Consultation on the introduction of a UK carbon border adjustment mechanism

Response from UCL Institute for Sustainable Resources

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The UCL Institute for Sustainable Resources' (ISR) mission is to provide evidence, expertise and training to respond to climate change and support sustainable transitions for people and planet.

We would be delighted to discuss this consultation, or any of our other work. Please contact Katherine.page@ucl.ac.uk

Please note this response has been updated since submission with some minor edits for clarity.

Introduction

The UCL ISR welcomes the introduction of the carbon border adjustment mechanism (CBAM) as a key policy tool to address the risk of carbon leakage across sectors where the risk is higher. We believe that a CBAM can be foundational in creating a level playing field, fostering investment and innovation in low carbon and more circular technologies, and supporting domestic UK manufacturing in its transition towards a circular and low carbon industrial sector.

However, it is critical that CBAM aligns coherently with other policies and there are adequate instruments to address carbon leakage risks across a wider range of product categories.

Our submission addresses some of major Consultation questions within our expertise. We also append comments on three areas that are not formally asked in the consultation, but which we believe are of pivotal importance to implementing CBAM and securing the best outcome from it, namely:

- The use of revenues collected from imported goods
- Treatment of complex products
- Broader alternative approaches

Consultation questions

Question 2: Are there any relevant commodity codes omitted or any that should be excluded? Please provide supporting evidence.

Yes.

Some evidence for specific sectors points to a concentration of embodied emissions at UK imports suggesting semifinished and finished products as areas of greater embodied carbon. The products covered by CBAM are mainly primary industrial processes in energy intensive sectors but do not cover imports of electronics, automobiles, batteries, and equipment.

Over time, as CBAM gets phased in and the carbon price rises, this may create incentives for further relying on the import of semi and finished goods creating unfair conditions for UK based manufacturing. To avoid this, government should start thinking about the follow-on adoption of policy measures targeting more complex products.

We recognise, however, that including more semi and finished goods may increase administrative costs and complexity, so there would need to be clear *de minimis* thresholds, i.e. the exemption of negligible amounts. One should also consider automated ways of assessing the weight of carbon-intensive materials in such goods to facilitate simplified emissions attribution. However, purely relying on weight can sometimes be misleading as some manufacturing processes result in significant amounts of scrap, the emissions associated with which would not register as part of the final product's weight (Ramboll et al., 2021). This points to the need to work with international partners to develop reliable product information systems, be it in the form of product 'passports', Product Carbon Footprints or Environmental Product Declarations (Jordan & Bleischwitz, 2020). Such an informational infrastructure would be useful for the flexible application of various policy instruments.

Question 3: Do you have any concerns on the feasibility of any of the commodity codes in Annex A being within scope of the CBAM? Please provide supporting evidence.

The feasibility of adoption for the commodity codes in Annex A is not expected to generate major challenges.

Question 4: Do you agree that scrap aluminium, scrap glass and scrap iron & steel do not pose a carbon leakage risk and should not be within scope of the CBAM? If not, please provide evidence to support your response.

The trade of scrap metals and to a lesser extent other materials (such as glass) is complex and motivated by differentiated prices and qualities of scraps. Moving towards a more circular metal system in the UK may require larger proportion of scrap to be utilised domestically.

While increasing scrap use is key for the transition towards Electric Arc Furnace (EAF) production route in steel and can have significant benefits in terms of energy use in aluminium and other materials, a lot of scrap collected in the UK is still exported while higher quality and specification scrap is being imported. More evidence needs to be gathered to ascertain whether these materials are at risk of carbon leakage but leaving scrap out of the CBAM may reduce incentives for further utilisation of scrap domestically, essentially creating a loophole.

High domestic carbon prices might make it profitable to 'mis-sell' virgin materials from non-or low-pricing jurisdictions as 'scrap' to the UK, where it would then be, again, recycled – and assigned low or zero emissions. Note that such faux 'scrap' would likely have more desirable material properties than average actual scrap. If scrap is excluded, therefore, checks on self-declared scrap would still be required to prevent such mis-selling, with a high penalty for fraudulent declaration of virgin material as scrap.

Question 5: Do you agree that the government's definitions of 'direct' and 'indirect' emissions accurately describe the embodied emissions a CBAM ought to place a carbon price on, in line with those emissions within scope of the UK ETS? If not, please explain why not.

There is no uniquely correct way of attributing indirect emissions (here, referring to scope 2, associated with electricity consumption). With electricity market reforms likely to be taken across many jurisdictions (including Europe) to increase locational signals in electricity markets, one obvious unit of measurement would be to adopt the carbon intensity of electricity production within a given pricing zone in which the product was produced.

Question 6: Do you foresee any issues with calculating the emissions associated with precursor goods in CBAM goods? Please provide evidence to support your response.

The complexities may arise at the point of defining emission intensity of steel and iron that is produced using hydrogen rather than from blast furnaces and/or electric arc furnaces. For example, the used hydrogen can be 'grey', or hydrocarbon-derived, e.g. from coal or gas. On the other hand, the electrolysis route of hydrogen production does not mean by default that it is 'green' or zero-carbon as the production process of splitting water into hydrogen and oxygen may come from a carbon-intense power grid. Another challenge is the verification process for off-grid produced hydrogen used to produce steel and iron.

Question 10: Do you have any initial views on the considerations and/or aims of a future review into the use and functionality of default values? Please outline.

The percentage-based mark-up could be increased over time to provide increasing incentives for the provision of actual data. Such a timeline could also provide a rationale for starting with relatively low default values.

Question 18: Do you agree that the CBAM rate calculation set out a fair reflection of the price paid in the production of goods in UK? If not, please explain why not.

It is fair to take into account the costs arising from the Carbon Price Support Mechanism (CPS). However, HM Government justly noted with references to the EU CBAM that "Market-based certificates would ... not reflect the totality of the effective UK carbon price as set out at paragraph 6.34 below, as it would not include the CPS or the EII (Energy Intensive Industry) compensation scheme". Accordingly, HM Government should clarify whether the EII compensation scheme will be phased out or included in the CBAM rate calculation.

It would arguably not be fair to charge importers a CBAM rate that does not take into account the EII compensation, since this would amount to CBAM introducing a domestic subsidy. However, if the EII is taken into account on the UK side, it would also be fair to subtract any such compensation schemes in partner countries from the carbon price already paid, e.g. the German 'power price package', providing relief to manufacturing companies having to deal with high power prices (Kyllmann & Wettengel, 2023) (as correctly pointed out in Section 6.45). However, if energy price relief is taken into account in the CBAM price, then the question arises if it would not also be necessary to take into account energy taxes for industry, which could be interpreted as implicit carbon prices. However, this would run counter to HM Government's plans to only consider explicit carbon prices.

Effective energy tax rates for energy intensive industries are notoriously difficult to measure and compare across countries due to a variety of exemptions, reductions and refunds (Trinomics, 2020). Even expert sources can be ambiguous. For example, the OECD (2023) claims that:

> "As stipulated by the EU Directive 2003/96/EC, EU Member States may, fully or in part, refund energy taxes paid by businesses that have invested in the rationalisation of their energy use. This refund may be as much as 100% for energy-intensive businesses and up to 50% for other businesses. However, energy-intensive businesses in Austria are in practice not granted a complete refund of their energy-tax payments as they have to pay at least the minimum energy-tax rates stipulated by the EU Directive 2003/96/EC."

It may turn out that in some cases there is a rationale for deducting energy taxes paid from energy costs reliefs, in which case it seems best to acknowledge that the boundaries can be blurry and gradually develop overarching principles, initially based on case-by-case assessments, if needed. In conjunction with this, dialogues with trade partners should be sought to clarify any concerns and hear arguments in advance. This should also enable the UK CBAM to better stand up to WTO scrutiny.

Question 21: Are there explicit carbon pricing policies which do not align with our criteria which should be recognised by the UK? Please outline.

It will be important to consider the Indian progress in amending their PAT scheme to be based on carbon emission-based credits. Every emissions trading or carbon tax system will involve its quirks, free allowances and exemptions, and we see little alternative to understanding each on its own merits.

Question 41: Do you have any other concerns or suggestions around potential compliance risks? Please outline.

As CBAM will be a new process for industries and businesses, the engagement with industry will help identify potential compliance challenges, and allow for designing a more effective CBAM, but independent advice and assurance in design as well as implementation will remain important.

A phased implementation (e.g., one or two rounds of reporting only (not payment) such as for the EU CBAM) would allow for making adjustments based on initial feedback and helping identify compliance issues before a full-scale implementation. The UK should also make full use of the lessons emerging from the EU CBAM first period. The establishment of this monitoring and evaluation system can continue after full-scale implementation, adapting CBAM based on feedback and new data and ensuring compliance risks can be addressed dynamically.

As indicated, there are three additional topics we believe require careful consideration as potentially pivotal to the success and effectiveness of CBAM.

1. ***Use of Revenues***

One outstanding question which we believe deserves more consideration is where the revenue generated from the CBAM will be used.

Currently, the EU CBAM channels revenue to two different streams. Most of the money will go directly back to EU member states, and the rest will be distributed to the EU Social Climate Fund, used to incentivise decarbonisation initiatives such as subsidies for heat pumps to support the transition to sustainable energy of low-income EU member states. However, this revenue allocation has received criticism, mainly regarding how the funds should instead assist the least developed countries which are often the most vulnerable to climate change.

There are several ideas which could utilise these CBAM funds to further improve either the accessibility of complying with the CBAM, or climate outcomes more generally.

Firstly, the money could be invested as international climate finance, directly returned either to the producers of the goods to aid with “just transition” plans away from their current carbon intensive operations, or redirected to help specified least developed countries e.g. with adopting low carbon technologies or other measures to decarbonise. This could involve funding for the adoption of industrial technologies that enable these countries to comply with CBAM standards or become more competitive on sustainability.

Secondly, the money could go towards a climate fund or loss and damage fund, for those countries which are already feeling the effects of climate change.

Finally, given the CBAM is likely to cause a disproportionate administrative burden on developing countries, the revenue could be returned to these countries to invest in resources to make this process easier, which may also help to address likely legal challenges in the WTO that disproportionate burdens of compliance amount to de-facto discrimination.

These proposals highlight the debate on equity and effectiveness of CBAM revenues.

2. *Including complex products*

CBAM covers some downstream, mostly intermediary products, but not complex, combined final products, such as cars, batteries or electric household appliances. CBAM may not be the most appropriate mechanism for addressing these (Institute for European Environmental Policy, 2020). Alternative policies for tackling complex final products could include vehicle taxation differentiated in accordance with lifecycle impacts, for which French vehicles subsidies based on environmental lifecycle criteria could well be a precursor (Chéron, 2023; Mathieu, 2023; Ministère de la Transition Énergétique, 2023), maximum carbon thresholds for batteries (Peiseler et al., 2022; Regulation (EU) 2023/1542 Concerning Batteries and Waste Batteries, 2023), and eco-design regulations for household appliances and other product categories, which the EU's *Ecodesign for Sustainable Products Regulation* may well lead to, as its remit covers carbon footprints (European Commission, 2023).

Whatever approach is chosen, the CBAM needs to align with other Circular Economy and product sustainability policy measures to ensure a comprehensive approach to carbon leakage minimisation. In particular, UK alignment with the EU's work on the Digital Product Passport promises to reduce informational problems and trade frictions arising from regulation targeting the carbon footprint (including embodied/embedded emissions) of products.

3. *Alternative approaches*

Finally, should the complexities or drawbacks of a tailored UK CBAM prove ultimately insurmountable, it will be vital to have alternative options to strengthen economic incentives to decarbonise industry without substantial carbon leakage or competitive disadvantages.

Whilst obviously beyond the scope of the consultation, as academics we wish to draw the Department's attention to two possibilities.

One, a UK CBAM would obviously be much simpler if completely aligned to the EU ETS. We presume this would currently face insurmountable political obstacles, particularly as it would probably require alignment of some related policies around carbon pricing and potentially energy market design. Nevertheless, a scoping study of what this might in practice involve could be a useful contingency.

Another response to major obstacles to a UK CBAM would be to take a different approach entirely. We draw attention in particular to the "third option" explored in our major *Annual Reviews* article (Grubb et al., 2022), namely consumption-based pricing for carbon-intensive materials (in effect, an excise duty), combined with structured use of revenues to amplify the 'climate contribution'.

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