

# Border carbon adjustments: a discussion on effectiveness and efficiency

Maximiliano Mendez-Parra, Laetitia Pettinotti and Jodie Keane  
October 2020

## Key messages

- If the European Union adopts BCAs unilaterally, this instrument is likely to be ineffective in bringing down global emissions in the most critical sectors. For example, most steel production is for domestic markets.
- BCAs efficiency is questionable compared to standards, if they do not reflect significant shifts in consumers' choices.
- Even if developing countries – with historically low emissions – are excluded from BCAs they may still be affected through knock-on effects on complex supply chains.

## INTRODUCTION

Border Carbon Adjustments (BCAs) are receiving renewed attention as a tool to curb greenhouse gases (GHGs) emitted during goods' production.

In December 2019, the European Commission announced its Green Deal to make the EU climate-neutral by 2050. Nine months later, it also increased its 2030 emission reduction targets. Among many actions, the EU proposes a BCA mechanism on selected goods by 2021, and consultation is under way.

BCAs seem to be compatible with WTO rules under Art. XX. Hence the main questions revolve around the effectiveness and efficiency of BCAs and their distributional impact, particularly for developing countries. Two main assumptions underpin the use of BCAs. The first is that they are effective in reducing GHG emissions. The second, that, of all possible measures, they are the most economically efficient. While recognising the need to tackle the climate emergency, we argue that BCAs may be ineffective and may not be the most efficient tool.

## BCAS IN ACTION

As the environmental cost of GHG impacts is not internalised in the price of most goods, the current level of output determined by the market is higher than the level of output if environmental cost was accounted for. Carbon pricing requires producers and consumers to internalise these costs in their decision-making, creating an incentive for consumers to spend their money in less-carbon intensive ways and for producers to adopt less carbon-intensive production techniques. BCAs offer a policy mechanism to apply carbon pricing to producers throughout the value chain, including

those who may be located beyond the current jurisdiction of a carbon price.

Considered in a political economy context, BCAs can be a tool in both domestic and international climate diplomacy. In a domestic context, BCAs should 'level the playing field' between producers located in countries with high environmental standards and those in countries with laxer regulations. This way, domestic producers are not undercut by foreign competitors choosing cheaper but dirtier production techniques, and pushed to relocate in ['carbon haven' territories](#). BCAs can therefore serve to maintain domestic support for climate action, although they can also be viewed as a protectionist policy.

In an international context, BCAs should (if adopted by large enough markets) incentivise more rapid decarbonisation by major exporters with high emission intensities of production and force convergence of climate ambitions internationally. BCAs are estimated to reduce direct carbon leakage [carbon leakage by 6% on average. Indirect carbon leakage, as price for fossil fuels decreases given reduced demand](#), could be a counterproductive and unintended consequence of BCAs.

Despite similar effects, BCAs are not tariffs. First, they are not applied on products per se but on production processes. Hence BCAs can differ between producers of the same product in each country – and even within a same sector - depending on the GHG intensity of production processes involved. Consequently, the functioning of BCAs relies either [on accurate and consistent GHG accounting standards or, more realistically, on average best and worst performance for a given industry, product and given production process](#). Second, free trade agreements (FTAs) and preferences do not reduce BCAs' incidence. All producers, regardless of their origin, are covered – only the GHG intensity of the production process

determines BCAs' incidence. This does not exclude that FTAs or other mechanism could be in place to facilitate the certification and/or ensure the conformity assessment between partners.

## EFFECTIVENESS

The effectiveness of BCAs in reducing volumes of production and/or inducing changes to low GHG production processes for a specific good depends on two parameters: first, on the market share of the countries imposing BCAs; second, on the importance of exports in the producing country.

The example of BCAs on EU imports of steel, an emission-intensive product, illustrates this. [The EU represents just 6% of the global imports of steel \(flat rolled\)](#). Still, such a share, if it affects critical producers may induce change. However, [China, which accounts for 53% of global production](#), only exports 7% of its total production and the EU imports represent only 5% of those exports. It should be noted that not only has China announced bold commitments to reduce its own emissions, but it is also in the process of establishing its own emissions trading system, opening the possibility to join up carbon markets.

Overall, we estimate that just 0.3% of Chinese steel production is exported to the EU and, consequently, potentially subject to BCAs. Russian and South Korean steel exports to the EU account for 6% and 4% of their total production but the two countries together account for 3% of the global output. BCAs on steel will not significantly affect demand in the largest producer and will have only a marginal effect on the two minor ones.

Steel is a striking example because of its significant environmental footprint and relatively small share of trade. However, even if BCAs are applied across all products based on their GHG content, the direct impact is likely to be small. While the world's largest economy, the EU, for instance, represents 15% of global trade, but EU imports account for just 4.5% of global output.

However, limiting the analysis to global trade is insufficient. Exports to jurisdictions with BCAs mechanisms will represent only a very small share of total production in a country (e.g. China or Russia) for the foreseeable future, with the rest of production for domestic consumption. The unintended consequences on the suppliers of raw materials into the targeted sectors and countries. This may mean that, even if countries with historically low emissions are excluded from BCAs, the ripple effects on commodity supply chains could be disadvantageous.

Beyond the magnitude effect, there could be scope, however, for a behavioural effect, which compounded by supportive regulatory climate and green industrialisation policies could lead to changes towards low GHG intensity production processes.

## EFFICIENCY

Even if BCAs were effective in reducing output and/or inducing changes in production processes, the question of their efficiency is key. BCAs have an immediate efficiency cost. This cost is primarily faced by the country imposing the BCAs as the mechanism will imply higher domestic prices for consumers and local firms, and, consequently lower levels of consumption. Further, the political acceptability of this can be put into question, especially in the recovery context of the pandemic.

The efficiency question needs to be understood in comparison to other measures. Although BCAs are a price-based mechanism, they aim to deliver analogous impacts to those of sanitary and phytosanitary or technical standards in relation to safety and quality of products. Standards (private and public) could be designed to address carbon content in production processes.

The issue is whether standards' efficiency costs are higher than those under BCAs. Should standards requiring higher environmental credentials reflect consumer choice and regulatory standards be in view of net zero targets, the welfare impact is expected to be lower and, consequently, preferable to BCAs. However, many countries, particularly the poorest, will require dedicated support to comply with them. This adds an equity dimension to the discussion.

However, the efficiency cost is also borne by the exporters. The misallocation of resources will affect exporters by making them either, directly produce under their potential or, change patterns of production towards products less affected by BCAs.

## CONCLUDING REMARKS

Tackling climate change requires prompt action. Decisive and creative policies for trade to contribute to mitigation are necessary. To be successful, however, these actions need to operate within the set of feasible economic and political solutions.

BCAs fail to fall within this set. Adopted unilaterally, they are likely to be ineffective in bringing down global emissions in the most critical products (e.g. steel). Their efficiency is questionable if they are not the result of a significant shift in consumer' choice. In this case, standards may constitute an alternative to evaluate.

Finally, the global distributional implications suggest that developing countries will also bear significant costs in terms development opportunities, at a time when they need a rapid recovery after the COVID-19 crisis.

*ClimxTrade are virtual discussions led by ODI over 2020/21. To be added to the participant list for closed roundtable events, please email [l.pettinotti@odi.org.uk](mailto:l.pettinotti@odi.org.uk)*