



On the Borderline:

The EU CBAM and its
place in the world of trade

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Executive summary

The EU proposal for a carbon border adjustment mechanism (CBAM) was introduced as part of the EU's 'Fit for 55' Package of policy proposals published on 14 July 2021. The intended purpose of the proposed EU CBAM is to address the "risks of carbon leakage as a result of the increased Union climate ambition" as the EU's Emissions Trading System (ETS) is strengthened and the existing provision of free allowances is phased out. However, the extent to which the risk of carbon leakage caused by environmental and climate policies is 'real' is a hotly contested issue, as is the appropriateness of the proposed EU CBAM overall.

CBAMs are trade-related measures designed to support the operation of a carbon pricing mechanism by 'equalising' the carbon costs faced by domestic and foreign producers. Even before the publication of the EU proposal, these measures evoked strong feelings in both academic and policy discourse, influenced by assumptions regarding the purpose of CBAMs, their effectiveness and vested interests. Proponents of CBAMs often support their position by focusing on CBAMs' functionality as a tool to 'level the playing field', protection against carbon leakage, or as an instrument to incentivise more ambitious climate action internationally. The opponents of CBAMs question the need for a trade policy instrument to address these issues and the suitability of CBAMs for these purposes. The practicalities of implementing a CBAM and their legality, morality and potential adverse diplomatic and political consequences have also been called into question.

Although there is a wide body of literature on CBAMs in general, such analyses have, until now, faced a 'moving target'. Until the EU proposal was published, no fully fledged proposal to enact a CBAM had ever been put forward. As a result, the legality of CBAMs has not yet been authoritatively assessed by the World Trade Organization (WTO) dispute settlement body, and it is therefore difficult to predict what the outcome of a legal challenge against the EU proposal would be. Discussions arising from the EU proposal also shed light on the potential diplomatic and political implications of a unilateral CBAM, although much will depend on the measure's effective implementation. It is clear that the details of any specific CBAM proposal will be important in determining its legality as well as its political and diplomatic implications.

In this report, we combine macro-econometric analysis of the potential economic, environmental and employment impacts of the proposed EU CBAM with analysis of its legality and political acceptability. We also provide a brief overview of other trade-related policy levers that could be utilised either as an alternative to an EU CBAM or in addition to it.

Economic, employment and environmental impacts

The economic impact analysis of an EU CBAM was carried out using Cambridge Econometrics' E3ME model, which has contributed to various European Commission climate policy impact assessments. Although data availability presents some limitations on the level of detail that the modelling can go into, the modelling enables several variations of an EU CBAM to be tested against a baseline case in which the EU achieves its emissions targets without implementing a CBAM.

The modelling suggests that the introduction of an EU CBAM could lead to a small increase in EU gross domestic product (GDP), of 0.2 per cent by 2030 and 0.4 per cent by 2050. Potentially 600,000 additional jobs could be created in the EU.

The sectors that would benefit the most from an EU CBAM include those that are offered protection from import substitution – ie sectors that currently receive free allowances under the EU Emissions Trading System (ETS). However, at macroeconomic level, an important factor in determining economic outcomes is how the revenues generated by an EU CBAM would be used. ‘Recycling’ the CBAM revenue to reduce other tax rates (using value-added tax (VAT) and income taxes as an example) would result in cross-sectoral (although still relatively modest) economic benefits.

The results indicate that an EU CBAM would lead to a modest reduction in CO₂ emissions outside the EU that can be interpreted as reduced carbon leakage. This reduction would be partially offset by a small increase in EU emissions, but total global emissions would decline. If other countries introduced more ambitious climate policy in response to the EU proposal then further reductions in global emissions are possible; however, this could reduce the revenues raised by an EU CBAM and therefore the macroeconomic benefits for the EU.

The modelling also shows the potential importance of an EU CBAM as a means of enabling more ambitious domestic climate policy and improving the political acceptability of high carbon prices. A scenario in which a lack of CBAM in the EU results in reduced carbon prices (similar to today’s rates) could substantially impact on the EU’s ambitions to reach net zero by 2050, potentially adding up to 1 GtCO₂ (approximately 30 per cent of the EU’s current annual emissions) on to annual global emissions.

Legal implications

To assess the legality of the proposed EU CBAM, analysis was carried out at four main levels: (1) the legal basis which requires or enables the adoption of the CBAM (eg a global treaty, an agreement among only a few States, unilateral action); (2) the rule(s) of conduct which may be breached by the CBAM (such as non-discrimination standards enshrined in existing agreements); (3) rules capable of justifying a violation of the aforementioned rule of conduct (such as legal defences); (4) the organisation of remedies for any such breach (such as the ability of a State to adjust a measure to bring it into compliance with a rule of conduct or a justification).

The tentative conclusions from this legal analysis indicate that the proposed EU CBAM would be treated as a unilateral measure from a legal perspective.

At the level of rules of conduct, it would most likely be considered as a regulation adjusting the effects of another regulation (ETS) affecting the internal sale of a product, therefore not shielded by the permission of border adjustments in Article II.2(a) of the General Agreement on Tariffs and Trade (GATT). It would be governed by the two main non-discrimination standards, the most-favoured-nation clause (Article I of the GATT) and the national treatment (Article III of the GATT) and likely also others. Imports – from different foreign producers – and domestic products covered by the proposed EU CBAM would, most likely, be regarded as ‘like products’ despite their different carbon footprints. The verdict on the possible existence of discrimination would therefore largely depend on the actual operation of the carbon equalisation methodology of the EU CBAM.

At the level of justification, even if inconsistent with one or more trade disciplines, the proposed EU CBAM would fall under at least one of the exceptions of Article XX of the GATT, most likely that in letter (g), which covers measures “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption”. However, it is unclear whether it would meet the requirements of Article XX’s chapeau to be applied in an admissible manner, given its generalisation of the EU carbon price to other countries.

At the level of remedies, the proposed EU CBAM, even if in breach of trade rules, could be subsequently brought into compliance. The main risk, therefore, is the triggering of retaliation and cross-retaliation, even before the matter is taken to litigation.

Political and diplomatic implications

The proposed EU CBAM must be seen as a part of a bigger political agenda and internal bargaining process, which will be subjected to lengthy inter-institutional negotiations within the EU. The final CBAM proposal that the EU will eventually put forward is likely to be significantly different from the current proposal.

The EU Member States’ positions on the proposed EU CBAM are evolving and subject to change as the EU proposal is amended and redrafted. At the time of writing, most EU Member States are yet to form their opinions on the Commission proposal, and some are internally divided.

Many of the industry associations representing the beneficiaries of the proposed EU CBAM in the EU oppose the EU proposal because it includes a plan to phase out the free ETS allowances. The interests of producer industries (which seek protection) tend to win over the user industries, such as the auto industry, which oppose the proposed EU CBAM on the grounds that it would increase production costs and harm their competitiveness.

Many of the products covered in the scope of the current EU proposal have been the cause of global trade wars. CBAM will add further tension to the transatlantic relationship already fraught by US Section 232 tariffs on the same products, as well as the strained relationships the EU has with Russia, China, Turkey and the UK.

Several key trading partners may retaliate against the EU by restricting EU producers’ access to their markets, even by other means or on other products, or cause political problems for the EU. Jurisdictions that have implemented (or are planning) an ETS could negotiate or litigate to be exempt from any future EU CBAM. Developing countries also have a broader set of rights under the WTO, which they may draw on in a trade dispute. In conclusion, the politics of EU CBAM make a WTO dispute quite possible, perhaps even likely.

The way forward

This report concludes that a CBAM could form an important, and possibly necessary, part of the EU's ambitions to reach net zero emissions by 2050. However, the design of an EU CBAM must be crafted carefully, to remain consistent with international trade law and to minimise the risks of trade dispute or retaliation. Even so, the measure is risky and will require accompanying measures to increase diplomatic acceptance. For example, a commitment to recycle a share of the CBAM revenue to support climate action in less developed countries could improve its political acceptability outside the EU.

While the macroeconomic impacts of an EU CBAM are likely to be small, the potential environmental benefits of reduced CO₂ emissions, both within and outside the EU, may be substantial. This is the case especially if ambitious climate action and high carbon price in the EU could otherwise not be sustained. Other countries with ambitious climate goals are likely to follow the developments in the EU with interest. In a globalised world where ambitious action on climate has become increasingly important but also highly politicised, CBAMs may be a policy whose time has now come.

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Introduction

By the start of June 2021, a total of 59 countries, representing more than half of global greenhouse gas (GHG) emissions, had pledged net zero emissions targets.¹ These countries include most major economies and the world's largest emitters, such as China, the US, the EU, Japan, Korea and the UK. However, the dates for the net zero targets vary, as do their rigidity and the extent to which they are reflected in the current policy framework.² Most countries that have communicated net zero targets have not chosen to enshrine them in law, while the majority of countries with legally binding targets currently lack clear roadmaps for achieving them.³ Interim goals, such as those specified in the latest round of Nationally Determined Contributions (NDCs) that were submitted to the UN, are often misaligned with net zero targets and poorly supported by concrete action. And some countries have refrained from committing to net zero targets altogether.⁴

With varying levels of ambition and action in mitigating climate change around the world, unilateral adoption of bold climate policies must overcome fears over the possible impacts such policies can have domestically. One concern is that moving faster or further than competing nations could incentivise businesses to shift their emission-intensive activities to less stringently regulated jurisdictions, resulting in job losses and import dependency, without any discernible impact on global emissions. This concern over the process widely referred to as 'carbon leakage' is particularly prevalent in relation to trade-exposed and carbon-intensive industrial sectors. The technologies to decarbonise these sectors are often at best early-stage, meaning that, in the short term, carbon prices result in higher costs for households and individuals rather than behavioural change. In the EU, which has some of the most ambitious climate targets in the world, the fear of carbon leakage has so far been tackled through the allocation of free allowances to heavy industry under the EU's primary emissions mitigation tool, the Emissions Trading System (ETS).

The European Climate Law,⁵ adopted on 30 June 2021, sets into law the obligation for the EU to achieve climate neutrality by 2050. On 14 July 2021, the European Commission published a set of policy proposals designed to achieve its previously agreed 55 per cent GHG emissions reduction by 2030 (compared to 1990 levels). These proposals, collectively known as the 'Fit for 55' Package, are intended to put the EU firmly on the path to achieving its 2050 target. The package outlines a set of revisions to eight existing EU regulations and directives, including fuel taxation, energy efficiency, renewable energy and land use.⁶ It also introduces a set of new policy measures, including a Carbon Border Adjustment Mechanism (CBAM), which is designed to prevent carbon leakage as the EU strengthens the ETS and phases out its free allowances over the next 15 years.⁷

The principle behind the proposed EU CBAM is simple: to prevent carbon leakage by applying a border charge that compensates for the differences in production costs due to carbon pricing. The European Commission envisages that the proposed CBAM will replace the current system of free ETS allowances to industry, incentivising faster GHG emissions reductions in the sectors covered by the ETS. However, the practical application of the proposed EU CBAM is expected by many to be fraught with difficulties. Perhaps unsurprisingly, the EU proposal has evoked strong feelings within the EU, as well as among the EU's main trading partners. Non-governmental organisations (NGOs), industry associations, businesses, business groups and various other commentators have offered views regarding the legitimacy, practicality, necessity, feasibility and appropriateness of the proposed EU CBAM. However, much of this analysis is produced by interest groups or by institutions linked to them, and often focuses heavily on the expected impacts on specific industries or trade partners.

In this context, the purpose of this report is to examine the economic, legal and political dimensions of CBAMs as a policy measure, with particular reference to the **EU proposal**.⁷ Although there is a wide body of literature on CBAMs in general, such analyses have, until now, faced a ‘moving target’. This is because, until the EU proposal, no fully fledged proposal to enact a CBAM had ever been put forward: earlier attempts, most notably the one included in the Waxman-Markey Bill approved by the US House of Representatives but not by the Senate, were halted at an earlier stage.

Whereas much of the previous analysis remains relevant, there is wide recognition that the legality, political acceptability and economic impacts of a CBAM depend on its specific design, which the EU proposal now fleshes out. This report presents an independent and integrated analysis of these aspects of the EU proposal, providing a balanced assessment of its strengths and shortcomings. The report also includes econometric estimates of the economic impacts of the proposed EU CBAM, drawing on Cambridge Econometrics’ E3ME macro-sectoral empirical economic model.

The structure of the report is as follows. [Section 1](#) provides a brief overview of CBAMs and their emergence in the broader context of trade and environmental policy. [Section 2](#) presents an overview of the arguments that are frequently evoked to either support or oppose CBAMs, including an assessment of their relative strengths and weaknesses. The EU proposal is described in [Section 3](#), with its expected economic and environmental impacts outlined in [Section 4](#). The legal aspects of CBAMs are discussed in [Section 5](#), which includes a general assessment of the CBAMs as well as a sub-section focusing specifically on the legality of the EU proposal. [Section 6](#) explores the political and diplomatic implications of the EU proposal, including the actions that trade partners may take in response to the proposed EU CBAM or any future CBAM that the EU may implement. Other trade-related policy measures that could be implemented as an alternative to CBAMs, or in combination with them, are examined in [Section 7](#). The final section concludes.

To draw a clear distinction between CBAMs as a type of policy measure and the specific proposal put forward by the EU on 14 July 2021, certain clarifications are needed to explain how various terms are used in this report. The terms ‘CBAM’ and ‘CBAMs’ are used to refer to carbon border adjustment mechanisms in a general sense as policy measures that can be structured and implemented in various different ways. The term ‘EU proposal’ is used in a narrow sense, to refer to the document published by the European Commission,⁷ which outlines the proposed structure, scope and implementation mechanism for the EU CBAM. The term ‘the proposed EU CBAM’ is used to refer to the actual mechanism that would be implemented based on the current EU proposal. This is qualitatively different from the more general term ‘EU CBAM’, which is used more generically to refer to a non-specific CBAM that may eventually be implemented by the EU after the negotiations over the current proposal (described in [Section 6](#) of this report) have concluded. This (future) EU CBAM will likely differ from the proposed EU CBAM. The term ‘EU CBAM’ is also used in the discussion of the modelling results in [Section 4](#) because the scenarios cover different variations of this policy measure.

1 Background

1.1 Defining Carbon Border Adjustment Mechanisms

The term Carbon Border Adjustment Mechanism (CBAM) is generally understood as a type of trade-related measure designed to support the operation of a carbon pricing mechanism, by ‘equalising’ the carbon costs faced by domestic and foreign producers. In this report we focus on carbon equalisation measures that are applied to imports to support an existing pricing mechanism that applies to domestically produced goods, such as the EU ETS.

In broader policy discussions, however, the term ‘CBAM’ is used to encompass a range of different trade-related equalisation measures due to their analogy with certain border measures used to adjust for differences in the level of taxation. Some of the measures contemplated in these discussions would not be technically applied at the ‘border’. For example, the application of an internal tax on a product at the point of consumption of goods, whether produced domestically or abroad (a consumption tax), is not applied at the border.

1.2 Trade and environmental protection – past debates

The debate on the nexus between trade and environmental protection has existed since the 1970s. The initial discussions focused on two major bones of contention: the ‘green protectionism’ argument and the ‘race-to-the-bottom’ argument.

The ‘green protectionism’ argument refers to the concern of many developing countries that environmental protection could be used as an excuse to reduce market access for their exports into developed countries. Mirroring this, the ‘race-to-the-bottom’ argument centres on the concern that some developing countries may maintain low environmental standards to attract foreign investment and thus gain a competitive advantage in global markets. Other significant debates arising from the trade and environment nexus include matters of environmental degradation in producer countries driven by consumption patterns abroad and the generation of waste in wealthy nations and their disposal in an environmentally damaging manner in poor ones.

These debates were fresh in the minds of government officials in the late 1980s and early 1990s, when the negotiation processes that led to the adoption, in 1992, of the UN Framework Convention on Climate Change (UNFCCC)⁸ as well as to the establishment, in 1994, of the World Trade Organization (WTO)⁹ took place. Article 3(5) of the UNFCCC reflects these concerns when it states, echoing the text of the General Agreement on Tariffs and Trade (GATT),¹⁰ the main pillar of the WTO, that “Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.” Unlike other environmental agreements adopted in the 1970s and 1980s, neither the UNFCCC nor the Kyoto Protocol¹¹ or even the more recent Paris Agreement¹² provide for trade-restrictive measures.

The possibility that measures to reduce emissions of GHGs may interfere with international trade remains a major concern today.¹³ Both Canada and India have been found to be in breach of their international trade obligations as a result of local content requirements in their renewable energy support schemes.^{14,15} The same concern is at the heart of ongoing discussions on the legality of measures such as CBAMs. An early draft of the July 2021 WTO Ministerial Declaration, which is being discussed in the Trade and Environmental Sustainability Structured Discussions (TESSD), includes a contested statement that “any climate-related measures and policies that WTO members may adopt, including border carbon adjustment mechanisms, follows WTO rules and principles”¹⁶ (the TESSD is further discussed in [Section 7.6](#)).

The current debate on the need for CBAMs to enable more climate ambition in domestic policies while avoiding carbon leakage is a recent iteration of these wider discussions. It raises the two main lines of argument, namely the focus on avoiding relocation of carbon-intensive industries or production to jurisdictions with lower mitigation requirements, and the concerns that such measures may result in ‘green protectionism’ and/or affect market access by trading partners.

Yet some important changes have emerged in how the trade and environment nexus is perceived, both in general and, more specifically, from the perspective of climate change. The main novelty is the increasing recognition that trade and trade-related measures, whether domestic or international, may be part of a policy package to achieve a structural transformation of the economy to make it more sustainable. Thus, unlike the traditional debate, the current one is not merely about levelling the playing field or affording some differentiation for developing country products, but also about doing so in a widely acknowledged context of low carbon transitions.

2 Arguments for and against CBAMs

Even before the European Commission published its proposal on 14 July 2021, the idea of CBAMs sparked much interest and discussion in Europe and further afield. Within both policy and industry circles, the divergent perspectives of CBAMs can be assigned to differing assumptions regarding the purpose of CBAMs, their effectiveness and vested interests.

Although the details of any specific proposal will likely influence stakeholders' responses to it, there are certain recurring themes that emerge in debates around CBAMs. Proponents of CBAMs support their views by focusing on their functionality as:¹⁷

- a tool to 'level the playing field', protecting domestic producers and the associated workforce in markets subject to ambitious climate change mitigation policies against foreign producers not subject to such requirements
- protection against carbon leakage
- an instrument to incentivise more ambitious climate action internationally.

Opponents of CBAMs, on the other hand, question the need for a trade policy instrument to address these issues and the suitability of CBAMs for these purposes.^{18,19} Their concerns relate largely to (1) the practicalities of implementing a CBAM, (2) whether such implementation would be legal and (3) the morality of CBAMs and potential adverse diplomatic and political consequences.

In this section, we briefly outline the key arguments in support of and opposition to CBAMs. The remaining sections of the report consider these issues in the context of the EU proposal.

2.1 CBAMs as a tool to 'level the playing field'

One of the main arguments against climate policy (both pricing mechanisms and regulation) is the adverse effect they can have on the competitiveness of companies that operate in global markets. In this context, CBAMs could improve the domestic political acceptability of ambitious climate policies²⁰ by ensuring that high levels of climate action ambition in the jurisdiction that applies them would not place the domestic companies at a competitive disadvantage.

One of the primary objectives of CBAMs is to 'level the playing field' in domestic markets (ie in countries that would apply them) by subjecting imported goods to a similar carbon price to that faced by domestic producers in markets where they are subject to strict environmental and climate regulation. In this way, a CBAM could reduce the cost difference that would otherwise make imports from countries with either no or low carbon prices more attractive than domestic production that is subject to a high carbon price.¹⁷ As such, it could improve the political acceptability of ambitious climate policy and/or high carbon price.

However, if fairly applied, a CBAM alone would not eradicate price differentials caused by other factors, such as lower labour costs in developing countries (compared to Organisation for Economic Co-operation and Development (OECD) countries). Although it could help to improve the competitiveness of exporters that are subject to a high carbon price, this would be the case only if the CBAM included a mechanism to subsidise exports. The current EU proposal does not include such a mechanism, which would likely not be legal under the current rules (see [Section 5.3](#) of this report for more detail on this aspect of the EU proposal).

In response to practical considerations (see below), CBAMs could be restricted to cover only a subset of goods or materials, focusing on the ones with the greatest benefits from levelling the playing field. However, this could create new economic or market distortions (ie interferences that affect prices and consumer behaviour), especially if the industries that produce material substitutes for the materials covered by a CBAM were not covered by the same mechanism.²¹

A CBAM that is applied only to basic materials (but not manufactured products) could also increase the production costs of domestically produced goods that use large amounts of these materials, without providing them with any protection against competing imports from jurisdictions without carbon pricing (see Box 1 for an example).²² This could incentivise these manufacturing industries to relocate to jurisdictions where they have access to cheaper materials, effectively reducing the demand for basic materials in the country that applies a CBAM to imported materials.²² As such, a CBAM that levels the playing field for basic materials producers (at the early stages of the value chain) would adversely affect the competitiveness of manufacturers (who are further down the value chain).

Box 1: Impact of a selective CBAM on EU automotive industry

In a market where a CBAM is applied to basic materials such as steel and aluminium, a car manufacturer that uses large quantities of these materials will need to either buy imported materials (which have become more expensive as a result of CBAM), or domestically produced materials (the price of which has increased because of domestic direct and indirect carbon pricing mechanisms). In either case, these materials are likely to be more expensive than the cost of these materials available to a car manufacturer in a country that does not have a strong carbon pricing regime in place, who may also have access to cheaper labour.

Although the cost increase can be passed through to consumers in the form of a higher product price (which may be as low as 0.5–2 per cent of the total price if additional measures such as material efficiency are also applied),²³ the higher product price could reduce the relative appeal of domestically produced goods against cheaper imports (especially from countries that also have lower labour costs). This could result in indirect carbon leakage, whereby manufacturers relocate to jurisdictions with less stringent climate regulations (see below).

2.2 CBAM as a measure to protect industry against carbon leakage

‘Carbon leakage’ may result from unequal competition between countries. In discussions about CBAMs, the concept of ‘carbon leakage’ is typically used to refer to a situation in which tighter climate regulations in certain jurisdictions lead to a geographical redistribution of the production of carbon-intensive goods towards other jurisdictions with lower standards. Whether this takes the form of an actual relocation of industries or simply of a redistribution of production, the underlying environmental problem is the same: GHG emissions at the global level are not reduced, they simply take place elsewhere. Under an extreme case, emissions may even increase if production moves into a country that allows more carbon-intensive forms of production.

The broader discourse around carbon leakage, however, is more complex than this use of the term implies. In fact, carbon leakage can take many forms, some of which may even result in a reduction in global emissions. The use of ‘carbon leakage’ as a justification for CBAMs usually assumes it to be strong (directly attributable to climate policies, such as carbon pricing), direct (caused by the geographical redistribution of carbon-intensive activities), and positive (resulting in an increase in emissions in other countries).

However, the reality is more complex. So-called negative carbon leakage may occur if climate policy in one country leads to technology development that is then transferred to other countries, reducing their emissions as well. As a result of negative carbon leakage, global GHG emissions would decline. Indirect carbon leakage, on the other hand, may cause emissions to increase in other countries through supply chain effects, such as the relocation of manufacturing from countries with strict climate policies to countries with more lax regimes where they would have access to cheaper material inputs (see example in Box 1). Indirect carbon leakage may also be caused by price responses in global fuel markets (for example, if one country reduces oil consumption, prices fall, enabling or encouraging more consumption elsewhere).

Proponents of CBAMs frequently argue that these policy measures would prevent the types of carbon leakage that may increase global GHG emissions.²¹ However, the extent to which the risk of this type of carbon leakage (ie carbon leakage caused by environmental and climate policies) is ‘real’ is a hotly contested issue.^{24,25} Although many European economies have outsourced much of their heavy industry to emerging economies, this process was driven primarily by wage differentials rather than environmental regulation^{26,27} and so cannot be attributed to carbon leakage. Yet the impact on global emissions has been the same, with faster economic growth and increased investment in industrial activity in less regulated jurisdictions leading to higher GHG emissions at global level,^{28,29} while domestic industrial emissions in European economies have declined.

Various ex-post econometric studies – in particular those focusing on the EU’s Emissions Trading System (ETS) – have not revealed any statistically significant evidence of carbon leakage linked to climate policies.^{30,31,32,33} This finding could be specific to the EU ETS, reflecting in particular its allocation of free allowances to industries that are regarded as being at ‘high risk’ of carbon leakage. If so, the risk of carbon leakage may increase as the EU ETS is strengthened and the free allowances are phased out. In this context, an EU CBAM could be regarded as an enabling policy to support faster emission reductions in ETS sectors and a corresponding reduction in the allocation of free allowances to industry.

However, the risk of carbon leakage may be overstated, because the benefits of avoiding a carbon price may not outweigh the (real and opportunity) costs associated with relocation, such as red tape, a weaker market position, or less developed links and bargaining power with local policymakers.³⁴ To the extent that this is true, the rationale for CBAMs is reduced. Yet there is a widespread belief among policymakers and technical advisors that CBAMs *will* be effective in reducing global emissions,²⁵ although this only works where industries in the country that applies a CBAM are less polluting than similar industries elsewhere, ie imports have a higher average carbon intensity than domestic production.

Several economic studies project that CBAMs would reduce industrial emissions in developing countries and BRICs (Brazil, Russia, India, China and South Africa) but increase the emissions in the countries that apply them.^{17,35,36,37} The resulting reduction in global emissions is generally shown to be marginal, in addition to being conditional on the CBAM revenue not being directed at uses that would increase economic activity, and therefore emissions, in the countries that apply them.³⁸ The modelling results presented in [Section 4](#) of this report contribute further insights into this discussion.

2.3 CBAMs as an instrument to incentivise more ambitious climate action

Another argument in favour of CBAMs is that they can provide the foundation for more ambitious climate action, both in the country that implements the CBAM and elsewhere.

According to political game theory models, CBAMs could incentivise (or coerce) countries with currently low levels of climate ambition to step up their climate policies to avoid CBAM costs and declining demand for their exports, even where continuing ‘business as usual’ would be easier or more financially lucrative in the short term.¹⁷ In other words, CBAMs would put economic pressure on ‘uncooperative’ governments and serve as a strategic bargaining chip in political negotiations by countries that want to implement ambitious climate policies but are worried about the potentially adverse impact on their economies if the rest of the world fails to follow suit. In this sense, CBAMs are construed as a solution to the widely discussed free-riding problem which many still see at the heart of global climate efforts.^{17,21} Recent empirical analysis, however, suggests that with the ongoing energy transition under way, countries’ incentives have changed and ‘free-riding’ is in fact economically harmful for the ‘free-rider’.³⁹ Yet, the perception that climate change policy is economically costly and exposes countries with ambitious climate policies to free-riding by others remains prevalent among policymakers, providing a rationale for measures such as CBAMs.

It is also possible that CBAMs could stimulate the deployment of low carbon technologies by industrial actors (ie private sector companies) in countries that do not have strong domestic climate policies, such as carbon taxes or an ETS. In this scenario, innovation and new low carbon technologies would become more widespread as private companies in low-ambition jurisdictions would adopt them for financial gain, or to avoid loss of profit or market share. As a result, global emissions would decline despite the reluctance of governments to implement ambitious climate policies.

However, CBAMs (or the threat of CBAMs) only address export-led economies which rely heavily on the EU markets. While, in practice, that may include the main emitters of GHGs, it is unclear how much of the production in those countries could be influenced, and to what extent. Negative carbon leakage (leading to a decline in global GHG emissions) would occur only if the EU market is important enough for the third countries, and there are no alternative markets available to them. In addition, the CBAM fee would need to be high enough to force companies to invest in new low emission technologies. There is also a risk that a unilaterally imposed CBAM may be seen as a protectionist measure, rather than an attempt to foster a reduction in global emissions, inciting trade wars or pushing trade partners to apply retaliatory measures.

Moreover, a CBAM that is employed unilaterally by one country, or a group of countries (see [Section 7.5](#) of this report) would not equate to a global carbon price. It is also unlikely that the world would unanimously agree with the sectorial scope of any proposed CBAM given that the underlying assumptions behind it would be country-specific or subjective. As such, CBAMs that are only applied to certain goods or materials would risk creating trade distortions and trade inefficiencies, which could result in higher prices for consumers.⁴⁰ The increasing cost of imported goods that were subject to a CBAM could also provide a competitive advantage for goods that fell outside of its scope in the importing economies, even if this might be a suboptimal outcome from an emissions perspective.

2.4 Practical considerations of CBAMs

Turning to the main arguments against CBAMs, opponents often stress the practical considerations that would make them difficult to implement and enforce. Measuring the carbon content (ie emissions resulting from production) of products and materials is technically complicated. Current methods of estimation are still in their infancy, making it unlikely for any CBAMs in the near future to cover anything but direct (scope 1 or possibly scope 2 under the Greenhouse Gas Protocol⁴¹) GHG emissions, meaning that it would be difficult to extend to products that are made of various different materials.²¹

Even when focusing only on scope 1 emissions, shared methodologies for the measurement and labelling of carbon content do not exist.⁴² As a result, the calculation of carbon content will face technical challenges and information gaps,⁴³ which could result in widespread use of default values. This, however, would raise concerns over the potential discriminatory aspects of CBAMs, such as the possibility that they may disadvantage smaller producers that have fewer resources to hire experts to measure and verify their emissions (see legal discussion below). Alternatively, if country averages are used, a CBAM could disadvantage the efficient producers within that country, going against the principle of it being a tool to incentivise good practice globally.

Another practical challenge to CBAMs is the potential administrative burden that they place on the parties that are required to amend their practices to comply with the new regulation. The scale of this burden, and who it falls on, depends on the design of the CBAM, but one thing that seems reasonably certain is that this burden will result in pushback and complaints from the affected parties. The forceful criticism against California's Low-Carbon Fuel Standard (LCFS),⁴⁴ which was enacted in 2007 to reduce the State's reliance on petroleum-based transport fuels, gives an indication of the types of responses that the first CBAM proposal is likely to face.

The administrative challenges associated with CBAMs are discussed in detail in relation to the recent EU CBAM proposal in [Section 3.2](#) of this report. However, the fact that CBAMs have so far never been implemented makes it highly likely for considerable investment to be needed to develop the technical capability and capacity for measuring and verifying embedded emissions,⁴⁵ and for the handling of the administrative tasks associated with it. On the other hand, the reporting requirements for embedded emissions through CBAMs could facilitate the design and adoption of standardised carbon accounting methodologies and reporting, which is considered to be key to the development of global markets for climate-friendly materials and products.⁴² In this sense, the implementation of a CBAM, even if complex and contentious (as discussed in more detail in [Section 3](#) and [Section 6](#) of this report), could potentially have broader benefits by enabling additional climate policies to be deployed more effectively.

2.5 The legality of CBAMs

As will be discussed in [Section 5](#), the consistency of CBAMs with international trade law has long been an issue of concern. A lack of precedent means that it remains unclear whether a CBAM would be considered fully legal if challenged and it is clear that at least initially there would be substantial uncertainty about the long-term feasibility of the instrument. It is also clear that the details of any particular CBAM would be important in determining its ultimate legality.

A substantial body of literature exploring the legality of CBAMs has now been developed. [Section 5.3](#) of this report constructs an overarching framework to assess the legal consistency of CBAMs, specifically focusing on the EU's proposed measure.

2.6 The morality of CBAMs and political/diplomatic responses

There are moral arguments both for and against CBAMs. The proponents of CBAMs suggest that CBAMs are consistent with the Polluter Pays Principle, and that they would ensure that everyone, especially carbon-intensive producers, participates in global emission reductions.⁴⁶ The Polluter Pays Principle, which is enshrined in Article 191 of the Treaty on the Functioning of the EU in addition to constituting the primary moral argument underpinning Just Transition planning,⁴⁷ dictates that pollution should be tackled at its source with compensation being sought from the economic actors responsible for carbon emissions rather than from the broader community.⁴⁸ Since its inception in 1972 it has garnered broad support as a guiding principle of environmental law, and it has received a general formulation in Principle 16 of the Rio Declaration on Environment and Development. By closing a means of avoiding paying for pollution, CBAMs are broadly in line with the principle.

However, as noted in the practical considerations above, there are likely to be limits as to how precisely a CBAM would target polluters. Whether a CBAM is imposed on the buyer (importer) or the seller (exporter), it imposes additional regulatory and fiscal requirements on the buyers when they choose a foreign competitor instead of a domestic supplier. Hence CBAM incentivises buying local and creates an economic dead-weight cost carried by both exporters and consumers. By reducing demand for exports, a CBAM would reduce production levels in countries (or specific communities) with export-oriented economies. The outcome for these countries would be loss of incomes and employment opportunities.⁴⁹ The issue is particularly resonant because in many cases the countries that lose out will be developing ones, while the countries that generate revenues from imposing CBAMs will mostly be developed ones. In this context, it could be difficult to justify a CBAM in the context of the just transition that is envisaged under the Paris Agreement.

CBAMs may also be seen as unfair from an environmental perspective if the economic impact is most acutely felt in producer countries that have, for a long time, incurred the negative environmental costs of polluting production, which has benefited consumers in the country applying the CBAM.⁵⁰ For example, the EU is the second largest importer of CO₂ through trade, with European consumers and industry benefiting from the low prices of carbon-intensive goods exported from countries such as China and Russia.⁵¹ The production of these goods has also caused local environmental damage historically, which has not and will not be compensated for.

These issues feed into a broader diplomatic context, which is discussed at length in [Section 6](#). The potential cost in terms of international relations could be substantial if not well managed, as suggested by the diplomatic row triggered by the 2009 extension of the EU ETS to include emissions from aviation. The EU faced major opposition from the US, China and others, and it eventually had to limit the application of the ETS only to flights between airports of the European Economic Area (EEA). At the very least, diplomatic resources will be required to maintain relationships under the introduction of a CBAM. The discussion in [Section 6](#) highlights some of the complexities that the EU would face under its current proposal.

If the diplomatic or legal case is not successfully made, third-party countries could (either legally or illegally) introduce countermeasures to a CBAM. Such a move would impose a cost on exporters that are based in the country with the CBAM (meaning they could be forced to pay both a carbon cost and a tariff on their exported goods). Often the retaliatory measures are placed on sensitive sectors (see examples in [Section 6.7](#)) so that they maximise political impact. However, the cost will be both economic and political, and will increase further if there is any retaliation in the form of 'tit-for-tat' escalation of tariffs on a wider range of products. In considering all of these potential outcomes it is worth noting that these actions will not take place in a vacuum and the wider political and diplomatic context will shape events, as discussed in [Section 6](#) of this report.

3 What is the EU proposing and why?

3.1 Why is the EU proposing a CBAM?

Industrial activity is responsible for around 15 per cent of the EU's CO₂ emissions,⁵² although its total environmental impact is greater if its energy consumption is also taken into consideration. The economic size of industrial sectors is substantially smaller than their share of emissions, with carbon-intensive industries and the power sector together contributing around 3 per cent of the EU's Gross Value Added (GVA)⁵³ and providing around 4.4 million jobs.⁵⁴

The European Green Deal risks placing a heavy burden on domestic companies that will have to deal with increasingly stringent environmental and climate regulatory measures. To meet the EU's net emissions reduction target of 55 per cent by 2030 (compared to 1990 levels) and to achieve climate neutrality by 2050, as stipulated by the European Climate Law,⁵⁵ the EU will need to radically reduce its industrial emissions as well as emissions from other sectors. However, if this is achieved through the relocation of industrial operations or manufacturing to other jurisdictions, the climate benefits of reduced emissions in the EU would be cancelled out by increasing emissions elsewhere. It is therefore regarded as a strategic objective for the EU to retain industrial activity within its borders, while facilitating its decarbonisation. The principle of competitive sustainability,⁵⁶ which draws attention to the benefits of the development and adoption of ground-breaking low carbon technologies in heavy industry for EU-based companies and the EU's international competitiveness, forms a key component of the EU's updated Industrial Strategy⁵⁷ and the new Circular Economy Action Plan.⁵⁸

In this context, the possibility of implementing a CBAM within the EU was evoked as part of the EU's 'Fit for 55' Package of policy proposals⁵⁹ published on 14 July 2021. The purpose of this policy package is to establish a cross-sectoral and integrated policy framework to ensure that EU policies are in line with the climate goals agreed by the Council and the European Parliament, and that the EU can achieve the 2030 and 2050 targets in a fair, cost-efficient and competitive way. The EU Emissions Trading System (ETS),⁶⁰ which forms the cornerstone of EU emissions control regulation, includes around 41 per cent of the EU's GHG emissions⁶¹ in its scope. The system works by putting an annually declining limit on overall emissions from the sectors it covers. Within this limit, companies can buy and sell emission allowances as needed.

Ever since the ETS was first implemented, companies in the sectors that are deemed to be at high risk of carbon leakage have received an annual quota of free allowances. According to the European Commission's official communication,⁷ the intended purpose of the proposed EU CBAM is to address the "risks of carbon leakage as a result of the increased Union climate ambition"⁶² as the EU ETS is strengthened and the existing provision of free allowances is phased out. The sectors covered by the EU proposal (excluding electricity), account for around 16–17 per cent of the emissions covered by the ETS, and just over 6 per cent of the EU's total GHG emissions.⁶³

3.2 The EU proposal at a glance

The EU proposal⁶⁴ consists of a draft regulation introducing the proposed EU CBAM as an equalisation measure in relation to certain sectors (aluminium, iron and steel, fertilisers, cement and electricity) covered by the EU ETS. However, the two measures remain separate in the sense that importers of the applicable products are technically not brought under the EU ETS. Instead, they are required to purchase and surrender CBAM certificates covering the embedded emissions in the goods they imported during the previous year to ensure that they pay the same price for the scope 1 carbon emissions of the imports as they would under the ETS. The price of the certificates will be pegged to the weekly average price of all ETS allowances sold in the auction market (which the European Commission would calculate and publish the following Monday), making the mechanisms reasonably responsive to any sudden changes in the ETS price.

Under the EU proposal, free allowances, which are part of the ETS, are extended for a phase-out period determined by an ETS proposal published the same day (effectively ending in 2036). Any carbon price a producer may have paid in their home jurisdiction, and an amount reflecting the free carbon allowances received by EU producers in the relevant sectors, will be deducted from the cost of each CBAM certificate. However, the exact methodology for how to implement these rules has not yet been determined, including the specific details of how the fee would be applied to products that originate in jurisdictions that have a higher carbon price than the EU ETS. The CBAM certificates are neither tradable nor interchangeable with ETS allowances, but importers can sell back a certain number of excess CBAM certificates to the European Commission or keep them for use the following year.

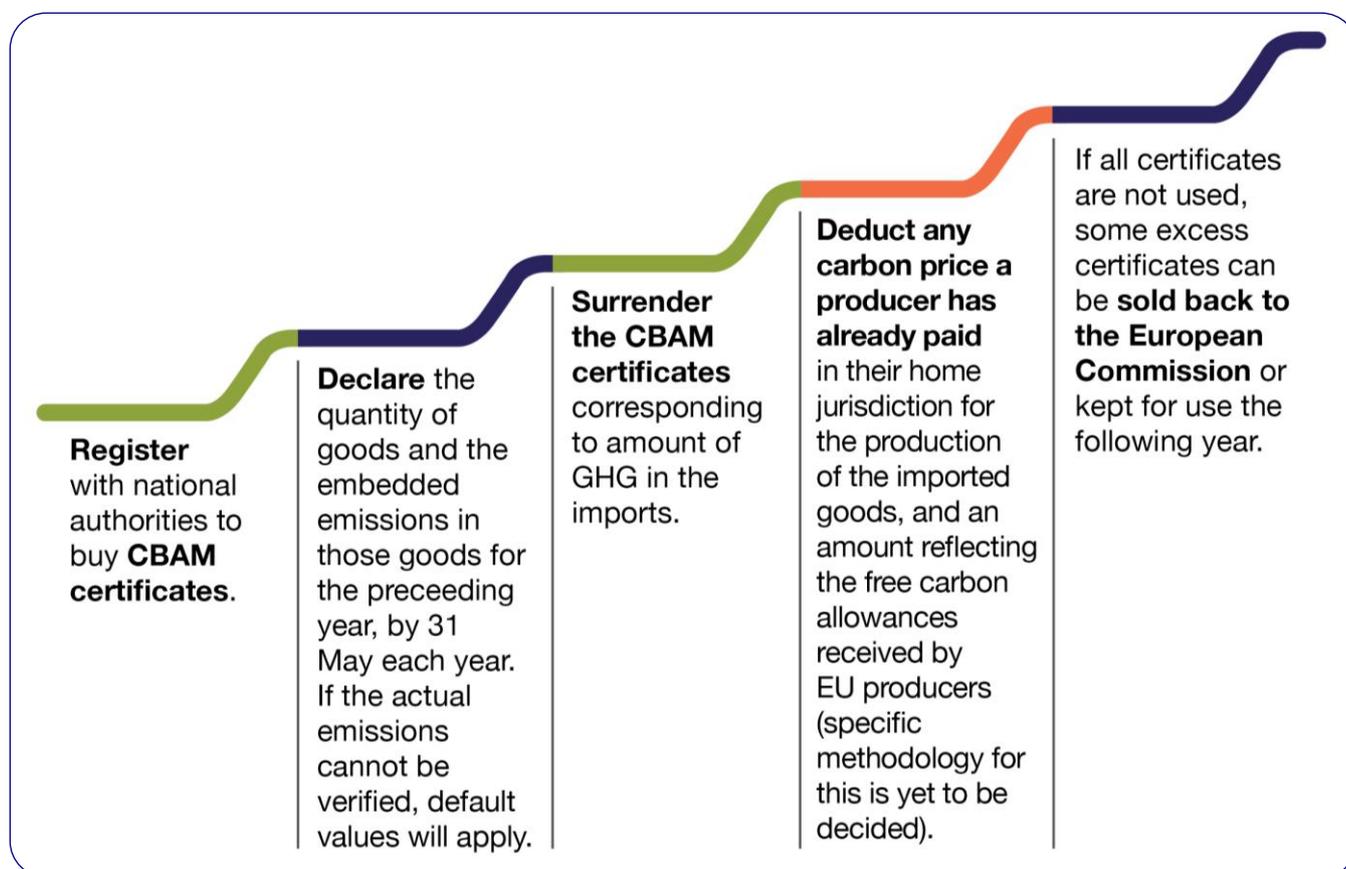
The sectors covered by the EU proposal are only a sub-set of the 63 sectors and sub-sectors that have been identified by the European Commission as being exposed to carbon leakage, meaning that the scope may be extended in the future. In the current EU proposal, the emissions embedded in the relevant goods expressly include only direct emissions released from their production process, but not the indirect emissions embedded in inputs used for the production. However, such indirect emissions (scope 2) may be brought under the scope of the proposed CBAM when they are inputs of a certain number of complex goods which are expressly covered (eg tubes and pipes, aluminium foil, etc). For example, producing aluminium foil may rely on inputs of paper and biocides, the emissions of which may have to be included in calculating the emissions embedded in the foil. The potential extensions to the scope of the proposed EU CBAM are entrusted to the European Commission through the adoption of subsequent implementing regulations.

The importer must declare the actual embedded emissions for the goods entering the EU. When it is not possible to determine the actual emissions, default values will apply. For aluminium, steel and iron, cement and fertilisers, the current proposal indicates that a default value at the level of the most polluting 10 per cent of EU production should be used. For electricity, the reference value for embedded emissions will most likely be determined either by the average GHG emission intensity of the EU electricity mix or the average GHG emission factor of the EU electricity mix.

Imports from all countries outside the EU are covered, with the exception of countries which participate in the EU ETS or have a linked system (Iceland, Lichtenstein, Norway and Switzerland) and of certain territories. Non-EU countries may be exempt if they meet certain conditions, namely that they have an emissions trading scheme which is fully linked by agreement to the ETS, and that the carbon price is effectively charged. Another exemption concerns the imports of electricity from countries whose electricity market is integrated with the Union internal market, subject to several conditions.

The EU proposal introduces a complex implementation system, which will most likely evolve over time. In essence, importers ('Declarants') must register with the competent authority of the EU Member State where they are established and, every year, make a declaration detailing the amount of covered goods imported in the previous year and their embedded emissions (which must be verified in the country of origin by an accredited entity). In the absence of registration, the importer will not be allowed to import the covered goods. This practical implementation of the proposed EU CBAM on EU importers is illustrated in Figure 1.

Figure 1: Practical implementation of proposed EU CBAM on importers



Source: European Commission (2021) Proposal for a regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism (COM/2021/564 final), <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52021PC0564>

Failure on the part of an importer to surrender the appropriate number of CBAM certificates or unauthorised importation of covered goods is subject to penalty payments (additional to the CBAM certificates), which are similar to those under the EU ETS. The Commission is granted wide implementation powers, including the adoption of anti-circumvention measures.

During the transitional period (2023–25), importers will be required to submit a report providing information on the covered goods imported, the embedded emissions and the carbon price paid in the country of origin. However, they will not be required to surrender CBAM certificates.

According to the EU proposal, the revenue generated by the proposed EU CBAM will go to the EU budget and to fund the COVID-19 recovery. However, the key elements of the proposed EU CBAM, including the use of the revenue, will be subject to extensive negotiations in 2021 and 2022 within and between Members States, as well as between the EU and its trade partners. This debate may become less heated if the CBAM revenue becomes dwarfed by the ETS revenue once the free allowances have been removed.

Lobbyists from various different interest groups, including industry associations, trade unions, environmental NGOs and even international development organisations will all seek to influence the outcomes of the upcoming negotiations. Some of the issues that have elicited strong opinions from special interest groups and stakeholders include the plans for revenue recycling, the length of the planned phasing out period for free ETS allowances and the potential competitiveness impacts of an EU CBAM on manufacturers. The exact specifications of the EU CBAM are yet to be determined, and it is unlikely that the final policy proposal will include all of the elements that are in the current version. This process is discussed in more detail in [Section 6](#) of this report.

4 What could an EU CBAM deliver?

4.1 Modelling scenarios

We carried out a modelling exercise to estimate the scale of potential impacts of different variations of an EU CBAM on the EU's economy at macro and sectoral level, jobs and CO₂ emissions. Specifically, we applied Cambridge Econometrics' E3ME macroeconomic model to carry out scenario simulations. E3ME is a well-established macroeconomic model, which is described in detail on the model's website.⁶⁵

The E3ME model is an E3 model, meaning that it simulates a nexus between the economy, the energy system and the environment. Changes in one part of the model (eg the economy) feed back to other parts of the model (eg the environment). In contrast to most other models used to assess trade policy, E3ME allows for the possibility of market frictions (eg gaps in knowledge and prices being slow to adjust to market conditions) and its parameters are based on historically observed relationships in the economy. This means that the estimated reactions to an EU CBAM are based on historical relationships between factors such as import prices, domestic prices and local production. It also means that the carbon intensities used in the calculations are based on actual data on sectoral production and emissions.

The starting point for the model-based analysis is a baseline case in which the EU aims for net zero emissions by 2050, in line with a 1.5°C global temperature target. Several other countries, including the UK, Japan, South Korea and Canada, are also assumed to pursue net zero goals by 2050.^{2,66} Other countries however, do not undertake similarly strong climate action and the baseline is therefore not consistent with a global 1.5°C target.⁶⁷

The baseline includes a range of different policies to reduce European emissions. Carbon pricing is an important part of the overall package, with the ETS prices expected to increase from just under EUR63 at the start of October 2021⁶⁸ to around EUR290/tonne of CO₂ by 2050.⁶⁹ There is also a range of regulatory measures, for example promoting energy efficiency or phasing out high carbon technologies.

Importantly, for the context of the proposed EU CBAM, the EU's carbon prices are set well above those of most partner trading countries. As described in [Section 3](#), the aim of the proposed EU CBAM is to equalise these costs. To simulate the effects of various different iterations of an EU CBAM, we have set up a series of impact scenarios. These scenarios introduce specific EU CBAM systems to the simulation, therefore resulting in new outcomes. There are two main scenarios, which identify the potential impacts of changing the scope of an EU CBAM. There are also several sensitivity cases, which consider the effects of changing specific aspects of the two main scenarios.

The main scenarios

The main scenarios are:

- CBAM scenario (S1), which focuses on sectors covered in Annex I of the EU proposal: cement, fertilisers, iron and steel, aluminium and electricity imports. A carbon border adjustment is applied to the goods imported in these sectors from countries outside of the EU (excluding Norway and Switzerland as in the proposal). The method for calculating the CBAM rate (ie the fee payable for CBAM certificates in the current EU proposal) is described below in detail. The revenues from the CBAM are used ('recycled') to reduce VAT and income tax rates.

This is the main scenario that is used for the assessment of EU CBAM effects on trade partners (Figure 6), sectoral and employment impacts ([Sections 4.3](#) and [4.4](#)) and for the assessment of an EU CBAM as a tool for protecting the ETS ([Section 4.5](#)).

- Extended CBAM scenario (S2), which builds on S1. This scenario imposes the CBAM on the same economic sectors as in S1 as well as several additional sectors with high embedded content from industries of S1, such as metal goods, electronics, electric engineering and instruments, motor vehicles, other transport equipment and other manufacturing. The revenues are again used to reduce VAT and income tax rates.

In both scenarios the EU CBAM system is introduced from 2022, but to reflect the proposed timeline, a sensitivity is set up where introduction only starts in 2026.

Most of the modelling results are presented as percentage difference compared to the baseline scenario, in which the EU aims for net zero emissions by 2050, in line with a 1.5°C global temperature target without a CBAM.

Sensitivities

On top of the main scenarios we have constructed a set of sensitivity cases. The sensitivity cases are not full scenarios but are instead designed to assess specific aspects of the EU CBAM. The three cases are:

- No revenue recycling: S1 scenario without electricity exports and without the revenue recycling (the revenues are instead used to reduce public debt levels), which shows the direct effects of the EU CBAM.
- Electricity imports: S1 scenario with differing assumptions on how electricity imports might respond to the EU CBAM (reductions of 10 per cent and 25 per cent, respectively, rather than 50 per cent; see discussion below).
- CBAM begins in 2026: S1 scenario, but contrary to the main scenario (where effects start from 2022), the EU CBAM is only introduced from 2026.

Product coverage of CBAM

The E3ME model defines economic sectors at a much broader level than the detailed Combined Nomenclature (CN) codes that are used in Annex I of the EU proposal. This is an important limitation, which reflects the level of detail in the available published data. In Table 1 we compare the sum of import volumes for the products detailed in the proposal (2018 values from UN Comtrade database)⁷⁰ with the appropriate sectoral import volumes from the E3ME model database.

Table 1: How the CBAM coverage fits into E3ME model sectors

Products	Relevant E3ME sector	EU imports of products covered by CBAM (EURbn 2020 prices)	EU imports of products in E3ME sector (EURbn 2020 prices)	Share of CBAM product trade in the broader E3ME sector
Iron and steel Iron and steel articles Aluminium	Basic metals	89.2	114.9	77.6%
Fertilisers Inorganic chemicals	Other chemicals	17.9	152.1	11.8%
Cement	Non-metallic mineral products	0.2	21.8	1.1%
Electrical energy	Electricity	3.6	4.2	85.4%

The table shows that the (product level) target of the current EU proposal is narrower than the more aggregate sectors covered by the E3ME model, especially in the case of the non-metallic mineral products sector. On that basis, the estimates provided by the modelling could be treated as upper limits or overestimates of the full effect because they apply an EU CBAM to a much wider group of products than set out in the current EU proposal.

However, the magnitude of this bias is partially offset by how the EU CBAM rate is calculated (see below). The EU CBAM rate is based on the average carbon intensity of the broad E3ME sectors. This means that, although more products are covered in the modelling than is the case under the current EU proposal, the rate of the EU CBAM is correspondingly lower than it would be (in reality) if applied just to the specific products as per the current EU proposal.

The modelling therefore does go beyond the scope of the current EU CBAM proposal, but the difference is not as large as the numbers in Table 1 suggest. As always with this type of analysis, further investigation into the specific features of each individual product would provide further insight about possible effects.

Method for EU CBAM rate calculation

The calculation of the CBAM rate follows a simple logic.

$$CBAM_{i,j} = (P_{EU} - P_i) \times \beta_{i,j}$$

where:

$CBAM_{i,j}$ – represents the CBAM rate for imports of j sector originating from i country

P_i, P_{EU} – represents carbon price in country i and in the EU

$\beta_{i,j}$ – represents the emission intensity in i country and j sector⁷¹

Electricity imports

For imports of electricity a different approach has been adopted. Because the magnitude of electricity imports is determined by the complex conditions of the energy system (ie energy mix, load balancing, availability of base load and peak-load sources and pricing) we adopt a simple assumption that imports will be reduced from countries with higher carbon intensity (than the EU average) of electricity production. The adopted scenario assumes a gradual reduction of imports: by 2050, 50 per cent of the more carbon-intensive imports are replaced by domestic production.⁷² The remaining part of imports is subject to the relevant EU CBAM rates.

As one of the sensitivity cases shows, the overall volume of electricity imports to the EU is small and so this assumption has little impact on final outcomes.

The use of the revenues generated by CBAM

In the scenarios, the overall government balance is unchanged, and any revenues generated by the EU CBAM are 'recycled' back into the economy. Specifically, the revenues are used to reduce VAT and income tax rates (50–50 split). The choice of taxes to reduce is arbitrary but the split could be interpreted as a broad reduction in overall taxation to compensate for the higher product prices caused by the EU CBAM.

Other European climate policy and the allocation of ETS allowances

Across the scenarios it is assumed that all other European climate policy remains the same. The model results therefore isolate the effects of introducing an EU CBAM.

The ETS remains in its current form, but with carbon pricing extended to cover all sectors of the economy (including transport and buildings). ETS prices remain unchanged between the scenarios (but do change over time) so that the model results are easier to interpret. We have maintained the current share of free allowances in the scenarios, noting that the total number of allowances (either allocated freely or auctioned) decreases over time to zero by 2050 in all cases. Although one of the aims of the proposed EU CBAM is to replace the allocation of free ETS allowances, the two measures are not necessarily tied and so this analysis focuses purely on the effects of an EU CBAM.

Previous analysis with the E3ME model for the European Commission⁷³ has shown that decreasing the share of free allowances could have macroeconomic benefits, although these results are highly dependent on assumptions about how the availability of free allowances affects firms' pricing decisions.

Other climate policy in other countries

The scenarios also assume that climate policy in other countries remains unchanged. This is potentially an important assumption, because one of the potential impacts of an EU CBAM is that other countries increase their level of climate ambition so that they can access the EU market without additional costs being added to their exports. The reason for introducing this assumption is that policy responses from other countries are highly uncertain.

In terms of EU competitiveness, it does not really matter whether external producers pay a carbon price domestically or through the purchase of CBAM certificates (as stipulated by the current EU proposal). However, if non-EU countries introduce their own carbon prices this would reduce the revenues generated by an EU CBAM, which drive a large part of the economic impacts shown below. There may also be important cross-border technological interactions if third-party countries invest in low carbon technologies that subsequently reduce the costs of these technologies for everyone.

4.2 Macroeconomic outcomes and impact on emissions

An EU CBAM could affect the wider economy. The pathway through which these impacts arise, and the key results, are shown in Figure 2.

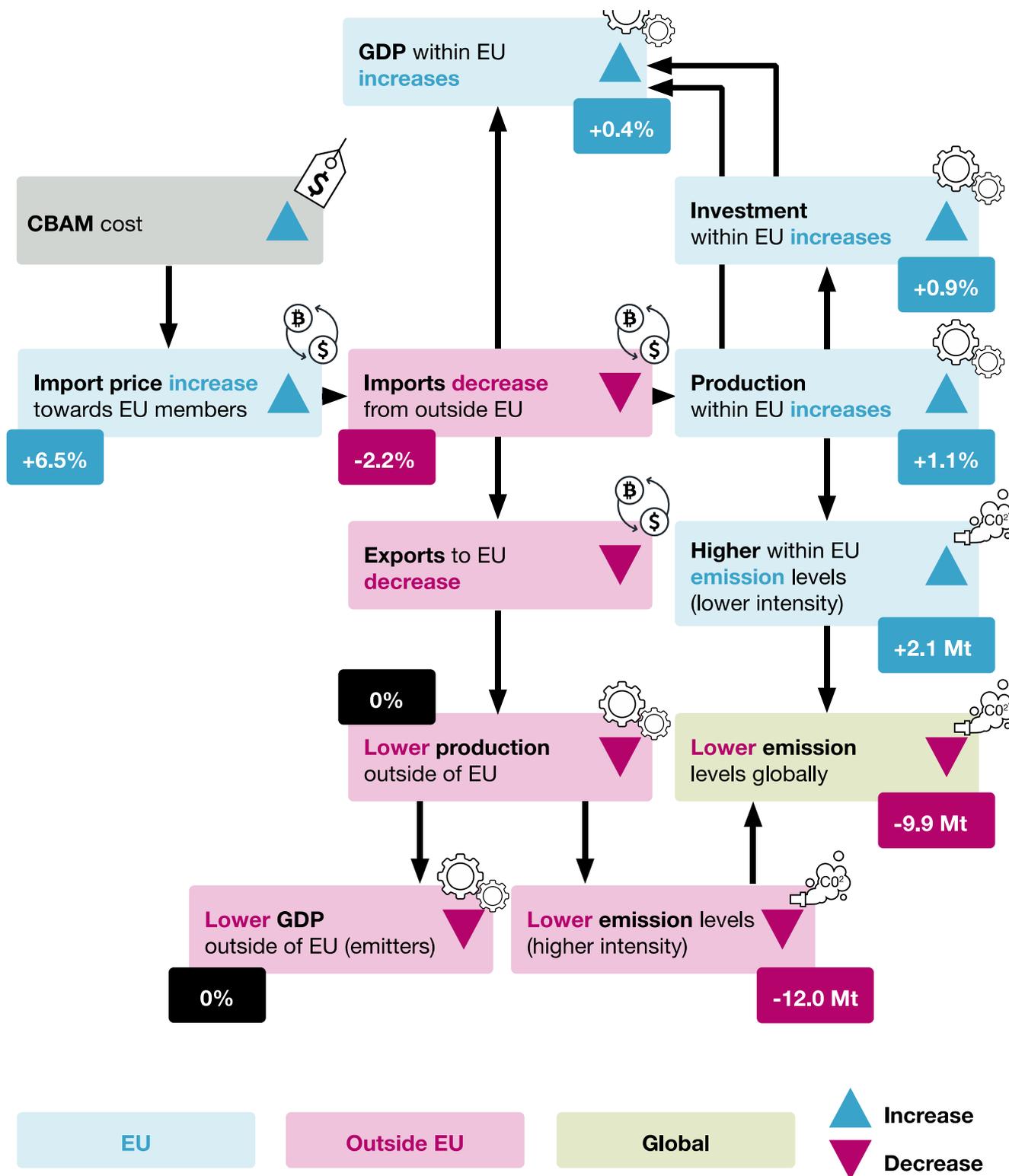
When an EU CBAM rate is applied to imports, the prices of these imports will increase. Through a demand response this will lead to a decrease of imports coming from outside the EU, which at the same time means that exports from trade partners (ie non-EU countries) will decrease. In the impacted sectors (S1 scenario) this means a 2 per cent decrease in imports by 2050. For non-EU countries this means a loss of production (in response to the lower demand), which in turn causes a somewhat lower output (GDP) and lower emission levels. However, the estimated GDP effect in non-EU countries is close to zero, just as the production impact, while there is a reduction in emissions outside the EU of 12 MtCO₂.

In the EU there is a substitution from imports to domestic production, which therefore increases (1.1 per cent increase in the impacted sectors by 2050). A higher level of production leads to higher investment requirements (capacity expansion), which further boosts production levels slightly. These factors together drive a minor increase in EU GDP, of 0.4 per cent by 2050.

Increased production levels of goods that still require some carbon-intensive feedstocks or emit carbon through the production processes leads to higher emission levels in the EU, generating about 2.1 MtCO₂ of excess emissions above baseline levels. In the short term, changes in the location of production could lead to higher global emission levels if production moves to more carbon-intensive locations. However, by 2050 the EU's average carbon intensity in these sectors is much lower than that in trading partner countries whose exports would be subject to the EU CBAM, so global emissions do decrease. The overall impact thus is a total 10 MtCO₂ reduction of global emissions by 2050, or an about 0.023 per cent reduction of overall CO₂ emissions around the globe.

The limited size of the impact of an EU CBAM on global emissions indicates that an EU CBAM alone (regardless of the specific form it may take) is unlikely to be sufficient in driving down global GHG emissions from industrial production: supplementary trade-related strategies as well as decarbonisation policies more generally are also needed. Examples of this could include policy measures to create demand for low carbon products and materials, such as public sector procurement rules.⁴² However, if carbon pricing is subject to widespread public opposition, the presence of an EU CBAM could make the introduction of additional policies more feasible.²⁰ The role of an EU CBAM in this type of scenario is explored in [Section 4.5](#).

Figure 2: CBAM basic impacts by 2050 (50% assumption electricity imports revenue recycling)



Note: prices, trade, production and investment for impacted sectors; GDP and emissions for whole economy.
S1, 50% electricity, revenue recycling

Figure 3 shows GDP results for the EU across the two main scenarios and alternative sensitivity cases. Results are shown for 2050. The bottom row shows the main S1 scenario and the top row shows the main S2 scenario. There is little difference between the impacts of the two scenarios, suggesting that extending the scope of an EU CBAM (beyond the scope of the current EU proposal) would not have much economic impact overall. This finding mainly reflects the low carbon intensities of the additional products covered in S2.

In fact, apart from the second row from the bottom (no revenue recycling) all the model simulations show remarkably similar results. We can therefore infer from the results that the impacts of including electricity imports or delaying introduction of an EU CBAM until 2026 would have little overall impact by 2050. The one place where there is an important difference is in using the revenues generated by an EU CBAM: the model results show that most of the economic benefits by 2050 arise from the use of the revenues generated rather than direct trade interactions.

Figure 3: EU CBAM impact on EU, Non-EU and global GDP

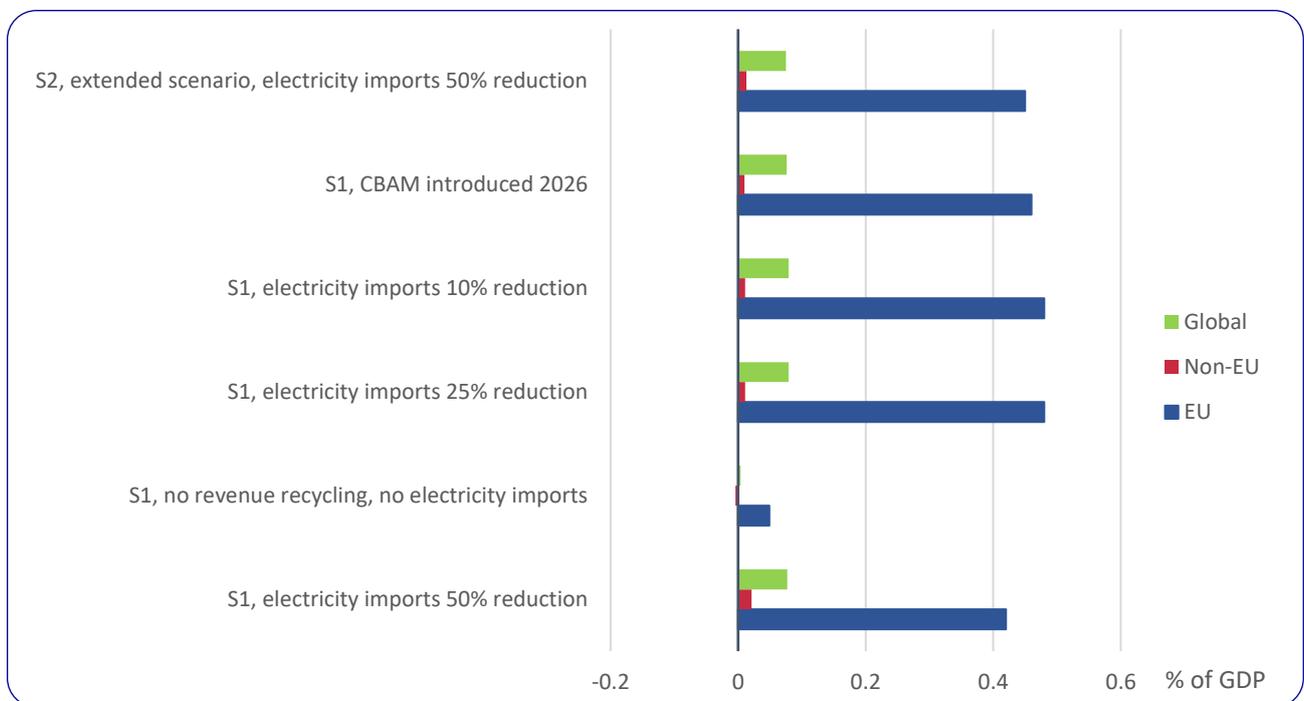
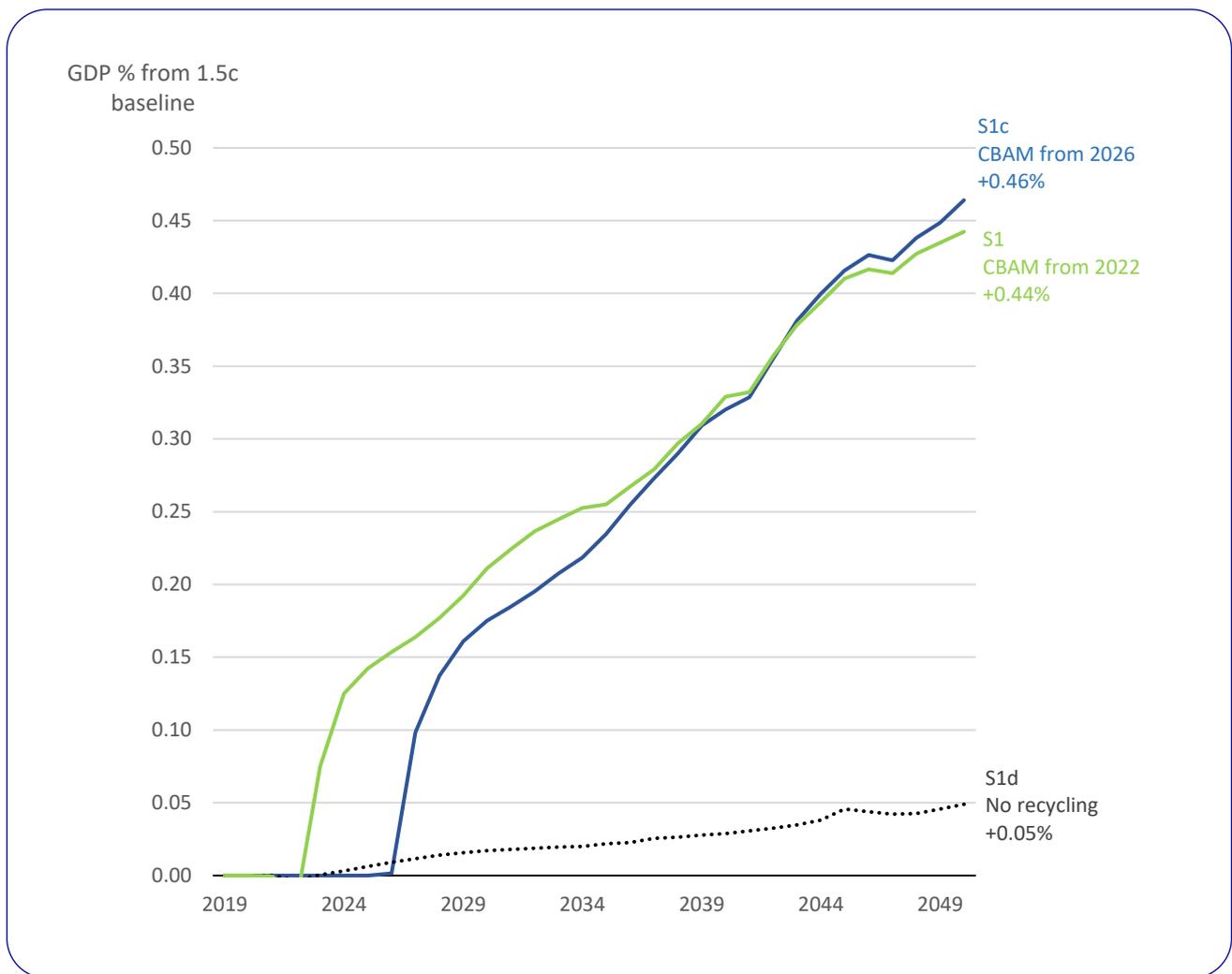


Figure 4 shows the time profile of the impacts of the various iterations of an EU CBAM on GDP in the different simulations. The figure shows that there is a difference of magnitude between the scenarios with (S1, S1c) and without revenue recycling (S1d). However, the paths of the simulations that include revenue recycling are similar. In the initial period the growth is quick and steep, while the overall growth of the impact is steadily increasing.

S1c, the sensitivity with the EU CBAM effects starting only in 2026, produces the highest GDP impacts, slightly above S1. Importantly the path of the scenario impacts moves along S1, despite the later start date, catching up in terms of the magnitude of the effects by 2035. This scenario is the most similar EU CBAM variation in this analysis to the current EU proposal.

Figure 4: Time profile of impacts in EU CBAM scenarios, GDP difference (%) from baseline in EU27



There are some differences in emissions outcomes across the different model simulations. Figure 5 presents the reduction of CO₂ emissions by 2050 in the EU27, outside the EU and, adding these together, at global level. It can be seen that the global net outcome is negative in all cases (ie all versions of an EU CBAM produce emission reductions at the global level).

The small increase in emissions within the EU is largely consistent between the different simulations. Outside the EU there is a bit more variation, which is also reflected in the global results. The assumptions about electricity imports play a role in these differences; the largest global emissions reduction is in the sensitivity case where the EU both stops importing electricity and also reduces other imports (because the absence of revenue recycling dampens economic demand more generally).

Figure 5: CO₂ emission impacts, difference from baseline (MtCO₂) by 2050

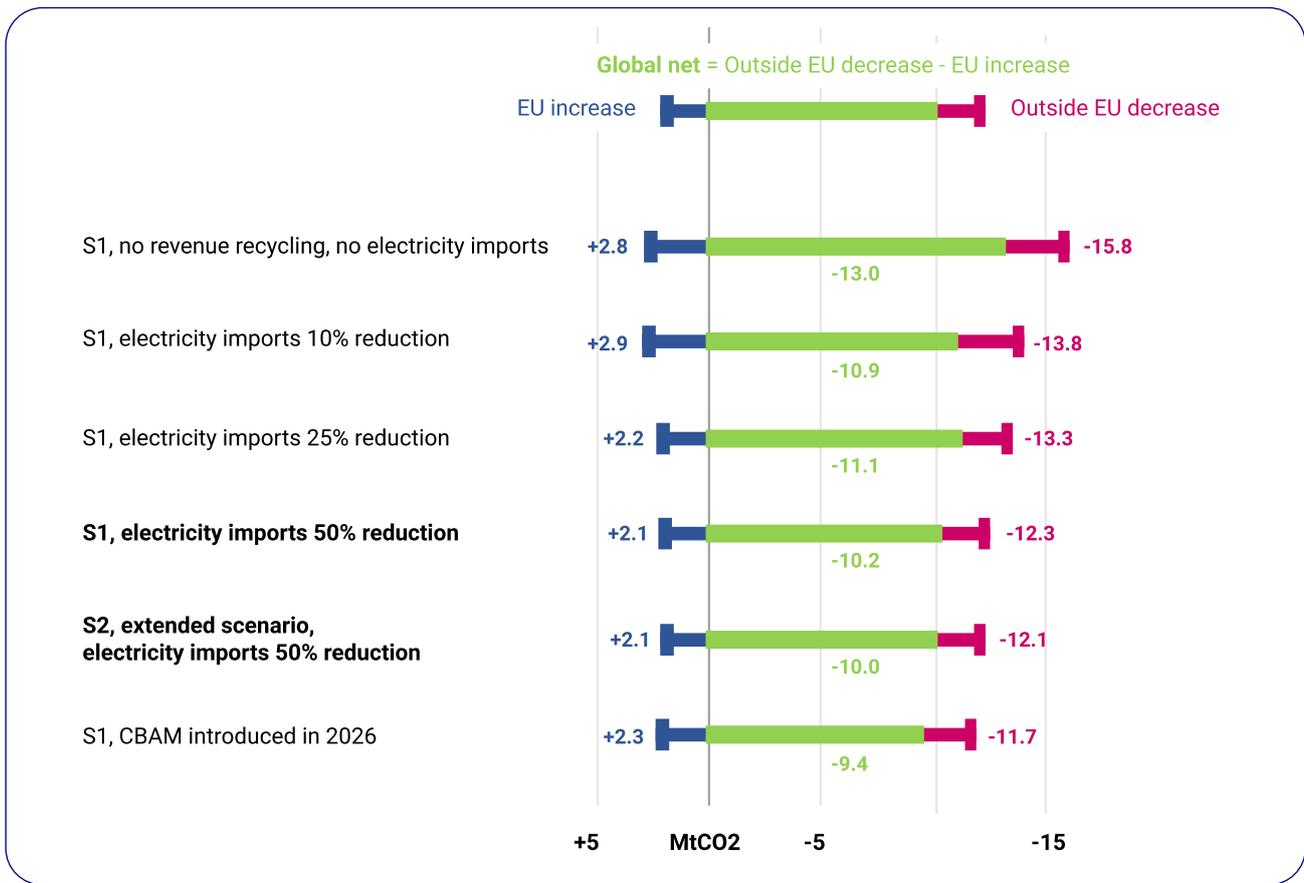
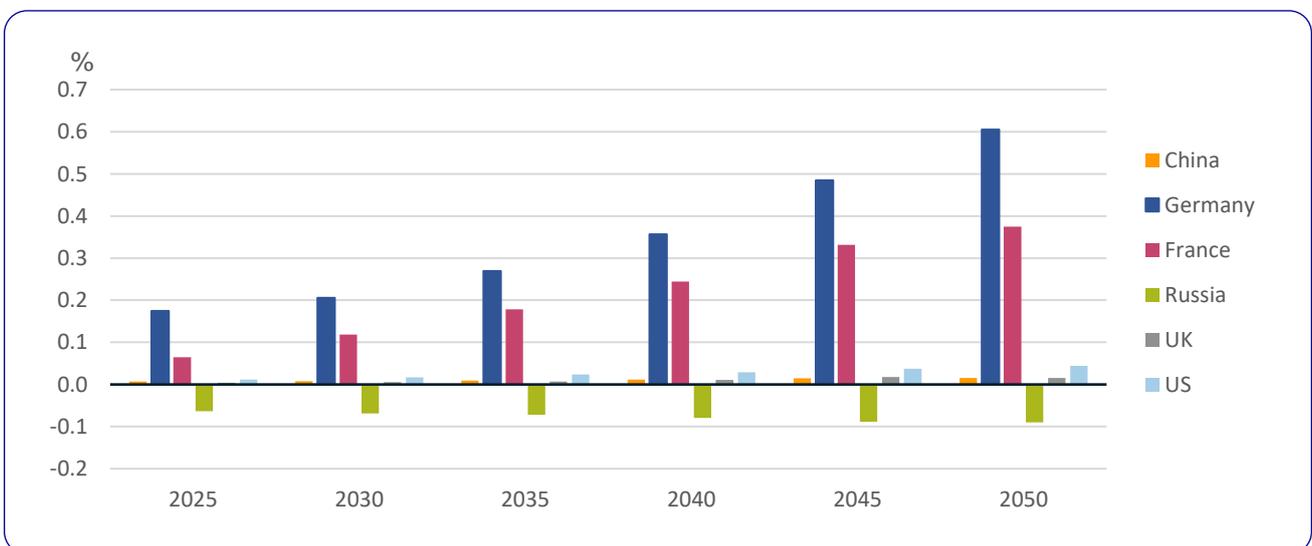


Figure 6 shows country-level economic impacts in some selected countries. In the EU Member States, France and Germany, the impact is positive and increasing over time as it was in the EU level results. In the case of countries outside the EU the direction of the impact is dependent on the countries' industrial structure and the carbon intensity of their industries. For example, impacts are negative in Russia, driven by a loss of exports from the targeted sectors. However, exports from China, the UK and the US (where carbon intensity falls over time) replace some imports from Russia and other carbon-intensive producers into the EU, resulting in small economic benefits in these countries.

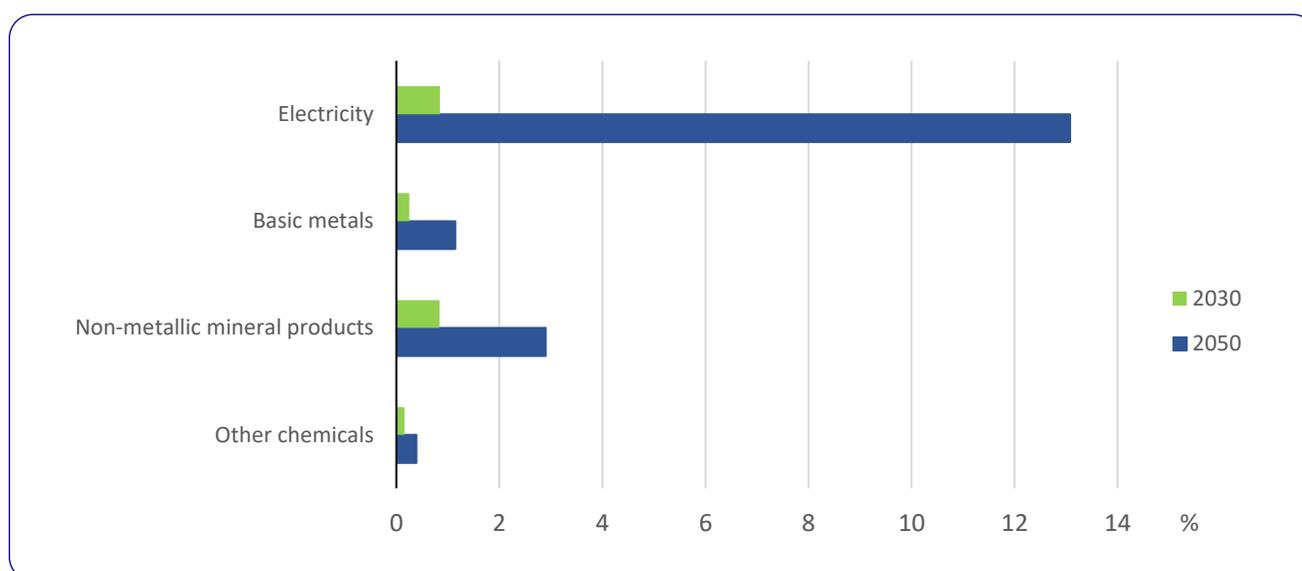
Figure 6: GDP impacts in selected regions, difference from baseline (%)



4.3 Sectoral impacts

Although relatively small at macro level, the output and price effects of an EU CBAM may be more substantial in the sectors that are directly affected. In all of the scenarios where an EU CBAM is applied to imports, the EU output is higher than in the baseline in electricity, non-metallic mineral products, basic metals and chemicals (see Figure 7). By 2030 the differences in output compared to baseline are relatively muted but, by 2050, they could be substantial. Output in basic metals and non-metallic mineral products could be 1–3 per cent higher than in the baseline, while in electricity the difference could be 13 per cent.

Figure 7: Sectoral output impacts, difference (%) from baseline in EU27

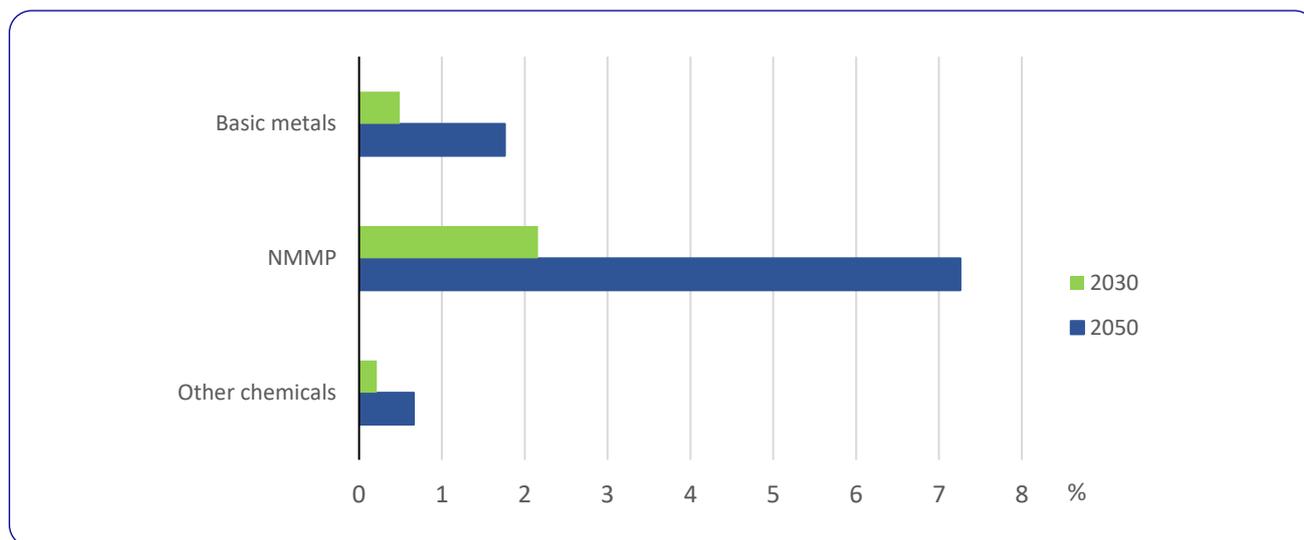


Higher electricity production in the EU is driven by the reduction of electricity imports (assumed to be 50 per cent by 2050 in the central scenario, S1) which is substituted with domestic production. The impacts are largest in Member States that currently import a substantive share of electricity (Lithuania, Latvia, Croatia and Hungary). For example, in Lithuania over 50 per cent of electricity for final consumption is imported from Russia and Belarus; similarly Latvia has about 16 per cent imported from Russia. Other major trade partners, who export electricity into the EU and would be covered under the current EU proposal, include North Macedonia and Turkey (exports to Greece), Ukraine (to Hungary) and the UK (to Ireland primarily). Switzerland and Norway also export electricity to Member States in high volumes, but they are exempt from the proposed EU CBAM (and are likely to remain exempt in any future iterations of the current EU proposal).

It is important to consider how the additional electricity produced in the EU is generated. In the scenarios that apply an EU CBAM to electricity imports, there is an increase both in the volume of deployed renewables (0.3 per cent by 2030, 0.1 per cent by 2050, compared to the baseline) and the volume of deployed Carbon Capture and Storage (CCS) (0.2 per cent by 2030, 1.2 per cent by 2050) in the EU. As a result, the global power generation sector emits less GHG by 2030.⁷⁴

Industrial production prices, which determine the prices of basic materials (as shown in Figure 8), increase in the target sectors because of the introduction of an EU CBAM. The overall effect is a combination of a direct impact, as imported products are more expensive due to the CBAM rate, and an indirect one, as prices grow within EU sectors due to the increasing demand. Prices increase by over 7 per cent in the non-metallic mineral products (NMMP) sector and about 2 per cent in the basic metals sector by 2050.

Figure 8: Sectoral price impacts, difference (%) from baseline in EU27



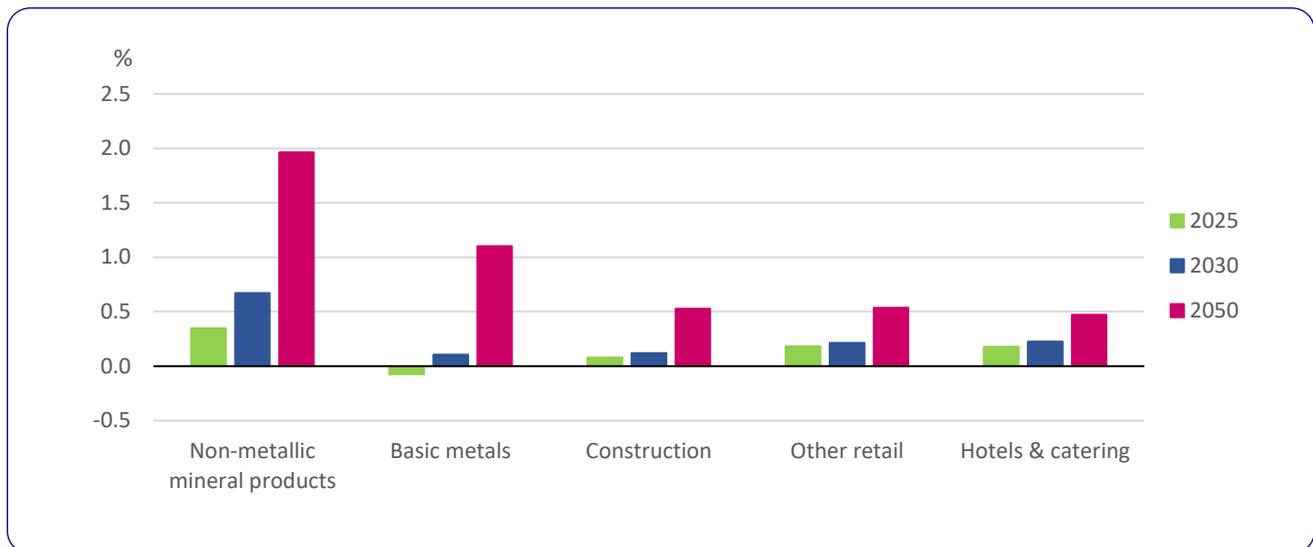
4.4 Employment impacts

At EU level the model results for employment follow those for GDP gains in the scenarios. By 2050, in the central CBAM scenario (S1) employment increases by around 600,000 jobs (0.3 per cent) in the EU. Outside the EU there is little overall change in employment.

There are also some important impacts on the structure of the labour market. Retail, services, construction (and supporting sectors), as well as directly impacted sectors (non-metallic mineral products and basic metals) drive the overall increase in employment. By 2050 there are increases in employment compared to the baseline of 2 per cent in non-metallic mineral products and 1 per cent in basic metals. For sectors such as retail and tourism (where growth is driven by the revenue recycling) the impact is around 0.5 per cent. Construction also gains about 0.5 per cent, both due to revenue recycling and additional investment related to the domestic deployment of power generation.

The positive effects on employment take time to accumulate, in part because of short-term frictions but also the speed at which European labour markets adjust (see Figure 9). However, by 2050 the impacts in most sectors are around 0.5 per cent above baseline, with bigger impacts in the sectors directly affected by the EU CBAM.

Figure 9: Employment impacts of an EU CBAM, difference (%) from baseline in EU27



4.5 CBAM as a tool for protecting the ETS

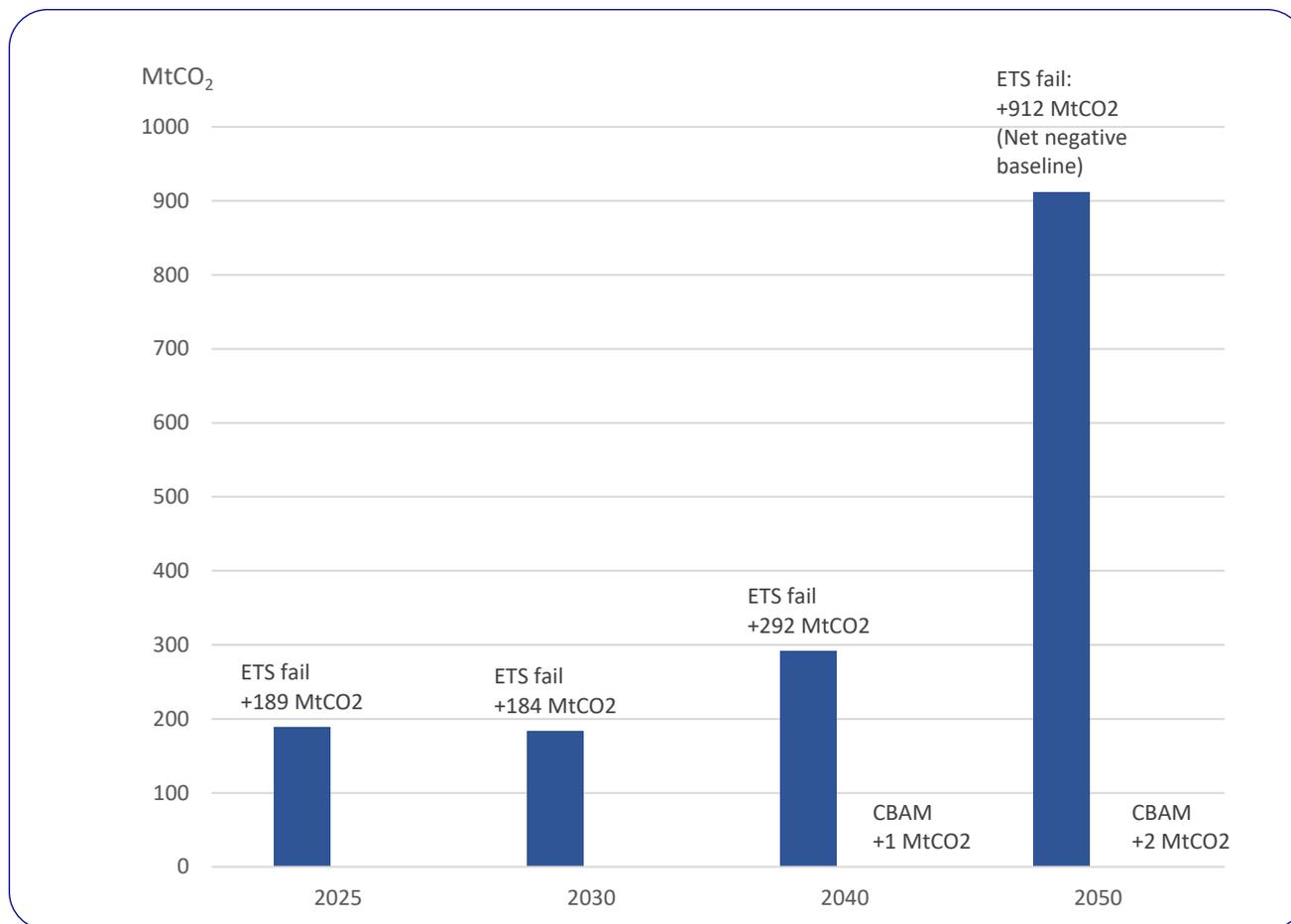
While the modelling is by necessity quite abstract in nature, it is important to remember the political economy of CBAMs. One possible outcome is that without protection for industry it becomes impossible to impose a high carbon price within the EU.²⁰

A final scenario therefore shows what might happen if the EU does not implement a CBAM and carbon prices decline as a result. This scenario is identical to the baseline, except EU carbon prices are reduced to levels similar to those seen today by 2050, instead of increasing steadily (as they are currently expected) to support greater climate ambition. The other regulatory policies in the baseline remain in place, but are weakened by a lack of interaction with carbon pricing.

Figure 10 shows the impact of reduced carbon prices on EU emissions. It should be noted that, in the baseline case, the EU has net-negative emissions by 2050 and it is therefore not possible to provide a percentage change in emissions. However, by 2030, the difference is almost 10 per cent and by 2050 it is almost 1 GtCO₂ (around 3 per cent of current global emissions and 30 per cent of current EU emissions). This impact by far outweighs the effects of an EU CBAM on emissions that are demonstrated in the results from the other scenarios.

In summary, the results suggest that an EU CBAM could play an important role in enabling high carbon prices, which are necessary for the deep emission reductions implied by the EU's long-term strategy. The modelling results suggest that the exact form that this CBAM may take would not have a substantial impact on the macroeconomic outcomes, employment or emissions within the EU.

Figure 10: Emissions impacts of the 'ETS fail' scenario and a scenario where an EU CBAM is applied to imports (S1), difference (MtCO₂) from baseline in EU27



4.6 Modelling conclusions

The modelling exercise shows that an EU CBAM could be generally capable of mitigating carbon leakage, by increasing the price of importing higher carbon intensity products and thus driving production to lower intensity jurisdictions. Importantly, these jurisdictions can be within the EU, therefore increasing production within the EU, boosting economic activity and employment.

We estimate that due to this effect, an EU CBAM (that resembles the proposed EU CBAM) could bring minor economic benefits to the EU. However, increased production in the EU could also mean potentially increased emissions at EU level. This increase is more than offset by larger reductions at global level, but the magnitude of the emission reduction globally is expected to be less than 0.1 per cent.

The modelling results show that the largest sectoral impacts are in the sectors directly targeted by the EU CBAM. However, these sectors make up only a small part of the EU's economy.⁷⁵ The larger macro-level impacts are determined by how the revenues generated by the EU CBAM are used. It should be noted that if other countries also adopt carbon pricing (one of the aims of the current EU proposal), then the revenues will be reduced and the macroeconomic impacts within the EU will be smaller.

The modelling results also show that if imported electricity is replaced by domestic generation, additional output growth in the EU's electricity sector could be substantial, driven primarily by States with currently high import dependency. This could create just over 100,000 new jobs in the EU power sector. Employment growth, however, would be more pronounced in two of the targeted sectors (non-metallic mineral products and basic metals) and, due to the use of the revenues generated from the CBAM, also appears in sectors where growth is driven by increased consumption such as retail and tourism.

Finally, the modelling tested what would happen if an absence of an EU CBAM reduced the political acceptability of high carbon prices, preventing a carbon price increase in the EU beyond current levels. The model results show that the impacts on annual EU and global emission levels could be substantial, reaching almost 1 GtCO₂ (or around 30 per cent of the EU's current annual emissions) by 2050. These results highlight the potential importance of the proposed EU CBAM as an enabling policy, as part of a broader package of measures to reduce European emissions, as presented by the Fit for 55 Package.

5 Legal aspects of CBAMs

Having established in the previous section that an EU CBAM could lead to modest economic benefits and emission reductions, this section explores whether such a measure is legally feasible.

5.1 Overview

The consistency of CBAMs with international trade law has long been an issue of concern. A significant body of literature analysing different dimensions of this issue developed in the late 2000s, as the US and the EU started to consider such measures to avoid carbon leakage.⁷⁶ This literature has focused mainly on the rules governing trade in goods under the General Agreement on Tariffs and Trade (**GATT**). Most frequently, discussions revolve around two types of measures, namely a carbon equalisation tax on imported products collected at the border or the extension of an emissions trading scheme to importers (see [Section 3.2](#) for an explanation of how the EU's proposed approach differs from this). Other potential measures include consumption taxes, rebates granted at the border for carbon-intensive exports – the production of which is subject to higher mitigation requirements – and several other possibilities.

An important distinction to keep in mind when analysing the legality of CBAMs is that between the carbon pricing measure (eg a carbon tax or an emissions trading system such as the EU ETS) and the supporting carbon equalisation measure accompanying it. For example, a carbon tax imposed internally on domestic goods may be equalised by a border adjustment duty on imports. The requirement applicable to local producers under an emissions trading scheme to surrender emission allowances may be equalised by a parallel system applicable to importers only. The reason why this distinction is not always emphasised in the literature is that the same measure may have the effect of 'pricing' and 'equalising' carbon. Two frequently discussed examples concern the application of a carbon tax at the point of consumption to both domestic and foreign products, or the inclusion in a cap-and-trade system of both domestic producers and importers of foreign products. In both cases, the same 'measure' prices carbon for all relevant entities, thereby also levelling the playing field. The distinction remains relevant under trade law, however, because certain carbon pricing measures cannot be equalised through certain border adjustment measures, as further discussed in this section.

Another legally relevant dimension of CBAMs concerns the goals pursued by the measure. As discussed in [Section 5.2](#), these may include environmental integrity (avoidance of carbon leakage and inducement to increase mitigation ambition in other countries), competitiveness (levelling the playing field of domestic industries exposed to foreign competition from low mitigation ambition jurisdictions), impact on the imports from developing countries, revenue implications and political implications (feasibility and risks of retaliation by trading partners).

In order to examine the legality of CBAMs, the following paragraphs of this report introduce an analytical framework of the main legal issues arising from the adoption of frequently discussed types of CBAMs and then apply this framework to examine the legality of the EU proposal.

5.2 Assessing the legality of CBAMs

Assessing the general legality of CBAMs involves an analysis of issues at four main levels:

1. the legal basis which requires or enables the adoption of the CBAM (whether it is a global treaty or an agreement among only a few States or unilateral action)
2. the rule of conduct which may be potentially breached by the CBAM (typically, non-discrimination standards enshrined in the GATT or in related agreements)
3. rules capable of justifying a violation of a rule of conduct (legal defences, typically the general exceptions clause in Article XX of the GATT)
4. the organisation of remedies for breach (the ability of a State to adjust a measure to bring it into compliance with a rule of conduct or a justification, but also the margin of manoeuvre left by rules on remedies to keep a course of action).

Each level raises one or more legal issues, which are summarised in Table 2.

Table 2: Analytical framework to assess the legality of CBAMs

Levels	Legal issues				
Basis for adoption	Question 1: What is the nature of the legal basis for adoption?				
	Multilateral (most/all States at the level of pricing or equalisation)	Preferential treatment in preferential trade agreements under Article XXIV of GATT)	Unilateral (one State or bloc)		
Rules of conduct	Question 2: Is the pricing measure adjustable by means of the selected equalisation measure?				
	Question 3: Relevant rules of conduct under GATT				
	Market access (Article II of GATT)	National treatment (Article III of GATT) - taxes and duties (Article III.2) - Internal regulations (Article III.4) Article 2(1) of Technical Barriers to Trade (TBT) Agreement	Most-favoured-nation clause (Article I of GATT) Article 2(1) of TBT Agreement	Disciplines on financial support schemes (Subsidies and Countervailing Measures (SCM) Agreement)	Other trade disciplines (eg prohibition of quantitative restrictions in Article XI of GATT; Article 2(2) of the TBT Agreement; Article 1 of the Import Licensing Agreement)
	Question 4: Carbon equalisation methodology (equalisation vs protectionism)				
Justification	Question 5: If the equalisation measure is in breach of a primary rule, can it be justified under an exceptions clause? (eg Article XX of GATT and the Enabling Clause)				
Remedies	Question 6: If the breach is not justified, can the measure be subsequently brought into compliance?				
	Question 7: Can the lag in the application of remedies provide a sufficient head-start or can retaliation be managed?				

Source: Authors' original analysis

The literature on the legality of CBAMs is fully convergent on the conclusion that legality depends on the specific design of the measure. Beyond this basic point, each level raises issues on which there is often no general agreement among observers. So far, the legality of CBAMs has not yet been authoritatively assessed by a WTO dispute settlement organ. Therefore, the jury is still out.

Regarding the **basis for adoption (Level 1)**, in the absence of a global carbon price, CBAMs are being considered to compensate for differences in the level of mitigation ambition (carbon pricing) across countries. At present, harmonisation of pricing is highly unlikely, largely because the Paris Agreement itself is based on the idea that each State chooses its level of ambition. One alternative multilateral approach would consist of providing a legal basis for equalisation measures such as CBAMs. There would be two main options:

1. A new agreement on CBAMs could be adopted under the World Trade Organization (**WTO**) and measures adopted in compliance with it would be consistent with the WTO obligations (on the prospects of this approach see [Section 7.6](#)); or
2. A separate multilateral environmental agreement (**MEA**) could be adopted, expressly providing for CBAMs. Several major MEAs already contain trade restrictive measures,⁷⁷ but their consistency with WTO obligations remains unsettled. The prevailing view among trade lawyers is that they would need to meet the requirements of Article XX of the GATT. Alternatively, CBAMs could be included in an agreement establishing a free trade area, which is permissible under Article XXIV of the GATT. Yet, when applied to imports from countries outside the area, the measure would still have to be consistent with WTO rules, much like a unilateral measure.

Given the practical challenges involved in creating free trade areas between countries with substantially different levels of climate ambition, the bulk of the discussion relating to CBAMs concerns the adoption of unilateral measures in major markets.

At the level of the **relevant rules of conduct (Level 2)**, the main focus of the literature is on trade rules, particularly those concerning non-discrimination (the most-favoured-nation or MFN clause and the national treatment clause in the GATT or in the Agreement on Technical Barriers to Trade, known as the **TBT Agreement**), market access (within tariff limits which are regularly negotiated down), and disciplines imposed on support schemes (for supported imports or exports, as regulated in the Agreement on Subsidies and Countervailing Measures, known as the **SCM Agreement**). Other rules may also be relevant, such as those of the Agreement on Import Licensing Procedures (**Import Licensing Agreement**). Some of the key issues are whether a pricing measure is 'adjustable' (an 'internal tax' – pricing measure – can be adjusted by means of an equivalent 'charge' on imports, but an internal 'regulation' could not), the application of the 'likeness' tests for the relevant products, the application of treatment tests ('in excess of', 'no less favourable' etc) and/or the legality of measures supporting domestic exports exposed to international competition (eg export rebates). These aspects will be examined in detail, as relevant, in relation to the EU proposal.

Questions over the **justification (Level 3)** for CBAMs have attracted much attention, largely because the application of CBAMs may amount to treating differently two like products. That would constitute a breach of trade standards, which could however be justified if the CBAM falls under one of the exceptions contemplated in Article XX of the GATT, mainly letters (b) and (g), and it is not applied in a way which amounts to an arbitrary, unjustifiable or disguised discrimination (chapeau). Letter (b) concerns measures "necessary to protect human, animal or plant life or health", whereas letter (g) covers measures "relating to the

conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption". When the requirements of either letter (b) or (g) (or another exception) are met, in order to be justified, the measure still has to meet the requirements of the chapeau on 'how' it is applied. In practice, these requirements have been very demanding and rarely met in cases concerning the environmental footprint of a production process. This aspect will also be discussed in detail in relation to the EU proposal. There are also other types of justification, most notably the possibility for WTO developed country members to provide differential and more favourable treatment (ie a derogation from the MFN clause) to developing country members under the so-called "Enabling Clause".⁷⁸ Given the differentiation possibilities expressly enshrined in the UNFCCC and the Paris Agreement and the potentially adverse impact that a CBAM may have on the products from developing countries, this is an important aspect.

Finally, if a CBAM has been deemed in breach of a trade rule and is not justified, the WTO system gives way to different **remedies (Level 4)**. In this regard, certain features of WTO dispute settlement are particularly relevant. First, the respondent State is required to remove or adjust the measure found in breach, but it does not owe monetary compensation for the harm already caused. Second, the latter is even more significant considering that the dispute settlement process may take several years. Thirdly, the respondent State has the possibility of subsequently adjusting the measure to make it compliant with the ruling, but it may also choose to maintain it if it is willing to endure lawful retaliation from trading partners.

5.3 Legal analysis of the EU proposal

In this section, the report examines the legality of the EU proposal in the light of the analytical framework introduced in the previous section encompassing: basis for adoption (Level 1), relevant rules of conduct (Level 2), justification (Level 3) and remedies (Level 4).

At the first level, although the EU is a composite entity encompassing 27 States, the EU proposal would constitute a unilateral measure imposed on imports from outside the EU jurisdiction. The only caveat to this characterisation would arise in a situation when the CBAM is required or justified by a treaty binding on the EU and the relevant third country. One question, in this context, is whether the UNFCCC or the Paris Agreement can provide such common basis. Whereas there are some legal grounds to make such an argument, in practice, a trade panel would be unlikely to uphold it, as neither the UNFCCC nor the Paris Agreement clearly set a common carbon price or require the adoption of specific measures (like a CBAM) to be multilaterally applied. In point of fact, the Paris Agreement expressly leaves the level of ambition to the discretion of each State within certain bounds, and it fosters a spirit of co-operation that is not consistent with imposing trade restrictions. In the past, the WTO appellate body and the Court of Justice of the European Union have both recognised the significant margin of discretion left to States in the choice of measures to implement climate agreements.^{79,80}

At the second level, as a unilateral measure imposed on imports of third countries, the EU proposal could raise issues of undue restrictions to market access and/or discriminatory treatment both among foreign countries (goods from countries which are exempted vs goods from countries which are subject to the CBAM) and between goods from countries subject to the CBAM and goods produced domestically (in any EU Member State).

Regarding market access, Article II.1(b) of the GATT provides that, except for tariffs contained in each WTO member's schedule, imports shall "be exempt from all other duties or charges of any kind". The prohibition would apply to the EU proposal to the extent that the purchase of CBAM certificates is a "duty or charge of any kind". However, Article II.2(a) allows WTO members to apply "on the importation of any product ... a charge equivalent to an internal tax imposed consistently with the provisions of paragraph 2 of Article III [national treatment on internal taxes/charges] in respect of the like domestic product or in respect of an article from which the imported product has been manufactured or produced in whole or in part". In other words, this provision enables the adoption of an equalisation measure ("a charge equivalent") to reflect the burden on domestic producers of a specific type of pricing measure, ie "an internal tax", under certain conditions (consistency with national treatment under Article III.2 and the need for the tax to be product related).⁸¹ Under such conditions, internal taxes can be adjusted by means of an equivalent charge imposed at the border.⁸² That raises the question of the characterisation of the pricing measure that the EU proposal aims to equalise, ie the EU ETS. In order for the ETS to be equalised by a border measure under Article II.2(a), it would have to be considered an internal tax, which is unlikely.⁸³ If instead, it is characterised as a regulation affecting the internal sale of a product, it would have to be adjusted by means of an equivalent regulation on imports.⁸⁴ This is arguably the case of the EU proposal.

Assuming the pricing measure (the ETS) can be adjusted by an equalisation measure (the proposed EU CBAM), the next issue is whether the proposed EU CBAM is consistent with the relevant non-discrimination standards, particularly the national treatment requirements of Articles III.2 (for internal taxes/charges) and III.4 (for laws, regulations and requirements affecting their internal sale) of the GATT. The WTO case law on national treatment is very detailed, and virtually every word in these provisions should be considered to assess their application and possible breach, but the two key issues are the 'likeness' of the products and the extent to which the proposed EU CBAM equalises the situation of domestic and foreign producers rather than penalising the latter in favour of the former.

The understanding of likeness in the WTO case law is mainly based on competitiveness considerations among the relevant products.⁸⁵ As a result, it would be unlikely for a trade panel to find goods such as steel from China and from the EU not to be alike on account of the different emissions embedded in their production processes. Regarding equalisation, national treatment provisions prohibit discrimination, whether *de jure* (formally enshrined in an instrument) or *de facto* (in practice). Because the proposed EU CBAM would only apply to imports from third countries (and not domestically produced goods), the main question is whether it would impose a heavier burden on those imports as compared to the costs imposed on domestic producers by the ETS. An answer to this question would require a detailed examination of the calculation methodologies of embedded carbon, pricing, procedures, and more generally the actual effect. There are some aspects of the EU proposal that would be particularly relevant in this respect, such as:

- the possibility of linking emission trading mechanisms of the EU and the country of origin to make the latter exempt from the proposed EU CBAM
- the deduction of the carbon price paid in the country of origin of the imports in computing the cost of the CBAM certificates to be surrendered by importers
- how the CBAM certificates to be surrendered by importers would be adjusted to account for free allowances given to EU producers of the same goods.

Some of these aspects are not yet defined in the EU proposal (eg the specific rules to adjust for free allowances) but, if it imposes a heavier burden overall on foreign producers (ie it goes beyond 'equalising'), it would breach the national treatment clause, unless it is otherwise justified.

Regarding discrimination among foreign products, the MFN clause (Article I.1 of the GATT) requires, with respect to a wide category of measures applied at the border, that "any advantage, favour, privilege or immunity granted by any contracting party [here the EU] ... to any product originating in ... any other country shall be accorded immediately and unconditionally to the like product originating in ... all other contracting parties".

On the face of it, the EU proposal treats the covered products of exempted countries (eg Norway and Switzerland) more favourably than those of other countries which may also have an equivalent carbon pricing measure in place. The possibility of extending the list of exempted countries goes some way in addressing this concern, but it is unclear whether it meets the requirement of "immediate and unconditional" extension of the advantage. In the practice of WTO dispute settlement, some regulatory margin is allowed for Member States to impose conditions as long as they do not "result in a detrimental impact on the competitive opportunities for like imported products".⁸⁶ In addition, the case law is not entirely clear on the extent to which MFN treatment can be made conditional on "criteria that are not related to the imported product itself",⁸⁷ such as the carbon footprint of its production process. Thus, the EU proposal could be in breach of the MFN clause, unless otherwise justified.

Even assuming that the EU proposal is in breach of some of these rules of conduct, it is still possible for the proposed EU CBAM to be justified. As noted earlier, the most relevant provision is Article XX of the GATT, particularly its letters (b) and (g), and the chapeau. Letter (b) covers measures "necessary to protect human, animal or plant life or health". There is authority to conclude that a measure to reduce GHG emissions protects human life or health.⁸⁸ This is not the only purpose of the EU proposal, but climate change mitigation and the protection of human health feature prominently in the preamble of the draft regulation and in Article 1(1) ("in order to prevent the risk of carbon leakage"). Regarding whether the measure is "necessary", the case law only requires "a genuine relationship of ends and means" between the CBAM and the protective goal, even if the benefit of the measure is not immediate.⁸⁹ The measure must also be proportional to the importance of the goal pursued⁹⁰ and be less trade restrictive than reasonably available alternative measures.⁹¹

The EU proposal would likely meet the requirement of a genuine ends and means relationship, given the domestic and global context of its adoption and the possibility that the goal may be reached in time. It would also meet the proportionality requirement given the recognised need to fight climate change. But the question of whether it is less trade restrictive than other options is less clear-cut. The CBAM aims, by its own terms, to replace the free allocation of allowances to domestic producers exposed to leakage. However, such allowances will be phased out gradually until 2035 and the system to deduct them from the amount of CBAM certificates owed by importers is not yet finalised. A reasonably available alternative, although politically difficult, would have been to remove free allocation altogether.

Moving to letter (g), to benefit from this exception, the EU proposal must "relate" to the conservation of "exhaustible natural resources" and be linked to "restriction on domestic production or consumption". The latter aspect should not be controversial, given that the CBAM is expressly aimed to equalise the ETS.

Recognising that the carbon budget in the troposphere is an exhaustible natural resource would require some argumentation by analogy with clean air⁹² and other resources. Given that the Paris Agreement is almost universally accepted, its global average temperature goals can be used as a benchmark for the amount of GHGs which can still be emitted without exceeding the temperature goals. Such “budget” or, more specifically, the remaining absorption capacity in the troposphere before interference with the climate system crosses an agreed threshold of danger, can indeed be deemed an “exhaustible natural resource”. This is particularly the case if the analysis is to be conducted, as indicated by the WTO appellate body “in the light of contemporary concerns of the community of nations about the protection and conservation of the environment”.⁹³ Moreover, such absorption capacity (ie global carbon budget) has no specific territorial location. It concerns and is therefore linked to all States. Finally, the measure must “relate to” or, in other words, be “reasonably related”⁹⁴ to the conservation of this carbon budget. This is clearly the case of the EU proposal, which specifically aims to support mitigation measures. Thus, the EU proposal would likely meet the requirements of letter (g).

It remains to be seen, however, whether the manner in which the measure is applied meets the requirements of the chapeau of Article XX. As a general matter, there are three key aspects to be considered. The first is whether the measure genuinely seeks to internalise embedded carbon in imports rather than protect EU domestic producers. The handling of free allowances will be important in this regard. The second is whether the implementation of the measure, although it treats imports of certain countries differently from other imports and domestic products, can be argued to do so because the same conditions do not prevail in the affected countries. Here, a respondent in a WTO complaint would have the burden of establishing “conditions” relevant to justify differential treatment.⁹⁵ One such condition would be the existence of a carbon pricing mechanism in the country of origin. If there is none, then it would not be a country where “the same conditions prevail” and the differentiation would therefore not be discriminatory. If there is one, but the imports are not exempted from the proposed EU CBAM, the application of the measure may be deemed to be discriminatory. The latter raises the third and possibly most complex issue, namely the level of mitigation ambition.

Under WTO law, members can set their own level of environmental protection⁹⁶ but they are not entitled to coerce, through their market power, other members to set the same level.⁹⁷ The EU proposal has the effect of generalising the carbon price paid in the EU, which is the basis for setting the price of CBAM certificates to be paid by importers of foreign products. Such price is not necessarily the same as in other jurisdictions with a pricing scheme and, given the Paris Agreement’s recognition that each State is to set its own level of ambition, requiring countries exporting goods to the EU to use the EU carbon price may potentially amount to a disguised restriction to trade. The level of support offered by the EU to trading partners to comply with the proposed EU CBAM is also a relevant consideration in this context, although a highly fact-sensitive one, and therefore difficult to assess in the absence of detailed plans for this at present.

At the fourth level, even if the EU proposal was in breach of the WTO rules, the ruling would provide specific guidance to correct the measure and make it consistent. In the meantime, the effects of the measures (environmental, social and economic) would not result in the payment of damages. The main practical question is whether it could lead to retaliation. This is an important question, discussed in [Section 6](#) of this report.

The main take-aways from the analysis of the EU proposal's legality are summarised in Table 3:

Table 3: Analysis of the EU proposal's legality under WTO law

Levels	Legal issues		
Basis for adoption	<p>Question 1: What is the nature of the legal basis for adoption?</p> <p><i>The proposed EU CBAM would be treated as a unilateral measure.</i></p>		
Rules of conduct	<p>Question 2: Is the pricing measure adjustable by means of the selected equalisation measure?</p> <p><i>The measure that the proposed EU CBAM aims to equalise, ie the EU ETS, would likely be deemed adjustable by another regulation.</i></p>		
	<p>Question 3: Relevant rules of conduct under the GATT</p>		
	<p>Market access (Article II.1(b) and II.2(a) of GATT)</p> <p><i>The proposed EU CBAM would likely not fall under the permission of II.2(a).</i></p>	<p>National treatment (Article III of GATT)</p> <ul style="list-style-type: none"> - taxes and duties (Article III.2) - internal regulations (Article III.4) <p><i>The proposed EU CBAM would be governed by Article III, likely as a regulation equalising the effects of another regulation (ETS) affecting the internal sale of a product. Imports and domestic products covered by the proposed EU CBAM would be deemed to be like products. Discrimination would depend on the carbon equalisation methodology.</i></p>	<p>Most-favoured-nation clause (Article I of GATT)</p> <p><i>The proposed EU CBAM would be governed by Article I. Imports from countries exempted from the proposed EU CBAM and other countries would be deemed to be alike. It is unclear whether the conditional extension of the exemption meets the requirements of Article I.1.</i></p>
	<p>Question 4: Carbon equalisation methodology</p> <p><i>It is unclear whether the carbon equalisation methodologies would meet the requirements of Article III.</i></p>		
Justification	<p>Question 5: If the equalisation measure is in breach of a primary rule, can it be justified under an exceptions clause?</p> <p><i>The proposed EU CBAM would likely fall under at least one of the exceptions of Article XX, most likely that in letter (g). It is unclear whether it would meet the requirements of the chapeau, given its generalisation of the EU carbon price to other countries.</i></p>		
Remedies	<p>Question 6: If the breach is not justified, can the measure be subsequently brought into compliance?</p> <p><i>The proposed EU CBAM could be brought into compliance following a finding of breach.</i></p>		
	<p>Question 7: Can the lag in the application of remedies provide a sufficient head-start or can retaliation be managed?</p> <p><i>The main risk presented by the proposed EU CBAM is the triggering of retaliation and cross-retaliation, even before the matter is taken to litigation.</i></p>		

Source: Authors' original analysis

6 Political and diplomatic considerations

Having established in the previous section that the legality of CBAMs is largely dependent on the specific design of the proposal and the manner in which it is applied, this section explores the potential diplomatic and political implications of the EU proposal and the proposed EU CBAM.

6.1 Overview

As with all significant legislative initiatives of major economic importance, politics matter to CBAMs. In its current form, the EU proposal is merely an opening bid presented by the European Commission. Like any piece of EU legislation, it is part of a bigger political agenda of the EU Green Deal and a pre-requisite for a grand bargain that enabled the current leadership of the European Commission. The final CBAM that will be implemented by the EU will therefore be the result of lengthy inter-institutional negotiations between the Council, Parliament and the Commission.

The proposed EU CBAM constitutes an environmental regulation under the EU's Ordinary Legislative Procedure,⁹⁸ where international trade is an important (but nevertheless secondary) consideration. This means that the European Parliament (in the environmental committee) will discuss it first, allowing a broad spectrum of views and interests to be heard, before the Council does so. Both the Parliament and the Council may make changes to the current EU proposal before a deciding vote. The *trialogue* between these three principal EU institutions will thus entail compromises by all parties. As a result, the current EU proposal is highly unlikely to remain unchanged as this process unfolds.

The EU political economy will shape the final design of an EU CBAM. The goals of EU stakeholders are influenced by the long-term overcapacities followed by post-pandemic recovery, and politics constrain the policy space available to the executives. However, neither the EU nor its proposal exists in a vacuum: the decision-making process and its outcomes are also influenced by outside actions. Some economies are eager to negotiate with the EU to exempt themselves from any future CBAM requirements, while others may resort to retaliatory measures. Indeed, commodity trade on steel and aluminium has been in a permanent state of trade war since the 1970s, with China's integration into the trading system and its accession to the WTO in 2001 causing further complications. Subsequently, the process of implementing an EU CBAM is unlikely to be an easy one.

Given the many moving parts inside and outside the EU system, many observers rightly assume that the CBAM decision-making process could be prolonged and conflictual. The two-stage implementation of the proposed EU CBAM provides some time for negotiations with other countries before the fiscal obligations enter into force on 1 January 2026. The calculation of the embedded emissions (explained in Annex III of the CBAM proposal) is unclear and leaves out many key elements in the calculation methodology to be clarified at a later date (as discussed in [Section 3.2](#) of this report). Both the ambiguity and staged introduction could be deliberate to enable the European Commission to create the space for necessary flexibility to negotiate the final outcome with the Member States and trade partners – or possibly to give Brussels the last word when all other details have been agreed.

At present, it seems likely that the EU proposal will become the subject of a trade dispute. However, even if the EU is found to be in violation of its WTO commitments, this does not automatically imply that a challenge will be successful. The WTO dispute settlement system has high evidentiary requirements and is not entirely free of politicisation. Although the proposed EU CBAM is not likely to be challenged until it is adopted into law (which will most likely not happen until after it has been amended), it does not *need* to have legal effect for a WTO panel to exercise jurisdiction over it.

This section of the report presents an overview of the internal politics and the external negotiations that surround the legislative process for the adoption and implementation of the EU proposal. Following this introductory section, the analysis looks at the internal legislative process and how the Member States' politics and industrial interests may influence the final decision. The section then discusses the options available to third countries and their incentives to retaliate, negotiate or litigate against the EU. However, many of these options may not be pursued until the EU at least attempts to negotiate a multilateral solution against carbon leakage. How and where such negotiations may be set up and linked to unilateral actions is the theme of the final part of this section.

6.2 Initial positions of the EU Member States

Few economists will argue that the transition towards a climate-neutral Europe is a cost-free transformation for all groups, industries or regions. In one way or the other, the cost of decarbonisation must be either carried by those who are most severely affected or redistributed through political decisions. The proposed EU CBAM is another moving part of a complex political package – the Green Deal – designed for internal redistribution within the EU. However, the costs of the EU's economic transformation are not just redistributed within the EU: they can also be redistributed between the EU and other countries outside of the Union.

At the time of writing (October 2021), the EU Member States' positions on the proposed EU CBAM are still diverse, faltering, and subject to change as the specific aspects of the proposal are negotiated. Some Member States (including Austria, the Czech Republic, Denmark, Lithuania, Luxembourg, the Netherlands, Spain and Slovakia) have expressed a degree of support for the idea of addressing carbon leakage through a CBAM, although it is not yet clear how supportive they are of the specific details of the current EU proposal.⁹⁹ So far, no Member State has made any explicit reservations about the proposed EU CBAM in the same manner that they have raised concerns about other elements in the EU Green Deal and the EU's Fit for 55 agenda.

France has championed the proposed CBAM and deems it a cornerstone in the European Green Deal, with strong support from its private sector.¹⁰⁰ In Germany, the national position is internally divided.¹⁰¹ In mid-2020, the German Ministry for Economic Affairs and Energy (BMWi) published a 'Steel Action Concept', which mirrors some of the policy objectives of the proposed EU CBAM,¹⁰² despite concerns from Germany's export-led industries.⁹⁹ In summer 2021, the German Environmental Ministry called the EU proposal "nothing less than a new industrial revolution in the EU",¹⁰³ stressing its societal importance, while the German MEP Peter Liese expressed a preference for reducing the scope of the proposed EU CBAM to just electricity and cement in order to reduce the indirect costs to the EU manufacturing sector, and limiting the impact on near neighbours.¹⁰⁴ In the latest turn of events, the Ministry of Finance endorsed a 'climate club' idea that would mutually reinforce border adjustment mechanisms.¹⁰⁵ However, the EU proposal was tabled ahead of seminal national elections in both countries, including the first post-Merkel federal elections in Germany and the French presidential elections in May 2022, and the outcomes of these elections may influence the official positions of both countries.

6.3 Industrial stakeholders

The support for achieving carbon neutrality targets is shared among the protected industries, but many of them are concerned over the significant reduction of free allowances. Beneficiaries of the proposed EU CBAM – including the EU manufacturers of steel, aluminium and fertilisers – have consistently opposed any removal of the free allocation associated with it. In other words, the central issue for the basic material producers is not the CBAM itself, but the consequence it entails on the free allowances, suggesting that the level playing field afforded by the proposed EU CBAM does not outweigh the competitive disadvantages of ETS if it entails the removal of free allowances. Indeed, the lobbying efforts of the industry groups representing the steel, chemical, fertiliser and cement sectors (Eurofer, Cefic, Cembureau, and Fertilizers Europe) are concentrated on maintaining free allowances in addition to any future CBAM.¹⁰⁶

One of the most vocal stakeholders, the EU steel industry, has argued that losing free allowances would impose a cost on them that is 20 times higher than their global competitors despite the proposed EU CBAM,¹⁰⁷ and these losses would deplete the capital to invest in decarbonisation technologies¹⁰⁸ – an argument also echoed by the fertiliser industry.¹⁰⁹ The EU cement industry also alleges that the proposed EU CBAM would do little to tackle climate change,¹¹⁰ while the aluminium producers prefer the use of trade defence instruments rather than the proposed EU CBAM, arguing that it could potentially negatively impact recycling schemes.¹¹¹ Some groups are going even further, arguing for the expansion of the free allowances.¹¹²

These lobbying efforts could persuade the Parliament or the Council to make any future EU CBAM conditioned to free allowances for the producer industries,¹⁰⁶ despite the unresolvable conflict it creates with EU WTO commitments,¹¹³ as discussed in [Section 5.3](#) of this report.

6.4 Interests of users versus the producers

In addition to the interests of the beneficiaries of the proposed EU CBAM, downstream industries are affected by higher material input prices, as discussed in [Section 2.1](#) of this report. Steel users include some of the most influential actors in European industrial and trade policy, such as construction, machinery and the automotive sector. National groups, such as the powerful BDI (Federation of German Industries) may support the Paris Agreement and the Green Deal but have strong reservations against the proposed EU CBAM, fearing potential disadvantages and retaliation measures from third countries, not least on German machinery and industrial goods.¹¹⁴

The European Automobile Manufacturers' Association (ACEA) has already expressed 'extreme disappointment' in response to the EU proposal,¹¹⁵ which is echoed by its German chapter, the Verband der Automobilindustrie.¹¹⁶ SolarPower Europe, the association that organises the makers of solar panels ("a driver of the transition to a sustainable energy system"), also prioritises maintaining the existing allowances under the EU ETS.¹¹⁷ Copa-Cogeca, the association of EU farmers, states that fertilisers account for about 35 per cent of the cost of crops such as wheat, and the proposed EU CBAM would make it harder for EU producers to compete against cheaper foreign grain.¹¹⁸

Traditionally, trade policy tends to emphasise the interests of suppliers – whether by creating new opportunities for them abroad or by protecting them against foreign competition – rather than the interests of consumers and users. Basic material producers are often national champions that punch above their weight in terms of political influence, and often speak on behalf of upstream and downstream industries. For example, Eurofer claims to support 2.6 million jobs in the EU, including direct and indirect jobs.¹¹⁹ Their influence has led to the use of trade defence instruments in the past,¹²⁰ including the recent EU imposition of safeguard tariffs, and this trend seems likely to continue in the discussions on the EU proposal.

6.5 The EU proposal and its diplomatic implications – retaliation, diplomacy and litigation

While the proponents of CBAMs hope that an EU CBAM would incentivise the world into more stringent climate actions (as discussed in [Section 2.3](#) of this report), the majority of the covered goods under Annex I of the EU proposal have been the cause of trade tension since the 1970s. Some trading partners will inevitably deem the proposed EU CBAM as protectionist. The transatlantic relationship, and the EU's relations with China, Turkey and Russia, are already mired by mutual distrust and long-term trade frictions. Several important trade partners and countries with which the EU has preferential trade agreements (PTAs) do not yet have carbon pricing measures in place or have priced the emissions at lower levels. Meanwhile, countries that have ETS systems in place (eg South Korea, China, and soon also Ukraine and Canada) will likely seek exemptions.

Whether a trading partner retaliates, litigates or complies with any future EU CBAM depends on the final legislation. The most immediate responses available are the unilateral ones, where a country primarily retaliates against the EU. Such action can be symmetrical, ie where the trading partner reciprocates by imposing a similar instrument on similar products (such as the US example discussed below). However, the retaliation could also be asymmetrical, where the counterpart imposes an unrelated instrument against other products where the EU is particularly vulnerable (such as the Russian example discussed below).

Third countries can also seek diplomatic solutions before they retaliate. Counterparts may propose various legal bases to exempt them from CBAM obligations, or request that 'Green Alliances' (such as the one with Japan),¹²¹ customs areas (such as Turkey) or existing trade agreements with the EU ought to constitute sufficient grounds for exempting their country from the requirements of any CBAM the EU may implement in the future. In addition, the preceding legal analysis (see [Section 5.3](#) of this report) described how the WTO case law provides the grounds for developing countries to argue that a WTO member cannot use economic restrictions to require them to adopt essentially the same regulatory programme.¹²² Some will argue that this is exactly what the proposed EU CBAM would do, and why the EU must revise the current proposal.

Trading partners could also take to multilateral responses, such as litigating against the EU or persuading the EU to negotiate a multilateral solution. A group of trading partner counterparts could try to force the EU into a multilateral negotiation by arguing that the EU did not engage in any serious good faith attempts to negotiate a multilateral solution to the carbon leakage problem before pursuing a CBAM unilaterally. If the EU fails to engage in a genuine dialogue before imposing a CBAM, trading partners may argue that the EU causes ‘unjustifiable’ discrimination in a WTO dispute,¹²³ as discussed in [Section 5.3](#) of this report. A WTO dispute against the EU over the proposed EU CBAM is therefore possible. However, a WTO dispute is politically and financially costly and associated with uncertainty, and a WTO violation does not automatically imply that the challenge is successful.

The options available to the rest of the world in how to react to the proposed EU CBAM are neither exhaustive nor mutually exclusive. Countries are likely to pursue a mixture of unilateral, bilateral and multilateral strategies. Most likely they will pursue these strategies simultaneously. Threats of unilateral retaliation or WTO litigation could persuade the EU to amend (or even abandon) its proposal or pursue multilateral negotiations against carbon leakage.

6.6 Transatlantic retaliation

The US Section 232 tariffs form an important backdrop for any discussions about the transatlantic implications of the proposed EU CBAM. These tariffs, which were imposed under the Trump administration to protect the domestic steel and aluminium industry on (questionable) national security grounds, overlap in some important ways with the sectoral scope of the EU proposal. Germany, among other EU Member States, has demanded (and expects) the Biden administration to revoke the Section 232 tariffs to repair the transatlantic relationship – an approach that has resulted in the EU proposal to be widely regarded as an attempt to put retaliatory pressure against the US to do so.^{124,125} Some commentators even argue that the EU proposal was leaked intentionally to the media before a bilateral EU–US summit ahead of 14 July, possibly with the aim of coercing the US to immediately dismantle its Section 232 tariffs during the meeting. However, these expectations were not fulfilled,¹²⁶ and a week or so later the EU published its proposal for a CBAM.¹²⁷ In this context, it appears that – even if not an outright trade war – there is certainly a considerable tit-for-tat interaction between the EU and the US, and the proposed EU CBAM is right in the middle of it.

Regardless of whether the US tariffs on steel and aluminium influenced the EU’s decision to publish its proposal for an EU CBAM, the fact that the EU proposal can be regarded as a ‘retaliatory’ response puts the Biden administration in a difficult position. Revoking the security-related Section 232 tariffs on steel and aluminium would be a considerable gamble, seemingly with little domestic gain. The US steel industry is largely located in the famous battleground states, and lobbying groups that are traditionally important to the Democrats (such as United Steel Workers, the Steel Workers Union and the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO)), strongly favour continuing the protection,¹²⁸ arguing that removing Section 232 tariffs would “undermine the viability of the American steel industry”.¹²⁹ This has led some commentators to suggest that the US will not be in a position to concede on the steel or aluminium conflict before the mid-term elections in 2023,¹³⁰ or perhaps a second Democratic presidential term after 2025 – indicating that domestic elections play an important role in the politics of the proposed EU CBAM outside, as well as within, the EU.

Even before the European Commission tabled the EU proposal in July 2021, the EU had continuously threatened to impose retaliatory tariffs against various products that are typically exported from the politically sensitive battleground states, such as motorcycles, whiskey and motorboats, to ‘rebalance’ the injury that EU producers have suffered from the Section 232 tariffs.¹³¹ As a result, some user industries in the US have expressed concerns over an escalating EU–US trade war, going as far as threatening to move their manufacturing out of the US. However, such warnings have so far had very little impact on the Biden administration,¹³² since the imbalance between user and producer industries (discussed earlier in [Section 6.4](#) in relation to EU politics) is also present in US politics.

Considering the fraught trade relationships between the EU and the US, it is possible that the Biden administration may impose its own border measure against Europe. President Biden has re-joined the Paris Agreement as one of his first acts in office,¹³³ and generally supports stronger environmental protections – although this does not necessarily translate into an aligned view with Europe on CBAMs. The US climate envoy, Ambassador Kerry, has called border measures – tariffs or otherwise – a “last resort” after exhausting all other options, suggesting that the US will need to forge its own path on carbon leakage, given the severe diplomatic and trade implications of measures like the proposed EU CBAM.¹³⁴ Other US officials have also described the proposed EU CBAM as “extremely complicated” indicating that a CBAM may not be well suited to US regulatory structure or trade policy objectives.¹³⁵

Nevertheless, only a few days after the EU launched its proposal for a CBAM, the US Congressional Democrats proposed an “import polluter fee”,¹³⁶ which is a plain tariff rather than a border adjustment measure. However, the domestic support within the US for this measure has not been particularly enthusiastic, and the White House is reportedly sceptical of it, citing concerns of increasing living costs and further deepening of trade conflicts.¹³⁷

6.7 Asymmetrical retaliation from Russia and others

The steel industries in China, Russia and Turkey run bilateral trade deficits against the EU on steel and other goods that would be covered by the proposed EU CBAM. The same applies to many developing countries. Subsequently, the domestic industries of these countries have a stronger interest in substituting imports from the EU with domestic production, rather than securing easier access for their own exports to the EU Single Market. Hence, Chinese, Russian and Turkish producers stand to gain more from asking their home governments for protection (ie retaliation) than asking them to negotiate or litigate to maintain their current level of access to the EU market. Moreover, because the CBAM rates would (under the current EU proposal) apply on top of existing EU antidumping or safeguard measures, an exemption from the proposed EU CBAM may not drastically change the level of access into the EU market that the exporters in these countries currently have.

Russia, with whom the EU already has a highly strained trade relationship, stands to be severely affected by the proposed EU CBAM (see Figure 6). Russia's commercial interests are far less diversified than those of China or the US, being heavily concentrated in the EU and specialised in carbon-intensive materials. Considering the potential adverse economic impacts on Russia (supported by the modelling results in [Section 4.2](#) of this report), it is not unsurprising that Vice President Dmitry Medvedev is strongly opposed the proposed EU CBAM, and has in fact referred to it as "hidden protectionism".¹³⁸ Russia is indeed in a difficult position: if it tries to introduce its own carbon pricing system, the situation could easily lead to a 'double-taxation' of the Russian basic materials industry through both new domestic carbon taxes and the additional costs imposed by the proposed EU CBAM, unless the new ETS was linked to the EU ETS (which is highly unlikely to happen). In this context, retaliation against uniquely European export interests is likely to be far less precarious – like the recent application of the Protected Geographical Status of Champagne exclusively to 'champagnes' made in Russia.¹³⁹

Turkey, which is likewise commercially focused on Europe due to its proximity, is in a markedly different position from Russia in relation to the proposed EU CBAM. Unlike Russia, Turkey is in a customs union and a common external tariff regime with the EU, which has likely influenced its reaction to the EU proposal. Turkey's largest business association, TUSIAD, has expressed interest in aligning their policies with the EU environmental standards and requested support to facilitate this process.¹⁴⁰ For example, significant investments are believed to have been made already in 'green steel' in Turkey. However, unless the EU creates a legal basis to exempt the country from the proposed EU CBAM (it is currently not included in the list of exempt countries in the EU proposal), the trade relationship between Turkey and the EU could deteriorate. If this happened, Turkey could then use some of its trade and non-trade leverages – not least thanks to the role it fulfils in EU border security against migration.

6.8 Negotiating with China and other territories with operational ETS

China presents a particular dilemma for the EU, as the proposed EU CBAM adds further tension to an already problematic diplomatic situation between the two jurisdictions. The relationship between China and the EU is at a historical nadir after the EU branded China a "systemic rival".¹⁴¹ Some recent incidents include a tit-for-tat battle over the EU human rights sanctions against China¹⁴² (followed by Chinese counter-sanctions)¹⁴³ and de facto designation by the EU of Chinese 5G companies as "high risk vendors".^{144,145} As a result, the ratification process for a recently concluded bilateral investment agreement has been suspended.¹⁴⁶ In response to the proposed EU CBAM, President Xi Jinping has expressed "grave concerns" at the highest level of government (French President Emmanuel Macron and German Chancellor Angela Merkel), warning that climate change should not be used as an excuse for trade barriers.¹⁴⁷

However, China is also one of the first countries to unilaterally commit to a net zero target (by 2060). It also launched its national emissions trading scheme in January 2021 (with some EU technical assistance), after four years of national preparations and pilot projects in eight provinces. Although China's ETS currently has a narrower scope than both the EU ETS and the proposed EU CBAM, it is expected to gradually expand into steel, nonferrous metals and chemicals.

Whether the EU recognises China's ETS and exempts it from any future CBAM fees (which is an option that is not offered in the current EU proposal to countries that have an ETS that is not linked to the EU ETS), is likely to determine whether China imposes its own border measures that single out EU imports. Other territories that apply an ETS to the goods that are included in the EU proposal (notably the UK and South Korea) may also petition the EU to modulate its current proposal to exempt them from any future EU CBAM without linking their systems to the EU ETS. If that fails, their WTO disputes are likely to focus narrowly on whether the EU may collect the price differential between the systems at the border.

Unlike China, the UK and South Korea, Ukraine intends to negotiate an exemption from any future EU CBAM ex post by complying with the current EU proposal. Ukrainian government officials have even publicly stated that they have secured an exemption from the EU's proposed CBAM,¹⁴⁸ as the Ukrainian ETS has recently entered into a trial phase with monitoring, reporting and verification (MRV) obligations in effect – largely because it was obliged to do so under the EU–Ukraine Association Agreement. Indeed, derogation from the proposed EU CBAM, in accordance with Articles 2(10) and 28 of the CBAM proposal, is possible if Ukraine links its ETS to the EU ETS. The benefits of an outcome where Ukraine was exempt from an EU CBAM – and therefore able to replace supply from its close competitors such as Russia, Belarus or Turkey in the EU market – could potentially outweigh the cost of imposing the EU ETS prices on their domestic producers.

The UK is another example of a close trading partner likely to be severely affected by the proposed EU CBAM. Following Brexit, the UK replaced the EU ETS with its own system, which is now fully delinked from the EU ETS. In the aftermath of Brexit and the UK's hasty (and poorly prepared) departure from the EU single market and customs union, UK producers, exporters and importers have faced multiple challenges that have come at a high economic cost. At present, the cross-Channel politics are of such a nature that any future CBAM fees will be unlikely to provide a sufficient incentive for either party to re-link the UK system to the EU ETS bilaterally.^{149,150} While the UK is open to international negotiations for a multilateral structure to which both the EU and UK ETS could be linked, any discussions relating to potential UK exemption for the proposed EU CBAM would likely need to be embedded within the context of a larger multilateral negotiation. This is something that the UK has already proposed,¹⁵¹ with early interest or support from several G7 and G20 countries. The complexities of such an undertaking are discussed in [Section 7](#) of this report.

Box 2: Northern Ireland and the options available for the UK

The proposed EU CBAM presents challenges to all trading partners outside of the EU; however, the UK's position is notable for several reasons. To begin with, the UK has a close trading history with the EU and, despite Brexit, the EU remains the UK's largest trading partner. Given that UK exporters may deduct payment of the UK's own ETS from any future CBAM rates, the UK may avoid the fiscal impact of the EU's proposed CBAM. However, without a full exemption (which is not included in the current EU proposal), the UK would need to abide by all the regulatory requirements. This could increase the costs of exports in the EU, thus reducing their demand in the EU market.

The EU CBAM would also interact with the Brexit outcomes in complex ways. In the current EU proposal, neither the UK nor Northern Ireland are exempt from the application of CBAM rates. Such omission could result in two interesting outcomes. First, as in the case of South Korea, the EU CBAM fee would apply to imports into the EU originating in the UK, despite the fact that production is subject to the UK ETS, which is similar to the EU ETS (if not higher). Second, the current wording of the EU proposal suggests that the proposed EU CBAMs would be applied to goods originating in Northern Ireland, even though the Northern Ireland Protocol of the UK Withdrawal Agreement stipulates that Northern Ireland has, in effect, remained in the EU's Single Market and the Northern Ireland electricity sector is already subject to the EU ETS (rather than the UK ETS). Moreover, an EU CBAM applied to exports from Northern Ireland into the Republic of Ireland undermines the spirit and objective of the Protocol, which is to avoid a hard border.

One possible solution would be for the UK to re-link the UK ETS with the EU ETS. This has been achieved before with the Swiss ETS, albeit requiring ten years of negotiations.¹⁵² This would exempt the UK from all future CBAM charges as well as the administrative requirements. The UK–EU Trade and Cooperation Agreement (TCA)¹⁵³ commits to exploring options to link both schemes, stating that both parties “shall give serious consideration” to such endeavours. A UK trade body, Energy UK, has already welcomed the UK Government's original intention to link the systems.

On the other hand, depending on the conditions for exemption, linking the UK and the EU ETS schemes would open the UK to the potential risks associated with being ‘inside’ the proposed EU CBAM: the UK would be expected to apply, in turn, CBAM charges to the imports from third countries. In this case, the widespread perception of the proposed EU CBAM as a protectionist measure could damage the UK's ability to negotiate with countries outside of the EU, which is an important political imperative post-Brexit. This could potentially damage the UK's future trade negotiations (and relationships) with countries such as the US or Australia, which oppose CBAMs in principle as well as in practice.

If the UK continues its standalone ETS, it will retain the freedom to choose its own regime but is vulnerable to potentially greater carbon price volatility because of the smaller size of the carbon market. For the time being, the UK ETS prices are higher than the EU ETS, and therefore no EU CBAM certificates would need to be surrendered when UK goods enter into the EU. However, UK industries would face the risk of being doubly penalised by having to incur both the higher UK carbon price as well as the administrative costs of complying with the proposed EU CBAM.

6.9 Grounds for launching a WTO dispute

In the absence of any other enforceable commitments, all affected third countries will carefully review the WTO compliance of the EU proposal before considering their options. Except for a few countries that intend to establish their own emissions trading system partially governed by the EU ETS, most third countries share the preferred option – namely, that the proposed EU CBAM fails to be ratified by the Council. Considering the reactions to the EU proposal that we have seen so far, it would be logical to assume that many potential complainants wait to see whether the proposed EU CBAM may fall under its own weight due to lack of consensus among the EU institutions or domestic industry pressure.

However, what will be regarded as the ‘second-best’ outcome may differ from country to country. The preferences of third countries depend on many factors, including whether they have their own ETS system already in place, the commercial value of accessing the EU market, and whether the domestic industries are inclined towards protecting their home markets. They may also hold levers against the EU in a non-economic area. These factors coalesce with a broader stock-take of the country’s political status and diplomatic relations with the EU and decide on its fallback option: whether they will take the risk to engage in a revision of the proposed EU CBAM or simply resort to the predictability of retaliation.

Although a WTO dispute is a potent deterrent for the EU, it is actually the last resort that remains a third-best option for most countries. Past trade disputes show that a formalisation of a WTO panel immediately reduces incentives for the defendant to seek a compromise, which is why a dispute is rarely launched until the counterpart is non-responsive and further negotiations seem futile. Therefore, the proposed EU CBAM is less likely to be challenged until it is adopted into law and enforced. However, the proposed CBAM does not need to have legal effect for a WTO panel to exercise jurisdiction over it,¹⁵⁴ as any act attributable to a WTO member (including draft laws or transitional measures) can be challenged in a dispute.¹⁵⁵

Finally, the remedy a complainant seeks in a WTO dispute varies depending on the country. Countries with operational ETs will litigate primarily to exempt themselves, which is why they may rely on a different legal basis for their complaint. In this context, it is worth noting that there is no proportionality principle under WTO law: it considers instead the different conditions which may occur among its members. Developing countries, which tend not to have ETs in place, have a broader choice of articles at their disposal, given the special consideration granted to them under the WTO system against unbending requirements without considering the economic development purposes or the different conditions in their countries (eg United States – Shrimp;¹⁵⁶ also WTO Import Licensing Agreement). Hence, several developing countries such as South Africa, India, Brazil, Mozambique and Botswana (which are not just major exporters of steel and aluminium, but have concentrated their exporting efforts in Europe) may be added to the list of potential complainants. However, some of them lack previous experience or inclination in pursuing a complex and costly WTO case, which is why a dispute may never materialise.

7 If not an EU CBAM, then what?

In the previous sections of this report, we have explored the economic and environmental outcomes, the legality and the potential political and diplomatic impacts of CBAM as a policy measure, with specific focus on the proposed EU CBAM. Although a CBAM could facilitate more ambitious climate policy in the EU by improving the political acceptability of higher carbon pricing, the direct and indirect economic and environmental impacts of an EU CBAM (akin to what is outlined in the current EU proposal) would be moderate. The legal and political challenges of it, on the other hand, would be considerable.

Bearing this context in mind, this final section of the report presents a brief assessment of some other trade-related climate measures that the EU could consider, either as an alternative to the proposed EU CBAM or in addition to it.

7.1 Overview

Seen from a wider perspective, the proposed EU CBAM is but one tool, in the form of a trade-related measure, to support higher climate mitigation ambition. There are other tools, whether trade-related or not, which may support this or other specific environmental goals (eg biodiversity protection). This section of the briefing places the CBAM 'card' in its wider 'deck', not only of other 'types' of CBAMs, but of other possible measures. Not every other card in this deck is discussed, as only some of the alternatives are trade related, ie they affect trade flows, in addition to being relevant for climate ambition or other environmental goals. In most cases, however, the approaches have a wider scope of operation and may also contribute to sustainability more generally.

The focus on trade-related measures makes the rules on international trade relevant for the analysis. It is therefore useful to organise the discussion according to the basis for the adoption of the measure. As noted in [Section 5](#) of this report, there are three main options in this regard: unilateral measures (eg the EU proposal); preferential trade agreements (PTAs); and a multilateral approach under WTO negotiations. Each option can serve as an umbrella for a number of relevant developments. In reviewing some of these developments, particular attention is paid to what in some circles is referred to as 'climate clauses' in trade agreements, ie provisions in PTAs which specifically refer to climate change and/or its main instruments (the UNFCCC and the Paris Agreement).

The EU Green Deal (2019),¹⁵⁷ the EU Trade Policy Strategy (2021)¹⁵⁸ and the EU's recent PTA practice are important developments in this regard. There are, however, other developments that are also relevant, such as the so-called 'climate club' proposals in the US and Germany, and the US initiative within the WTO framework to consider low environmental standards as an actionable subsidy,¹⁵⁹ ie a subsidy which can be challenged, or against which trade remedies (eg border duties) can be adopted. In this final section of the report, we briefly introduce these three options.

7.2 ‘Climate clauses’ and other approaches in preferential trade agreements

The ability to enter into PTAs is expressly recognised by the WTO system. The term PTA encompasses a range of trade and sometimes investment agreements, economic integration agreements, regional trade agreements and partnerships. Whether bilateral or multilateral, they all include a relatively small number of parties, hence the ‘preference’ as compared to the fall-back treatment under general WTO rules.

Some provisions of the WTO agreements allow for such preferential regimes to be established. This matter is addressed in Article XXIV of the GATT, Article V of the General Agreement on Trade in Services (GATS) and paragraph 2(c) of the Enabling Clause (for agreements with developing countries). Article XXIV.5 of the GATT sets certain conditions for PTAs to be consistent with the GATT, mainly to promote trade integration. In addition, the relevant PTAs must be notified to the WTO, which has to conduct an assessment of the conditions. In practice, however, this has not worked as contemplated: hundreds of PTAs have been notified but no consistency assessment has been completed for any of them. According to the WTO Regional Trade Agreements database¹⁶⁰ a total of 568 PTAs had been notified to the WTO by early August 2021 (318 under GATT Article XXIV, 188 under GATS Article V, and 62 under the Enabling Clause). Only 350 of them are currently in force.

The clauses discussed in the next paragraphs appear in a small number of recent PTAs, which in some cases cover vast volumes of trade (eg the EU–Japan PTA). Some are in force, whereas others are only provisionally applied (eg the EU–Canada PTA, also known as CETA), pending ratification, or are still being negotiated. The need to discuss the most recent agreements comes from the fact that this is where the so-called ‘climate clauses’ appear.

In older treaties, starting with the 1992 North American Free Trade Agreement (NAFTA – subsequently renegotiated), other trade and environmental clauses were used, mainly to address the no-race-to-the-bottom argument introduced in [Section 1.2](#) of this report. However, the treaty practice on this matter is constantly evolving, with an overview regarding sustainable development clauses being now available in an online toolkit developed by UN Environment and the International Institute for Sustainable Development.¹⁶¹ Although this toolkit is not focused on ‘climate clauses’ per se, it provides a good and user-friendly overview of the types of clauses in use in a number of PTAs. The 2019 EU Green Deal and its 2021 Trade Policy Strategy suggest that increasing attention will be paid in the future to matters of climate change, biodiversity and forestry, which have been less prominent than others (eg waste) in previous practice.

7.3 ‘Climate clauses’ in EU PTA practice

The PTA practice of the EU has significantly evolved since the late 2000s to increasingly include social and environmental considerations in so-called ‘second generation’ agreements, most notably in Trade and Sustainable Development Chapters in PTAs (TSD Chapters). A recent study of 11 PTAs concluded or under negotiation by the EU in the last decade finds that ten of them expressly refer to the UNFCCC and eight also to the Paris Agreement.¹⁶²

Looking at the text of a sub-set of EU PTAs in force or provisionally applied (those with Canada, South Korea, Colombia and Peru, Japan, Singapore, Vietnam and the UK), two main types of clauses can be identified, each with two sub-types. The first type of clauses reaffirm the PTA parties' intent to implement their obligations under the multilateral environmental agreements (MEAs), such as the UNFCCC or the Paris Agreement. These clauses can be general or refer to specific MEAs. The effect of such clauses is to signal to the trade partner and its industry that domestic measures to implement such obligations will be adopted. When the MEA contains specific trade-related measures (eg the requirement to obtain certain authorisations prior to a shipment of waste, trade in endangered species, or the prohibition of transboundary movements of certain waste, substances or species), this could operate as an acknowledgement of the measure's consistency with the PTA obligations. This is particularly the case when the PTA contains a defence clause. For example, Article 16.4(5) of the EU–Japan PTA¹⁶³ states that:

“Nothing in this Agreement prevents a Party from adopting or maintaining measures to implement the multilateral environmental agreements to which it is party, provided that such measures are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination against the other Party or a disguised restriction on trade.”

The wording is similar to that of the chapeau of Article XX of the GATT in the sense that it assumes that measures adopted under an MEA would be justified unless they are applied unfairly. As a 'climate clause', this type of provision in PTAs can serve to enable both carbon 'pricing' (eg taxes, regulations, trading schemes, etc) and 'equalisation' measures (eg CBAMs). Their core function is to reaffirm certain commitments and provide legal space for their implementation in a manner consistent with the trade rules.

The EU–UK Trade and Cooperation Agreement goes a step further. In the area of commitments, Articles 391–392 uphold the non-regression principle and state the requirement for each party to maintain a carbon pricing system and “give serious consideration” to linking it to that of the other party (which, as discussed earlier in [Section 6.8](#) of this report, could lead to exempting UK imports from any future EU CBAM). Article 764(1) further states that “each Party shall respect the Paris Agreement and the process set up by the UNFCCC and refrain from acts or omissions that would materially defeat the object and purpose of the Paris Agreement”.¹⁶⁴ Article 772(4) even characterises as a ground for potential termination of the Trade and Cooperation Agreement “an act or omission which materially defeats the object and purpose of the Paris Agreement”.¹⁶⁵

The second type of clauses reaffirm more broadly the desirability of co-operating in areas relevant for climate action. General clauses can take the form of either a list of areas (including climate change) where the parties intend to co-operate, or of co-operation clauses specifically devoted to climate change. There are also some specific clauses which encourage parties to co-operate by facilitating access of environmental (climate friendly) goods and/or services to their markets. For example, Article 13.10(2)(c) of the EU–Vietnam PTA¹⁶⁶ provides that the parties:

“shall endeavour to facilitate trade and investment in goods and services of particular relevance for climate change mitigation, such as sustainable renewable energy and energy efficient goods and services, including through the development of policy frameworks conducive to the deployment of best available technologies.”

Such provisions, aside from the encouragement they provide, lie in the fact that they provide a treaty basis to the development of concerted green industrial policies. One prominent example of this is the commitment by countries of the Asia-Pacific Economic Cooperation group (APEC) to limit their tariffs for a list of environmental goods to no more than 5 per cent.¹⁶⁷ Such an approach could pursue mitigation goals comparable to carbon pricing measures while relying on other means. However, a full legal analysis of the operation of such clauses would require a detailed assessment of their wording, context and the allegations made, which is beyond the scope of this briefing. A wider study of the mitigation potential of this and other types of trade-related measures could therefore do much to increase climate ambition and broaden the discussion of possible tools.

Another important type of measure in that regard would concern green (including climate friendly) government procurement, which is sometimes exempted from the application of non-discrimination standards or given more legal space to make it possible for the public sector to select greener products. For example, if a measure falls under the public procurement derogation in Article III.8(a) of the GATT, the national treatment rule is not applicable to it. At the PTA level, Article 10.9(11) of the EU–Singapore PTA¹⁶⁸ provides that:

“The evaluation criteria set out in the notice of intended procurement or in another notice used as a notice of intended procurement or tender documentation may include, among others, price and other cost factors, quality, technical merit, environmental characteristics, and terms of delivery.”

Despite their lack of climate specificity, these clauses certainly apply to climate change-related sectors. The combined use of these broader clauses and domestic policies enabled or encouraged by them could have a deep, possibly much deeper, effect on decarbonisation than the sole use of carbon pricing and equalisation measures. However, a thorough assessment of their true potential would require both modelling of the combined effects of policy mixes and a more encompassing legal approach. The impact assessment conducted for the EU proposal expressly mentions that the effects of the measure were evaluated by means of a methodology which cannot account for the combined effect of several policies.¹⁶⁹

7.4 Multilateral processes under the WTO convenorship

Topics at the nexus of trade and sustainability are not new to the WTO. Across the three principal functions of the WTO, several environmental regulations have been subject to WTO dispute under the judicial function. These include plurilateral talks on duty-free trade and market access in environmental goods and services, and a broad range of issues have been discussed in the regular Committee on Trade and Environment (CTE), touching upon environmental non-tariff barriers, green financing and decarbonisation.

A discussion on CBAMs has already taken place in the WTO, in the CTE. Following the briefing by the EU on trade-relevant aspects of the European Green Deal, WTO members discussed future concerns for the adoption of an EU CBAM.¹⁷⁰ Both developed and developing country members urged the EU not to impose unnecessary barriers to trade and to ensure that any future CBAM would remain compliant with existing WTO obligations under the GATT. As expected, and as discussed in [Section 5.3](#) of this report, the clarity of the current EU proposal is already an issue. There are also questions regarding the broader EU subsidisation and import subsidisation practices. In addition to the compliance with WTO rules, several members have pointed to how the proposed EU CBAM seems to contradict the principle of Common but Differentiated Responsibility and Respective Capabilities (CBDR-RC) enshrined in Article 3.15 of the UNFCCC and the approach of National Determined Contributions (NDCs).¹⁷¹

7.5 The ‘climate clubs’ proposal

Despite the scepticism within the trade ministries around the world, there are both proponents and opponents of CBAMs who emphasise that the long-term goal of such measures ought to be a multilateral compact on trade and decarbonisation, a ‘climate club’, and how a unilateral border measure serves as an interim (or second-best) solution. Even inside the EU, several user associations and national interest groups have reiterated that CBAMs are indeed a second-best outcome, while the EU trade unions have expressed a preference for multilaterally agreed carbon pricing over unilateral measures such as the proposed EU CBAM.¹¹¹

The idea of ‘climate clubs’ was first proposed by economist W. Nordhaus in a 2015 article.¹⁷² It basically consists of an agreement whereby participating countries (i) set a harmonised level of emissions reductions or a carbon price and (ii) a uniform external tariff imposed on the goods of all third countries. The key insight is that such clubs could be designed to attract all major emitting countries, which would prefer to join the club and apply the harmonised carbon price than to stay out and face the ‘penalties’, ie the common external tariff applied to ‘non-members’. There are many complexities in the real-life implementation of such an idea, ranging from the ability to negotiate such agreements, their legality in the light of international trade rules, their implications for developing countries and, more generally, the many issues that may arise within a ‘climate club’ in connection with different degrees of implementation (such as ‘internal free-riding’, ie the ability of a ‘member’ to circumvent the common external tariff while not strictly enforcing the carbon price).

Given the fact that different levels of climate ambition are now a structural feature of the climate change legal regime set up in the UNFCCC and the Paris Agreement, an alternative avenue to ‘climate clubs’, from a legal standpoint, would be a separate agreement concluded by a critical mass of States constituting the main international markets of carbon-intensive products. Depending on its features, such an agreement may or may not meet the consistency conditions of Article XXIV of the GATT, although the WTO system for assessing consistency is not operational. Assuming that a ‘climate club’ could be a component of a PTA (eg one aspect of a so-called ‘mega-regional’ agreement), then the question is what would be the main features of such an approach?

In the academic literature, a proposal has been put forward for a ‘carbon customs union’, focusing specifically on decarbonisation of the steel industry.¹⁷³ Under such an arrangement, goods from participant countries or areas would move freely within the union, while goods from third countries would face a common external tariff designed to encourage accession (but not necessarily reflecting the embedded carbon content). Each participant within the union would rely on its own policies and legislation to set the carbon price and to impose the external tariff. For example, the EU could rely on its ETS and the US on its industrial policy (for pricing) and on Section 232 of its 1962 Trade Expansion Act (for the border duties). The customs union would grow incrementally, sector by sector, beginning with steel. The proponents essentially argue that this approach is more realistic than CBAMs.

Wedged in between a potentially unlawful and risky unilateral approach and a lawful but protracted trade negotiation, the ‘climate clubs’ proposal remains, for now, an interesting but yet untested approach to solving the problems arising from differing climate ambition.

7.6 Trade and Environmental Sustainability Structured Discussions (TESSD)

In November 2020, 53 WTO members (including the EU) launched the Trade and Environmental Sustainability Structured Discussions (TESSD) aimed at complementing the existing CTE.¹⁷⁴ The initiative is designed to collaborate on trade and environmental sustainability among a greater community in a slightly more open format than the strictly intergovernmental WTO is accustomed to, involving outreach to representatives from the business community, civil society, international organisations and academic institutions.

To date, several meetings have already taken place under the unique format of TESSD. Ideally, TESSD would act as a forum for concerted multilateral environmental action, but there are divergent views about the direction this should take. On one hand, it could prioritise traditional WTO negotiations (as suggested by Australia, Singapore and South Korea in their joint communication) by stressing the importance of continuing traditional market access to promote trade in environmental goods and services.¹⁷⁵ Additional relevant negotiation areas could involve new rules on subsidies, such as the discussions on fossil fuel subsidies as proposed by New Zealand and recited in contributions by the UK, Switzerland or Iceland. In a similar vein, the US submitted a proposal in December 2020 for a draft ministerial declaration considering low environmental standards an illegal subsidy against which existing anti-subsidy instruments may be imposed to remove the competitive advantage given to foreign imports.

On the other hand, TESSD could follow an exploratory approach towards entirely new trade-related climate measures, including border carbon adjustments (BCAs), such as the proposed EU CBAM, which could lead to new sustainability-related exceptions that expand on GATT XX and GATS XIV. This would clearly be in the EU’s interest.¹⁷⁶ Indeed, some WTO members cited the possible creation of a separate forum (possibly in addition to TESSD) to discuss ways to avoid carbon leakage, and production moving to jurisdictions with lower emission requirements. TESSD could potentially help the EU to address and defuse WTO members’ concerns in a wider group, where the EU will see support from NGOs and other international organisations that are more positively inclined towards CBAM than trade ministries typically are.

Regardless of which of these two directions TESSD develops, there are some legitimate concerns about duplication of work that already takes place in the regular standing committee of WTO members on environment – CTE. There is also some risk of duplication with bodies outside the WTO, such as other intergovernmental bodies, UN agencies and non-governmental forums. Hence it is not clear how (and whether) TESSD will continue its work towards actual deliverables.

It is outside the scope of this report to assess which of the international organisations, including the OECD, G20 or the WTO, is best suited to discussing or formally negotiating a multilateral system for carbon pricing, or whether TESSD is necessary for the WTO reforms that the EU seeks to accommodate a system like CBAM. The differentiating factor of TESSD lies primarily in its wider participation and inclusion of private entities (ie non-governments) which also disqualifies it as a formal negotiation forum. However, the WTO is equipped with a legally competent secretariat that is able to assist in technical discussions and legal drafting that does not exist in other forums.

7.7 Multilateral processes under the OECD convenorship

The UK and other G7 economies have floated the idea both publicly and privately for negotiations on carbon pricing to take place on a multilateral level before the trading system is balkanised by mutually incompatible unilateral carbon adjustments with different scopes, calculation methods, regulatory and fiscal requirements. Indeed, the OECD Secretary-General has proposed an international approach to pricing carbon to be negotiated at the Paris-based organisation.¹⁷⁷ This idea builds on the OECD Inclusive Framework on Base-Erosion and Profit Shifting (BEPS) for digital taxation, which successfully gathered a near-consensus approved by 130 OECD and non-OECD countries.¹⁷⁸

Until the BEPS negotiations, the OECD had a limited track record of hosting negotiations, save an ill-fated multilateral negotiation on investments in the 1990s. However, the organisation does offer some advantages compared to the WTO as it is not weighted by historical issue linkages. While the WTO negotiations are typically subject to conditions or decisions on modalities in other negotiating areas, which slow down any negotiation even in a new area like carbon pricing, the OECD negotiations can be opened up to non-members. Although the WTO and UN both have near-universal memberships, these leave out some key EU trading partners, such as certain developing countries that are not WTO members, and Taiwan, which is a major exporter of steel but not recognised as a separate state from China by the UN.

7.8 Concluding remarks

In this section we have provided a brief overview of trade-related measures that could contribute to climate change mitigation or broader sustainability outcomes, and could be used in conjunction with, or instead of, an EU CBAM. These include various different types of measures, such as the inclusion of so-called ‘climate clauses’ in preferential trade agreements (PTAs), the formation of ‘climate clubs’, and the US initiative within the WTO framework to consider low environmental standards as an actionable subsidy, which would make it legally acceptable to impose border duties on imports from jurisdictions with low environmental standards.

‘Climate clauses’ in PTAs provide a treaty basis for the development of concerted green industrial policies and can enable future implementation of climate change mitigation measures, including ‘equalisation’ measures (such as CBAMs). A particular strength of ‘climate clauses’ that cite specific multilateral environmental agreements (MEAs) is that the measures adopted under an MEA would be generally regarded as justified, unless they are applied unfairly. Multilaterally agreed carbon pricing and multilateral compacts on trade and decarbonisation (so-called ‘climate clubs’) could both be potentially more powerful than unilateral measures such as an EU CBAM, especially if they were designed to attract all major emitting countries. Other alternatives, such as sector-specific ‘carbon customs unions’, could be more realistic than CBAMs.

Considering the potential legal and political challenges associated with unilateral trade measures such as the proposed EU CBAM, the bilateral and multilateral approaches outlined in this section could have a deep, possibly much deeper, effect on decarbonisation than the sole use of carbon pricing and equalisation measures in the EU. However, the practical challenges to their implementation are considerable and a thorough assessment of their true potential would require modelling that places them in the broader context of the other policy elements included in the EU’s Fit for 55 Package.

Conclusions from the legal, economic and political analysis

The inclusion of a proposal for an EU CBAM was by far the most internationally controversial part of the EU's Fit for 55 Package, thrusting into the limelight a policy idea that, despite much academic discussion and some embryonic proposals, had never been fully fleshed out in a concrete and detailed form before. However, as a growing number of countries ramp up their level of climate ambition, it is inevitable that sectors that produce goods that are traded globally will face non-uniform carbon costs around the world. Without CBAMs, or other measures such as those discussed in [Section 7](#) of this report, companies in countries with ambitious climate policy could suffer competitiveness losses, leading to potential socio-economic costs and carbon leakage.

In this context, the case for CBAMs may seem straightforward (and, indeed, is backed by textbook economics). However, the reality is much more complicated. As the analysis in this report shows, CBAMs tend to polarise opinions, sometimes in unexpected ways. The key arguments for and against CBAMs, outlined in [Section 2](#), can find common ground among surprising alliances, which may enable them to interact unpredictably. One thing that is clear is that the debate around CBAMs will intensify as the world moves towards increasingly unequal carbon prices, affecting industry in particular.

As discussed in [Section 2](#), the case for CBAMs broadly rests on two key arguments. First, the economic argument that industrial competitiveness, with its employment implications, should not be penalised because of measures to reduce global warming. Second, that CBAMs can reduce carbon leakage and hence make domestic climate policy more effective. The modelling of different types of EU CBAMs in [Section 4](#) supports both of these reasonings, showing that an EU CBAM could indeed increase industrial production within the EU and reduce CO₂ emissions in other countries (and at the global level). Moreover, around 600,000 jobs could be created in the EU.

Yet, as the modelling results in [Section 4](#) illustrate, the economic and environmental impacts of an EU CBAM are likely to be small, largely because practical constraints prevent it from being applied to a wide variety of goods. As discussed in [Sections 2.4](#) and [3.2](#), determining 'fair' CBAM rates could be difficult, even for well-defined products. By only covering a small sub-set of basic materials, the extent of the problem can be reduced, while still covering a large proportion of the CO₂ emissions from industry. However, the administrative costs would still be considerable, and the limited coverage may simply shift the competitiveness challenge further down the value chain, from basic material producers to manufacturers.

The socio-economic benefits of an EU CBAM would likewise be relatively small, essentially driven by the use of the revenues generated by the EU CBAM. Yet these limited benefits could incur considerable non-economic costs for the EU, such as political or diplomatic fallout with key trading partners, or the loss of credibility of the EU as a steady supporter of just transition on the international stage. The potential legal and diplomatic implications of the proposed EU CBAM, which are discussed in [Section 5](#) and [Section 6](#), highlight the extent to which these issues are relevant for the design as well as the implementation of any future EU CBAM, and what adverse implications a poorly designed policy could entail.

As emphasised in [Section 5](#), the consistency of CBAMs with international trade law has yet to be tested, and thus remains an area of uncertainty. While some aspects of CBAMs could be defended easily, others are less clear cut. However, it is clear that the outcome of a challenge will depend on the details of the specific CBAM proposal that the EU eventually puts forward. This final proposal is likely to be different from the current EU proposal, which does not yet fully clarify all of the essential details that would impact its legality. Any future CBAMs will therefore need to be crafted carefully to avoid successful challenges within the WTO.

Nevertheless, there could be substantial merits to an EU CBAM, whether or not it meets the strict WTO requirements. Perhaps most importantly, an EU CBAM could potentially improve the political acceptability of ambitious climate policy and a high carbon price within the EU, as discussed in [Section 4.5](#). This would still be the case even if a legal challenge was eventually brought against it. In the fast-moving world of climate policy and low carbon technology development, the time that it would take for the WTO to assess the complaint may be sufficient to achieve significant decarbonisation objectives while protecting the competitiveness of the EU's domestic industry.

The analysis in [Section 6](#) discusses extensively some of the most significant diplomatic costs of a unilaterally imposed EU CBAM. Perhaps the greatest risk here is the retaliatory trade measures that trade partners could apply, which would both reduce the effectiveness of the EU CBAM and impose further economic costs. The modelling in this report did not include any such countermeasures. However, as described in [Section 6](#), the EU's diplomatic relationships with other countries are typically both complex and specific to the partner country. Imposing an EU CBAM unilaterally on all partner countries that do not have similar climate measures would require substantial diplomatic effort to avoid retaliation.

The legal and diplomatic questions of course cover a much wider range of issues than trade and climate policy, and any implications for bilateral relations should be considered in that context. Compensatory measures, for example support to developing countries to reduce CO₂ emissions, would offset some of the arguments about the fairness of CBAMs in the context of the just transition (and indeed the Paris Agreement more generally). However, these measures could reduce the already small benefits to the EU (and global emissions) of an EU CBAM.

The strongest argument in favour of the proposed EU CBAM thus comes from the domestic political economy. Although carbon pricing alone will not be sufficient for the EU to get to net zero emissions by 2050, without carbon pricing its 2050 target would become unattainable. An EU CBAM could become a way of enabling higher carbon prices without losing industrial competitiveness (which remains the subject of substantial lobbying). The modelling in this report suggested that the impact of this on emissions could be almost 1 GtCO₂ per year in Europe – equal to around 30 per cent of the EU's current emissions. The current policy framework to manage competitiveness issues, ie the free allocation of ETS allowances, could be phased out as a result, freeing up more substantial revenues to help with developing low carbon technology.

The answer to the question of whether the proposed EU CBAM is a good idea or not therefore depends on the policy context, both in the details of the EU proposal and the wider socio-economic, political and geo-political situations.

In many ways the journey for CBAMs is only just beginning. As the EU moves ahead with its plans to implement a CBAM, it ought to ensure the proposal's consistency with the WTO obligations and be clear about its role in the broader set of measures to push the EU economy to net zero emissions at a pace that is faster than trading-partner nations. There may also be a role for CBAMs in other countries that are aspiring to climate leadership; either as a genuine way to protect domestic industry and carbon leakage, or to encourage others to step up their own levels of ambition. With the US already considering its own measure, it is likely that the EU will be joined by other countries in proposing CBAMs to protect their industries. This development should be welcomed if it is accompanied by strong domestic policies to decarbonise industry.

In this context, further research is needed to fully understand the potential benefits and disadvantages of CBAMs and other trade-related policy measures that could be utilised to support higher climate ambition. The risks of a CBAM 'going wrong' are substantial, and would need to be carefully managed in both the design and implementation phases of the measure. As discussed in [Section 7](#) of this report, bilateral and multilateral approaches such as the inclusion of 'climate clauses' in PTAs, sector-specific 'carbon customs unions' or the so-called 'climate clubs', could potentially be more effective than this unilateral approach as well as less contentious – although these too come with their own set of challenges.

In any case, we can expect to hear much more about CBAMs in the years to come.

Areas for future research

There are a number of topics that could be explored in future research. In light of the open questions concerning the legality and the potentially damaging political and diplomatic impacts of a unilateral EU CBAM, a broader study that systematically evaluates the relative pros and cons of an EU CBAM against other options, such as those outlined in [Section 7](#) of this report, could likewise be useful. For example, the potential of 'climate clubs' to play a key role in cultivating international climate ambition, their economic and political implications and their specific design are largely under-researched and worthy of further investigation. There may also be a need for an interdisciplinary assessment, similar to the one presented in this report, to study how the current EU proposal could be amended to reduce the risk of legal challenges and to improve its political acceptability, and what the impacts of these changes would be on the potential emissions reductions and economic outcomes in the EU and major trade partner countries.

As the negotiations between the EU institutions on the EU CBAM progress, one key question that requires further analysis concerns the impacts that an EU CBAM could have on emissions, employment and economic outcomes when accompanied by the phasing out of free ETS allowances. Such a modelling exercise could also include scenarios to assess how these outcomes may change if major trade partners were to align their emissions trading schemes with the EU ETS, and what would happen if CBAM-induced technology learning and subsequent price decline increased investment by third-party countries in low carbon technologies.

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(especially because in the scenarios the EU is on a trajectory to net zero). If the size of the discrepancy in carbon intensity between the EU and its trading partners was larger, the scale of impacts would increase.

⁷² The 50 per cent figure is arbitrary but designed to show an equal effect of the CBAM leading to lower import volumes and an increase in import prices. To estimate a more precise value a detailed electricity-sector model with hourly resolution would be required, coupled to future estimates of EU and partner country generation capacity.

⁷³ This study was carried out in 2006 and is no longer publicly available.

⁷⁴ This result is present if we assume a 50 per cent or 25 per cent substitution of imported electricity by domestic sources by 2050. The result, however, disappears if only 10 per cent of electricity imports is replaced by increased domestic production. In this case, the net effect in the power sector might be inconclusive.

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