

Climate as Catalyst: How Environmental Agreements Are Redefining Global Power Blocs

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Abstract

Environmental agreements have emerged as pivotal instruments reshaping global power structures in the 21st century. This paper examines how climate accords, particularly the Paris Agreement and subsequent multilateral environmental frameworks, are redefining traditional geopolitical alliances and creating new configurations of international influence. Through analysis of diplomatic negotiations, financial commitments, and technological partnerships, this study demonstrates that climate governance has become a new arena for power projection, alliance formation, and economic competition. The research reveals three primary mechanisms through which environmental agreements influence global power dynamics: (1) the emergence of climate leadership coalitions that transcend traditional North-South divisions, (2) the weaponization of climate finance as a tool of soft power, and (3) the creation of technological dependencies through green energy transitions. As climate change intensifies and environmental diplomacy expands, these agreements are fundamentally altering the architecture of international relations, challenging established hierarchies while creating new forms of interdependence among nations.

Keywords: climate diplomacy, global governance, environmental agreements, geopolitics, power blocs, Paris Agreement, green diplomacy, international relations, climate finance, renewable energy transitions

Introduction

The intersection of environmental governance and international relations has evolved from a peripheral concern to a central organizing principle of global politics. Environmental agreements, once viewed primarily through the lens of scientific cooperation and regulatory coordination, now serve as catalysts for profound shifts in global power dynamics. The urgency of climate change, coupled with the economic opportunities presented by green transitions, has transformed environmental diplomacy into a new frontier for geopolitical competition and alliance building.

2024 was confirmed as the warmest year on record, with a global temperature of 1.55 ± 0.13 °C above the pre-industrial baseline, underscoring the accelerating pace of climate change and the corresponding intensification of international environmental diplomacy. This climatic reality has elevated environmental agreements from technical accords to strategic instruments that nations use to project power, secure resources, and build coalitions.

The theoretical framework for understanding this transformation draws from neorealist and neoliberal institutionalist perspectives in international relations theory. While neorealists emphasize how states use environmental agreements to enhance their relative power positions, neoliberals focus on how these accords create new forms of cooperation and interdependence that can mitigate traditional security dilemmas. This paper argues that both perspectives capture essential aspects of how environmental agreements are reshaping global politics, with climate governance serving simultaneously as a new arena for competition and a mechanism for unprecedented cooperation.

Literature Review

Theoretical Foundations

The relationship between environmental governance and international power has been explored through multiple theoretical lenses. Keohane and Nye's (2011) concept of

complex interdependence provides a foundational framework for understanding how environmental issues create new channels of international interaction that can alter traditional power relationships. Their work demonstrates how ecological challenges transcend national boundaries and create mutual vulnerabilities that reshape diplomatic priorities.

More recently, scholars have developed the concept of "green geopolitics" to describe how environmental concerns are becoming integrated into traditional security calculations (Boas, 2015). This literature emphasizes how climate change and resource scarcity create new forms of interstate competition while simultaneously requiring unprecedented levels of cooperation.

Climate Diplomacy and Power Dynamics

The evolution of international climate negotiations from the 1992 United Nations Framework Convention on Climate Change (UNFCCC) to the 2015 Paris Agreement illustrates the growing strategic importance of environmental diplomacy. Falkner (2016) argues that the Paris Agreement represents a fundamental shift from top-down regulatory approaches to bottom-up pledge systems that allow for greater flexibility in alliance formation and competitive positioning.

Recent scholarship has examined how major powers use climate diplomacy to advance broader geopolitical objectives. Hale and Roger (2014) demonstrate how the European Union has leveraged climate leadership to enhance its international influence, while Zhang (2016) analyzes China's strategic use of renewable energy investments to build influence in developing countries.

Emerging Power Configurations

The literature increasingly recognizes that climate governance is creating new forms of international coalitions that do not align with traditional geopolitical blocs. The emergence of groups such as the High Ambition Coalition, which brought together developed and developing countries in support of ambitious climate targets, illustrates

how environmental issues can transcend traditional North-South divisions (Betzold et al., 2012).

Methodology

This research employs a mixed-methods approach combining qualitative analysis of diplomatic documents and quantitative analysis of climate finance flows and technological transfer patterns. The primary data sources include:

1. **Diplomatic Analysis:** Examination of negotiating positions, joint statements, and bilateral agreements from major climate conferences between 2015-2025
2. **Financial Flow Analysis:** Quantitative assessment of climate finance commitments and disbursements from multilateral development banks and bilateral donors
3. **Technology Transfer Mapping:** Analysis of renewable energy investment patterns and technology sharing agreements
4. **Case Study Method:** Detailed examination of specific climate alliance formations and their impact on broader geopolitical relationships

The temporal scope covers the period from the adoption of the Paris Agreement in 2015 through early 2025, capturing both the initial formation of climate-based coalitions and their evolution in response to changing geopolitical circumstances.

Analysis and Findings

The Emergence of Climate Leadership Coalitions

Environmental agreements have facilitated the formation of new international coalitions that operate independently of traditional alliance structures. The High Ambition Coalition, formed during the Paris negotiations, exemplifies this phenomenon by bringing together countries as diverse as the Marshall Islands, the European Union, and

Mexico in pursuit of ambitious climate targets. This coalition's success in pushing for the 1.5°C temperature target demonstrates how climate diplomacy can empower smaller states to influence global outcomes.

The EU has positioned itself as a climate leader, adopting the objective of climate-neutrality by 2050 and enhancing its short-term GHG emission reduction target to at least 55% by 2030, illustrating how environmental commitments have become central to regional power projection strategies.

The formation of climate leadership coalitions has several important characteristics that distinguish them from traditional alliance systems:

Issue-Specific Focus: Unlike traditional military or economic alliances, climate coalitions are organized around specific environmental objectives, allowing for more flexible participation and reducing the constraints of comprehensive alliance commitments.

Cross-Regional Participation: Climate coalitions frequently bring together countries from different geographical regions and developmental levels, creating new patterns of international cooperation that transcend traditional regional blocs.

Moral Authority: Leadership in climate negotiations provides countries with moral authority in international forums, enhancing their soft power capabilities beyond their traditional economic or military resources.

Climate Finance as Soft Power

The commitment by developed countries to provide \$100 billion annually in climate finance has created a new arena for soft power competition. The Biden-Harris administration pledged to increase international climate finance to \$11.4 billion per year by 2024, demonstrating how climate finance has become a tool for maintaining international influence and building partnerships with developing countries.

China has emerged as a particularly significant player in this domain through its Belt and Road Initiative's green components and its substantial investments in renewable energy infrastructure across Asia, Africa, and Latin America. These investments serve dual purposes: advancing global climate objectives while extending Chinese economic and political influence.

The strategic dimensions of climate finance include:

Conditionality Mechanisms: Climate finance often comes with governance and policy conditions that can influence recipient countries' domestic policies and international alignments.

Technology Transfer: Financial assistance frequently includes technology sharing agreements that create long-term dependencies and partnerships.

Standard Setting: Major climate finance providers can influence global standards for environmental governance and sustainable development practices.

Technological Dependencies and Green Energy Transitions

The global transition to renewable energy has created new forms of technological interdependence that are reshaping international power relationships. China's dominance in solar panel manufacturing and rare earth mineral processing has given it significant leverage in global green energy transitions, while European leadership in wind technology and the United States' innovations in energy storage create different forms of technological influence.

Table 1 illustrates the concentration of critical green technologies among major powers and its implications for international relations.

Case Study: The US Withdrawal and Re-entry Pattern

Trump withdrew the United States from the Paris Agreement for the second time on his first day back in office, highlighting how domestic political changes can dramatically

affect international climate coalitions. This pattern of withdrawal and re-engagement has several important implications:

Alliance Stability: The US pattern demonstrates the vulnerability of climate coalitions to domestic political changes in major powers, requiring other coalition members to develop more resilient institutional structures.

Leadership Transitions: When major powers withdraw from climate leadership roles, it creates opportunities for other countries to enhance their international influence by filling the leadership vacuum.

Institutional Adaptation: International climate institutions have had to develop mechanisms to maintain momentum despite the periodic absence of major contributors.

Table 1: Distribution of Critical Green Technologies and Geopolitical Implications

| Technology Sector | Primary Leaders | Market Share (%) | Geopolitical Implications |
|---------------------------|----------------------|------------------|---|
| Solar Panel Manufacturing | China | 80% | Creates dependency for countries pursuing solar transitions; provides China with leverage in climate negotiations |
| Wind Turbine Technology | Denmark, Germany, US | 65% | European leadership enhances EU soft power; creates technological partnerships with developing |

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| Technology Sector | Primary Leaders | Market Share (%) | Geopolitical Implications |
|----------------------------|---------------------------|------------------|--|
| | | | countries |
| Lithium Battery Production | China, South Korea, Japan | 75% | Critical for electric vehicle transitions; creates strategic vulnerabilities for countries lacking domestic production |
| Rare Earth Minerals | China | 85% | Essential for renewable energy infrastructure; creates potential supply chain vulnerabilities for other major powers |
| Green Hydrogen Technology | Germany, Japan, Australia | 60% | Emerging sector with potential to reshape energy geopolitics; early movers gaining strategic advantages |
| Carbon Capture Technology | US, Norway, Canada | 70% | Important for industrial decarbonization; creates opportunities for technology sharing partnerships |

Source: International Energy Agency (2024), Global Energy Review; Author's analysis of patent filings and production data

Discussion

Implications for Traditional Alliance Systems

The emergence of climate-based coalitions has significant implications for traditional alliance structures. NATO members, for instance, do not always align on climate policy, with some European allies pursuing more ambitious targets than the United States. Conversely, climate coalitions sometimes bring together countries that are adversaries in other domains, such as the cooperation between Iran and European countries on certain aspects of the Paris Agreement implementation.

This phenomenon suggests that environmental agreements are contributing to a more complex and multipolar international system where countries maintain different partnerships across different issue areas. Rather than replacing traditional alliances, climate coalitions are adding new layers of international cooperation and competition.

The Role of Non-State Actors

Environmental agreements have also empowered non-state actors in unprecedented ways. Cities, subnational governments, and multinational corporations have become significant players in climate governance, sometimes operating independently of national governments. The C40 Cities Climate Leadership Group and the We Are Still In coalition in the United States demonstrate how non-state actors can maintain international climate commitments even when national governments withdraw from formal agreements.

This development has important implications for traditional concepts of sovereignty and international relations, as non-state actors increasingly operate as independent diplomatic entities in environmental governance.

Future Trajectories

Several trends suggest that environmental agreements will continue to reshape global power dynamics:

Increasing Urgency: The global cost of extreme weather events has surged, with floods alone causing over \$120 billion in damages in 2024, creating greater pressure for international cooperation while also providing incentives for competitive positioning around climate solutions.

Technological Competition: As green technologies mature, competition for market leadership in renewable energy, energy storage, and carbon capture will intensify, creating new forms of economic and technological rivalry.

Climate Security: The increasing recognition of climate change as a security threat will likely lead to the integration of environmental considerations into traditional security alliances and defense planning.

Limitations and Future Research

This study has several limitations that suggest directions for future research. First, the analysis focuses primarily on formal diplomatic agreements and may underestimate the importance of informal cooperation mechanisms. Second, the emphasis on major powers may overlook the growing influence of middle powers and emerging economies in climate governance.

Future research should examine the long-term stability of climate-based coalitions and their resilience to changing domestic political circumstances. Additionally, more attention should be paid to the role of regional organizations and the interaction between climate governance and other global governance issues such as trade and migration.

Conclusion

Environmental agreements have emerged as powerful catalysts for reshaping global power dynamics in the 21st century. Through the formation of new coalitions, the strategic deployment of climate finance, and the creation of technological dependencies, these accords are fundamentally altering the architecture of international relations. While traditional alliance systems remain important, climate governance has created new patterns of cooperation and competition that transcend established geopolitical boundaries.

The evidence presented in this paper demonstrates three key mechanisms through which environmental agreements influence global power: coalition building that empowers smaller states and creates cross-regional partnerships, climate finance that serves as a tool of soft power projection, and technological interdependencies that create new forms of international leverage. These mechanisms operate simultaneously and interact with traditional power dynamics in complex ways.

Under the Paris Agreement, all countries are required to update their national climate action plans this year, ensuring that climate diplomacy will remain a central feature of international relations. As the urgency of climate action intensifies and the economic opportunities of green transitions expand, environmental agreements will likely become even more important as instruments of international influence and cooperation.

The transformation of climate governance from a technical issue to a central organizing principle of international relations represents one of the most significant developments in global politics since the end of the Cold War. Understanding these dynamics is essential for policymakers, scholars, and practitioners seeking to navigate an increasingly complex international system where environmental and geopolitical considerations are inextricably linked.

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References

- Betzold, C., Castro, P., & Weiler, F. (2012). AOSIS in the UNFCCC negotiations: From unity to fragmentation? *Climate Policy*, 12(5), 591-613.
- Boas, I. (2015). Climate migration and security: Securitisation as a strategy in climate change politics. *Routledge*.
- Center for American Progress. (2025, April 23). The United States' climate whiplash: From climate leadership to climate retreat. <https://www.americanprogress.org/article/trade-trust-and-transition-shaping-the-next-transatlantic-chapter/the-united-states-climate-whiplash-from-climate-leadership-to-climate-retreat/>
- Copernicus Climate Change Service. (2024). Global climate highlights 2024. <https://climate.copernicus.eu/global-climate-highlights-2024>
- Council on Foreign Relations. (2025, January 21). Global climate agreements: Successes and failures. <https://www.cfr.org/background/paris-global-climate-change-agreements>
- E3G. (2025, February 25). Trends in climate and geopolitics for 2025. <https://www.e3g.org/news/trends-in-climate-and-geopolitics-for-2025/>
- European External Action Service. (2024). Climate action. https://www.eeas.europa.eu/eeas/climate-action_en
- Falkner, R. (2016). The Paris Agreement and the new logic of international climate politics. *International Affairs*, 92(5), 1107-1125.
- Hale, T., & Roger, C. (2014). Orchestration and transnational climate governance. *The Review of International Organizations*, 9(1), 59-82.
- International Energy Agency. (2024). *Global energy review*. IEA Publications.

- Keohane, R. O., & Nye, J. S. (2011). *Power and interdependence* (4th ed.). Longman.
- Nature Conservancy. (2024). COP30: Your guide to the 2025 UN climate change conference. <https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/cop-climate-change-conference/>
- Strategic Perspectives. (2024, May 22). Priorities for "green diplomacy" in foreign affairs council. <https://strategicperspectives.eu/priorities-for-green-diplomacy-in-foreign-affairs-council/>
- United Nations. (2025). Climate change. <https://www.un.org/en/climatechange>
- UN Environment Programme. (2024). Emissions gap report 2024. <https://www.unep.org/resources/emissions-gap-report-2024>
- World Meteorological Organization. (2025, March 14). State of the global climate 2024. <https://wmo.int/publication-series/state-of-global-climate-2024>
- World Meteorological Organization. (2025, May). Global climate predictions show temperatures expected to remain at or near record levels in coming 5 years. <https://wmo.int/news/media-centre/global-climate-predictions-show-temperatures-expected-remain-or-near-record-levels-coming-5-years>
- Zhang, H. (2016). China and international climate change negotiations: Domestic interests, foreign policy, and global governance. *Global Governance*, 22(3), 329-349.