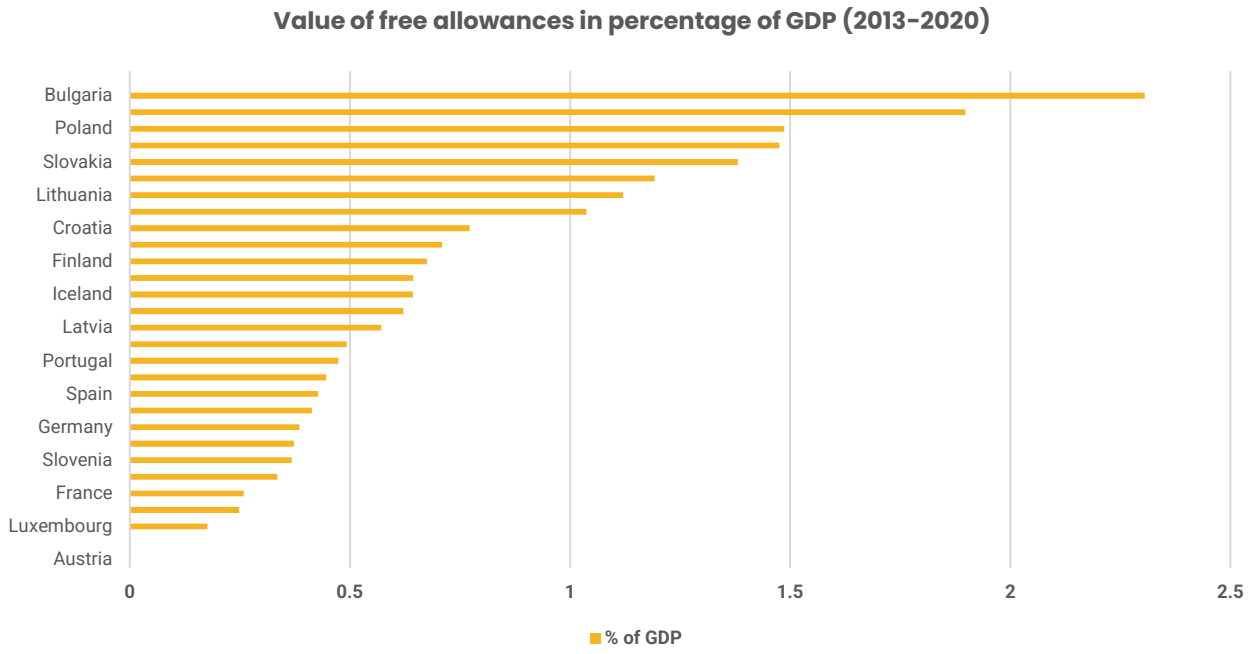
2. External to EU hurdles
   a. World trade agreements
   b. From trading partners either unable or unwilling to impose their own CBAM

Internal EU hurdle – Council

We have already noted how member states have reached a General Approach (initial agreement) on the CBAM. The French, holding the Council Presidency until mid-year 2022, has from the outset been among the most vocal supporters of the CBAM proposal, with French President Macron also utilising the popular idea to burnish his electoral credentials. However, the agreement was not reached easily.

A key concern for member states is to protect the competitiveness of EU industry. Another is to avoid negative effects on national economies and labour markets. On the latter, Germany, being a big exporter to countries being hit by the CBAM, is taking a cautious approach over fears that the CBAM might result in a trade war or other retaliatory actions. Accordingly, it is no surprise that the German Chancellor Olaf Scholz has been advancing the more inclusive, non-unilateral notion of Global Climate Clubs at the G7 (which we elaborate upon below). Eastern European member states have been among the most vocal supporters of keeping the free allowances in the EU ETS system rather than having an EU CBAM. Figure 7 reveals why.

Figure 7 Value of free allowances in percentage of GDP (2013-2020)



Source: Kaya Research

In the end, the French Presidency succeeded in getting an agreement only because they left more difficult questions out for other negotiations. Specifically, the agreement is dependent on progress on other topics, like the revision of the EU ETS and the phase-out of free allowances as well as the use of revenue from this reinforced carbon market as well as the question of export rebates to industry.

Thus, it will not be possible to make further progress on the CBAM negotiations with European Parliament before these questions are resolved.

In this regard, progress on the planned revision of the EU ETS system, i.e. the expansion of the scope to also include buildings and road transport and the steadier decline of allowances, including free allowances, is proving difficult as it will ultimately result in higher consumer prices. Already before the Russia-Ukraine war, recent price hikes in the existing EU ETS system were giving rise to concern over high electricity prices, so much so that Spain and Portugal have successfully lobbied for the ability to cap their electricity prices.

The fact that numerous EU countries are clamouring for a politically agreed cap on prices bodes ill for revisions to the ETS which would result in higher prices, at least in the near term.

One potential structural solution to higher prices might include comprehensive reform of the energy system. In the EU system, electricity prices are set by the most expensive marginal unit of energy. For example, if natural gas prices are extremely high, as they have been, then an EU citizen's entire electricity bill is set on that gas price even if cheaper renewables, or fossil fuels, are used as well. But a recent report by ACER (European Union Agency for the Cooperation of Energy Regulators)[7] includes evidence that could provide cover for EU officials not to change the underlying structure of the power pricing system.

Thus, current high energy prices as well as high inflation, risk tipping the focus from tackling climate concerns to avoiding even more pressure on consumer prices. On the other hand, encouraging consumers to substitute away from high-carbon goods is consistent with the EU's climate objectives. The realisation of the need for a speedier phase out of fossil fuels and a massive ramp-up in investment of renewables to secure European strategic autonomy has indeed also been one of the clear outcomes of the war in Ukraine.

The question is therefore first and foremost, whether progress on the EU ETS and the related CBAM can take place in the short term, where crisis mechanisms and lower hanging fruits in terms of planned policy revisions will be handled with more urgency.

Internal EU hurdle - European Parliament

To show the fluent nature of negotiations, the most recent development at the time of writing is that the European Parliaments Environment Committee (ENVI) on May 17th voted on its positions on the revision of the EU ETS system and the CBAM.

The ENVI positions will now be subject to a full Parliament vote at the plenary session on the 6-9th of June before they can be recognised as consolidated parliament positions.

[7] ACER (2022) Final Assessment of the EU Wholesale Electricity Market Design. Available at: https://www.acer.europa.eu/events-and-engagement/news/press-release-acer-publishes-its-final-assessment-eu-wholesale

Most notably, the ENVI vote called for the following amendments to the original proposal[8]:

- A faster phase-in of the CBAM (running from 2025-2030 instead of 2026-2036), and subsequently also a faster phase-out of free allowances under the EU ETS system.
- Extending the scope to include organic chemicals, plastics, hydrogen and ammonia as well as indirect emissions.
- A new EU budget to support least developed countries through revenue collected via CBAM
- A centralised EU CBAM authority rather than 27 competent authorities

While the European Parliaments ENVI Committee as expected voted to increase ambition on the Commission proposals, the compromises were not easily achieved in their consultations with other parliamentary committees. Notably the Industry, Research and Energy committee (ITRE) has had much more critical views on the CBAM arguing that the amendments does not sufficiently address measures to protect European industry from carbon leakage.

As a result of the tough compromises made in Parliament, there are fears that they could risk falling short of agreement at the plenary in June. If this should happen, Parliament positions would need to be renegotiated. On the other hand, if a positive vote is passed, difficult negotiations between Parliament and Council would finally be able to start in the pursuit of an agreement between the institutions on the proposal.

While disagreement must be solved for in Parliament, the battle over the CBAM will likely have to be won in Council, where vested industrial interests have greater sway. The Parliament positions as they stand now are unlikely to be met with much cheer by any member state, but rather likely to be seen as 'unrealistic'.

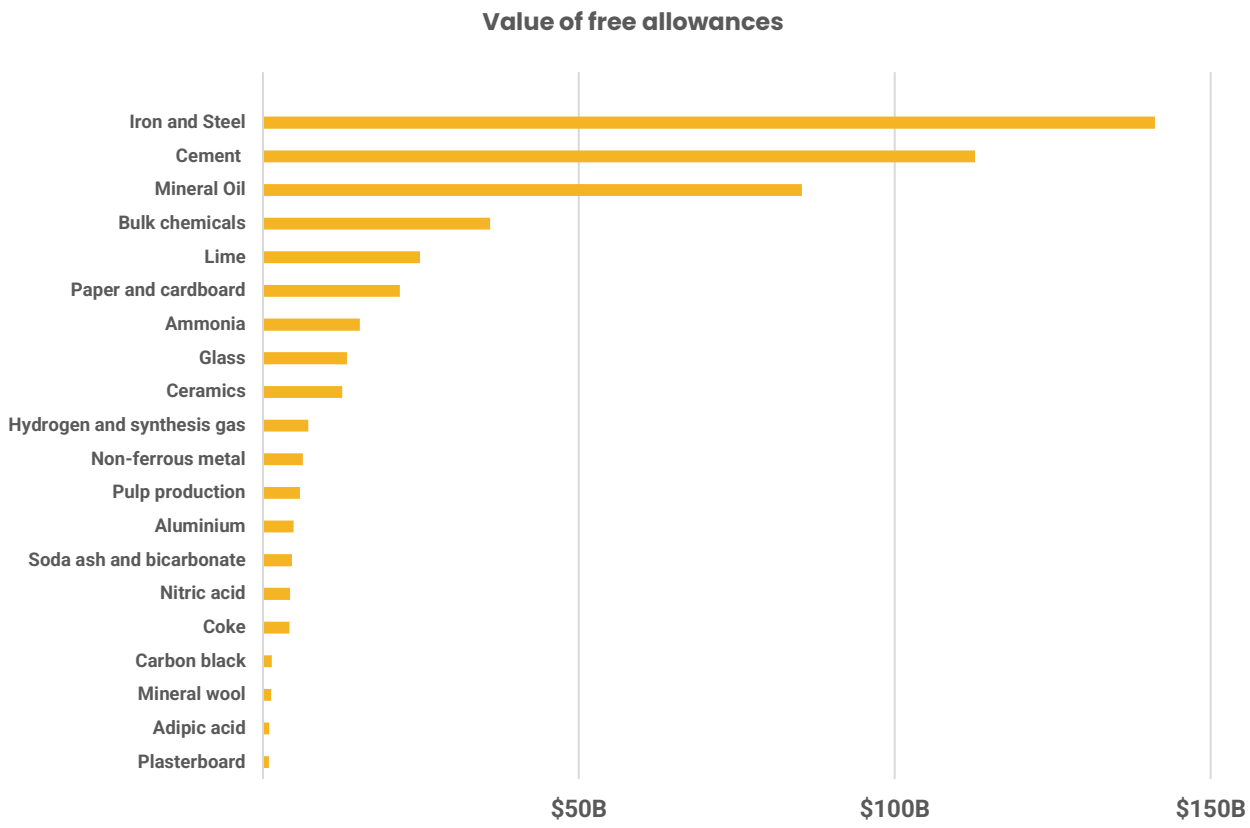
Internal EU hurdle - Industrial actors

Industry has notable views and influence in the CBAM dialogue. As an example, entities such as the European Steel Association have been sceptical of the CBAM and is in opposition to the phase out of free allowances. For European manufacturing industry, CBAM is only a viable policy tool to protect against carbon leakage if the bulk of free allowances is kept on the table. Industry argue that increased climate ambition should be met with increased protection against carbon leakage – not less[9].

[8] European Parliament (2022) Climate change: MEPs push for accelerated EU action and energy independence available at https://www.europarl.europa.eu/news/en/press-room/20220516IPR29636/climate-change-meps-push-for-accelerated-eu-action-and-energy-independence

[9] Note that European Parliament Rapporteur on the ETS file, Peter Liese (EPP), has proposed to keep an additional pool of free allowances in a reserve under the ETS if the CBAM should fail to protect European industry at a significant level.

Figure 8 Value of free allowances by sector



Source: Kaya Research

It is a particularly crucial point for European industry that the CBAM is also complemented with compensatory measures to protect exports, as the implementation of a CBAM without this would see European manufacturers, especially downstream manufacturers, paying the full carbon costs while competing in markets outside of Europe against exporters who face no carbon costs.

However, the EU granting of 'export rebates' to alleviate these concerns is likely at odds with WTO rules prohibiting subsidies under the Agreement on Subsidies and Countervailing Measures (ASCMO). This is a critical sticking point in negotiations.

While there is precedence of the EU to act in contradiction to WTO rules and a history of slow WTO rulings, it is a major concern for EU credibility if the EU moves to implement any scheme that is clearly not compatible with the rules of global trade.

The challenges resulting from the suggested and needed phase-out of allowances and the lack of an export rebate will make up the Gordian knot in the negotiations, *likely resulting in the keeping of free allowances under the EU ETS. In fact, the increased ambition of the EU could see increased subsidies flow to EU heavy industry to deliver on the green transition, which would play into broader trends towards more secure supply chains, protectionism, and increased tolerance of state aid for greenery.*

This in turn will again risk making the CBAM non-WTO compatible as it would result in double protection of national industry. This is incompatible with the national treatment rule under the GATT which requires that imported products are given no less favourable treatment than that given to domestic products.

Such a solution will also undermine the very purpose of the CBAM, namely the change of incentive structures to protect industrial players taking responsibility for climate action rather than protecting industry from *not* taking climate action.

External EU hurdle – Trading Partners

Outside of the EU, some heavy resistance has also been forming against the CBAM with the argument being put forward that CBAM is essentially a unilateral protectionist instrument. Brazil, Russia, China, India, and South Africa are all in opposition to the CBAM proposal, seeing it as a unilateral and protectionist instrument.

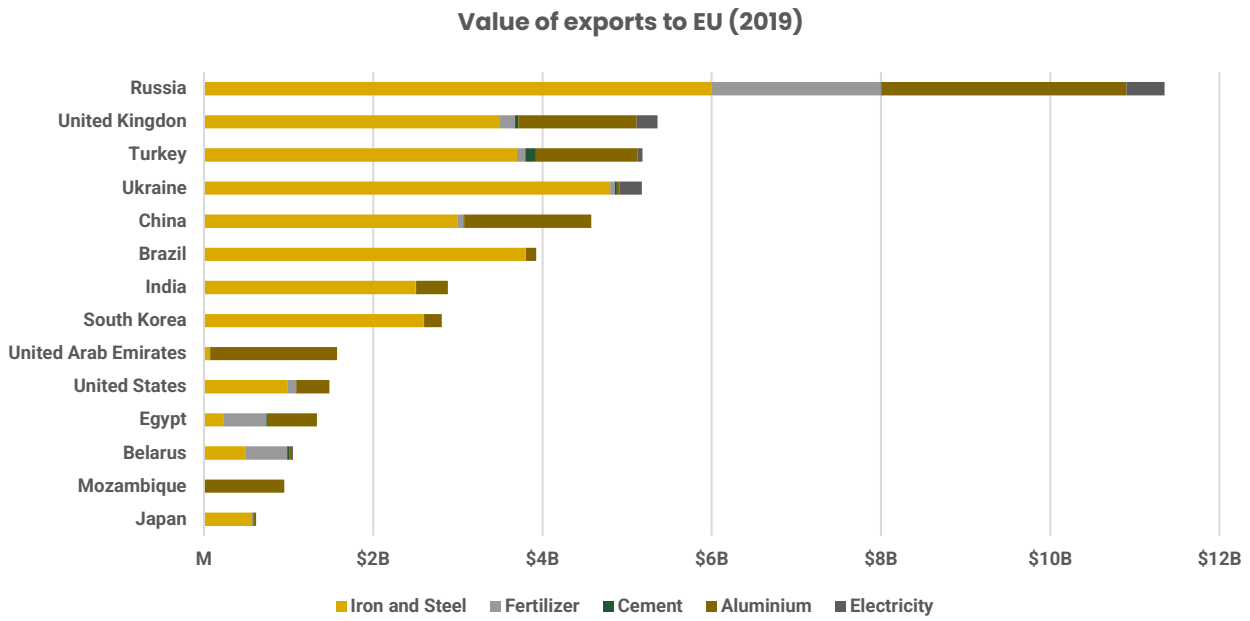
Russian and Chinese leaders Vladimir Putin and Xi Jinping have released a joint statement opposing any new barriers in international trade under the pretext of fighting climate change. Russia and others are further contemplating that the CBAM proposal would likely be in breach of WTO rules, despite all EU actors stressing that they will ensure that the proposal is WTO-compliant[10].

One must however be mindful that the geopolitical landscape is changing following the war in Ukraine with narratives evolving around protectionism and a less free trading world. Russia's influence in these matters is also waning given their invasion of Ukraine and accompanying atrocities.

European trade partners that could potentially be hit most by the CBAM are Russia, Turkey, China, Ukraine, India, the United Arab Emirates, Serbia, Mozambique, Egypt, the United States, the United Kingdom and South Korea, see Figure 9. However, here it is important to remember that the CBAM would need to take into account ETS systems in place outside of Europe. Thus, for a country like the UK, with an ETS price similar or even higher than the EU ETS price, most exported goods would not be subject to the EU CBAM. Nevertheless, it could be affected by high-carbon goods being redirected to the UK rather than the EU market after the introduction of a CBAM, putting UK companies in a difficult competitive situation if they do not move forward on establishing their own CBAM equivalent. This is indeed already being considered.

[10] Reuters (2021) Russia says EU carbon border tax may impinge on global trade rules. Available at: https://www.reuters.com/business/russia-says-eu-carbon-border-tax-may-impinge-global-trade-rules-2021-06-17/ and Reuters (2021) China says EU's planned carbon border tax violates trade principles. Available at: https://www.reuters.com/business/sustainable-business/china-says-ecs-carbon-border-tax-is-expanding-climate-issues-trade-2021-07-26/

Figure 9 Value of exports to the EU (2019)



Source: Kaya Research

Developing countries have also expressed concerns with the CBAM, arguing that it violates the concept of "common but differentiated responsibilities" - a principle defended by the UN Framework Convention on Climate Change and referenced by the Paris Climate Agreement. While the original CBAM proposal suggested using generated revenue from the CBAM and the resulting increased auctioning of free allowances to increase the EU's own resources, possible amendments that could increase legitimacy and help least developed countries are part of the discussion.

Some countries, seeking to capture resultant revenues from their own industries rather than having their products subject to an EU tariff are developing their own ETS-like systems. Turkey has announced that they will raise climate ambitions to reach climate neutrality by 2053 and will introduce an emissions trading system like the EU ETS. This could allow them to be exempted from the application of the CBAM. Russia and China too, are also developing carbon pricing systems. Again, one of the objectives of the EU CBAM has been to stimulate other ETS systems as a means to protect revenue from leaving the country. But in many parts of the world, significant trading partners of the EU have little chance of legislating the creation of a nation-wide ETS.

For example, in the US, there is no prospect for a federal level carbon pricing system like the EU ETS emerging due to the political complexities of introducing such a system. Hurdles include the heavy partisan divide and the prospect for Republicans to gain executive and legislative power at the expense of the Democrats. And while some conservatives have expressed sympathy for carbon pricing, it is mostly Democratic legislators - or states- in support. The Western Climate Initiative (WTI) is a shared emission system between California and the Canadian province of Quebec and administers the emissions system of Washington State and Nova Scotia separately. The Regional Greenhouse Gas Initiative (RGGI) is a joint emissions scheme between 11 U.S. states in the northeast. Importantly, any sub-national actor can't enter into treaties with foreign governments as this a power reserved for the national level. While the EU and the US have an interest in protecting their strong trade relations, it would be difficult for the EU to exempt the US from CBAM's in return for climate measures that might be on offer from the US.

But there is bipartisan support for something that has been described as a border adjustment mechanism for carbon but looks like a climate club. S. 2378 (Fair, Affordable, Innovative, and Resilient Transition and Competition Act and) and H.R. 4534 (Fair Transition and Competition Act) have been introduced as legislation which envisages imposing tariffs on trading partners whose carbon intensity for goods is higher than in the US. It should come as no surprise that those countries that qualify include China and Russia amongst others. Doing this would allow for the hawks on the Republican side to adopt protectionist trade measures under the banner of something they have not traditionally supported, climate change. Republican Lindsey Graham was quoted "…we are trying to move the world to a cleaner environment, and China, India and other countries are not doing as much, and they need to pay a price." Across the aisle, Democrat Chris Coons also opined: "That is a win for everybody. Recognising we need new and stronger tools in our competition globally that will bring us closer to our allies and disadvantage some of our adversaries, that is a common view across a range of Republicans and Democrats."[11] .

Where the Republicans and Democrats differ is that Republicans want the ability to impose an emissions tariff without it being linked to an explicit domestic carbon price, whereas the Democrats want a carbon price. As we mentioned before, an implied carbon price from a tariff is still a carbon price in a sense. The outcome would be a win for the climate if it reduces China's emissions so that they can trade with the US, and would come about as a result of geostrategic concerns.

A loophole to turn the CBAM into something different?

We have stated our view that the CBAM is already a hugely important negotiation tool with an effect of forcing trading partners to consider ways of implementing carbon pricing in their own economies. This is crucial from the EU's perspective as their share of global emissions is around 10% and declining relative to developing countries. They need to pursue a policy that attracts followers.

Can it be that this was the aim all along and an eventual failure of full implementation was considered as at least possible by the Commission? There are numerous instances which hint at this in the proposal (our underline in each case). One example is at page 17, in the legislative remarks[12] :

"As an instrument to prevent carbon leakage and reduce GHG emissions the CBAM should ensure that imported products are subject to a regulatory system that applies carbon costs equivalent to the ones that otherwise would have been borne under the EU ETS."[13]

This potentially leaves room for policies which imply a carbon price rather than impose an explicit one. On alliance building and inspiring carbon pricing elsewhere, plus expansion of EU ETS system to cover a broader geography, here is language from page 2 (explanatory memorandum): "To this end active outreach to third countries would be important with regard to the understanding of and compliance with CBAM requirements. Moreover, the EU will engage with third countries whose trade to the EU is affected by this Regulation to explore possibilities for dialogue and cooperation with regard to the implementation of specific elements of the Mechanism. It should also explore possibilities for concluding agreements to take into account their carbon pricing mechanism. Agreements with third countries could be considered as an alternative to the application of CBAM in case they ensure a higher degree of effectiveness and ambition to achieve decarbonisation of a sector"[14].

[11] Siegel J. (2022) Congress is eyeing a bipartisan climate trade policy — thanks to Trump, Politico, Available at: https://www.politico.com/news/2022/02/24/congress-is-eyeing-a-bipartisan-climate-trade-policy-thanks-to-trump-00009490
[12] European Commission (2021) Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a carbon border adjustment mechanism. Available at: https://ec.europa.eu/info/sites/default/files/carbon_border_adjustment_mechanism_0.pdf
[13] Ibid
[14] Ibid

5 Climate Clubs

Well-aware of the difficulties, policymakers are considering other measures which would support industry from carbon leakage in pursuit of reaching climate ambitions. In this regard, the notion of 'Climate Clubs' have gained significant traction. Efforts are being made to make such measures more tangible in international trade and from a WTO-perspective given they would not be the result of a unilateral imposition by the one side. Such measures also allow for inclusion of a broader array of climate policies rather than relying only on carbon pricing.

So, what is a Climate Club. The original Climate Club definition was coined by Nordhaus, in which he advocated for firm climate commitments by countries with penalties for failure as opposed to voluntary measures in the Paris Agreement[15]. Since then, Climate Club meanings have morphed into a variety of loose interpretations

The term 'club' is loosely defined with multiple versions in circulation. The WTO has optimistically called for a global carbon price[16] and the IMF has called for a carbon price 'floor' (see below).

A foundational view of such a club is that explicit carbon pricing (taxes and cap-and-trade) have limited effectiveness 'if used without other policies that can enhance and complement them by tackling other climate change challenges and market failures.' [17]. This has been shown empirically as well [18].

Importantly, the club concept accounts for this by leaving room for the inclusion of a broader swath of environmental and climate policies. A challenging attribution of a club is to compute the 'implied' carbon price thus created at national and industry level.

A simplistic example of how a club might operate: Country A has an established national carbon price which trades in some form of Emissions Trading System. This country wishes to protect its industry from leaking out to Country B who, for any number of reasons, does not have a national carbon price. In a Climate Club, Country B would be invited to translate robust domestic policies or regulations which limit emissions into an 'implied carbon price.' Perhaps Country B gives substantial subsidies to green industries or taxes fossil fuel companies harshly or allows permitting in renewables a much easier path than drilling for oil, or possesses a strict methane leak reduction system, or does not allow the use of fertilisers made from fossil fuel derived nitrogen ammonia (all being examples). These policies could be translated into a shadow carbon price that is then used to offset any emissions tariffs that in Country A is seeking to impose.

In a sense, this would be not dissimilar to a foreign exchange rate which would fluctuate over time based upon the strength of policies within Country B and relative to Country A. Countries C, D, E,…Z could also be invited using the same methodology.

Naturally, determining the exact value of these policies in terms of a hard carbon price equivalent is not without substantial difficulty and would be subject to fierce negotiations. But the advantages of such a system would be numerous including greater inclusivity and being more 'just' given the likelihood that developing countries could participate. Additionally, countries would be incentivised to do more with the existing policy levers they have at hand.

[15] Nordhaus (2020) Research papers & reports The Climate Club: How to Fix a Failing Global Effort, Cemas. Available at: http://cemas.org.uk/index.php/research-papers-reports/6292-the-climate-club-how-to-fix-a-failing-global-effort
[16] World Bank (2021) State and Trends of Carbon Pricing, Available at: https://openknowledge.worldbank.org/handle/10986/35620
[17] World Bank
[18] Cullenward D. & Victor D. (2020) Making Climate Policy Work, Polity Press

The Climate Club is analogous to the recent global minimum corporate tax which reduced the ability of tax havens to cannibalise national tax revenues. In a similar vein, *if more affluent and climate-leading countries could incentivise developing countries with technology transfer and finance to enter an implied carbon price trade partnership then the issue of carbon leakage could be addressed without a CBAM.*

A Climate Club would be a more feasible solution than a CBAM between countries when one side has little prospect of implementing its own version of a CBAM. A sector-specific Climate Club offers a more suitable way to reach agreement between the EU and US. Such an agreement can be sought on a number of minimum standards and rules to promote decarbonisation.

The recent US-EU Steel and Aluminium deal can be seen as a mini-scale attempt to form such a relationship. This is the case as the agreement also sets out to form a technical working group to discuss the establishment of a "Global Arrangement of Sustainable Steel and Aluminium" open for like-mined economies interested in promoting low carbon steel and aluminium.

Olaf Scholz, Germany's chancellor, is a vocal proponent of Climate Clubs and he is using Germany's position as current head of the G7 to promote them. A G7 structure has political appeal in that it neatly isolates Russia, who is a member of the UN and G20 both. Even with few details out there, the OECD club version appears to be the version Scholz refers to, but he is pushing it via the G7. The competing views of carbon pricing between Scholz, who's political star is waning due to missteps on Ukraine and energy policy, and Macron, fresh off a decisive domestic election victory, is an intriguing one to follow. June's G7 meeting in Berlin will likely see a Climate Club concept pushed hard and this timeframe coincides neatly with the passing of the Council presidency from France to the Czech Republic.

While it is unclear if it should be coined with the term of a 'club' or not, the latest initiative by the IMF is a proposal for an Inclusive Framework on Carbon Pricing (IFCP)[19] This plan recognises policies explicitly putting a price on carbon by taxes, tariffs or ETS systems as well as climate policies implicitly pricing carbon such as tax incentives and R&D. Therefore, the initiative sets out to advance credible metrics for comparing policy on both implicit and explicit price levers. Although it does stop short of being a recommendation as such (being more a feasibility study), it does serve as a foundation for a more politically attractive and inclusive trading regime.

Considering the increased need for a more organic consideration of policies which addresses emission reduction and protection of environmental concerns – as also recognised in ESG targets, SDGs, and other policy initiatives – something as inclusive as the IFCP could be a credible vehicle to advance a sustainable global framework for carbon pricing.

In all of these 'non-CBAM' concepts it will be challenging, even when counting in several climate policy initiatives, to establish a scheme that would put developed countries on the same footing as developing countries with lower climate ambition. But if credible versions can be advanced then global carbon pricing will have found a new path.

[19] Parry I. Black S. & Roaf J (2021) Proposal for an International Carbon Price Floor Among Large Emitters, IMF. Available at: https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/06/15/Proposal-for-an-International-Carbon-Price-Floor-Among-Large-Emitters-460468

As pragmatists, we could see four scenarios as possible:

- Scenario 1: A 'Core' Climate Club emerges between countries with roughly equal and high ambitions to set minimum standards and protect industry against carbon leakage. It would take into account other strategic objectives and concerns. From an optics perspective, the term 'Alliance' would be more palatable than 'Club'. This scenario might initially leave emerging economies standing outside and could prompt reprisals or even rival arrangements from emerging economies. For the political feasibility of this scenario, the members of the Club may keep it open for all being able to meet certain criteria. This in turn will raise fresh questions in relation to individual companies emission production and regarding verification. This scenario does not rule out an 'adopted' CBAM in some fashion but the heavy lifting would be done by the club rules.
- Scenario 2: Talks around establishing Climate Clubs drag out for years but without resolution as the difficulties of setting equivalent implied carbon prices prove intractable.
- Scenario 3: A broader and more inclusive Climate Club emerges but, to appease developing and fossil fuel nations, contains only certain sectors and overall standards are weak. Carbon content/price thresholds might not be high enough to be effective.
- Scenario 4: National protectionism. Talks on establishing equity schemes and climate alliances prove difficult, countries start protecting their own industry unilaterally. For the EU, this would mean sticking with status quo and handing out free allowances to EU heavy industry, jeopardising the transition.

6 Conclusion

The reality of climate change makes it inevitable that carbon pricing will be increasingly relevant to policy makers around the world. The price of this carbon, and how it is factored into society, industry and trade can take many forms. These range from explicit, like taxes or cap-and-trade markets, to implicit, which come as a result of things like regulation and industrial policy.

Rich, western nations still have an open window to influence carbon pricing in a way that future, heavier emitting nations might be inclined to follow.

Historically, market-based forms of carbon pricing have shown patchy results in terms of limiting emissions. A renewed focus on geostrategic concerns such as national energy security and supply chains bring new challenges to the evolution of carbon pricing, but it also brings new actors and means of support.

The most prominent market for explicit carbon pricing is the EU's Emission Trading System. EU policy makers are currently negotiating both a reform of the ETS and an adoption of a tool which would solve for the difficult problem of carbon leakage, the CBAM. We feel the CBAM will be agreed and adopted but that eventual full implementation in its current Commission form will be very challenging. Regardless, the CBAM is already serving as a powerful weapon of negotiation with global trading partners.

Climate Clubs, although still loosely defined, offer another avenue of global cooperation on carbon pricing and trade. These clubs offer more political feasibility and, critically, allow for a broader range of policies which address emissions to be used by countries at different stages of decarbonisation.

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