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Balancing Climate Goals with Trade Obligations: Towards a Green WTO

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Abstract:

The growing urgency of climate change has sharpened tensions between global trade rules and national climate measures. The WTO's current framework—rooted in non-discrimination and market access—provides only limited flexibility for environmental regulation, creating uncertainty around policies such as carbon border adjustments, green subsidies, and carbon-intensity standards. These gaps disproportionately burden developing countries, as seen in India's challenges with the EU's CBAM, where technological and compliance constraints undermine export competitiveness. This paper proposes a "Green WTO" model that integrates climate objectives into the multilateral trading system through clearer legal standards, harmonized carbon-accounting rules, a green-subsidy category, deeper WTO–UNFCCC coordination, and targeted finance and technology support for developing economies. Embedding equity and differentiated responsibilities is essential to ensure that global decarbonization remains both effective and just.

Keywords: WTO Reform; Climate Change; Trade and Environment; CBAM; Carbon Standards; Green Subsidies; Sustainable Trade; Global South; India; Multilateralism.

Introduction: The Trade–Climate Nexus:

The twenty-first century global economic order is increasingly defined by a structural clash between two transformative policy imperatives: the deepening of economic globalization through the rules-based multilateral trading system, and the accelerating need for ambitious climate mitigation measures. The World Trade Organization (WTO), established in 1995 to promote market openness, tariff reduction, and non-discriminatory treatment under principles such as Most-Favoured Nation (MFN) and National Treatment, was not originally designed to accommodate large-scale environmental regulation as a core component of global governance (Bacchus 2017).[1] As a result, the organization now confronts a fundamental dilemma: how can member states fully implement their commitments under the Paris Agreement of 2015—including decarbonization pathways and progressively stringent nationally determined contributions (NDCs)—without violating WTO disciplines that restrict

[1] Bacchus, James. *The Willing World: Shaping and Sharing a Sustainable Global Prosperity*. Cambridge UP, 2017.

discriminatory or trade-restrictive measures (Horn and Mavroidis 2014)[2].

This tension lies at the heart of contemporary international economic law. States are increasingly adopting climate-oriented trade instruments—such as carbon border adjustment mechanisms (CBAMs), green subsidies, renewable-energy support schemes, and product standards based on carbon intensity or production processes—that inevitably influence market access conditions for foreign producers (Zhang 2021). [3] While these measures are indispensable for effective climate governance, they may also contravene WTO rules by differentiating among products and producers based not on traditional economic criteria but on environmental performance. In the absence of a coherent multilateral framework, uncoordinated unilateral measures risk generating a fragmented "green protectionist" landscape marked by inconsistent standards, retaliatory trade actions, and escalating disputes before the WTO Dispute Settlement Body (Low and Murina 2023).[4]

To address these structural tensions, scholars and policymakers have proposed the idea of a "Green WTO"—a reimagined multilateral trading architecture that not only tolerates but actively facilitates legitimate climate action while preserving transparency, predictability, and fairness in global trade (Epps and Green 2010).[5] This normative model seeks to embed environmental sustainability into the core functioning of the trading system. However, its legal contours remain contested: disagreements persist regarding the scope of permissible climate-related trade measures, the role of environmental exceptions under Article XX of the GATT, the extent of special and differential treatment for developing countries, and the institutional reforms required to align trade rules with global decarbonization pathways (Howse 2020). [6] Consequently, the "Green WTO" remains an evolving but necessary vision for reconciling climate imperatives with the foundational principles of global trade governance.

Core Legal Framework: GATT Article XX and Environmental Jurisprudence:

The WTO's principal mechanism for reconciling environmental protection with trade liberalization is **Article XX of the General Agreement on Tariffs and Trade (GATT)**, which establishes limited exceptions to members' trade obligations. Article XX(b) authorizes measures deemed "necessary to protect human, animal or plant life or health," while Article XX(g) permits measures "relating to the conservation of exhaustible natural resources," provided they operate in conjunction with domestic restrictions (Marceau 2001). [7] Originally

[2] Horn, Henrik, and Petros C. Mavroidis. "Climate Change and the WTO: Legal Issues." *World Trade Review*, vol. 13, no. 4, 2014, pp. 657–682.

[3] Zhang, ZhongXiang. "Carbon Border Adjustments and Their WTO Compatibility." *Climate Policy*, vol. 21, no. 7, 2021, pp. 915–930.

[4] Low, Patrick, and Marina Murina. *Trade and Climate Change: Towards a Sustainable Global Trade Regime*. WTO Publications, 2023.

[5] Epps, Tracey, and Andrew Green, editors. *Reconciling Trade and Climate: The WTO and the Future of Sustainable Development*. Edward Elgar, 2010.

[6] Howse, Robert. "Securing Policy Space for Clean Energy: Reconciling Trade Rules and Climate Action." *Journal of International Economic Law*, vol. 23, no. 2, 2020, pp. 333–359.

[7] Marceau, Gabrielle. "Balance and Coherence by the WTO Appellate Body: The Exxon and Asbestos

intended as narrow safeguards, these clauses have evolved into the doctrinal foundation for adjudicating conflicts between environmental regulation and trade disciplines (Howse 2002).[8]

WTO jurisprudence has progressively broadened the interpretive scope of these exceptions, albeit within rigorously controlled parameters. The landmark Appellate Body decision in **United States – Shrimp/Turtle (1998)** recognized—for the first time—that measures addressing **extraterritorial environmental harms** could qualify under Article XX(g), provided they adhered to principles of transparency, flexibility, and non-discrimination (Charnovitz 2000). [9] Crucially, the Appellate Body emphasized that compliance with the **chapeau** of Article XX requires that measures avoid "arbitrary or unjustifiable discrimination" and not constitute a "disguised restriction on international trade" (WTO Appellate Body 1998).[10]

This jurisprudence firmly established that environmental objectives constitute **legitimate policy interests** within the WTO system. Subsequent cases reinforced this trajectory. In **EC – Asbestos (2001)**, the Appellate Body upheld a French ban on asbestos products, ruling that health-based prohibitions could satisfy the Article XX(b) "necessity" test even when they imposed significant economic burdens on exporting countries (Howse and Tuerk 2001). [11] Similarly, in **Brazil – Retreaded Tyres (2007),** the Appellate Body recognized broad environmental and public health objectives—ranging from waste management to disease prevention—as valid bases for trade-restrictive measures, while underscoring that members must demonstrate the measure's material contribution to its stated goal and the absence of reasonably available, less trade-restrictive alternatives (Zhang 2011).[12]

Despite these advances, the environmental exceptions under Article XX remain constrained by demanding legal standards. The **necessity test** requires empirical evidence that a measure contributes significantly to an environmental objective; the **proportionality analysis** requires proving that the measure is not excessively trade-restrictive relative to its benefits; and the **non-discrimination rule** requires consistent regulatory application domestically and across trading partners (Mavroidis 2016). [13] For developing countries, which often lack technical capacity, regulatory data, and fiscal resources, meeting these evidentiary burdens poses substantial challenges (Bhagwati and Srinivasan 2016). [14] Moreover, because

Cases." *Journal of International Economic Law*, vol. 4, no. 4, 2001, pp.

[8] Howse, Robert. "The Appellate Body Rulings in the Shrimp/Turtle Case: A New Legal Baseline for the Trade and Environment Debate." *Columbia Journal of Environmental Law*, vol. 27, 2002, pp. 489–521.

[9] Charnovitz, Steve. "The WTO's Environmental Progress." *Journal of International Economic Law*, vol. 3, no. 3, 2000, pp. 685–706.

[10] WTO Appellate Body. *United States – Import Prohibition of Certain Shrimp and Shrimp Products*. WT/DS58/AB/R, 12 Oct. 1998.

[11] Howse, Robert, and Elisabeth Tuerk. "The WTO Approaches to Trade and Environment: EC–Asbestos." *International and Comparative Law Quarterly*, vol. 50, no. 4, 2001, pp. 797–809.

[12] Zhang, ZhongXiang. "Trade Measures and the Environment: Retreaded Tyres and Beyond." *World Economy*, vol. 34, no. 5, 2011, pp. 859–879.

[13] Mavroidis, Petros C. *Trade in Goods: The GATT and the Other WTO Agreements*. 2nd ed., Oxford UP, 2016.

[14] Bhagwati, Jagdish, and T. N. Srinivasan. *Trade and Environment: Striking a Balance*. MIT Press, 2016.

WTO adjudication operates on a **case-by-case** basis, members face considerable legal uncertainty until a dispute is litigated—a structural deterrent to ambitious climate regulation (Epps and Green 2010).[15]

Thus, while Article XX jurisprudence has carved out meaningful space for environmental protection, it remains insufficient to accommodate the scale and urgency of contemporary climate action, underscoring the need for structural reform toward a more coherent **"Green WTO".**

The Rise of Climate-Oriented Trade Measures: CBAM as Prototype:

The most prominent contemporary example of the tension between trade liberalization and climate policy is the European Union's Carbon Border Adjustment Mechanism (CBAM). Introduced in a transitional phase between 2023 and 2025 and scheduled for full implementation thereafter, CBAM imposes a carbon levy on imports of carbon-intensive products—such as steel, aluminium, cement, fertilizers, electricity, and hydrogen—equivalent to the price paid by EU industries under the EU Emissions Trading System (ETS) (European Commission 2023).[16] Its stated objectives are threefold: preventing carbon leakage, preserving the competitiveness of EU industries subject to stringent climate regulation, and encouraging third countries to adopt comparable carbon-pricing or decarbonization measures (Mehling et al. 2019).[17]

CBAM thus illustrates the complex legal ambiguities that characterize the trade–climate interface. The European Union has consistently argued that the mechanism is WTO-compatible because it is based on the embedded carbon content of a product rather than the nationality of the producer, and because it credits foreign producers for any carbon price or equivalent mitigation measures already paid in their home jurisdictions (Bacchus 2021).[18] Nevertheless, serious Most-Favoured Nation (MFN) concerns arise where differentiation based on embedded carbon results in different treatment of "like products" across exporting countries (Holzer 2014).[19] The National Treatment obligation may also be implicated where foreign producers face compliance, administrative, or verification burdens that exceed those imposed on EU firms participating in the ETS. Moreover, the legal defensibility of CBAM under GATT Article XX(b) ("protection of life or health") or XX(g) ("conservation of exhaustible natural resources") remains untested in WTO dispute settlement, generating considerable uncertainty for the EU and for trading partners designing parallel climate-oriented trade measures (Mavroidis and de Melo 2022).[20]

[15] Epps, Tracey, and Andrew Green, editors. *Reconciling Trade and Climate: The WTO and the Future of Sustainable Development*. Edward Elgar, 2010.

[16] European Commission. *EU Carbon Border Adjustment Mechanism (CBAM): Regulation (EU) 2023/956*. Publications Office of the European Union, 2023.

[17] Mehling, Michael, et al. "Designing Border Carbon Adjustments for Climate Policy." *Nature Climate Change*, vol. 9, 2019, pp. 447–454.

[18] Mehling, Michael, et al. "Designing Border Carbon Adjustments for Climate Policy." *Nature Climate Change*, vol. 9, 2019, pp. 447–454.

[19] Holzer, Kateryna. *Carbon-Related Border Adjustment and WTO Law*. Edward Elgar, 2014.

[20] Mavroidis, Petros C., and Jaime de Melo. "Greening the WTO: Environmental Exceptions

For India—one of the EU's major suppliers of steel, cement, and aluminium—CBAM poses a substantial economic and regulatory challenge. Emerging analyses estimate that Indian exports could face 20–35 percent cost escalation unless significant emissions reductions or verifiable carbon credits offset the embedded carbon intensity (Ghosh and Bhattacharya 2023).[21] India's domestic climate policies—including the National Green Hydrogen Mission (2023), rapid scaling of renewable energy capacity to over 200 GW of non-fossil sources, and early efforts to establish a national carbon credit trading scheme—represent strategic steps toward aligning industrial production with global decarbonization norms (TERI 2023).[22] However, substantial gaps persist. India's monitoring, reporting, and verification (MRV) systems remain uneven; green industrial transformation requires large-scale financing and access to advanced low-carbon technologies; and fiscal as well as technological constraints hinder rapid convergence with EU-level environmental standards (Jha 2024).[23]

Thus, while CBAM may function as a prototype for future climate-aligned trade instruments, it simultaneously exposes the structural inequities and institutional gaps that define the global trade–climate landscape—particularly for developing economies navigating the dual imperatives of economic growth and accelerated decarbonization.

Economic and Developmental Asymmetries:

A rigorous law-and-economics analysis reveals that climate-linked trade measures generate profound **distributional asymmetries** between developed and developing economies. While such measures advance legitimate environmental goals and may improve global welfare over time by internalizing carbon externalities and promoting technological diffusion, their **short- to medium-term adjustment costs** fall disproportionately on countries with limited industrial and fiscal capacity (Rodrik 2022).[24] Developing economies—whose export structures are often rooted in energy-intensive sectors—are particularly vulnerable to rising compliance costs arising from climate-oriented border measures.

The burden of compliance is greatest for economies dependent on carbon-intensive production and lacking affordable access to clean technologies. Establishing credible monitoring, reporting, and verification (MRV) systems; retrofitting industrial facilities; deploying renewable energy; and securing large-scale financing for green upgrades all require capital outlays that significantly exceed the fiscal space available to many developing countries (Jha 2024).[25] Furthermore, designing a **domestic carbon pricing system** that is WTO-compatible, mutually recognized by trading partners, and technically interoperable with

and Climate Clubs." *World Economy*, vol. 45, no. 8, 2022, pp. 2104–2123.

[21] Ghosh, Arunabha, and Debosmita Bhattacharya. "CBAM and India: Challenges and Strategic Responses." *Council on Energy, Environment and Water (CEEW) Policy Brief*, 2023.

[22] TERI (The Energy and Resources Institute). *India's Pathways to CBAM Readiness*. New Delhi, 2023.

[23] Jha, Veena. "Developing Countries and CBAM: Equity, MRV, and Industrial Transition." *Journal of World Trade*, vol. 58, no. 1, 2024, pp. 45–72.

[24] Rodrik, Dani. *Trade, Industrial Policy, and Development in the 21st Century*. Princeton UP, 2022.

[25] Jha, Veena. "Developing Countries and CBAM: Equity, MRV, and Industrial Transition." *Journal of World Trade*, vol. 58, no. 1, 2024, pp. 45–72.

CBAM-type equivalence regimes imposes substantial administrative and institutional demands. For small or lower-capacity countries, these requirements effectively function as **non-tariff barriers,** even when justified by environmental objectives (Zhang 2011).[26]

Export competitiveness in carbon-intensive sectors is also at risk. For major developing-country exporters—such as India, Indonesia, Vietnam, and several African economies—climate-linked trade measures may raise production costs faster than technological learning can offset them, resulting in market share erosion (Ghosh and Bhattacharya 2023). [27] This pressure is intensified by what scholars describe as **"green protectionism,"** a dynamic wherein advanced economies simultaneously deploy generous domestic green subsidies—such as those under the U.S. Inflation Reduction Act—and impose stringent border measures like CBAM. The combination creates a dual disadvantage for developing countries that is difficult to contest under WTO rules, as both subsidies and border instruments are framed as legitimate climate policies (Bacchus 2021).[28]

Yet a broader law-and-economics perspective demonstrates that these asymmetries can yield **long-term efficiency gains** if climate trade measures are embedded within supportive frameworks for technology transfer, capacity-building, and green finance. Lowering decarbonization costs through **TRIPS flexibilities, green patent pools, technology-sharing agreements, and collaborative innovation models** would allow developing countries to converge more rapidly with global low-carbon standards (Maskus 2023). [29] Likewise, concessional climate finance, blended finance mechanisms, and targeted support from multilateral development banks can help overcome fiscal and technological constraints (World Bank 2023).[30] With such enablers in place, developing economies have the potential to climb emerging green value chains—including green hydrogen, renewable manufacturing, and advanced biofuels—generating new export opportunities and structural upgrading (TERI 2023).[31]

Ultimately, the decisive factor is the **institutional design** of global climate-trade governance. A WTO framework that incorporates meaningful differentiation between developed and developing members—through financial commitments, phased compliance timelines, capacity-building, and technology access—could mitigate asymmetries and promote inclusive decarbonization (Mavroidis and de Melo 2022).[32] Conversely, a system that imposes uniform standards without acknowledging structural inequities risks entrenching technological divides and undermining the

[26] Zhang, ZhongXiang. "Trade Measures and the Environment: Retreaded Tyres and Beyond." *World Economy*, vol. 34, no. 5, 2011, pp. 859–879.
[27] Ghosh, Arunabha, and Debosmita Bhattacharya. "CBAM and India: Challenges and Strategic Responses." *CEEW Policy Brief*, 2023.
[28] Bacchus, James. *The Case for a WTO Climate Waiver*. Centre for International Governance Innovation, 2021.
[29] Maskus, Keith E. *Intellectual Property Rights and Climate Technology Transfer*. Cambridge UP, 2023.
[30] World Bank. *Scaling Climate Finance in Emerging Markets*. World Bank Publications, 2023.
[31] TERI (The Energy and Resources Institute). *India's Pathways to CBAM Readiness*. New Delhi, 2023.
[32] Mavroidis, Petros C., and Jaime de Melo. "Greening the WTO: Environmental Exceptions and Climate Clubs." *World Economy*, vol. 45, no. 8, 2022, pp. 2104–2123.

developmental trajectories of the Global South.

The Case for Institutional Reform: Towards a Green WTO:

Although WTO jurisprudence under GATT Article XX has gradually accommodated environmental measures, the existing framework remains structurally inadequate for systematically integrating climate objectives into global trade governance. Scholars increasingly argue that meaningful reform requires a transition from ad hoc environmental exceptions to a positive architecture that mainstreams climate action across WTO law (Howse 2020). [33] A "Green WTO" model would therefore entail several interconnected institutional innovations.

First, reformers propose adopting an explicit climate exception within GATT Article XX—potentially a new Article XX(k)—to recognize measures necessary for combating climate change and reducing greenhouse gas emissions. Such a provision would elevate climate action from an indirect category of "conservation" or "health protection" to an explicit WTO objective, thereby reducing litigation risks and enabling clearer regulatory boundaries (Bacchus 2021). [34] This structural change would align the WTO with the Paris Agreement's recognition of climate action as a universal and urgent global priority.

Second, the WTO must negotiate detailed guidelines for carbon-linked trade measures, particularly border carbon adjustments. Harmonized methodologies for calculating embedded emissions, transparent MRV (monitoring, reporting, and verification) protocols, and standardized non-discrimination principles would reduce legal uncertainty and prevent unilateral CBAM-type mechanisms from proliferating in inconsistent or protectionist forms (Mehling et al. 2019). [35] Such guidelines would also ensure coherence with the principle of Common But Differentiated Responsibilities (CBDR), thereby safeguarding equity for developing economies (Pauwelyn 2022). [36]

Third, the Subsidies and Countervailing Measures (SCM) Agreement requires targeted modernization. Many legitimate climate-oriented industrial policies—such as subsidies for renewable energy, green hydrogen, and electric vehicle manufacturing—remain vulnerable to challenge under existing SCM disciplines (Rubini 2012). [37] A dedicated "green box" for climate-aligned subsidies, analogous to the agricultural green box, would permit states to support decarbonization efforts without triggering countervailing duties, provided the subsidies meet transparency and minimal-distortion requirements (Mavroidis and de Melo 2022). [38]

[33] Howse, Robert. "Securing Policy Space for Clean Energy: Reconciling Trade Rules and Climate Action." *Journal of International Economic Law*, vol. 23, no. 2, 2020, pp. 333–359.
[34] Bacchus, James. *The Case for a WTO Climate Waiver*. Centre for International Governance Innovation, 2021.
[35] Mehling, Michael, et al. "Designing Border Carbon Adjustments for Climate Policy." *Nature Climate Change*, vol. 9, 2019, pp. 447–454.
[36] Pauwelyn, Joost. "Carbon Leakage Measures and WTO Law: Reconciling Climate and Trade." *International and Comparative Law Quarterly*, vol. 71, no. 1, 2022, pp. 25–52.
[37] Rubini, Luca. *The Subsidization of Renewable Energy in the WTO Legal Regime*. Cambridge UP, 2012.
[38] Mavroidis, Petros C., and Jaime de Melo. "Greening the WTO: Environmental Exceptions and Climate Clubs." *World Economy*, vol. 45, no. 8, 2022, pp. 2104–2123.

Fourth, enhanced institutional cooperation between the WTO and the UNFCCC is essential. A formal WTO–UNFCCC Joint Committee could harmonize carbon accounting rules, provide authoritative guidance on the intersection of Paris Agreement obligations and WTO disciplines, and coordinate national reporting on climate-related trade measures (Epps and Green 2010).[39] Such integration would help ensure that WTO adjudication reflects climate principles such as CBDR, equity, and the need for technology access.

Fifth, effective climate-trade integration requires a Green Development Fund within the WTO to address capacity gaps in developing countries. This mechanism—financed through contributions by developed nations in recognition of historical responsibility—would support MRV infrastructure development, technology transfer, and green industrial transformation (World Bank 2023).[40] By lowering compliance costs and expanding access to clean technologies, such a fund would advance climate justice and reduce systemic inequities (Rodrik 2022).[41]

Collectively, these reforms would transform the WTO from a passive adjudicator of climate-related disputes into an active institution capable of steering the global trading system toward environmentally compatible, economically equitable, and technologically inclusive development pathways.

Equity, Development, and the Path Forward:

The normative foundation for a "Green WTO" ultimately rests on the principle of equity. Developing countries have contributed only a marginal share to historical greenhouse gas emissions, yet they disproportionately bear the impacts of climate change and face steep relative costs in implementing mitigation measures. Scholars argue that without equitable differentiation, climate-linked trade rules risk reproducing structural inequalities embedded in the global economic order (Pauwelyn 2020; Pahuja 2011).[42] In this sense, integrating climate measures into WTO disciplines without corresponding mechanisms for technology access, concessional climate finance, and institutional capacity building threatens to reproduce what some describe as "green colonialism" or neo-mercantilist environmental governance (Bhattacharya 2022).[43]

India's position epitomizes these concerns. While India has embarked on substantial climate commitments—including large-scale renewable energy expansion and a national carbon market—the country continues to grapple with constraints such as limited fiscal space for subsidizing green innovation, gaps in high-end decarbonization technologies, and exposure to unilateral border measures introduced by

[39] Epps, Tracey, and Andrew Green, editors. *Reconciling Trade and Climate: The WTO and the Future of Sustainable Development*. Edward Elgar, 2010.

[40] World Bank. *Scaling Climate Finance in Emerging Markets*. World Bank Publications, 2023.

[41] Rodrik, Dani. *Trade, Industrial Policy, and Development in the 21st Century*. Princeton UP, 2022.

[42] Pauwelyn, Joost. "Carbon Leakage Measures and the WTO." *Journal of International Economic Law*, vol. 23, no. 3, 2020, pp. 1–28.
Pahuja, Sundhya. *Decolonising International Law: Development, Economic Growth and the Politics of Universality*. Cambridge UP, 2011.

[43] Bhattacharya, Amar. *Climate Justice and Global Institutions*. Oxford UP, 2022.

developed economies (Ghosh 2021). [44] India's advocacy at the WTO and UNFCCC—seeking CBAM transition periods, exemptions for low-income exporters, and a legally supported framework for technology transfer—should be understood not as resistance to climate ambition but as a call for an equitable distribution of climate responsibilities (Dubash 2020).[45] This position aligns with broader developing-country coalitions arguing that climate policies cannot undermine legitimate developmental aspirations or export competitiveness (UNCTAD 2023).[46]

A genuinely "Green WTO" must therefore institutionalize differentiation through phased implementation timelines, structured financial support, and operationalized Special and Differential Treatment (SDT) tailored to climate-related obligations. Scholars contend that such differentiation is not a relaxation of climate ambition but a functional prerequisite: without equity, global decarbonization efforts will lack political legitimacy and may even exacerbate developmental divides (Keohane and Victor 2016). [47] Thus, embedding equity into the WTO's climate architecture is fundamental to creating a fair, durable, and effective global climate-trade regime.

Conclusion:

The long-standing tension between trade liberalization and the global climate imperative cannot be resolved by subordinating environmental objectives to traditional trade disciplines, nor by abandoning the multilateral trading system in favor of unilateral climate measures. Scholars widely note that this binary framing is inadequate for managing systemic climate risks within a globalized economy (Esty 2021; Howse 2020).[48] What is required is a structural reimagining of the WTO—one that enables the organization to actively facilitate, rather than merely accommodate, legitimate climate action while safeguarding predictability, non-discrimination, and fairness in international trade.

The proposed **Green WTO architecture**—rooted in strengthened doctrinal clarity, new institutional mechanisms, expanded climate finance and technology-sharing commitments, and meaningful incorporation of equity principles—offers a feasible path forward. Such an integrated system would channel climate policies through transparent, rules-based multilateral frameworks, thereby reducing the risks of retaliatory trade disputes, policy fragmentation, and escalating green protectionism (Bacchus 2019). [49] It would also align the WTO's mandate with contemporary global

[44] Ghosh, Arunabha. *Green Industrial Policy for India*. Council on Energy, Environment and Water, 2021.

[45] Dubash, Navroz K. "India and Climate Policy: Balancing Equity and Ambition." *Climate Policy*, vol. 20, no. 7, 2020, pp. 1–10.

[46] UNCTAD. *Trade and Development Report 2023: Structural Transformation and Climate Justice*. United Nations, 2023.

[47] Keohane, Robert O., and David Victor. "Cooperation and Discord in Global Climate Policy." *Nature Climate Change*, vol. 6, 2016, pp. 570–575.

[48] Esty, Daniel C. "Redesigning the WTO for the 21st Century: Climate, Development, and Trade." *Yale Journal of International Law*, vol. 46, no. 2, 2021, pp. 1–56.
Howse, Robert. "Climate Regulation and the Future of the Multilateral Trading System." *European Journal of International Law*, vol. 31, no. 2, 2020, pp. 425–450.

[49] Bacchus, James. *The Case for a WTO Climate Waiver*. Centre for International Governance Innovation, 2019.

priorities, enabling trade to operate as a catalyst for decarbonization rather than as an institutional barrier.

As the WTO confronts its most critical legitimacy challenge since its creation, its choices are increasingly stark. The organization must evolve toward deeper environmental integration and institutional coherence or risk being sidelined as states pursue climate objectives through unilateral carbon measures, plurilateral alliances, and fragmented regulatory regimes (Ehlermann 2022).[50] A Green WTO thus represents not a departure from the institution's foundational mission but rather its logical progression—ensuring that international trade contributes to, instead of undermines, the broader pursuit of sustainable development and climate justice.

[50] Ehlermann, Claus-Dieter. "The WTO at a Crossroads: Climate Change and Institutional Adaptation." *World Trade Review*, vol. 21, no. 4, 2022, pp. 511–530.