

Greening Global Trade: Enhanced Synergies between Climate and Trade Policies for Decarbonization

G20 Digest
Vol. 2, No.2&3, pp 65-74,
April-September, ©2022,
Research and Information
System for Developing
Countries (RIS).

S. K. Mohanty*, Pankhuri Gaur**, Chandni Dawani***

Rizki N. Siregar#, Novia Xu###, Giulia Cretti####, Pierfrancesco Mattiolo^,
Paolo Mazzotti^

Abstract: Since the early 1990s, the intertwined nature of trade and environment has been debated in the global forums. Trade-distorting measures, including carbon leakage, fragmentation of markets due to differentiated environmental standards, and the lack of consensus in the Committee on Trade and Environment in Special Session (CTESS) have been some of the causes for increasing pressure on climate change. G20 members should explore policy guidelines of coordinating carbon pricing and border adjustment initiatives with an overarching spirit of inclusivity and transparency. The G20 should act as a facilitator for providing the transfer of Environmentally Sound Technologies (ESTs) to developing countries and LDCs for the greening of global trade.

Contemporary Global Challenges

International trade plays a substantial role in global warming; it has been estimated that 25 per cent of the total carbon emissions could be associated with the expansive cross-border

production process and distribution (WTO, 2021). Meanwhile, “greening” trade would provide an impetus to sustainable production and restrain carbon emissions. Studies such as Grossman et al. (2021) and Hsiao (2021) have emphasized the importance

*Professor, RIS, New Delhi

**Assistant Professor, RIS, New Delhi

***Former Research Assistant, RIS, New Delhi

#University of Mainz, Germany

Centre for Strategic and International Studies, Indonesia

###Giulia Cretti (Clingendael Institute, Netherlands)

^Pierfrancesco Mattiolo (Italy-ASEAN Association, Italy)

^^Max Planck Institute for Comparative Public Law and International Law, Germany

[The paper appeared as policy brief of Task Force-1 of T20 Indonesia]

of commitment and coordination, while Maggi and Ossa (2021) argued that building deep trade agreements have been challenging despite wide interest to go beyond tariff reduction. Since the international frameworks for environment and trade are deeply intertwined, impediments to green trade should be addressed through technical solutions with the rationalization of cost.

Open, fair, transparent multilateral trade policies as well as collective and effective climate policies can act as global public goods that benefit all countries. Naturally, this would happen if all countries collectively acted to lower trade barriers and greenhouse gas emissions (Barrett, 2007). International communities are beginning to realize that trade and the environment can work in a similar framework. Countries (especially developed ones) and multinational corporations are rising to seize the opportunity in future demand for cheaper and environmentally-friendly goods through international trade. And thus, climate-related trade measures are introduced to govern this trend. However, this opens for argument that the rising trend of climate-related trade measures may undermine the progress of trade liberalization made so far. Vice versa, international climate policy may be undermined by trade liberalists who reject climate-related trade arguments to uphold open trade measures. These two sides of the argument stem from the fact that trade and the environment have been working in different pillars. A balanced connection is therefore highly needed to reach consensus for not using protectionist arguments to weaken climate mitigation policies.

Differences in climate policies are believed to cause carbon leakage, a phenomenon where productions associated with carbon-intensive

operations are shifted away from strongly regulated countries to relatively relaxed ones, leading to building up pressure on global warming. Carbon pricing systems have proven to be effective in reducing emissions domestically, but their purpose risks being defeated by carbon leakage if not combined with border adjustment mechanisms (World Bank, 2021; Best et al., 2020; Eden et al., 2018). The risk of trade tensions persists due to the lack of coordination between different systems and disadvantages for developing countries to access Environmentally Sound Technology (ESTs) in order to pursue environmentally linked measures, including carbon-cutting policies. The use of international trade policies along with measures to mitigate the impact of climate change has become more prevalent.

These policies may distort international trade by introducing various environmentally linked constraints, including tariff and non-tariff barriers in the form of standards and regulations, among others. This is often coming in the way of the transformation of developing countries to environmentally compatible economies. Harmonization of environmental standards is another important issue for developing countries, as fragmentation of markets based on environmental standards may create splinter markets and compliance with different standards for each market is not cost-effective for them. In this regard, the limited pull exercised by the WTO on the integration of regulatory standards, coupled with enduring disagreement between members on fundamental issues concerning environmental policies, has thus far proved insufficient to bring about a genuine integration of international markets.

Both developed and developing countries are natural producers and

consumers of goods that are often environmentally sensitive. International trade with emphasis on transition to a green economy can allow trading of pollutant-free environmental goods through the production of such goods using ESTs. The shift to a greener economy provides new avenues and creates opportunities for trade, production, and consumption in different technology-intensive sectors. However, it has also been observed that while developing countries have production capabilities to produce Environmentally Sensitive Goods (ESGs) (Mohanty, 2014), they are also major consumers of such products, where access to ESTs is limited because they are mostly in the domain of developed economies (RIS, 2021). An international mediation may be called for to make a cost effective transfer of technology by respecting intellectual property rights and other international norms without distorting production, consumption, and trade of clean product.

Towards Greener Trade: Some Policy Options

To explore policy guidelines with an overarching spirit of inclusivity and transparency to promote green trade while managing climate-related issues, through harmonization of different environmental standards, coordinated carbon policy and border adjustment initiatives, transfer of technology with capacity building, this policy brief calls for active participation from G20 members. A balanced dialogue between developed and developing economies is essential to move toward a global approach to climate-related trade measures. To ensure inclusive climate-related trade measures, dialogue between consuming and producing countries should be facilitated, continuously, by multilateral

institutions such as WTO and UNFCCC, where the G20 can provide building blocks for global efforts, as maintaining such dialogue at the G20 level may be relatively restricted due to the rolling annual presidency. The G20 can develop comprehensive and regular carbon and environmental impact assessments to have effective and well-designed climate-related trade measures. Some recommendations proposed in this regard are briefly done below.

Carbon Pricing: Common Principles for Fostering Green Trade

Carbon pricing is recognized under the Paris Agreement implicitly by Article 6 and explicitly by Decision CP21/1 para. 136.¹ The UNFCCC is currently promoting international cooperation in this field through the Collaborative Instruments for Ambitious Climate Action (CI-ACA) Initiative (UNFCCC, 2019). Additionally, in their Communiqué of July 9-10 2021, the G20 Finance Ministers and Central Bank Governors endorsed “the use of carbon pricing mechanisms and incentives while providing targeted support for the poorest and the most vulnerable”. Several countries have already developed explicit carbon pricing (i.e., policies that determine a specific price per tonne of CO₂ produced). “Cap-and-trade” systems, such as the EU’s Emissions Trading Systems (ETS), are emerging as the prevalent model to deliver carbon-pricing—they have been implemented, or are in the process of being established, nationally and sub-nationally, in the EU, Canada, China, Japan, New Zealand, South Korea, Switzerland, and the United States (World Bank, 2021). Countries have also resorted to other mitigation policies that impose an implicit carbon price, raising production costs for carbon-intensive

companies through mechanisms other than targeted financial burdens, such as efficiency standards or by imposing specific low-carbon technologies. Yet, the impact of these solutions is harder to measure.

While the climate impact of carbon pricing appears to be globally positive, policy makers need to carefully consider its effects on global trade. If carbon pricing policies are implemented unilaterally, they may encourage carbon leakage in countries with less stringent regulations. Indeed, lack of coordination may put a dent in carbon pricing's positive climate effects. In other words, emissions would not be reduced, but just "transferred" to other jurisdictions and negatively affect the industrial competitiveness of countries with more ambitious climate policies. If policy makers want to use carbon pricing more effectively and with stronger commitment—which is needed to meet the Paris Agreement goals—they need to address its trade effects first (Parry et al., 2021).

Several G20 members (the EU, Canada, and Japan) are considering carbon border adjustment mechanisms (CBAMs) to complement their existing carbon pricing tools. These policies can be effective in addressing carbon leakage by reducing the benefit of being the "last mover" toward stricter environmental regulations. They can also encourage trade partners to price their own carbon intensive industries, as governments may prefer that a carbon tax be levied at home (thus generating revenues), rather than it be paid to a third country (thus only amounting to a burden on domestic companies, without generating any corresponding gain for the government). On the other hand, if designed poorly, border adjustment tools could increase prices for basic

products and administrative costs for both the implementing country and its trading partners (Pauw et al., 2022). Even worse, they may spur international trade conflicts and political tensions between partners, ultimately undermining the multilateral rules-based trading system and making global cooperation in climate action more difficult (Cernicky, 2021). G20 countries should ensure that carbon pricing and linked border adjustment tools are developed and coordinated to foster green trade. At the same time, it is important to consider that, in some countries, governments may lack the capacity needed to establish carbon pricing and, hence, access to EST for companies should be facilitated. In the end, international cooperation on carbon pricing presents several advantages both economically (e.g., lower mitigation costs for international carbon markets, reduced energy prices) and environmentally (stronger impacts by existing tools, reduced air pollution) (Nachtigall et al., 2021).

To coordinate carbon pricing and border adjustment initiatives, the G20 should promote, alongside relevant multilateral institutions, a set of core principles. This would simplify the design of new schemes in countries that currently do not have carbon pricing and facilitate the flow of goods to countries that have implemented border adjustment mechanisms. These core principles could be:

- Border adjustments mechanisms should be WTO-compliant. This would ensure that such tools are not used to unlawfully limit trade flows or disguise protectionism with environmental policy (Cernicky, 2021). More particularly, border adjustment should not discriminate against imports and adhere strictly

to the relevant WTO rules. If an adjustment is due, it should thus mirror precisely the carbon price imposed on domestic products (national treatment principle). Further, it should not discriminate against certain imports relative to goods coming from other countries (most-favored nation treatment principle) (Pauwelyn, 2012);

- Carbon pricing schemes and CBAMs should be coordinated multilaterally to ensure their consistency and fairness. For instance, border adjustment should be imposed while taking account of the carbon price already paid in the country of origin. Multilateral coordination would thus be needed to facilitate the determination and reporting of such prices. This would help ensure that CBAMs only target goods after assessing their emissions and carbon price already paid in practice rather than countries, based on an abstract assessment of their climate policies. Carbon pricing, on its part, should preferentially be designed at a multilateral level, thereby mitigating carbon leakage risks.
- When carbon pricing schemes and CBAMs are implemented unilaterally, they should be designed in an open and inclusive manner. For instance, when cap-and-trade systems are established, third countries should be enabled to “link” their own emissions market thereto, creating a broader, more effective, and more transparent carbon market (which would also help counter the carbon leakage risk).
- Carbon pricing should display a level of ambition commensurate with the seriousness of the climate crisis the world is facing at present. For instance, the scope of carbon

pricing policies needs to be expanded gradually to cover the emissions produced by the whole supply chain, without letting exemptions for strategic industries permanently hamper the cohesiveness of climate policy.

- Rulemaking in this area must be combined with capacity-building initiatives and support for developing countries. Effectiveness should not sacrifice the principles of common but differentiated responsibilities and respective capabilities enshrined in Art. 3.1 of the UNFCCC and Art. 2.2 Of the Paris Agreement. Some concessions could be extended to address the vulnerability and exposure of developing countries, for example, compensation for decarbonizing their industries and support in the design of carbon policies and the setting up of their cap-and-trade arrangements.
- Some examples of multilateral cooperation on carbon pricing include the International Carbon Action Partnership (ICAP), a forum to facilitate international exchange and sharing experience among countries and regions that have implemented or are planning to implement a cap-and-trade system, and the Partnership for Market Readiness (PMR), which supports capacity building and promotes good practice at the technical level on carbon pricing (World Bank and ICAP, 2021).
- Eventually, revenues raised from carbon pricing tools should be used for further domestic and multilateral climate action (World Bank, 2019). They could be pooled in an independent global fund and transferred to finance climate

mitigation and adaptation with special regard to developing countries. In fact, carbon pricing needs to be combined with other policies to tackle climate change and market failures effectively (World Bank, 2021). An example of such policies is the provision of EST to developing countries which could be financed through this fund.

Evolving a Transfer Mechanism of EST to Developing Countries with a Sound and Acceptable Pricing System

In the absence of a comprehensive mechanism for the International Transfer of Technology (ITT) to developing countries, a delicate balance has to be maintained between exporters and importers of technology. The technology transfer mechanism has to be in the form of a differentiated policy framework, separately for middle income and low-income countries, including LDCs, with the provision of Special and Differential Treatment (S&DT) since they are in different stages of development and technological advancement. For a country adopting a closed trade policy regime, the expected advantages emanating from the adoption of technology may not be adequately reflected in their international trade and is likely to be bereaved of specific advantages like intra-industry trade (Hoekman et al., 2005). For low-income countries, the ITT scheme can be further buttressed by financial assistance arrangements, allowing such countries to access ESTs which are currently in the public domain already, but cannot be actually exploited by those countries due to capacity constraints. For other middle-income countries, access to technology may be put in a framework

with the provision of a license to transfer technology with high adoption capacity. A sound pricing policy for the transfer of technology may be negotiated for tangible results, taking into account the development needs of developing countries.

Negotiations for Reducing Different Layers of Environmental Standards to Limit Market Fragmentation

The global market for Environmental Goods (EGs) is impeded due to the fragmentation of markets on account of the adoption of differentiated standards between countries at different stages of development, where developed countries typically adopt standards more demanding than those prevailing in several developing countries and LDCs. A comprehensive approach needs to be adopted to address the issue of differences in standards leading to escalation of compliance and adjustment costs, on one hand, and migration of “dirty industries” to “pollution havens”, on the other. These impending challenges have their cascading effects on climate change, and solutions to these issues can only be found through the negotiations at the multilateral, plurilateral, regional, or bilateral levels (UK Board of Trade, 2021). A global debate may be initiated to thresh out all outstanding issues concerning harmonization of markets through consolidation of standards in developed nations and minimisation of lax policies in developing countries to prevent the upcoming of “pollution havens” in developing countries (Lottici et al., 2014). Some elements of the problem can be addressed by considering the reduction of different layers of environmental standards to limit market fragmentation. Alternative measures similar to carbon

footprint labeling standards may be considered based on credible scientific evidence, without being trade-distorting in nature (Fiorini et al., 2017). Adequate participation from developing countries and LDCs should be there in all standard-setting bodies to take part in various decisions on standards which would emerge on the basis of consensus among participants. This is important for the sustainability of the global green trade.

Completion of CTE Negotiations at the WTO

Transfer of technology is essential for the transformation of the EGs in view of combating challenges emanating from climate change. The WTO's Committee on Trade and Environment in Special Session (CTESS) undertook the challenge of getting through the Environmental Goods Agreement (EGA), but talks among a set of WTO Member countries failed in 2016 to yield any tangible outcome on various counts. Though several international organizations tried to articulate a definition of the EGs, no consensus has been reached. Moreover, critical elements such as services and non-trade barriers were kept outside the purview of the mandate of the EGs. New proposals in 2016 brought new challenges to the EGA (Reinsch et al., 2021). To deal with these challenges, a new framework can be evolved for a lasting solution. Empirical evidence demonstrates that global trade in EGs doubled between 2003 and 2016, reaching 8.1 per cent of the world's trade in 2016 (OECD, 2019). To maintain the momentum of the existing global trade, greenhouse gas emissions have to be restrained by some countries to accommodate the rise in production and trade of some other countries, to arrive at "net zero". To this

end, several countries in the middle-income group have pursued eco-friendly environmental trade policies to promote production and trade in EGs. The efficacy of environment-related tax options may be experimented with to put a check on carbon emissions (Kang and Lee, 2021). Various options available with the negotiating group may be used to make an early conclusion for EGA.

G2G and G2B Cooperation in the Realm of PPP Framework

To address the issue of international transfer of technology, government-to-government (G2G) and government-to-business (G2B) cooperation is required in the realm of public-private partnership. The cornerstone of cooperation between developed and developing countries was the Bali Action Plan, which focused on the need for technology development to address climate change through action on mitigation and adaptation with the transfer of technology. Effective partnership between developed and developing countries in scientific cooperation can be beneficial for evolving transfer of ESTs to meet the challenges of climate change. In this regard, the sharing of responsibility between developed and developing countries could be meaningful in the transfer of technology for greening trade and contributing to the goal of "net zero". Developed countries should take the challenge of incentivising private sector creation for and suitably transfer ESTs to developing countries under reasonable terms. To accelerate this process, various fiscal instruments, including tax relief and R&D funds, among others, may be invoked.

Developing countries may enhance their capabilities to generate and manage ESTs for which they should undertake

comprehensive reforms including market, legal and other sectors. They should also make deliberate efforts to eliminate obstacles to IIT. Both developed and developing countries should create a business-enabling environment for private sector engagement in the transfer of ESTs by arousing supply and demand conditions globally. Persistent dialogue between governments of developed and developing countries with the private sector is required to facilitate the process of technology transfer through appropriate institutional mechanisms. In this regard, appropriate changes in the trade policies and activities by export credit agencies may be geared up to promote green trade. Both developed and developing countries should come to an understanding that mitigation of the adverse effects of climate change would benefit both—and therefore, the burden of this initiative should be shared between them. The IIT for climate change may not be equated with the ordinary transfer of technology. For the limited purpose of addressing the issue of climate change, reforms in developing countries and engagement of developed countries may be needed to expedite the process of greening the trade across the globe through IIT of ESTs. In this context, capacity building and technical assistance to the developing countries and LDCs may be considered on a priority basis.

Conclusion

The G20 should:

- Promote the use of carbon pricing worldwide, while making efforts to ensure multilateral coordination in their design and implementation (particularly as regards CBAMs), so to limit trade distortions and bolster carbon pricing's overall consistency, transparency, and fairness;
- Evolve an appropriate mechanism for the transfer of EST to developing countries and LDCs with a suitable pricing and financial mechanism;
- Work towards harmonization of standards and minimize variations in domestic regulations on environmental norms;
- Mediate to end the deadlock in the CTESS negotiations and encourage members to reach an early conclusion of the EGA through the WTO process;
- Bring together technology providers, developed and developing countries to work on a few models for transfer of technology to developing countries and LDCs;
- Consider suitable mechanisms to impart capacity building programmes and technical assistance to foster green trade.

Endnote

1. Decision CP21/1 para. 136 states “Also recognizes the important role of providing incentives for emission reduction activities, including tools such as domestic policies and carbon price

References

- Barrett, S. 2007. Why Cooperate?: The Incentive to Supply Global Public Goods. Introduction. 10.1093/acprof:oso/9780199211890.001.0001.
- Best, R., Burke, P.J. & Jotzo, F. 2020. Carbon Pricing Efficacy: Cross-Country Evidence. *Environ Resource Econ* 77, 69–94 . Doi: <https://doi.org/10.1007/s10640-020-00436-x>
- Cernicky, J., Lee Futures, B., Meléndez-Ortiz, R. (2021). Avoiding a Carbon Trade War: G20 Dialogue and Coordination and the European Carbon Border Adjustment Mechanism (CBAM). T20 Italy 2021 Policy Briefs. Available online at: <https://www.t20italy.org/2021/09/21/avoiding-a-carbon-trade-war-g20-dialogue-andcoordination-and-the-european-carbon-border-adjustment-mechanism-cbam/>

- Daniel, N., Ellis, J., Peterson, S., & Thube, S. 2021. The economic and environmental benefits from international co-ordination on carbon pricing: Insights from economic modelling studies. OECD Environment Working Papers No. 173. Doi: <https://dx.doi.org/10.1787/d4d3e59e-en>
- Eden A., Unger C., Acworth W., Wilkening K., & Haug C. 2018. Benefits of Emissions Trading. Taking Stock of the Impacts of Emissions Trading Systems Worldwide. ICAP Paper, International Carbon Action Partnership, Berlin. Available online at: <https://icapcarbonaction.com/en/publications/benefits-ets>
- Fiorini, M., Schleifer, P., & Taimasova, R. 2017. Social and environmental standards: From fragmentation to coordination. Geneva: International Trade Center.
- G20 Finance Ministers and Central Bank Governors Venice Communiqué of 9-10 July 2021. Available online at: <https://www.mef.gov.it/inevidenza/2021/00045/12.CommuniqueThird-G20-FMCBG-meeting-9-10-July-2021.pdf>
- Grossman, G. M., McCalman, P., & Staiger, R. W. 2021. "The "New" Economics of Trade Agreements: From Trade Liberalization to Regulatory Convergence?" *Econometrica* 89 (1): 215-249.
- Hoekman, B. M., Maskus, K. E., & Saggi, K. 2005. Transfer of technology to developing countries: Unilateral and multilateral policy options. *World development*, 33(10), 1587-1602.
- Hsiao, A. 2021. Coordination and commitment in international climate action: evidence from palm oil. Unpublished, Department of Economics, MIT.
- Parry, I. W., Dohman, P., Hillier, C., Kaufman, M., Kwak, K., Misch, F., Roaf, J., & Waerzeggers, C.. (2021). Carbon Pricing: What Role for Border Carbon Adjustments?. IMF Staff Climate Note 2021/004, International Monetary Fund, Washington, DC. Available online at: <https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/09/24/CarbonPricing-What-Role-for-Border-Carbon-Adjustments-464805>
- Pauwelyn, J. 2012. Carbon Leakage Measures and Border Tax Adjustments under WTO Law. in D. Prevoost and G. Van Calster (eds.), *Research Handbook on Environment, Health and the WTO*. Edward Elgar. Doi: <https://dx.doi.org/10.2139/ssrn.2026879>
- Kang, S. J., & Lee, S. 2021. Impacts of environmental policies on global green trade. *Sustainability*, 13(3), 1517.
- Lottici, M. V., Galperin, C., & Hoppstock, J. 2014. Green Trade Protectionism: An Analysis of Three New Issues that Affect Developing Countries. *Chinese Journal of Urban and Environmental Studies*, 2(02), 1450016.
- Maggi, G., & Ossa, R. 2021. The political economy of deep integration. *Annual Review of Economics* 13:19-38.
- Mohanty, S. K. 2014. Environmentally Sensitive Goods in India's Trade: Emerging Challenges and Prospects. In *Globalization and Standards*. Springer, New Delhi. pp: 61-100
- OECD. 2019. Report on a Set of Policy Indicators on Trade and Environment. Joint Working Party on Trade and Environment, Trade and Agriculture Directorate Environment Directorate, COM/TAD/ENV/JWPTE (2018)2/FINAL.
- Pauw P., van Schaik, L. & Cretti, G. 2022. The CBAM Effect: how the world is responding to the EU's new climate stick. *Clingendael Alert*. Available online at: https://www.clingendael.org/sites/default/files/2022-05/Alert_CBAM_effect.pdf
- Reinsch, W. A., Benson, E., & Puga, C. 2021. Environmental Goods Agreement: A New Frontier or an Old Stalemate?. Center for Strategic and International Studies, Washington DC. Difficulties arose over how to define environmental goods, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/211028_Reinsch_Environmental_Goods_0.Pdf.
- RIS. 2021. "Trade, Technology and Institutions WTO@25: The Way Forward". *World Trade and Development Report 2021* (pp. 17-36). Research and Information System for Developing Countries. New Delhi.

- UK Board of Trade. (2021). Green Trade: A Board of Trade Report, July 2021. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1008120/board-of-trade-report-green-trade.pdf
- UNFCCC. 2019. Collaborative Instruments for Ambitious Climate Action. Available online at: <https://unfccc.int/sites/default/files/resource/CI-ACA-brochureupdated%20Oct%202019.pdf>
- World Bank. 2019. Using Carbon Revenues. Partnership for Market Readiness Technical Note No. 16, World Bank, Washington, DC. Available online at: <https://openknowledge.worldbank.org/handle/10986/32247>
- World Bank and ICAP. 2021. Emissions Trading in Practice: A Handbook on Design and Implementation. 2nd Edition. Available online at: https://icapcarbonaction.com/system/files/document/ets-handbook-2020_finalweb.pdf
- World Bank. 2021. State and Trends of Carbon Pricing 2021. World Bank, Washington, DC. Doi: <https://www.doi.org/10.1596/978-1-4648-1728-1>
- WTO. 2021. Carbon Content of International Trade. Trade and Climate Change, Information Brief No.4. World Trade Organization. https://www.wto.org/english/news_e/news21_e/clim_03nov21-4_e.pdf