

Climate change mitigation via trade policy

The background of the slide is a dark blue gradient. On the left, there is a stylized globe with a grid pattern. In the center, the year '2020' is written in a large, bold, blue font. To the right of the year, there is a dark blue line graph with an arrowhead pointing downwards, indicating a decline or negative trend.

There is a need to limit greenhouse gas emissions.
André Wolf considers the potential and challenges of
environmental protection in trade agreements

With his announcement of a radical turnaround in climate policy, US President Joe Biden has already sent a clear signal shortly after taking office. His concept for achieving the long-term goal of a climate-neutral US economy envisages not only national measures but also a new form of climate diplomacy, which should explicitly include the inclusion of climate issues in international trade agreements.

In parallel, there have been calls in the European Union to flank its own intensified climate protection efforts in the future with trade policy measures, specifically a CO₂ border adjustment.

In order to be able to evaluate the chances of success of such a combination of trade and climate policy from an economic point of view, it is necessary to address the questions of which climate effects emanate from cross-border trade and how possible control instruments work.

From economic theory, no clear effect of trade liberalization on the global emission of greenhouse gases can be derived. Basically, three types of partially contradictory impact channels are distinguished: scale, composition and technology effects (Charnovitz, 2010).

The scale effect manifests itself in the short term in that additional sales potential abroad directly enables improved utilization of domestic production resources. In the medium term, additional growth potential results from increased capital accumulation and productivity gains, as has been widely documented empirically as an effect of trade openness (Wacziarg & Welch, 2008).

Such trade-induced economic growth, taken in isolation, would imply not only an increase in absolute emissions in goods production but also in international transport. However, the purely expansionary effect of trade can be

overridden by compositional and technological effects. One important question is how, in a specific case, trade opening affects the specialization of individual trading partners in more or less emission-intensive goods.

If national regulatory regimes differ in their stringency with regard to CO₂ emissions, it is likely that countries with dirtier technology will see their comparative cost advantage in more emission-intensive traded goods and, with improved export opportunities, will shift additional resources to their production.

As a consequence, comparative specialization can lead to a spatially disadvantageous distribution of international production of these goods in terms of climate policy, which is not compensated by a spatially reverse shift in the case of more climate-neutral products.

... the new US administration has the opportunity to put into practice its declared will to resume multilateral efforts

This would lead to an overall increase in transnational greenhouse gas emissions and at the same time to an increased shift to countries with underdeveloped abatement technology. Technology-related differences in emissions intensity between poorer and richer industrialized countries could thus be exacerbated in the course of an expansion of trade.

In such an environment, national climate policy threatens to fizzle out, since efforts to limit greenhouse gas emissions at the national level are not only counteracted to a certain extent by an outflow of emissions activity abroad (carbon leakage), but also weaken the competitive position of the country's own companies. This reduces the incentive to implement ambitious climate targets.

This has generated calls for trade policy corrective measures that extend the politically targeted internalization of climate externalities to imported goods. Customs policy offers itself as a direct control instrument.

The concept of a CO₂ border adjustment, which is currently planned at the EU level, provides for the customs clearance of imported goods depending on their CO₂ footprint. This is intended to guarantee that domestic companies burdened by emissions regulation measures do not experience a cost disadvantage compared to foreign exporters, while at the same time avoiding carbon leakage. The positive incentive effects of an emissions-based cost burden on investments in green technologies could thus ideally be transferred to foreign producers.

Economic research is divided in its assessment of the climate policy effectiveness of this instrument. Elliott *et al* (2013) conclude that the introduction of a CO₂ tariff significantly amplifies the global emissions effect of national climate policies in rich countries and does so more strongly the higher the CO₂ taxation for domestic firms in these countries.

In contrast, Larch & Wanner (2014) conclude that global CO₂ emissions would increase as a result of the tariff. The reason for this is the higher relative emission intensity of the import sectors in countries with higher emission taxation: the despecialization that sets in during the course of the tariff introduction thus exerts a detrimental influence on the global use of resources from a climate protection perspective.

On the other hand, the literature agrees that the introduction of such an instrument is accompanied by considerable global distributional effects, which are initially counterproductive from a development economic point of view: poorer countries are on average more affected, due to the higher CO₂ intensity of their industrial exports.

The global costs of emissions avoidance thus decrease only to a limited extent, as they are to a large extent merely passed on to poorer countries (Böhringer *et al* 2018).

Moreover, there are question marks from both a legal and a practical point of view. Legally, compatibility with WTO statutes is at least not obvious. This applies in particular to the principle of equal treatment of foreign and domestic companies and the most favoured nation principle.

The concrete form of the agreement is likely to be decisive. For example, the tariff burden must not be based on the source of origin, but on concrete product characteristics, for which the same criteria should also be used for domestic and foreign companies (Moore, 2011).

The fundamental question, however, is first whether CO₂ emissions can be used as a characteristic for differential treatment. And if so, may such a differentiating characteristic be applied only to the comparison of different products or also to different production processes for one and the same product?

From a practical point of view, the question of a suitable assessment basis arises. Against the background of today's international value chains, the quantification and allocation of greenhouse gas emissions turns out to be extremely complex and thus a sure source of dispute.

This is especially true for the question of how to deal with emissions from the production of intermediate inputs. A common recommendation is therefore to initially limit tariff collection to a few energy-intensive sectors of primary industry, such as steel, cement or aluminium (Delbeke & Vis, 2020). But even then, it is still open to what the assessment is spatially oriented.

With regard to the climate policy steering effect, it would make most sense if the emissions occurring in production in the exporting country were used in the tariff assessment for the good crossing the border.

From the point of view of the importing country, however, this would require a high level of information on the energy intensity and energy mix of production in the country of origin, and also harbours potential for conflict with regard to the resulting tariff differences between trading partners.

Alternatively, the emissions intensity in the importing country or even a global average value could be used as a basis. Although this would solve the above-mentioned problems, it would not have the same steering effect in terms of costs.

And above all, from a dynamic point of view, this would not provide an incentive for exporting countries to invest in the adoption of more emission-neutral technologies. All these are reasons why, at the international level, the CO₂ tariff has not yet progressed beyond the conception phase (Mehling *et al* 2019).

Hence, it seems more promising to integrate climate policy goals into trade policy through bilateral and multilateral channels, for example as integral components or ancillary provisions of regional trade agreements.

A wide range of options are available for this. For example, it is possible to agree on the mutual dismantling of trade barriers on goods that play a major role in the transformation of the energy supply toward climate neutrality, such as wind turbines and solar cells.

In addition to tariff dismantling, this can also involve non-tariff barriers, for example in the form of harmonization or mutual recognition of test standards in approval procedures. However, agreements can also relate to more far-reaching aspects beyond trade policy.

Specific target agreements could be reached on increasing energy efficiency or the share of renewable energies in the participating economies.

Trade agreements could also be a suitable vehicle for committing partner countries to a roadmap for the orderly reduction of national subsidies on fossil resources that avoids distortions of competition.

Conversely, legal certainty for the transformation of energy supply could be increased via recognition of existing national support systems in the area of renewable energy sources.

Finally, another aspect that has often played an important role in recent rounds of negotiations is public procurement. Bilateral acceptance of environmental and climate protection standards as a criterion in public procurement could be a means of defusing the ongoing debates on non-discriminatory market access in terms of climate policy.

Historically, the North American Free Trade Agreement NAFTA is considered to be the first regional trade agreement with a concrete reference to environmental protection. In a side agreement, the establishment of a commission for cooperation on environmental protection issues was agreed and the contracting states were granted the right to take trade-restricting measures in connection with obligations under international environmental agreements.

In the EU's trade policy, environmental protection requirements are present, among other things, in the form of special incentive arrangements in the Generalized System of Preferences (GSP), which unilaterally grant trade preferences to developing countries.

In contrast, recent regional trade agreements have offered little innovation from a climate perspective. Although the idea of climate protection is always present in the language, there is a clear lack of binding regulations.

For example, neither the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) nor the EU-Canada Comprehensive Economic and Trade Agreement (CETA) contain binding agreements on tariff reductions on environmental goods, reduced subsidies for fossil technologies, or harmonization of environmental standards. Instead, the treaty texts are dominated by general declarations of intent on future climate policy cooperation and compliance with existing climate agreements.

Only the EU-Singapore FTA at least includes the issue of subsidy reduction as an explicit goal, although it also does not specify concrete steps to achieve the goal (Fisher *et al* 2019).

In the worst case, these agreements could even limit the future scope for national climate policy, as the now common regulations on investor protection in principle give foreign companies the opportunity to sue via an external dispute settlement mechanism against what they see as discriminatory tightening of environmental law.

The same may apply to future agreements on the protection of intellectual property rights for internationally traded goods if they are designed to undermine the transmission of green technologies.

From a global perspective, future regional trade agreements will be able to make an effective contribution to climate protection if they prove to be successful test laboratories for innovative climate protection efforts, without relying on compartmentalization in their structure. Only in this way is there potential for expanding new regulatory regimes to the multilateral level.

At the same time, transparency must be created as to which trade-related measures really serve climate goals and which are merely disguised protectionism. This is particularly important to prevent the existing rifts between rich and poor countries in trade policy from widening even further.

At the WTO level, this would require finally arriving at a generally binding definition of the term environmental goods and associated special regulations. In this respect, too, the new US administration has the opportunity to put into practice its declared will to resume multilateral efforts. ■

Dr André Wolf is head of the research departments 'International Economics and Trade' and 'Energy and Environmental Economics' at the Hamburg Institute of International Economics (HWWI)

References

- Böhringer, C, Carbone, JC und TF Rutherford (2016), *The strategic value of carbon tariffs*, *American Economic Journal: Economic Policy*, 8(1), 28-51.
- Böhringer, C, Carbone, JC und TF Rutherford (2018), *Embodied carbon tariffs*, *The Scandinavian Journal of Economics*, 120(1), 183-210.
- Charnovitz, S (2010), *Trade and climate change: a report by the United Nations environment programme and the World Trade Organization by UNEP and the WTO*, *World Trade Review*, 9(1), 273-281.
- Delbeke, J und P Vis (2020), *A way forward for a carbon border adjustment mechanism by the EU*, *European University Institute, 2020STG Policy Briefs*, 2020/06.
- Elliott, J, Foster, I, Kortum, S, Jush, GK und D Weisbach (2013), *Unilateral carbon taxes, border tax adjustments and carbon leakage*, *Theoretical Inquiries in Law*, 14(1), 207-244.
- Fisher, DH, Griffin, C, Haider, A, Dawar, K und A Green (2019), *Climate change and trade agreements - friends or foes?*, *Report by The Economist Intelligence Unit*.
- IWF (2020), *Direction of Trade Statistics (DOTS)*, *International Monetary Fund*, <https://data.imf.org/?sk=9d6028d4-f14a-464c-a2f2-59b2cd424b85>
- Larch, M, Wanner, J (2014), *Carbon Tariffs: An analysis of the trade, welfare and emission effects*, *CESifo Working Paper No. 4598*, *Center for Economic Studies and ifo Institute (CESifo)*, München.
- Mehling, MA, Van Asselt, H, Das, K, Droege, S und C Verkuil (2019), *Designing border carbon adjustments for enhanced climate action*, *American Journal of International Law*, 113(3), 433-481.
- Moore, MO (2011), *Implementing carbon tariffs: A fool's errand?*, *World Economy*, 34(10), 1679-1702.
- OECD (2019), *Trade in Embodied CO2 Database (TECO2)*, *Organisation for Economic Co-operation and Development*, https://www.oecd-ilibrary.org/science-and-technology/co2-emissions-embodied-in-international-trade-and-domestic-final-demand_8f2963b8-en
- Wacziarg, R und KH Welch (2008), *Trade Liberalization and Growth: New Evidence*. *The World Bank Economic Review*, 22(2), 187-231.