

Carbon Border Adjustment Mechanism: including contractually defined emissions ownership

The idea behind the Carbon Border Adjustment Mechanism (CBAM) is laudable. Protecting European industry from carbon leakage while pushing for more renewable energy and carbon pricing in Europe's trading partners is exactly the kind of parallel strategy that the European Climate policy needs. Protecting climate friendly production from carbon leakage while promoting the use of renewable energy in Europe's trading partners would be a giant push for renewable energy worldwide. However, the CBAM faces several challenges – including threatening the very goal it pursues.

As currently proposed, the CBAM threatens the goal of encouraging local renewable energy use. If a CBAM adherent product's embedded emissions are calculated based on national averages or sector standards, the CBAM would end up treating producers the same regardless of their efforts to reduce their climate impact by using onsite or offsite renewable energy as a production input. This will undermine the motivation for producers outside the EU to proactively use, and invest in, renewables.

Granularity and transparency push for more renewable energy

Promoting greater granularity of data and increased transparency in electricity markets are foundational measures that could help avoid increased trade tensions. However, while the potentially discriminatory aspects of the CBAM have been [discussed](#) at length by experts in Brussels, Washington, and elsewhere, an under-discussed consequence of the current CBAM proposal is that it risks disincentivizing deeper decarbonization by failing to capitalize on efforts to enhance grid emission granularity. This problem with the CBAM deserves more attention.

The CBAM relies on sectoral averages of emissions in calculating the relative “greenness” of certain industries. This approach omits firm-specific considerations that would provide greater granularity in assessing true emissions. As proposed, the CBAM would treat products from firms using a higher ratio of renewable energy the same as firms using energy with significantly higher emissions. This national and sectoral average approach ultimately results in firms [paying twice](#): once for renewable energy and a second time for CBAM fees. If companies face a competitive disadvantage for using renewable energy, or carbon removal technologies, the CBAM risks dampening enthusiasm for investing in these tools. Reducing the demand for these technologies will impact their market value and as such, the eventual investment climate for the infrastructure we need to fight climate change.

The best way to encourage CBAM-adherent commodity producers to purchase more renewable energy or low-carbon technologies is to require them to substantiate their products' actual embedded emissions based on contractually defined emission ownership – such as energy attribute certificates (EACs). Making use of these internationally recognized and implemented certification standards will allow for clarity as to the use of renewable electricity, low-carbon (renewable gases), and decarbonizing (CDR/DACCS) technologies.

One way of achieving this is to develop greater granularity in renewable energy procurement and traceability. The I-REC Standard Foundation outlines the role that energy attribute certificates (EACs)

can play in promoting greater transparency and accountability within renewable energy markets. The United Nations has also launched the 24/7 Carbon-free Energy (24/7 CFE) compact, which aims to transform electricity grids to “absolute zero” by developing energy policies, technologies, and procurement practices, to advance grid decarbonization.

In the private sector, Google – together with the I-REC Standard Foundation and Energy Tag Foundation - has piloted a new tool that takes a more granular approach to traceability. The Google approach uses Time-Stamped Energy Attribute Certificates (T-EACs). These so-called ‘T-EACs’ can provide clarity to the 15-minute basis if renewable electricity is procured and eventually used by an end-user. This is a critical development as the delegated acts from the European Commission released for consultation on May 23rd for renewable fuels like hydrogen require contractually defined emission ownership, tracked at a high-temporal granularity, be used to prove the origin of hydrogen.

Treating commodity producers the same by using national or sector averages, irrespective of their efforts to reduce the emissions related to their production processes reduces the incentive to invest in low-carbon technologies in their home countries. It also entails exporting this potential investment from local low-carbon technologies to the European market in the form of mandatory CBAM certificates. In this way, the payment for CBAM certificates constitutes an opportunity cost that could have been invested locally in low-carbon solutions like renewable electricity. This would weaken the ongoing transition to carbon-free commodity production and the development of low-carbon technologies. It would also increase global CO₂ emissions by reducing the demand, and revenue, for locally produced renewables and low-carbon technologies – the opposite of the CBAM and the European Green Deal.

Our concrete proposal

We, therefore, propose that the CBAM be amended to reflect the strong positive contribution of attribute tracking energy certificates and granular energy procurement in promoting renewable energy worldwide. This could most easily be done by inserting the following clause in article 7, paragraph 6 after “...including the level of detail and verification of the data”

“and rules for calculation of emissions evidenced by contractually defined emissions ownership.”

So that the text reads as follows, “[t]he Commission is empowered to adopt implementing acts concerning detailed rules regarding the elements of the calculation methods set out in Annex III, including determining system boundaries of production processes, emission factors, installation-specific values of actual emissions and default values and their respective application to individual goods as well as laying down methods to ensure the reliability of data on the basis of which the default values shall be determined, including the level of detail and the verification of the data [**and rules for calculation of emissions evidenced by contractually defined emissions ownership**]. Where necessary, those acts shall provide that the default values can be adapted to particular areas, regions, or countries to take into account specific objective factors such as geography, natural resources, market conditions, prevailing energy sources, or industrial processes. The implementing acts shall build upon existing

legislation for the verification of emissions and activity data for installations covered by Directive 2003/87/EC, in particular Implementing Regulation (EU) No 2018/2067.”

And the following clause in article 35, paragraph 6 after “...installation-specific values of actual emissions and their respective application to individual goods”

“including as evidenced by contractually defined emissions ownership.”

So that the text reads as follows, “[t]he Commission is empowered to adopt implementing acts concerning the information to be reported, the procedures for communicating the information referred to in paragraph 3 and the conversion of the carbon price paid in foreign currency into euro at yearly average exchange rate. The Commission is also empowered to adopt implementing acts to further define the necessary elements of the calculation method set out in Annex III, including determining system boundaries of production processes, emission factors, installation-specific values of actual emissions and their respective application to individual goods [**including as evidenced by contractually defined emissions ownership**] as well as laying down methods to ensure the reliability of data, including the level of detail and the verification of this data. The Commission is further empowered to adopt implementing acts to develop a calculation method for indirect emissions embedded in imported goods.”

Countering the counterarguments

The following are the three most common arguments against including contractually defined emissions ownership, and they are easily invalidated.

1. CBAM currently allows for individual site assessments as a fallback to sector and country averages;
2. Resource shuffling will be an issue as only products tagged for export will be allocated renewable electricity or carbon removal attributes; and
3. The question is irrelevant, because currently, CBAM is only for direct (scope 1) and not indirect (scope 2) emissions.

1. Individual site assessments do not support the intended goal. First, it is a cumbersome process with a high potential for fraud; second, contractual agreements will not be required to be evaluated in the assessment. As CDR and DACCS are only cost-effective in select locations, it may not be possible to have these onsite (ignoring the difficulties of having a site or land ownership as the basis for claiming emissions ownership). However, having DACCS on-site or off-site makes no impact on the environment and the ability to allocate these removals to a specific product or process will be the only way to incentivize these technologies. The current CBAM regulation risks excluding these demand-driven models by ignoring the potential market impact and support provided by demand-driven instruments for contractually defined emission ownership.

2. The fear of resource shuffling is based on the idea that contractually defined emissions rights ownership allowing companies to allocate their low-carbon products specifically to European exports and their high-carbon products to other countries. A simple method of avoidance for this would be to look at facility averages for the calculation of embedded emissions and not individual products. This still leaves individual companies' agency in matters of renewable energy and low carbon technology procurement and offers protection against carbon leakage.

It is important to note that this risk already exists in the current proposal where CBAM declarants would be able to claim a reduction in the number of CBAM quotas to be bought based on carbon prices paid in the country of origin. This already exposes the EU to the same issue of resource shuffling. The best defence here is again to operate using company or facility averages.

The I-REC Standard Foundation is working hard to get the principles of ex-post, fact-based certification – as a basis for contractually defined emission ownership – embedded in the national regulatory policy of Europe's trading partners to ensure demand-driven, market-based renewable electricity and low-carbon technology growth is supported. Giving contractually defined emissions ownership a clear place in CBAM will make renewable energy more valuable in Europe's trading partners and create a market-based pressure for renewable energy expansion.

3. The I-REC Standard Foundation believes that for CBAM to have its intended impact, indirect emissions must be included, yet even in the case they are not, the current policy definition falls short. The I-REC Standard is currently working with an organization, C-Capsules, on the development of a carbon removals code for Carbon Dioxide Removals (CDR) such as Direct Air Carbon Capture and Storage (DACCS). These mechanisms, as defined by the IPCC, will be critical in the fight against climate change and supporting their development should be the goal of every government. With the C-Capsule mechanism, each unit of CO₂eq will be uniquely attributable to the point of capture or removal and contain a reference code that can be traced throughout the chain of custody back to the source. CO₂eq reduced or removed from the atmosphere is, by its nature, a global function. This is because the reduction or removal of a ton of CO₂eq in one area is not, on its own merit, of greater global value than a metrically comparable one-ton reduction and removal achieved elsewhere. A metric ton of CO₂eq removal or reduction is not physically consumed by an end-user, and therefore, does not require infrastructure for its physical procurement. However, without the ability to allocate the CO₂eq removal or reduction to a specific end-user, through a contractually defined attributional mechanism, there would be few options to support CO₂eq removal and reduction on a global scale.