EU-China Roundtable on Carbon Border Adjustment Mechanism

Briefing of the first dialogue on 26 May 2021

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Dear reader,

The ambitious climate-neutral pledge of the European Union (EU) means more stringent emission reduction measures and rising carbon price for industrial and power facilities, which immediately raises the question of the economic competitiveness of the bloc's energy-intensive industries.

On 10 March 2021, the European Parliament adopted a resolution on a Carbon Border Adjustment Mechanism (CBAM) to prevent carbon leakage. From the perspective of the rest of the world, the EU CBAM is expected to risk further trade friction between the EU and its trading partners, such as China and the United States.

In this context, Agora Energiewende and Shanghai Institutes for International Studies, a Chinese government-affiliated high-caliber think tank, co-organized the first dialogue of a series of the EU-China Roundtable on CBAM on 26 May. Under the Chatham House Rule, key experts from the EU, China and North America discussed the most pressing issues surrounding the CBAM. This briefing report informs the international community, especially the EU and Chinese stakeholders, regarding critical perspectives and take-home messages from the first dialogue, aiming to eliminate potential misunderstanding and explore internationally acceptable solutions on carbon pricing regimes. It also highlights some general suggestions on how major trading partners might approach the topic to minimize the risk of escalating existing trade conflicts.

We hope you find the report useful and welcome your feedback.

Sincerely yours,

Dr. Patrick Graichen
Executive Director, Agora Energiewende

Key messages at a glance

1. **It is not only in the interest of the EU, China and the US,** but also of other economies to negotiate an internationally acceptable set of principles and mechanisms to better manage the risks of carbon leakage and industry-trade interaction. A harmonized global carbon pricing mechanism is unlikely to happen any time soon, but major economies targeting industrial emissions should take the responsibility of creating a fair and just environment for global trade and climate protection.

2. **To pursue the best outcome,** continuous research and multilateral dialogue on pressing climate issues including CBAM are essential. Mutual understanding of CBAM-related strengths, weaknesses, opportunities and threats may serve as a key building block in support of effective cooperation.

3. **If a politically plausible global solution** is deemed impossible for the time being by jurisdictions with ambitious climate policies, unilateral measures to address carbon leakage risks, such as the EU CBAM, are expected to become not only inevitable but also increasingly legitimate. However, trade frictions must still not be escalated if avoidable.

1 Background

1.1 What is EU ETS and CBAM

In 2005, the European Union (EU) established the world's first international Emissions Trading System (EU ETS) to tackle the looming danger of climate crisis. Before the launch of China's National Emissions Trading System (China ETS),[1] the EU ETS remains the world's largest carbon market.[2]

Table 1: Key features of EU ETS and China ETS

Region	EU	China
GHG emissions (2019)	3.61 GtC02eq	14.09 $GtCO_2eq$
CO_2 emissions (2019)	2.92 Gt	10.17 Gt
Emissions reduction target	At least 55 percent below 1990 GHG levels by 2030, climate neutrality by 2050	CO_2 emissions peaking before 2030, carbon neutrality before 2060
ETS jurisdiction	27 EU Member States and three European Economic Area-European Free Trade Association (EEA-EFTA) states, namely Iceland, Liechtenstein, and Norway. It has been linked to the Swiss ETS since January 2020	The People's Republic of China
GHG covered	CO_2, N_2O, PFCs	CO_2
GHG emissions covered	39 percent	About 40 percent
Sectors covered	Power, industry incl. oil refining, coking, iron and steel, cement, glass, lime, bricks, ceramics, pulp, paper, and cardboard, aviation, CCS installations, petrochemicals, ammonia, nonferrous and ferrous metals, gypsum, aluminum, nitric, adipic, and glyoxylic acid, domestic aviation. Possible extension to maritime, buildings and transport under discussion	Power is the first sector subject to national ETS, with iron and steel, building materials (especially cement), petrochemical, chemical, nonferrous metals (especially aluminum), paper, and domestic civil aviation expected to be covered during China's 14th Five-Year Plan (FYP) period or later
Entities covered	10,569 power plants and manufacturing installations, thresholds vary depending on sectors	2,245 entities with annual emissions of 26 $KtCO_2$ in any year over the period 2013-2019
Cap	Single EU-wide cap from 2013, with a linear annual reduction. 2021 cap 1.572 $GtCO_2eq$, linear cap reduction factor 2.2 percent. 2030 cap for existing scope to be around 0.83 $GtCO_2eq$ (-65 percent vs. 1990)	Bottom-up intensity-based aggregation mechanism, with an estimated cap of over 4 GtC02 for 2021
Allowances allocation	Power sector 100 percent auctioning; other sectors: free allocation + auctioning, free allocation given to "energy-intensive trade-exposed (EITE)" industries based on best performance CO_2 efficiency benchmarks	100 percent free allocation and considering auctioning in the future
Carbon price	Above 50 EUR since 6 May, anticipated avg. price for 2021 ~40 EUR/tCO_2; anticipated price average of ca. 50-80 EUR/tC02 between 2021-2030	Not available yet. By March 2021, the average carbon price of 8 pilot ETS stands at 23.8 yuan/tCO_2 (or 3 EUR/tCO_2). Anticipated avg. price ~12 EUR by 2030, ~20 EUR by 2050

Source: China Carbon Forum (2020); Bloomberg, EC, EEA, Ember, ICAP, Ifri, OWID, Xinhua (2021)

[1] The official launch of China's national ETS is scheduled for June 2021, which seems to be further delayed at the writing of the report.

[2] In this briefing, the term "carbon" includes all greenhouse gas (GHG) emissions released during production processes.

Since its inception in 2005, a key challenge for the EU ETS has been how to combine meaningful incentives for emissions reductions (via high carbon prices) while avoiding the risk that regulated companies may simply shift production and emissions offshore - a phenomenon known as "carbon leakage".

For the past 15 years, under the EU ETS, carbon leakage risks have been managed by offering close to 100 percent free allocation of ETS emissions allowances to selected EITE sectors deemed at risk, notably steel, aluminum, cement and clinker, and basic chemicals sectors. However, under the EU's recently upgraded climate targets, emissions in the EU ETS will need to fall by 65 percent below 1990 levels by 2030. Due to the linear reduction of the allowance cap, the total allowances available for free allocation will, from around 2028 onwards, begin to go below the levels needed to address carbon leakage risks. At the same time, EU carbon prices rose to unprecedented levels beyond 50 EUR/tCO_2 in May 2021, compared to average levels of 5-10 EUR/tCO_2 during the previous decade.

Thus, in December 2019, the European Commission adopted its Communication on the European Green Deal,[3] and introduced the idea of a new anti-carbon leakage system: a CBAM for selected sectors. In principle, an EU CBAM would gradually replace the need for free allowances in two ways. First, it would gradually remove the use of free allowances by shifting to auctioning for industrial installations. Second, it would seek to level the playing field with imports by placing an equivalent carbon price on imports of the same regulated goods under the ETS.

The legislative train has departed. On 10 March 2021, the European Parliament adopted the resolution on an EU CBAM by 440 to 70. The European Commission plans to publish a legislative proposal on a concrete CBAM design for debate with the European Council and Parliament on 14 July 2021.

However, in the absence of a clear understanding of the intent, impacts and design of the CBAM, and in a context of rising trade tensions, there are increasing concerns in other parts of the world – as shown by the critical statements of certain countries to date, including Russia, Brazil, South Africa, India, and China (BASIC or BRICS) among others.[4]

1.2 Contrasting reality

According to the recently leaked draft of the legislative proposal, the EU CBAM would focus on limited industrial sectors – iron and steel, cement and clinker, fertilizer, aluminum, and electricity. Take the EU's largest trading partner China as an example. In 2020, the EU imported goods worth 383.4 billion EUR from China, representing about 15.1 percent of China's total exports and 22.4 percent of the EU's total imports. For now, there is no trading of electricity between China and the EU; the rest of the CBAM-targeted basic material products altogether account for about 3 percent (Figure 1.2) of the total value of goods imported from China, with about three quarters for iron and steel, and near one quarter for aluminum.[5]

Though placing a carbon price on this selected list of products may have a relatively modest impact compared with the EU's international trading volume, opposition still exists. One reason may be an insufficient level of trust, understanding and dialogues between the EU and its trading partners so far. But

[3] European Green Deal: an action plan to boost the efficient use of resources by moving to a clean, circular economy and restore biodiversity in the EU. It outlines investments needed, financing tools available, and guidelines for a just, inclusive transition.

[4] MOFA (2021)

[5] 3 percent according to China Customs, 5 percent according to Wu (2021).

perhaps even more importantly, non-EU countries fear that the EU CBAM could possibly lead to a kind of a domino effect: even if the EU CBAM is implemented without protectionism as the main goal, it could result in more economies implementing their protectionist measures under the disguise of climate protection. For export-oriented economies (e.g., China) with not only global green trade aspirations but also embedded carbon content in existing commodities, the CBAM is thus perceived as a trigger of potential threat to national strategic interests.

Figure 1: Potential impact of EU-CBAM on China's exports

Source: GACC (2021)

Against the backdrop of rising trade tensions and growing discourse on economic nationalism, the EU CBAM thus unsurprisingly meets with distrust. A worst-case scenario is that the CBAM would further exacerbate global trade tensions and risk undermining multilateralism on global climate cooperation.

By comparison, from an EU perspective, the rising risk of carbon leakage and potential loss of its domestic product competitiveness due to increasingly higher carbon pricing level make it imperative for the EU to look for a solution. In this regard, the EU's unilateral attempt to move its climate agenda forward with the CBAM is expected to pressurize its key trading partners, including China and the US, to consider helping to negotiate a global climate deal.

In fact, there may be several reasons to cooperate. First, the EU will not be the only region facing the challenge of trying to decarbonize EITE industries. With more ambitious climate targets pledged by an increasingly higher number of jurisdictions and further upgrading and adoption of carbon pricing regimes across the globe, rising concern over carbon leakage and a loss of economic competitiveness of EITE sectors is expected to become policy-relevant for more economies over time.

Second, major economies like the EU, US and China will likely pursue different kinds of policies to support the decarbonization of energy-intensive industries – whether they are carbon pricing in the EU, leading market or regulatory policies in the US, or by leveraging the power of state-owned enterprises (SOEs) in a hybrid economy[6] like China. Therefore, it is necessary for major economies with relatively stringent climate policies to proactively cooperate and seek long-term solutions that can define the new rules of the game and avoid weaponizing industry decarbonization efforts.

The unilateral introduction of the EU CBAM comes at a sensitive but also crucial juncture of history – before the forthcoming COP26 in November 2021. It will be the first COP since the inception of the COVID-19 pandemic outbreak and the beginning of the world's net-zero wave, where countries are expected to discuss common challenges such as green recovery, sustainable growth, decarbonization, and just transition. The CBAM and its alternative solutions are expected to stir an already challenging international debate.

Despite the EU CBAM's intention of preventing carbon leakage, questions remain about whether a CBAM is a panacea for EITE industries. Some

[6] Columbia University SIPA (2020)

sectors, such as chemicals, are considered too complex to be manageable administratively under a CBAM at present. Another risk of certain possible CBAM designs is "resource shuffling": a country might shift exports of clean products to jurisdictions with relatively stringent climate policies and dispatch emission-intensive products for either domestic consumption or countries with relatively weak climate regulation. This risk is particularly a concern for electro-intensive processes, where a change of power supply contracts is perceived as relatively easy. For this reason, some EU stakeholders have called for indirect emissions to be excluded from the CBAM until the EU power market has decarbonized sufficiently to avoid leakage risks.

2 Stances of key stakeholders

2.1 Rational of the EU

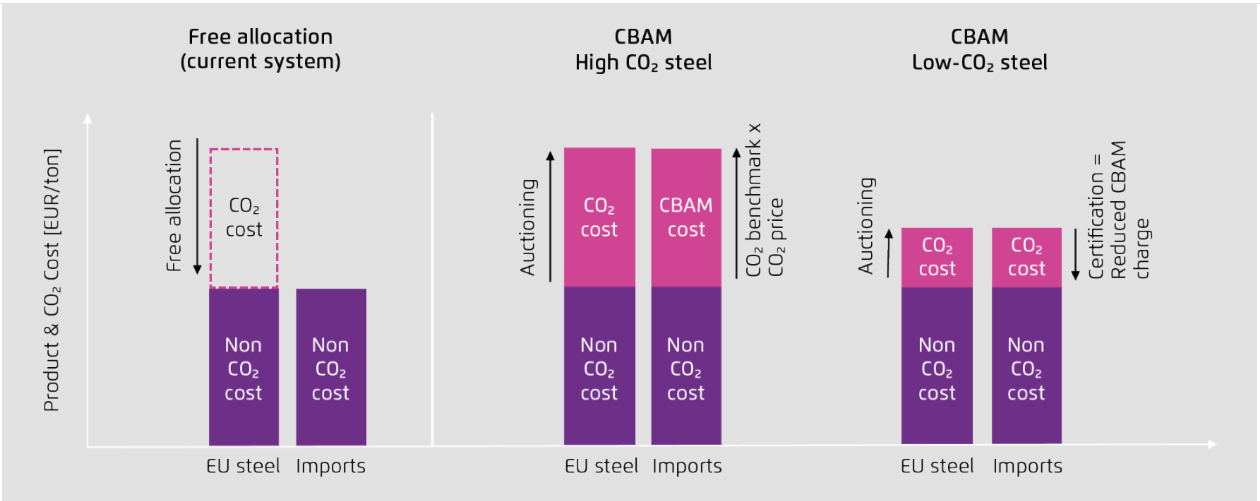
The EU now imposes carbon prices on its own domestically traded industries at a level unmatched anywhere in the world. With carbon price in the EU exceeding the landmark 50 EUR/tCO_2 in May 2021, only the EU and the United Kingdom (UK) impose such high carbon prices on EITE industries.

To avoid potential carbon leakage and lose economic competitiveness due to higher climate policy ambition, the EU believes a CBAM compatible with World Trade Organization (WTO) rules that does not discriminate against specific countries is justified.

The core argument from the European Commission in relation to the CBAM is that it is simply trying to replace one anti-carbon leakage policy (free allowances) with another (CBAM). It is not trying to discriminate against foreign products, as evidenced by its continual commitment to ensure the mechanism is WTO-compliant.

Take the EU's steel imports as an example (Figure 2). The sector currently receives a free allocation of emissions allowances, and thus remains competitive with imported steel without a carbon price. Under the CBAM + auctioning proposal, the EU would see its own steel producers begin to pay for their allowances. To level the playing field, imported steel would need to face an equivalent CO_2 price.

Figure 2: A WTO-compatible EU CBAM design

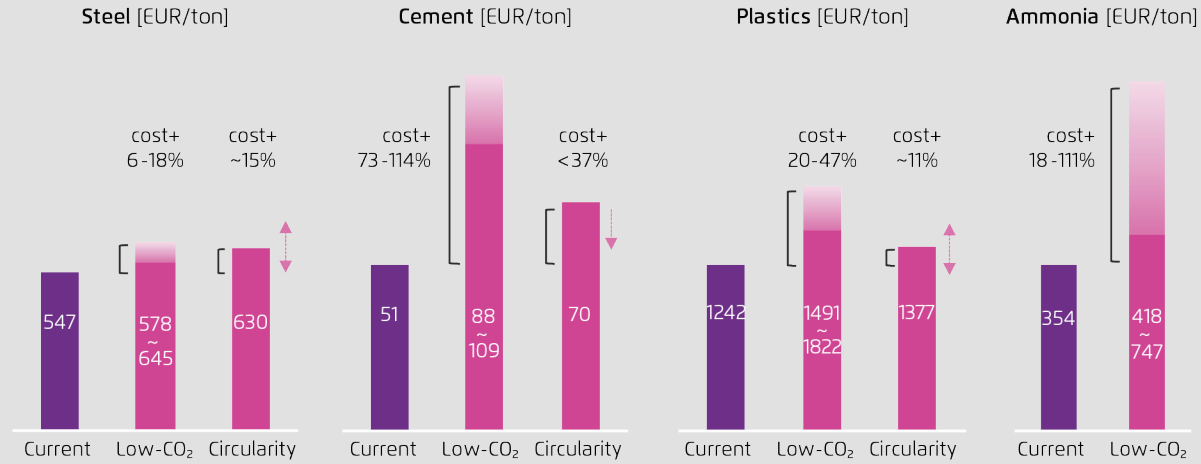


Source: Agora Energiewende (2021)

Under the current draft proposal, the EU steel industry would be entitled to neither export rebates nor free allocation for export. However, this issue remains a point of contention between industry and the European Commission.

From the perspective of experts on industrial decarbonization policy, the CBAM is seen as a necessary tool for the sake of the EU's domestic transition to climate-neutral industry. In a market-based economy, such as the EU, the only way to ultimately make climate neutrality and recycled basic materials like steel, aluminum and cement competitive is to raise the production costs of high-carbon alternatives. From this perspective, the CBAM is a critical allocation of ETS allowances for EITE industries, thus raising the competitiveness of low-carbon and circular materials since the CBAM enables the EU to phase out free allowances.

Figure 3: Low-carbon and circular technologies for carbon-intensive materials production are not competitive unless prices for conventional products rise due to carbon costs



Source: Material Economics (2019). Industrial Transformation 2050

Of course, like all complex policy proposals, the CBAM proposal has been seen by different EU actors as an opportunity to pursue different aims. For example, while the European Commission seeks to make the instrument a tool to address carbon leakage, some EU member states also want to use the revenue to repay COVID-19 pandemic recovery borrowing. Similarly, certain industries and their allies in the EU parliament would like to add the CBAM to free allocation in order to provide greater protection from carbon leakage than provided in the past. One EU member state (France) is also trying to leverage the CBAM for its own domestic political narrative. While such aims are not necessarily beneficial toward justifying the EU CBAM, they nevertheless demonstrate the complexities within the EU when it comes to agreeing on a common vision of the final instrument. The EU might struggle to clarify its narrative to its trading partners or be pushed by political interest groups in some cases to adopt a CBAM that does not completely address foreign and legal concerns.

The exact design of the proposed EU CBAM is not yet known. Despite a leaked draft in June of 2021, the final proposal would only be put forth on 14 July. According to the leaked draft, if the legislative proposal is adopted, a transitional "implementation" period is intended to last from January 2023 until at least the end of 2025. In practice, this transition period could

be much longer given all the complexities. For instance, because of concerns from domestic industry, the EU may opt to implement the CBAM very slowly, by implementing a gradual phase-in of the CBAM and simultaneously phasing out the free allocation during the period of 2023/24-2028/29. In addition, a prolonged transition period would be beneficial for continuous international discussion and negotiation to ensure that the EU CBAM is not only WTO-compatible but also acceptable to the EU's trading partners.

The likely design of the EU CBAM as a complementary tool for the EU ETS would promote carbon-efficient products domestically and worldwide. The revenue generated would cover the costs of the operation and maintenance of the CBAM Authority, with the remainder paid to the EU budget. However, there have been discussions on using the revenue to support the least-developed countries (LDCs) and provide exemptions for them; those articles are yet to be negotiated. A key issue for the EU legislative process must be to ensure that key concerns of certain groups in third countries, such as LDCs, are addressed adequately in the proposal.

The EU is of course aware that certain countries may complain that Europe's CBAM is somehow contradictory to the principle of Common But Differentiated Responsibility (CBDR) or the idea of Nationally Determined Contributions (NDCs) under the Paris Agreement. On the other hand, the EU argues that the CBAM is essential for the EU to implement its own obligations and raise its own NDC under the Paris Agreement, i.e., to pursue its highest possible level of climate ambition – something which could not be achieved if carbon leakage were allowed to occur. The EU is therefore not necessarily requiring that all countries adopt the same level of climate ambition, but rather that countries simply not be allowed undercut its own efforts domestically via the phenomenon of carbon leakage.

2.2 The Chinese perspective

As the world's largest exporting country, China is naturally concerned about any unilateral move by its trading partner that may negatively affect the economic competitiveness of Chinese products and services in the international market. China exports more manufactured goods and services to the EU than any other country. Not surprisingly, the unilateral introduction of the EU CBAM, without sufficient clarity on how it would operate or which products it would cover, has thus raised concerns among Chinese stakeholders.

Nevertheless, because of preoccupation of more pressing issues (especially the US-China trade war, coronavirus control, the introduction of national ETS, the preparation of the 14th FYP at the sectorial level against the backdrop of Chinese President Xi Jinping's pledge of peaking national carbon emissions before 2030 and achieving carbon neutrality before 2060), Chinese decision-makers and climate as well as trade experts alike only started to pay rising attention to the EU CBAM recently, when exchange with EU stakeholders is ramping up.[7]

Despite being open to dialogue, Chinese stakeholders widely hold a rather negative perception of the EU CBAM as a carbon tariff to protect selected European sectors. Regardless of the initial coverage of the EU CBAM, the competitiveness of targeted Chinese products in the EU market is expected to be negatively affected, especially in the short-term if the CBAM is introduced quickly, giving little time for Chinese exporters to adjust and "green" their production processes. To make matters worse, the perceived lack of dedicated official exchange between the EU and China so far has been translated into a

[7] KAS (2021)

rather negative initial reaction towards the EU CBAM among key Chinese stakeholders, as evidenced by the nuanced concern expressed by Chinese President Xi during his video conference call with German Chancellor Angela Merkel and French President Emmanuel Macron in April 2021.[8]

Since the EU CBAM is still at the early development stage, China's stance is not necessarily fixed, especially given Beijing's other political considerations regarding its relationship with Brussels. Even so, three major concerns among Chinese stakeholders are worth mentioning.

First, though China ranks as the world's second-largest economy, its GDP per capita is only at approximately 15 to 30 percent of advanced economies; thus Beijing still considers itself part of the developing country bloc. Consequently, China's phased climate pledge is arguably a bold move away from a typical major developing country (e.g., India) reluctant to make ambitious climate commitment towards that of a typical advanced economy (e.g., Germany) with an outright climate-neutral goal by 2050. From the perspective of both the Chinese government and industry, it would be unfair for China as a not yet advanced economy to contribute equally as EU countries that have long entered the post-industrial era, citing the principle of CBDR.

In this regard, the EU CBAM is sometimes regarded by Chinese stakeholders to be incompatible with the spirit of the Paris Agreement because it is perceived as intending to force non-EU countries to upgrade their NDCs, which should be voluntary by definition.

Secondly, the unilateral introduction of the EU CBAM risks severely undermining hard-won multilateral cooperation that is key for the conclusion and continuation of the Paris Agreement. Even if the EU is indeed not implementing the CBAM for the purpose of trade protectionism, the perceived lack of consultation to date between the EU and its major trading partners may still trigger every party to resolve climate challenge through unilateral measures, further undermining already thin trust among the parties and risking a cascading global trade war.

Last but not least, though China is likely to continuously voice concerns over the EU CBAM in the near future, the country's ultimate stance will largely depend on the success of its own carbon pricing regime in general and its potential recognition by the EU in particular.

Since 2011, China has initiated pilot ETS schemes in eight provinces and municipalities, with a cumulative average carbon price of around 3 EUR/tCO_2 by March 2021. After a prolonged delay, the trading of China's national ETS allowances is further postponed beyond June 2021. While the system's initially planned scope also included iron and steel, petrochemical, chemical, building, paper, non-ferrous metals and civil aviation, it has first been limited to power due to data-quality constraints.[9]

Depending on the rigidity of the EU CBAM, it could either encourage China to further expand coverage of its national ETS to sectors targeted by the EU CBAM, in case such a move may be well received by the EU (e.g., CBAM-exempt), especially during the first several years of its introduction. Otherwise, potential CBAM-initiated trade frictions might not only complicate already strained EU-China relations, but also risk undermining climate momentum in both China and the EU,[10] at least under the worst-case scenario of a full-blown CBAM-stirred trade war.

[8] Politico (2021)

[9] Ifri (2021)

[10] KAS (2021)

To address these concerns, China should seize the time window before the EU CBAM transition period starting from 2023 to proactively conduct rigorous research, effective bilateral or multilateral dialogues, formulate coping strategies, and explore a cooperative rule-setting process. Of course, any alternative global solution will depend on good intentions from not only China but also the EU and other major economies, especially the US. The prospect of such an optimistic outcome is deemed rather slim in the era of big power rivalry.

Chinese scholars believe that the CBAM should be implemented under the multilateral framework of the United Nations and that the right of developing countries to equitable development should be emphasized. The CBAM is deemed a manifestation of the EU's "invisible carbon barrier" and a tool of trade protectionism, which fails to fully adhere to the CBDR principle, the Paris Agreement and the WTO multilateral trade framework. It may harm the developing country bloc in addressing climate change while growing a green economy. The EU, they argue, should avoid adopting a unilateralist CBAM and transferring the burden of climate mitigation to developing countries.

2.3 The American perspective

The EU, China and the United States (US) account for nearly 60 percent of the world's GDP, and over half of global carbon emissions. Given the complicated nature of trilateral relations among these economies, any meaningful EU-China dialogue on the CBAM cannot afford overlooking the American perspective.

Since the late 2000s, the CBAM agenda has been embedded in a series of proposals for federal emissions trading and carbon tax systems in the US, as the CBAM has typically been viewed in the US as a useful policy instrument for protecting domestic industry from foreign competition once a carbon price is implemented.[11]

Following repeated pledges, including commitment during Biden's presidential campaign and, most recently, the US trade policy agenda, the future of an American CBAM is still far from certain.[12] Above all, a legally sound CBAM is inconceivable without an economy-wide carbon pricing mechanism, which is politically challenging in the US Congress. Meanwhile, the Regional Greenhouse Gas Initiative (RGGI), now covering 11 states, California's Cap-and-Trade Program and the Massachusetts Limits on Emissions from Electricity Generators have been gradually built up since 2009. However, there has been no plan for a federal carbon market. During the Biden presidency, regulations that impose carbon costs on the industries that the CBAM would generally cover during the Biden presidency is also unlikely.

The Biden Administration is focusing on the Clean Electricity Standard to decarbonize the power sector by 2035 and currently not targeting emissions from industrial sources. However, it is moving forward on meeting the climate challenges while rebuilding infrastructure after decades of underinvestment. Correspondingly, provisions on procurement strategies, such as standards on materials for infrastructure projects, could provide a policy basis for future industrial decarbonization and carbon pricing development.

Like Trump's excuse of national security to impose tariffs on steel (25 percent) and aluminum (10 percent) imports, the worst-case scenario for the Biden Administration to introduce the CBAM would be via an Executive Order, as Section 232 of the Trade Expansion Act of 1962 gives the American President the authority to "adjust the imports" of any product that "threatens to impair the national security" of America.

[11] Bruegel (2021)

[12] Reuters (2021)

Given the significant ramifications of such a politically controversial move, it is unlikely that the Biden Administration would take such unilateral action. Above all, several studies have indicated that Trump's "America First" tariffs adversely affected US GDP and Republican candidates in elections.[13] The recent joint US-EU Statement on addressing global steel and aluminum excess capacity and the US-China Joint Statement Addressing the Climate Crisis have also sent a somewhat positive signal that the Biden Administration seems to be more interested in keeping climate change as an issue of international collaboration instead of big power rivalry.

2.4 The legal perspective

The EU not only developed the world's first international ETS but is also introducing the first CBAM. There is thus no precedent to assess the legality of the EU CBAM – primary its WTO compatibility. The answers would have to be largely based on existing international trade agreements: non-discrimination obligations, environmental exceptions under the General Agreement on Tariffs and Trade (GATT), subsidy law under the Agreement on Subsidies and Countervailing Measures (SCM), and the ways in which certain provisions have been interpreted in other cases.

Critical principles for assessing the legality of a CBAM design include:

- Non-discrimination obligation / no less-favorable treatment under the GATT: Several articles prohibit differential trade treatment to similar products of different origins as well as differential regulatory and fiscal treatment between domestic and imported products. But they also allow for charges at the border, which are equivalent to a domestic tax directly levied on specific products. Thus, a CBAM can mirror ETS and carbon taxes.

- Environmental exceptions under the GATT: Article XX lists the exceptions that allow contracting parties to override the principles mentioned above, such as "necessary for the protection of human, animal or plant life or health" and "necessary for the conservation of exhaustible natural resources," under an overarching condition of non-justifiable or arbitrary discrimination.

- The SCM Agreement prohibits any subsidies that are conditioned on the export of goods; it therefore may limit the ability to apply the EU CBAM to exports. Because the Agreement is separate from the GATT, environmental exceptions do not apply. If the EU CBAM might accompany the EU ETS, export rebates would very likely be considered prohibited export subsidies, as there is no provision in WTO law for border rebates of regulatory costs.[14]

- Other crucial legal criteria (necessity, fairness, transparency, predictability, etc.) have raised further questions: What justification should the EU provide for the CBAM? How can it be scientifically tested? How might the EU support LDCs to increase their climate ambitions? How might exporters challenge the evaluation of carbon intensity at the EU border? Ideally, these questions should be appropriately addressed in the design phase, in close cooperation with the EU's major trading partners.

The application of CBDR and the quantification of non-price-based carbon reduction policy have been two of the major counterarguments against the EU's unilateral introduction of the CBAM. CBDR and Respective Capabilities under the 1992 United Nations Framework Convention on Climate Change (UNFCCC) have acknowledged that countries' different

[13] NBER (2019), AEA (2019)

[14] Cosbey et al. (2019)

capacities and development levels affect mitigation capability. The initial intention of the principle was to promote agreement on the international legal framework for climate policy; it has unfortunately become a stumbling block for such a purpose. While the global distribution of greenhouse gas emissions by country has undergone drastic changes since the 1990s, how this anachronic principle may be adjusted to better reflect the climate reality of the 21st century will test the political wisdom of the international community, especially in major carbon-emitting economies including the EU, China, and the US.

Countries with an ambitious, pursued climate agenda expect national exemptions in the CBAM design. However, it would be methodologically challenging to translate all the regulations into an equivalent carbon price, not to mention legally controversial under the GATT Article I (General Most-Favored-Nation Treatment) and under the Paris Agreement when involving any unilateral judgment and determination of other's effort adequacy.

As the picture of the EU CBAM becomes clearer, a growing number of questions are foreseen. Solutions such as an international agreement on low-carbon requirements for energy-intensive products are also being discussed. Furthermore, the design of a WTO-compatible CBAM is not a silver bullet to resolve all carbon leakage risks. On the other hand, achieving a common global agreement on carbon product standards for key basic materials may be challenging in the short term. Above all, such policies typically require well-established reference technologies that have been sufficiently demonstrated across the globe. So far, such technologies remain only at the pilot project stage in leading countries.

Nevertheless, a key question is whether the focus on the CBAM can be leveraged into a broader global agenda based on a more encompassing set of carbon-leakage solutions defined in an inclusive and cooperative way and implemented appropriately, with the necessary dialogue between trading partners. The EU CBAM has the potential to become a beneficial regional initiative to move the global climate agenda on the industry-trade nexus forward. However, an ill-designed and poorly communicated EU CBAM coupled with a tit-for-tat mentality in other parts of the world will inevitably lead to climate-damaging trade frictions.

3 Multilateralism is urgently needed

The recently leaked EU CBAM draft is a timely test of the initial reaction within the EU and its trading partners, which allows key stakeholders to weigh the pros and cons. Their feedback will hopefully influence the legislative proposal. Two years of a relatively long legislation process coupled with a three-year transition phase could possibly prevent the EU CBAM from unfolding unproductively. The CBAM transition phase might need to last longer than just three years to address a range of domestic and international concerns surrounding the design and speed of the phase-out of free allowances. Doing so could give further much-needed time to third countries for dialogue, negotiation and mutual adjustment.

As the EU CBAM is taking shape, the outcome of the legislative process should not only depend on an appropriate design by the EU but also on reactions from non-EU countries. In particular, lessons should be drawn from the EU's failure in the past to include aviation fully into the EU ETS. After the EU unilaterally issued a directive (2008/101/EC) on aviation emissions that targets all airline operations to or from EU airports, strong opposition was voiced across the globe. After both China and the U.S. forbade their carriers from obeying the directive and a range of countries threatened trade retaliation, the EU eventually withdrew the measure for intercontinental flights.

The EU has strived to clarify the environmental justification coupled with evidence in support of its

claim of carbon leakage risks in the context of the EU's higher climate ambition and rising carbon price. From a third-country perspective, however, several of the mechanism's design issues might still raise concerns. These issues include:

- The speed of roll-out of the CBAM must allow time for adjustments and the development of data on the true emission values of low-carbon products, lest default benchmarks are used for carbon imports to the EU.
- Default benchmarks set for products where data cannot be provided: Are they likely to discriminatory to products unable to provide necessary data on actual emissions by assuming a higher CO_2 content that is actually the case?
- Is the administrative burden on importers manageable or does it amount to de facto discrimination against importers due to unrealistic or excessive requirements?
- What kind of foreign carbon pricing schemes allow importers to the EU to deduct their carbon charge under the CBAM?
- Are EU CBAM revenues likely to be used for EU budgetary purposes, or will they be recycled to LDCs to support climate action and/or compliance with the mechanism?
- What allowances are made to ensure the mechanism is fair for LDCs – for instance, is time for adjustments given? Are revenues recycled there?

It is therefore crucial that the EU policy-making process seeks to take third-country views on these topics into account before the final CBAM mechanism is adopted. As the ETS-aviation experience has shown, then the CBAM must not focus only on reconciling interests within the EU but also consider the outside world. Consultation with third countries could also be a good idea during the transition phase to help third countries prepare to comply and troubleshoot.

China is supposed to be one of the first movers reacting to the EU CBAM given its large trading volume worldwide. For the time being, however, China appears less impacted by the (leaked) CBAM than countries in the EU's immediate neighborhood like Russia, the UK and Turkey. It is reassuring that China has shown a growing desire in research and dialogues on the EU CBAM to overcome the information asymmetry disadvantage. Hopefully, China will eventually be motivated by the EU and other like-minded jurisdictions to jointly explore an internationally acceptable mechanism or set of rules that addresses rising concern over carbon leakage.

As being "tough on China" remains a bipartisan consensus in Washington, a CBAM-initiated EU-China trade war is highly undesirable from the Chinese perspective.

To this end, China has an interest in arriving at a commonly agreed mechanism for addressing carbon leakage. But this could take a long time, given the different starting points of key countries and relevant low-carbon technologies. In the short term, China, the EU, the US and other export-oriented economies may or may not have an interest in jointly developing and agreeing on clear rules to protect against carbon leakage in EITE sectors. Alongside discussions on the EU CBAM design itself, a process to agree on these new rules – perhaps housed under the WTO – should nevertheless be pursued.

Another question concerns revenues allocation. China may consider formulating an export CBAM as a backup measure to counter the forthcoming EU CBAM. If appropriately designed and enforced, China may be able to keep CBAM-related revenues within its national border to promote domestic and international decarbonization initiatives. Of course, if an international agreement on low-carbon

standards in EITE products is reached, the momentum of China's clean energy transition would be further boosted.

Though the impact of the EU CBAM on the American economy is rather limited, the reaction from the Biden Administration is not necessarily straightforward. Given the difficulty of imposing an American CBAM, it is essential for the EU to tread the water carefully in order to avoid triggering the US to move its own CBAM agenda towards trade protectionism. Doing so would likely raise Chinese and LDC opposition against both the US and the EU simultaneously, even if the mechanisms were different in nature.

Besides the EU, countries like Canada and Japan have expressed their intention to explore the possibility of introducing their own CBAM.[15] In Canada, the government considers the CBAM as a complement to its federally regulated ETS, covering 78 product standards in 35 sectors, which the CBAM would conceivably target. The carbon price in Canada is currently around 25 USD/tCO_2 and is expected to rise sharply to around 140 USD/tCO_2 by 2030, leading to rising concern over carbon leakage.[16]

With the ongoing efforts by the EU's major trading partners on the option of a unilateral CBAM, coping strategies, or exploring cooperative rule-setting processes, the unfolding of the EU CBAM is expected to be rather turbulent, especially considering the increasingly uncertain geopolitical landscape. To avoid the worst-case scenario of a full-blown trade war, major carbon-emitting economies are likely to be motivated by the EU to come to the negotiation table. The best outcome would be a multilateral and collaborative negotiation process that eventually leads to an internationally acceptable mechanism to better alleviate risks of carbon leakage from jurisdictions with increasingly ambitious climate policies.

4 Conclusion

To pursue the best outcome, continuous research and multilateral dialogue on pressing climate issues including the CBAM, carbon leakage and the trade-industry decarbonization nexus are essential. Mutual understanding of the CBAM's strengths, weaknesses, opportunities and threats may serve as a key building block in support of effective cooperation and international exchange of perspectives, which remains insufficient for the EU CBAM legislative procedure so far.

It is not only in the interest of the EU, China and the US, but also in that of LDCs and indeed all other economies to negotiate an internationally acceptable set of principles and mechanisms to better manage the risks of carbon leakage and industry-trade interaction. This goal must be a high and urgent priority and begin in parallel to the EU's development of its own CBAM. The EU and China as well as the US, together accounting for nearly 60 percent of the world's GDP and more than half of global carbon emissions, should take the responsibility of creating a fair and just environment for global trade and climate protection, aiming to incentivize the developing country bloc including LDCs to voluntarily upgrade climate ambitions in their NDCs.

If a politically plausible global solution is deemed impossible for the time being by jurisdictions with ambitious climate policies, unilateral measures to address carbon leakage risks, such as the EU CBAM, will become not only inevitable but also increasingly legitimate. However, trade frictions must still not be escalated if avoidable.

Above all, multilateralism is urgently needed to move the global climate agenda forward.

[15] Nikkei (2021)

[16] BBC (2021)

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