



The geoeconomics of decarbonization: Climate geopolitics, green industrial policy and the reconfiguration of the global order

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DOI: <https://doi.org/10.66856/ijssrd.2022.4.1.8082>

Abstract

The Tribunals Reforms Act, 2026 creates a National Tribunals Commission (NTC) and gives it a seemingly benign but constitutionally significant function: to review the performance of tribunals and maintain a National Tribunals Data Grid. This paper argues that the new performance-review power should not be treated as ordinary administrative supervision. Tribunals exercise judicial power, and an efficiency regime that rewards disposal numbers, reversal rates or outcome patterns can indirectly influence adjudication as effectively as direct executive control. Drawing on the Supreme Court's tribunal-independence jurisprudence, the 2026 statutory framework, Indian studies on judicial efficiency, and comparative court-performance systems, the paper develops a constitutional distinction between institution-level administration metrics and adjudicator-level decisional metrics. It proposes a three-tier 'independence-compatible performance framework': green metrics that may be published and acted upon; amber metrics that require contextual safeguards; and red metrics that should not be tied to appointment, reappointment, discipline or budgetary consequences. The central claim is that the NTC can become a genuine institutional safeguard only if performance review is designed to measure the conditions of justice rather than the substantive exercise of judicial judgment.

Keywords: Tribunals, judicial independence, National Tribunals Commission, performance measurement, data governance, administrative law, Tribunals Reforms Act 2026

Introduction

The governance of planetary climate mitigation has undergone a profound paradigm shift over the past decade. For decades following the 1992 United Nations Framework Convention on Climate Change (UNFCCC), global climate action operated largely within a liberal environmentalist framework. This model presumed that international cooperation, transparent carbon accounting, harmonized carbon pricing, and market-driven technology diffusion would resolve planetary atmospheric externalities (Bernstein, 2002) ^[5]. However, systemic climate risks, recurrent institutional gridlock at multilateral climate negotiations, and escalating strategic rivalries among major powers have shattered this market-liberal consensus.

Decarbonization is no longer conceived primarily as an exercise in international burdensharing; it is now an instrument of statecraft and geoeconomic rivalry. The imperative to achieve net-zero greenhouse gas emissions has collided directly with interstate contestation over industrial supremacy, energy security, and manufacturing autonomy. In response, sovereign states have embraced Green Industrial Policy (GIP)—direct state intervention via targeted capital subsidies, preferential tax expenditures, public procurement rules, and selective trade protections designed to incubate domestic clean-technology ecosystems (Rodrik, 2014; Allan *et al.*, 2021) ^[1, 13].

Rather than relying on market signals to lower emissions, states are deliberately shaping markets, picking technological pathways, and attempting to monopolize key nodes in clean manufacturing value chains. This strategic turn reflects a deepening entanglement between ecological imperatives and national security. The transition toward non-fossil energy systems does not eliminate geopolitics; instead, it substitutes fossil fuel supply vulnerabilities with new strategic dependencies on critical minerals, specialized chemical processing, advanced manufacturing capacities, and clean technology patents.

This paper investigates how green industrial policies reshape contemporary climate geopolitics, assess their impacts on the global trade architecture, and evaluate the distributive implications for the Global South.

Literature Review

The Resurgence of State Capitalism and Green Industrial Policy

The revival of industrial policy marks a sharp departure from the post-Washington Consensus. While early scholarship on state-led development centered on East Asian late industrialization (Amsden, 1989; Wade, 1990) ^[2, 16], contemporary GIP literature emphasizes the twin goals of ecological sustainability and macroeconomic resilience. Dani Rodrik (2014) ^[13] and Mariana Mazzucato (2013) ^[10] conceptualize modern industrial policy as an iterative discovery process between the state and private enterprise, where the public sector assumes early-stage technological risks to guide long-term capital allocation.

In the climate domain, this approach operates through "market-shaping" rather than mere "market-fixing." Rather than taxing carbon and leaving allocation to price signals, green industrial policies employ targeted fiscal outlays to drive down the cost curve of strategic clean energy assets (Meckling *et al.*, 2015) ^[11].

Geoeconomic Securitization and Green Techno-Nationalism

International Political Economy (IPE) scholars increasingly contextualize this development within the paradigm of geoeconomics—the deployment of economic instruments to pursue geopolitical ends (Farrell & Newman, 2019; Roberts *et al.*,

2019)^[8, 12]. The concept of "weaponized interdependence" advanced by Farrell and Newman (2019)^[8] explains how asymmetric network structures in global production and finance allow hub states to exert coercive structural power. In clean technology sectors, China's near-monopolistic control over rare earth processing, battery cathode refining, and photovoltaic ingot production has driven Western states to treat clean energy supply chains as critical vulnerabilities. Consequently, climate policy has been progressively securitized, leading scholars to identify the emergence of "green technonationalism," in which clean energy manufacturing is treated as a strategic national asset rather than a shared global public good (Allan *et al.*, 2021; Babić *et al.*, 2022)^[1, 4].

Resource Geopolitics and Uneven Transition in the Global South

A third major literature focuses on the material and spatial dimensions of the energy transition. Scholars of extractivism and eco-unequal exchange observe that the clean energy transition is fundamentally material-intensive, requiring unprecedented inputs of lithium, cobalt, nickel, copper, and rare earth elements (Sovacool *et al.*, 2020; Dunlap & Jakobsen, 2020)^[7, 15]. Research by Scholten *et al.* (2020)^[14] and Bridge *et al.* (2013)^[6] indicates that while renewable energy sources are spatially diffuse, the supply chains supporting renewable technologies are geographically concentrated. Political economists focusing on the Global South argue that current green industrial trajectories threaten to reinforce historic core-periphery dynamics. High-income economies capture high-value technological, intellectual, and financial rents, while peripheral nations remain confined to raw resource extraction and bear localized ecological burdens (Andreoni & Chang, 2019; Gabor, 2023)^[3, 9].

Objectives of the Study

This study addresses structural gaps at the intersection of climate diplomacy and international political economy through three core research objectives:

1. To trace the theoretical and policy evolution from multilateral carbon pricing frameworks to unilateral, competitive Green Industrial Policies across major global economies.
2. To evaluate the geoeconomic frictions generated by GIP instruments—particularly subsidy competition, domestic content requirements, and cross-border environmental tariffs—on the multilateral trading system.
3. To assess the systemic distributive impacts of green industrialization strategies on the Global South, with specific focus on critical mineral supply chains, technology access, and fiscal policy space.

Methodology

This study employs a qualitative, comparative institutional research design grounded in International Political Economy (IPE). The methodology utilizes documentary analysis, policy review, and qualitative case comparisons across four major political-economic blocs:

- The United States
- The European Union
- The People's Republic of China
- Key resource-producing states in the Global South (e.g., Latin America's Lithium Triangle, Sub-Saharan Africa, and Southeast Asia)

Primary sources reviewed include legislative statutes, executive strategies, regulatory policy frameworks, and multilateral organizational records (UNCTAD, WTO, IEA, OECD). Secondary sources comprise peer-reviewed scholarship published in political science, energy policy, and international development journals between 2015 and 2026.

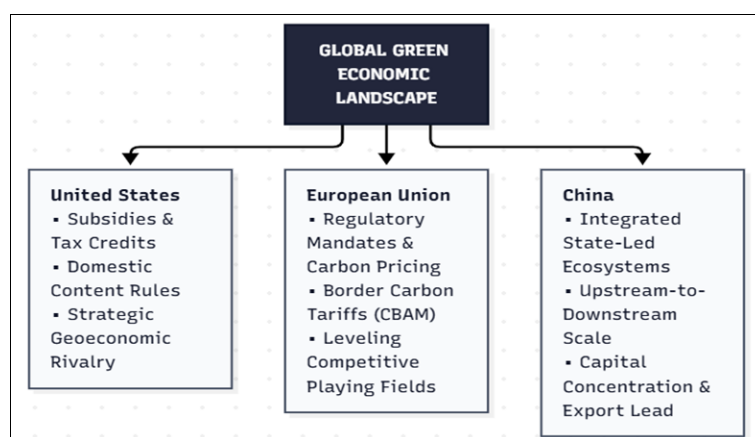
Data synthesis follows a thematic analysis approach, evaluating policy trajectories against three theoretical axes:

- Market structure and regulatory mechanisms (subsidies vs. carbon pricing);
- Strategic trade exposure (reshoring, tariffs, supply chain friend-shoring); and
- North–South political-economic divergence (fiscal space and structural dependency).

Analysis: The Geoeconomic Architecture of Green Industrial Policy

1. Divergent Paradigms: US, EU, and Chinese State Interventions

The emerging landscape of green industrial policy is defined by institutional divergence among the world's three largest economic blocs:



The United States (Fiscal-Subsidist Model): With the passage of the Inflation Reduction Act (IRA) and the CHIPS and Science Act, the United States abandoned regulatory carbon taxation in favor of non-repayable tax incentives, production subsidies, and domestic content requirements. This policy design links decarbonization directly to domestic capital formation, job creation, and strategic competition with China. By tying full tax credits to domestic assembly and critical mineral sourcing criteria, US policy explicitly aims to decouple clean technology supply networks from geopolitical rivals.

- **The European Union (Regulatory-Border Model):** Historically committed to market mechanisms via the EU Emissions Trading System (ETS), the European Union found itself caught between US fiscal subsidies and Chinese manufacturing dominance. In response, the EU established the Green Deal Industrial Plan, the Net-Zero Industry Act, and the Carbon Border Adjustment Mechanism (CBAM). CBAM imposes import duties equivalent to EU ETS carbon costs on emissions-intensive imports, ensuring European industrial competitiveness while creating significant economic spillovers for non-EU trade partners.
- **The People's Republic of China (Integrated State Capitalism Model):** China's dominant position across clean energy supply chains reflects decades of strategic, centralized planning, regional subsidies, and integrated state-owned enterprise (SOE) ecosystems. Rather than reacting to recent disruptions, Chinese industrial policy has methodically integrated raw mineral acquisition, chemical refining, component assembly, and domestic infrastructure deployment. This industrial scale has lowered clean technology capital costs worldwide, but it has also concentrated supply chains in ways that leave other powers strategically vulnerable.

2. Trade Tensions and the Erosion of Multilateral Governance

The shift toward unilateral GIP has challenged the World Trade Organization (WTO) framework:

- **The Subsidies Dilemma:** Under traditional WTO rules (specifically the Agreement on Subsidies and Countervailing Measures [ASCM]), local content requirements (LCRs) tied to state subsidies are strictly non-compliant. Yet, the largest economies increasingly rely on LCRs to justify clean energy spending to domestic political constituencies.
- **The Tariff-Protection Nexus:** Carbon-focused border measures like CBAM blur the boundary between environmental governance and trade protectionism. Developing economies frequently argue that such mechanisms function as non-tariff barriers that punish exporters lacking the capital to rapidly decarbonize their electric grids.
- **Supply Chain Bifurcation:** Western initiatives aimed at "de-risking" and "friend-shoring" create fragmented trade corridors, raising capital costs for renewable energy deployment and slowing the international diffusion of clean technology.

3. Critical Mineral Chokepoints and the Periphery

The global transition away from fossil fuels replaces geographic dependence on petroleum corridors with dependencies on critical energy transition minerals (CETMs).

Critical Mineral	Dominant Extraction Locations	Dominant Refining & Processing Hub	Geopolitical Risk / Strategic Dynamic
Lithium	Chile, Australia, Argentina, China	China (~65–70%)	Water stress; nationalization debates; EV battery supply chains
Cobalt	DR Congo (>70%)	China (~75–80%)	Human rights concerns; artisanal mining oversight; corporate concentration
Nickel	Indonesia, Philippines, Russia	Indonesia, China	Downstreaming mandates (export bans); high coal-powered processing intensity
Rare Earths	China, Myanmar, Australia, USA	China (~85–90%)	Processing pollution; export controls; defense and wind turbine dependencies

In response to historic value extraction, resource-rich states in the Global South have adopted defensive green industrial policies. Indonesia's export ban on raw nickel ores forced foreign capital to build processing and smelting infrastructure onshore, advancing the country's domestic value chain.

Similarly, Bolivia, Chile, and Argentina have sought greater sovereign control over their lithium deposits. However, states in the Global South face major structural headwinds: high sovereign debt costs, restricted access to green technology patents, and mounting external carbon tariffs. This dynamic risk locking peripheral economies into precarious, extractivist relationships with both Western and Chinese industrial centers.

Discussion

The empirical and theoretical findings of this study demonstrate that green industrial policies are remaking the international system through uneven decarbonization. When major economies view energy infrastructure through the lens of zero-sum industrial competition, the global transition faces structural challenges:

First, subsidy competition between advanced industrial states creates deep capital misallocations. Emerging economies cannot match the sovereign fiscal capacity of the US or the EU. Consequently, private capital flows disproportionately into subsidized Western and East Asian markets, leaving high-risk, capital-scarce emerging economies underfunded. This dynamic widens the global climate finance gap and undermines universal decarbonization targets.

Second, the securitization of green technology supply chains threatens the speed of global mitigation efforts. By prioritizing domestic manufacturing and allied trade blocs over trade efficiency, policy choices may raise the capital cost of deploying

solar panels, batteries, and electric vehicles. While domestic supply chains offer insurance against geopolitical disruption, trade barriers and protectionist interventions risk slowing clean energy adoption in regions where cost remains the primary barrier to replacing fossil fuels.

Third, the prevailing model of global climate governance has yet to reconcile environmental equity with state-led industrial competition. International bodies like the UNFCCC operate on principles of common but differentiated responsibilities (CBDR), whereas geoeconomic policies are structured around national interest and sovereign power. Without deliberate multilateral reforms—such as flexible intellectual property rights for critical green technologies, technical assistance, and carbon-tariff revenue sharing—green industrial policy risks reproducing the inequalities of earlier industrial eras.

Social Impact

The socio-political implications of this transition extend well beyond interstate diplomacy:

- **Labor Transitions and Spatial Dislocation:** In industrialized nations, GIP can revitalize regional manufacturing communities hit by deindustrialization, building political support for climate policy. However, these gains are often unevenly distributed, requiring targeted workforce development and collective bargaining protections to secure long-term public support.
- **Human Rights and Environmental Justice in Mining Fronts:** The rapid expansion of critical mineral extraction often falls on Indigenous territories and marginalized rural communities across the Global South. Issues of land dispossession, localized water depletion, and unsafe labor practices expose the social costs of building a low-carbon global economy.
- **Energy Poverty in Developing Nations:** When high-income countries deploy trade measures that penalize emissions-intensive goods from the developing world, they risk stifling the industrial growth necessary to alleviate poverty. Transition policies must preserve policy space for developing states to build basic grid infrastructure without incurring punitive trade sanctions.

Conclusion

The intersection of climate geopolitics and green industrial policy signals the end of the post-Cold War market-liberal climate regime. Decarbonization is no longer governed primarily through technocratic multilateralism; it is driven by competitive state capitalism, geoeconomic hedging, and strategic industrial competition. While green industrial policies have catalyzed clean technology investment and expanded industrial capacity across the world's leading economies, they also pose serious risks to global climate goals by fragmenting trade architecture, deepening North-South inequality, and encouraging zero-sum mineral extractivism.

Sustainable global decarbonization requires an institutional framework that reconciles domestic industrial ambitions with international equity. Multilateral trade rules must be reformed to recognize that developing countries need flexible policy space to nurture nascent green sectors.

Furthermore, revenues generated from carbon border adjustments should be systematically recycled back into clean technology transfer for developing states. Most importantly, critical mineral partnerships must move beyond extractivist models toward genuine co-ownership, domestic value addition, and environmental justice. Navigating this green transition requires recognizing that climate action and industrial statecraft are inextricably linked—and that a successful global transition must be both ecologically effective and geopolitically equitable.

References

1. Allan BB, Lewis JI, Oatley T. Green industrial policy and the global transformation of climate politics. *Glob Environ Polit*,2021;21(4):1-19. Available from: https://doi.org/10.1162/glep_a_00623
2. Amsden AH. *Asia's next giant: South Korea and late industrialization*. Oxford: Oxford University Press, 1989.
3. Andreoni A, Chang HJ. The political economy of industrial policy: structural interdependencies, manageability and politics. *Camb J Econ*,2019;43(5):1369-1400. Available from: <https://doi.org/10.1093/cje/bez033>
4. Babić M, Dixon AD, Liu IT. The rise of state capital: vanishing boundaries and new horizons in the global political economy. *Rev Int Polit Econ*,2022;29(2):335-351. Available from: <https://doi.org/10.1080/09692290.2020.1799843>
5. Bernstein S. *The compromise of liberal environmentalism*. New York: Columbia University Press, 2002.
6. Bridge G, Bouzarovski S, Bradshaw M, Eyre N. Geographies of energy transition: space, place and the low-carbon economy. *Energy Policy*,2013;53:331-340. Available from: <https://doi.org/10.1016/j.enpol.2012.10.066>
7. Dunlap A, Jakobsen J. *The violent technologies of extraction: political ecology, critical agrarian studies and the capitalist world-eater*. Cham: Palgrave Macmillan, 2020.
8. Farrell H, Newman AL. Weaponized interdependence: how global economic networks shape state coercion. *Int Secur*,2019;44(1):42-79. Available from: https://doi.org/10.1162/isec_a_00351
9. Gabor D. The Wall Street Consensus and the green transition: financialization, development and the state. *Dev Change*,2023;54(4):629-658. Available from: <https://doi.org/10.1111/dech.12781>
10. Mazzucato M. *The entrepreneurial state: debunking public vs. private sector myths*. London: Anthem Press, 2013.
11. Meckling J, Kelsey N, Bhasin F, Zysman J. Winning coalitions for climate policy. *Science*,2015;349(6253):1170-1171. Available from: <https://doi.org/10.1126/science.aab1336>
12. Roberts A, Choer Moraes H, Ferguson VM. Toward a geoeconomic world order. *J Int Econ Law*,2019;22(4):655-677. Available from: <https://doi.org/10.1093/jiel/jgz036>

13. Rodrik D. Green industrial policy. *Oxf Rev Econ Policy*,2014;30(3):469-491. Available from: <https://doi.org/10.1093/oxrep/gru025>
14. Scholten D, Crikemans D, van de Graaf T. Contours of the new energy world: how renewables are reshaping global geopolitics. *Energy Res Soc Sci*,2020;70:101738. Available from: <https://doi.org/10.1016/j.erss.2020.101738>
15. Sovacool BK, Ali SH, Bazilian M, Radley B, Nemery B, Okatz J, *et al*. Sustainable minerals and metals for a low-carbon future. *Science*,2020;367(6473):30-33. Available from: <https://doi.org/10.1126/science.aaz6003>
16. Wade R. Governing the market: economic theory and the role of government in East Asian industrialization. Princeton (NJ): Princeton University Press, 1990.