Private Climate Governance: Bridging the Gap Between International Environmental Law and Economic Incentives

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Abstract:

Private Climate Governance (PCG) represents a paradigm shift in addressing climate change, as non-governmental entities—such as corporations, non-profits, private universities, and religious organizations—take on roles traditionally reserved for governments. By engaging in mitigation and adaptation activities, these actors extend the boundaries of private environmental governance and play an increasingly vital role in complementing state-led initiatives. This paper explores the legal and economic dimensions of PCG, focusing on how international environmental law (IEL) can adapt to integrate and enhance private governance mechanisms to strengthen climate action.

Through a combined legal and economic lens, the study investigates market-based incentives such as voluntary carbon markets, corporate sustainability initiatives, and green finance. This paper also examines the challenges PCG faces, including enforcement limitations, greenwashing, and disparities in the costs and benefits of climate action between developed and developing countries. This paper argues that IEL must evolve to support PCG and proposes policy recommendations to enhance its effectiveness.

Keywords: Private Climate Governance, International Environmental Law, Climate Change, Economic Incentive

Introduction

Climate change presents an urgent global challenge humankind face that necessitates coordinated efforts across governmental and non-governmental actors. As climate change intensifies, non-state actors increasingly play a pivotal role in climate governance, filling gaps left by international environmental law (IEL). Traditionally, international environmental law has focused on state-centric solutions, yet the growing role of private entities—corporations, non-profits, private universities, and religious organizations—has expanded the landscape of climate governance.[1] Private Climate Governance (PCG) encompasses mitigation and adaptation activities undertaken by these non-governmental actors, including standard-setting, implementation, monitoring, enforcement, funding, and/or adjudication.[2] Therefore, the traditional framework under Article 38[3] of the International Court of Justice merely represents a narrow form of IEL. This paper examines how Private Climate Governance (PCG) complements state-led initiatives and explores how IEL can adapt to support and enhance private governance mechanisms through legal and economic incentives.

Mitigation, particularly through emissions reductions, is a cornerstone of how private entities are responding to climate change. Companies increasingly recognize that the climate crisis poses enormous financial risks and that today's emissions translate into future costs, including supply chain disruptions, extreme weather impacts, and infrastructure damage. Recent corporate carbon

[1] Hunter, David. 'Moving Beyond State-Centrism in International Environmental Law'. 1 Jan. 2022 : 201 – 212.
[2] Vandenbergh, Salzman, and Light, Private Environmental Governance (2024), 6.
[3] Statute of the International Court of Justice, 33 U.N.T.S. 993, art. 38 (April 18, 1946).

disclosure programs, supply chain contracting requirements, investor pressure, and other private initiatives demonstrate the viability and potential of private climate governance.[4] While emissions are not consistently priced in jurisdictions like the United States, the European Union's carbon taxes and emissions trading systems highlight the financial incentives for proactive measures. This paper examines how stakeholders including corporations align their climate strategies with IEL frameworks to mitigate risks, reduce operational costs, and capitalize on reputational benefits.

Through an interdisciplinary approach, this research combines legal analysis with economic evaluations of market-based incentives. It investigates how voluntary carbon markets, corporate sustainability initiatives, and supply chain standards contribute to achieving global environmental goals. While these mechanisms promise significant potential, they also face challenges, including enforcement limitations, the risk of greenwashing, and the uneven distribution of costs and benefits across developed and developing countries. The paper also explores the role of IEL in addressing these limitations and enhancing the legitimacy of PCG. It argues that IEL should evolve to provide clearer guidance and oversight for private governance mechanisms, fostering greater accountability and consistency.

The structure of this paper is as follow: Section I examines the rise of private climate governance and discusses examples and case studies of private climate governance. Section II examines the Market-Based Climate Action and introduces a basic game-theoretic model. Section III discusses the alignment of Private Climate Governance with International Environmental Law.

[4] Vandenbergh, Michael P. and Gilligan, Jonathan M., Beyond Gridlock (December 3, 2014). Vanderbilt Public Law Research Paper No. 14-41, Vanderbilt Law and Economics Research Paper No. 14-35

Section IV discusses main challenges and risks for private climate governance, including greenwashing and credibility concerns, coordination issues and accountability gap, and equity concerns. Section V provides policy recommendations for strengthening IEL and enhancing PCG.

I. The Rise of Private Climate Governance

PCG refers to climate mitigation and adaptation efforts initiated by private entities outside the direct mandate of state actors. These efforts include emissions reduction commitments, corporate sustainability strategies, voluntary carbon markets, and supply chain sustainability measures. Unlike traditional governance, which relies on binding legal frameworks, PCG often operates within voluntary, market-driven, and incentive-based structures.

A. Why Do We Need Private Climate Governance?

IEL has traditionally focused on treaties such as the Kyoto Protocol[5] and the Paris Agreement[6], which primarily address State responsibilities. They were designed for State-to-State disputes. However, the primary contributors of environmental deterioration are private actors and not States; the primary actors that bear the disproportionate burden of environmental are also private actors and not States. Countries have also been slow in enacting laws or regulations sufficient to meet the goal of 1.5 °C limit. The disjunction of states' poor performance and the urgency to cut emissions calls for the additional emissions reduction mechanisms. The IEL, while essential, lacks

[5] Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 2303 U.N.T.S. 162.
[6] The Paris Agreement, arts. 2(1)(a), 4(1), opened for signature Dec. 12, 2015, entered into force Nov. 4, 2016, T.I.A.S. No. 16-1104, 55 I.L.M. 743 (2016).

enforceability against private actors, necessitating complementary private governance mechanisms. Non-state actors increasingly align their climate commitments with these international frameworks, leveraging corporate social responsibility (CSR) initiatives and sustainability goals to mitigate environmental impacts. They are facilitated by the bottom-up nature of the Paris Agreement that stresses a transnational approach to, and the importance of, non-state actors in meeting UNFCCC climate targets.[7] Prominent initiatives include the use of Environmental, Social, and Corporate Governance (ESG) metrics in investments, voluntary sustainability standards (VSS), carbon disclosure, and green finance.

Private climate governance plays a vital role in complementing governmental efforts and fills the gap, particularly amid decades of policy stagnation over the past three decades.[8] They are vital in circumventing political gridlock, ideological barriers, and national boundaries.[9] These may also include jurisdictional gaps, the inability to promulgate a sufficient law despite the existence of the authority to do so, or the lack of enforcement capacity.[10] Hence, critical political economists view private climate governance as a function of a global shift towards neoliberal environmental governance. When government weaken or decline to enforce environmental regulations, private climate governance demonstrates great potential. For instance, many corporations openly resisted the Trump administration's efforts to slash environmental regulations. When the Trump-era EPA sought to block California's efforts to set more stringent tailpipe standards for auto emissions of

[7] Andonova, L. B., Hale, T. N., & Roger, C. B. (2017). National policy and transnational governance of climate change: Substitutes or complements? *International Studies Quarterly*, *61*(2), 253–268. https://doi.org/10.1093/isq/sqx014
[8] I.d.
[9] Vandenbergh, Michael P. and Gilligan, Jonathan M., Beyond Gridlock (December 3, 2014). Vanderbilt Public Law Research Paper No. 14-41, Vanderbilt Law and Economics Research Paper No. 14-35
[10] Vandenbergh, Private Environmental Governance, Cornell Law Review, Vol. 99: 129

air pollution, several automakers agreed voluntarily to comply with the California standards.[11] Likewise, most major electric utilities resisted the repeal of mercury emission limits, as they were already complying.[12]

Economic incentives play a crucial role in driving private climate action. The major pessimists of private climate governance are concerned about the potential inherent conflict of interest between private companies' profit-seeking nature and climate goals. This conflict does not mean that private organizations are completely antagonistic to climate governance. In fact, Elinor Ostrom's model of polycentric governance shows that different levels of community may create rules and institutions to manage shared resources sustainably and equitably and that people can manage resources without regulation or privatization.[13] Businesses increasingly link climate risks to financial risks, driving investments in mitigation and adaptation. Carbon pricing mechanisms, regulatory frameworks, and reputational considerations further encourage corporations to integrate climate strategies into their operations. According to a survey conducted by Bain, consumers are willing to pay 12% premium for sustainable products,[14] offering companies more incentive to develop climate friendly products. Moreover, a study of firms making net zero pledges found little

[11] David Shepardson & Ben Klayman, California, Four Automakers Defy Trump, Agree to Tighten Emissions Rules, REUTERS (July 25, 2019, 9:34PM), https://www.reuters.com/article/ business/california-four-automakers-defy-trump-agree-to-tighten-emissions-rulesidUSKCN1UK1OC/ [https://perma.cc/W5LV-CCQU].
[12] Trump Administration Weakens Mercury Rule for Coal Plants, REUTERS (Apr. 20, 2020, 9:51 AM), https://www.reuters.com/article/business/environment/trump-administration-weakensmercury-rule-for-coal-plants-idUSKCN21Y1IV/ [https://perma.cc/7ZRR-C6NA].
[13] The Environmental Optimism of Elinor Ostrom, Chapter 2: Self-Governance Polycentric, and Environmental Policy.
[14] https://www.esgtoday.com/consumers-willing-to-pay-12-premium-for-sustainable-products-bain-survey/#:~:text=As%20environmental%20concerns%20grow%2C%20the,average%20for%20minimized%20environmental%20impact.

evidence that net zero pledges had any impact on the share prices of the companies,[15] hence shows that making net zero pledges does not harm the value of companies.

The central debate between the proponents and opponents of ESG initiative is whether corporate managers owe duties only to maximize profits for the benefit of the shareholders of a firm or whether corporate managers owe broader duties to other stakeholders of the firm as well. In the sixty years since Milton Friedman's advocation for Corporate Social Responsibility in only maximizing profits for its shareholders, there has been a shift away from shareholder capitalism towards a broader and inclusive multi-stakeholder view of the firm. The Business Roundtable's updated statement recognizes that companies should aim to deliver long-term value to *all* of their stakeholders — customers, employees, suppliers, the communities in which they operate, and their shareholders.[16] Among the 150 largest non-financial U.S. firms by revenue, reporting on wider societal objectives in letters to shareholders has increased from 20% in the 1980s to 90% in 2020.[17] Therefore, nowadays, companies are motivated by "a mixture of efficiency, resource supply, competition, and reputational goals," in addition to "altruistic preferences or norms."[18] Moreover, corporations, universities, and other non-governmental entities increasingly are making pledges to achieve "carbon neutrality" by dates decades into the future. The number of firms with net zero pledges approved by the Science-Based Target Initiative ("SBTI") rose from 133 in 2018 to 2,097 in 2022, accounting for 34 percent of the global economy. Net-zero pledges now cover 92% of

[15] Inhwan Ko & Aseem Prakash, Stock Markets, Corporate Climate Pledges, and the ScienceBased Target Initiative, NPJ CLIM. ACTION 1–2 (Aug. 11, 2024), https://www.nature.com/articles/ s44168-024-00148-8 [https://perma.cc/6XH6-DHNW].
[16] Five Years On: Corporate Purpose and Profit (2024). https://www.businessroundtable.org/five-years-on-corporate-purpose-and-profit
[17] Rajan et al, What Purpose do Corporations Purport? Evidence from Letters to Shareholders. 2023
[18] Vandenbergh, Salzman, and Light, Private Environmental Governance (2024), *supra* note 1, at 3-7.

GDP and 88% of emissions worldwide.[19] In sum, private climate governance serves as a crucial complement by mobilizing market incentives, corporate commitments, and transnational collaborations to drive climate action where governmental efforts fall short.

B. Examples and Case Studies

1. Corporate Net-Zero Targets

Many corporations have adopted net-zero targets and emissions reduction goals, integrating climate risk assessments into their long-term planning. Net zero is intrinsically a scientific concept.[20] Currently for the world's largest 2,000 publicly listed companies by annual revenue, 59% of these firms have initiated net-zero targets.[21] For instance, Microsoft has committed to becoming carbon negative by 2030 by investing in carbon capture technologies and reducing emissions across its supply chain. Similarly, Apple has transitioned to using 100% recycled aluminum in its products and has committed to full carbon neutrality by 2030. Amazon's Climate Pledge commits the company to meet Paris Agreement targets of net-zero carbon across its global operations by 2040.[22] 535 companies now joined the Pledge. Tesla's focus on electric vehicle innovation has significantly contributed to decarbonization in the transportation sector. Apart from these megafirms, small and medium enterprises (SMEs) can unlock significant financial benefit by

[19] https://sciencebasedtargets.org/net-zero
[20] Fankhauser, S., Smith, S.M., Allen, M. et al. The meaning of net zero and how to get it right. *Nat. Clim. Chang.* 12, 15–21 (2022). https://doi.org/10.1038/s41558-021-01245-w
[21] Net Zero Tracker, https://zerotracker.net/
[22] The Climate Pledge, Amazon, https://www.aboutamazon.com/planet/climate-pledge

committing to net-zero initiatives, including cost savings through energy efficiency, enhanced brand reputation and customer loyalty.

2. Financial Markets

The rapid growth of green bonds and Environmental, Social, and Governance (ESG) investing has reshaped financial markets, making sustainability a key consideration for investors. The voluntary carbon market is a decentralized market where private actors voluntarily buy and sell carbon credits that represent removals or reductions of greenhouse gases (GHGs) in the atmosphere. Although the global voluntary market is quite small, valued at $2 million in 2021, accounting for less than 1% of global emissions, it is projected to grow rapidly.[23] With many companies committed to net zero targets, the voluntary carbon markets have a surge of future demand. However, the supply side of the voluntary carbon market has not yet found a way to align itself with the new legal architecture of the *Paris Agreement* in a credible and legitimate way.[24] Moreover, the price of carbon in voluntary carbon markets is far lower than in compliance markets such as the EU and UK's Emissions Trading Scheme (ETS).

Concerns persist about market transparency and the legitimacy of carbon credits. The Climate Bonds Initiative, for example, has certified billions of dollars in climate bonds, ensuring

[23] Kumar, (2024), Voluntary carbon markets are helpful but far from perfect, https://blogs.lse.ac.uk/businessreview/2024/10/18/voluntary-carbon-markets-are-helpful-but-far-from-perfect/

[24] Nicolas Kreibich & Lukas Hermwille (2021) Caught in between: credibility and feasibility of the voluntary carbon market post-2020, Climate Policy, 21:7, 939-957, DOI: 10.1080/14693062.2021.1948384

investments align with net-zero objectives. However, scandals such as the overvaluation of certain offset projects highlight the challenges of ensuring accountability in carbon markets.

Key principles of effective voluntary carbon market should adhere to several principles: permanence, measurement and verifiability, additionality, and no double counting. In ensuring transparency and credibility in voluntary carbon markets, Verra and the Gold Standard established robust frameworks for certification and monitoring. These organizations play a critical role in maintaining the credibility of carbon offset projects by setting rigorous standards for emissions reductions, verifying the additionality of carbon credits, and ensuring that projects provide tangible environmental and social benefits. Verra, for instance, is a nonprofit organization that manages the Verified Carbon Standard (VCS), one of the most widely recognized certification programs, which employs third-party auditors to assess projects and prevent fraudulent or exaggerated carbon offset claims. Similarly, the Gold Standard places a strong emphasis on sustainable development co-benefits, requiring projects to contribute to the United Nations Sustainable Development Goals (SDGs) in addition to reducing greenhouse gas emissions. By enforcing strict methodologies for measurement, reporting, and verification, both organizations address credibility concerns that have historically plagued voluntary carbon markets, such as double counting, non-permanence, and lack of transparency. Furthermore, these certification bodies continuously refine their standards to adapt to evolving scientific insights and market dynamics, ensuring that carbon offsets remain an effective tool for mitigating climate change while upholding public trust in the system.

3. Disclosure Reports

The Carbon Disclosure Project (CDP) collects annual, voluntary climate disclosure reports from companies from 130 countries, representing two thirds of global market value. The Carbon Disclosure Project (CDP) plays a crucial role in corporate climate governance. By assessing corporate environmental performance across climate change, water security, and deforestation, CDP enables investors, policymakers, and stakeholders to evaluate climate risks and sustainability commitments. Companies that participate align with international standards such as the Task Force on Climate-related Financial Disclosures (TCFD) and the Science-Based Targets Initiative (SBTi), gaining credibility among ESG-focused investors. However, challenges remain, including voluntary participation gaps, data verification concerns, and potential greenwashing. As regulatory bodies move toward mandatory climate risk disclosure, CDP's influence is expanding, with emerging technologies such as artificial intelligence and blockchain improving data transparency and corporate accountability.

Moreover, some states have passed legislature requiring megafirms with annual revenue of more than $1 billion to report their scope 1, 2, and 3 greenhouse gas emissions. For example, in the Unites States, California legislature enacted the Climate Corporate Data Accountability Act[25] and the Climate-Related Financial Risk Act[26] in 2023. Apple and Google already have climate-risk disclosure policies, supported the legislation.

4. Technological Advancement

[25] 2023 Cal. Legis. Serv. 382 (West).
[26] 2023 Cal. Legis. Serv. 383 (West).

Technological advancements are reshaping climate governance. Private actors are at the forefront of developing technological innovation that combat the climate crisis. They control key financial and technological resources and play a critical role in determining the effectiveness of international environmental regimes.[27] Artificial intelligence and big data analytics allow firms to conduct real-time climate risk assessments, improving decision-making processes. Renewable energy investments, such as Google's transition to wind and solar energy to power its data centers, demonstrate the viability of corporate clean energy commitments. Blockchain applications are also being explored for carbon credit verification, ensuring emissions reductions are accurately accounted for and preventing fraudulent offsets.

5. Supply Chain Sustainability and Climate Standards

The apparel industry, including brands like Patagonia and Adidas, serves as a model for effective supply chain decarbonization practices by integrating sustainability at multiple stages of production and distribution. These companies prioritize the use of organic and recycled materials, reducing reliance on resource-intensive fabrics such as conventional cotton and virgin polyester, which have significant environmental footprints. Patagonia, for example, has committed to using only recycled or regenerative organic materials in its products, while Adidas has expanded its production of shoes made from ocean plastic in collaboration with environmental organizations. Beyond material choices, both companies implement energy-efficient production methods,

[27] Falkner, R. (2007). *Business power and conflict in international environmental politics*. Basingstoke: Palgrave Macmillan.

investing in renewable energy sources, upgrading manufacturing facilities with low-carbon technologies, and optimizing logistics to minimize transportation emissions.

Moreover, they actively engage with third-party certifiers such as the Global Organic Textile Standard (GOTS), bluesign®, and the Fair Trade certification system to ensure compliance with rigorous environmental and social standards. These certifications not only verify the reduction of carbon emissions but also promote ethical labor practices and circular economy principles, including waste reduction and product longevity. Additionally, brands like Patagonia and Adidas advocate for industry-wide sustainability reforms by participating in coalitions such as the Sustainable Apparel Coalition and the Fashion Industry Charter for Climate Action, setting ambitious goals to achieve carbon neutrality. By leveraging innovation, corporate responsibility, and transparency, these companies demonstrate how the apparel industry can transition towards a more sustainable and climate-friendly future while maintaining consumer trust and brand integrity.

6. Public-Private Partnerships in Climate Resilience

Initiatives such as the Rockefeller Foundation's 100 Resilient Cities[28] project demonstrate how public-private partnerships enhance climate resilience by funding adaptation infrastructure in vulnerable regions. Selected cities were provided financial and logistical guidance for establishing a Chief Resilience Officer in government, and expert support and access to solutions in developing a robust Resilience Strategy.

[28] 100 Resilient Cities, https://www.rockefellerfoundation.org/100-resilient-cities/

II. Market-Based Climate Action: A Game-Theoretic Model

Firms face increasing pressure to adopt sustainable production methods due to consumer demand and regulatory interventions. However, sustainability comes at a cost, and individual firms may lack the incentive to unilaterally adopt sustainable practices. This model builds on the collective action problem and depicts a continuum of firms making strategic sustainability decisions under climate risk.

A. Firms and Strategies

Consider a continuum of firms indexed by $i \in [0, 1]$. Each firm chooses a strategy $s_i \in \{0, 1\}$, where:

- $s_i = 1$ if the firm adopts sustainable production;
- $s_i = 0$ if the firm follows traditional production.

The fraction of firms adopting sustainability is denoted by: $S = \int_0^1 S_i \, di$.

B. Payoffs and Costs

Each firm produces one unit of a good and sells it at a price p. The cost structure is as follows:

- If the firm adopts sustainability ($s_i = 1$), it incurs an additional cost $c_s > 0$ but receives a reputational markup $r > 0$, resulting in a per-unit profit: $\pi(1, S) = p(1 + r) - c - c_s$.
- If the firm does not adopt sustainability ($s_i = 0$), it produces at the baseline cost and earns: $\pi(1, S) = p - c$.

C. Extreme Weather Risk

At each period t, there is a probability P_t that an extreme weather shock occurs, imposing a cost C_w on all firms. The probability is given by: $P_t = P_0 - f(S)$, where P_0 is the baseline shock probability and represents the reduction in risk due to sustainable adoption. Now define $f(S)$ as: $f(S) = \frac{\delta S^\gamma}{S^\gamma + \alpha^\gamma}$ where:

- δ is the maximum possible reduction in climate risk.
- α is the sustainability adoption threshold for significant mitigation.
- $\gamma > 1$ determines how sharply the mitigation effect switches at .

If $S < \alpha$, sustainability has little effect on risk reduction.

D. Firm Optimization and Equilibrium

Each firm chooses to maximize expected profit: $\mathbb{E}[\pi(s_i, S)] = \pi(s_i, S) - P_t C_w$. A firm will choose $s_i = 1$ if $pr > c_s$.

E. Implication

This model implies that for firms to cross the sustainability threshold, the reputational markup r must be sufficiently large relative to costs. It also further shows that subsidies or regulations may shift distribution of costs of firms by reducing sustainable costs, consumer awareness campaigns can increase r and raise firm incentives. An extension of the basic setup would explore information asymmetry, learning of reputational markup, and moral hazard (greenwashing).

F. Incorporating Ostrom's Polycentric Governance Model

Ostrom's work suggests that firms (like communities in her model) might not require top-down government intervention to coordinate sustainable production. Instead, they can develop decentralized governance structures to self-regulate sustainability efforts. We can integrate this concept into the model by considering industry-level coalitions, voluntary agreements, consumer private ordering, and reputation-based enforcement mechanisms.

For example, instead of relying on government-imposed carbon taxes or regulations, firms might self-organize into sustainability pacts, where members commit to sustainable practices. The economic modeling can introduce a coalition formation game, where a subset of firms CCC forms a self-regulating sustainability coalition when coalition benefits outweigh costs. This framework can explain real-world industry sustainability initiatives, e.g., Science-Based Targets Initiative (SBTi) and Net-Zero Alliances.

Moreover, the economics modeling can also include multi-layered rule-making, including local sustainability agreements (e.g., city-level green manufacturing rules), industry self-regulation (e.g., sustainable certifications like LEED), in addition to global climate agreements. With a repeated game structure, peer enforcement can sustain cooperation without external intervention, when defection leads to social sanctions.

III. Alignment of Private Climate Governance with International Environmental Law

International Environmental Law (IEL) increasingly integrates private climate governance (PCG) by shaping norms, establishing voluntary standards, and creating market mechanisms that engage non-state actors.

A. Norm Diffusion: Shaping Global Climate Commitments

Norm diffusion refers to how IEL influences PCG by establishing widely accepted principles and targets that private actors voluntarily adopt.[29] These norms shape corporate and financial decision-making, even in the absence of legally binding obligations.

The *Paris Agreement* established the global benchmark of limiting temperature rise to well below 2°C, with efforts to cap it at 1.5°C.[30] It is flexible, facilitative, and non-coercive.[31] This has encouraged private actors to set net-zero targets that align with international climate goals.[32] Although the institutional efficiency and effectiveness of the *Paris Agreement* have been questioned, its most important legacy in setting the norm of 2°C and 1.5°C has spillover effects in diffusing the norm to private industries. Also, initiatives like the Science-Based Targets Initiative

[29] Bodansky, Varieties of Environmental Norms

[30] Paris Agreement, supra note 6, art. 2(1)(a) and 4(1).

[31] Sharaban Tahura Zaman, The Energy Transition Under The Paris Agreement: Assessing the Existing Normative Directions, 46 Environs: Envtl. L. & Pol'y J. 208 (2023), https://papers.ssrn.com/abstract=4573288

[32] Daniel Bodansky & Harro van Asselt, Is International Environmental Law Effective?, in THE ART AND CRAFT OF INTERNATIONAL ENVIRONMENTAL LAW (Daniel Bodansky & Harro van Asselt eds., Oxford University Press, forthcoming 2024), https://doi.org/10.1093/oso/9780197672365.003.0013

(SBTi) guide companies in setting carbon reduction targets consistent with the Paris Agreement. Over 2,000 corporations now have SBTi-approved net-zero pledges, demonstrating how IEL shapes voluntary corporate commitments.

IEL has influenced the development of corporate sustainability disclosure frameworks, such as the Task Force on Climate-related Financial Disclosures (TCFD)[33] and the Global Reporting Initiative (GRI)[34]. These frameworks push companies to assess and publicly disclose their climate risks, increasing corporate accountability and aligning private-sector reporting with IEL norms. Institutional investors and financial markets increasingly incorporate IEL-driven norms into investment decisions. The UN Principles for Responsible Investment (UNPRI)[35], which has over 5,000 signatories managing assets exceeding $120 trillion, integrates climate considerations into investment strategies, encouraging businesses to align with global environmental goals.

B. Soft Law and Standards

Soft law refers to non-binding international instruments that influence private governance by creating best practices, voluntary commitments, and corporate responsibility frameworks. While primarily focused on human rights, the UNGPs also emphasize environmental responsibilities, encouraging companies to integrate climate-conscious policies into their operations. These

[33] https://www.fsb-tcfd.org/
[34] https://www.globalreporting.org/
[35] https://www.unpri.org/about-us/what-are-the-principles-for-responsible-investment

principles, though non-binding, serve as an influential global standard shaping corporate environmental governance.

The Marrakech Partnership, established under the UN Framework Convention on Climate Change (UNFCCC), fosters collaboration between governments and non-state actors, including businesses, cities, and financial institutions. This initiative provides a structured framework for private entities to align with national climate commitments and accelerate emissions reductions in line with IEL objectives.

Many IEL-driven initiatives promote third-party sustainability certification systems that influence corporate supply chains. Programs such as Forest Stewardship Council (FSC), Marine Stewardship Council (MSC), and Fair Trade Certification encourage companies to comply with environmental standards, even in jurisdictions lacking strict environmental laws.

C. Market Mechanisms

IEL has increasingly integrated market-based approaches to climate governance, recognizing that private actors are essential in financing and implementing climate solutions. Article 6 of the *Paris Agreement* establishes the foundation for international carbon trading systems, allowing countries and private entities to buy and sell carbon credits to meet emission reduction goals. This mechanism promotes corporate participation in global carbon markets, encouraging businesses to invest in renewable energy projects, forest conservation, and carbon capture technologies.

IEL frameworks have facilitated the creation of regional and national ETS programs that engage private actors. For example, the EU Emissions Trading System (EU ETS), the world's

largest carbon market, requires major corporations in energy-intensive industries to cap their emissions or purchase allowances. China's national ETS, launched in 2021, covers the power sector, influencing corporate emissions strategies in the world's largest emitting country. The California Cap-and-Trade Program, aligned with IEL principles, incentivizes businesses to reduce emissions through market-driven mechanisms. However, regulatory arbitrage, where firms relocate to regions with weaker climate policies, undermines these efforts. Coordinating IEL with private climate governance mechanisms can help close these gaps.

IEL promotes green finance mechanisms that mobilize private-sector investment in climate solutions. The Climate Bonds Initiative, aligned with the Paris Agreement, has certified over $200 billion in green bonds to fund renewable energy, clean transportation, and sustainable infrastructure projects. Recent IEL discussions explore blockchain applications for carbon markets, ensuring transparency and verification of carbon credits. This technology reduces the risk of fraudulent carbon offsets, strengthening the credibility of corporate climate commitments.

IV. Challenges and Risks

While private climate governance can complement state climate governance, it faces several challenges that can be categorized into four main areas**:** Accountability and Enforcement**,** Economic and Competitive Pressures**,** Coordination and Standardization, Systemic and Equity Concerns.

A. Greenwashing and Credibility Issues

Despite its potential, private climate governance faces challenges and public distrust and criticism. Criticisms towards initiatives such as ESG and carbon disclosure have been particularly harsh and include evidenced claims of lacking in coherent standards and inconsistent measurements stemming from conceptual flaws in reporting protocols, misaligned incentives, and a lack of accountability mechanisms and audit oversight amid false accounts.[3637] As a result, these initiatives were widely seen as greenwashing or carbon washing, i.e., the deliberate and selective communication of information inconsistent with actual environmental impact and emissions reductions.[38] Indeed, in some cases, firms are engaging in this behavior of greenwashing, misleading consumers about their environmental performance or the environmental benefits of a product or service.[39] These companies have not implemented their goals or have set goals that only look good on the surface.[40] For example,Volkswagen's emissions scandal[41], where the company manipulated emissions tests while promoting sustainability claims, illustrates the risk of false environmental pledges. Another example comes from the fishing industry when StarKist became the first tuna company to reduce dolphin bycatch and labeled its tuna "Dolphin Safe,"[42] its competitors who had not slashed dolphin bycatch began making similar claims. Congress thus enacted the Dolphin Consumer Protection Information Act, 16 U.S.C. § 1385, which prohibits

[36] Callery, P. J., & Perkins, J. (2021). Detecting false accounts in intermediated voluntary disclosure. *Academy of Management Discoveries*, *7*(1), 40–56. https://doi.org/10.5465/amd.2018.0229

[37] Coen, D., Herman, K., & Pegram, T. (2022). Are corporate climate efforts genuine? An empirical analysis of the climate 'talk–walk' hypothesis. *Business Strategy and the Environment*, *31*(7), 3040–3059. https://doi.org/10.1002/bse.3063

[38] Delmas, M.A., & Burbano, V.C. (2011). The drivers of greenwashing. *California Management Review*, 54(1), 64-87.

[39] I.d.

[40] Vandenbergh, Salzman, and Light, Private Environmental Governance (2024), 86.

[41] Volkswagen: The scandal explained (2015), BBC, https://www.bbc.com/news/business-34324772

[42] Natural Resources and Policies, STARKIST, https://starkist.com/about-starkist/corporateresponsibility/natural-resources-policies/ (last visited Oct. 21, 2024) [https://perma.cc/8RDEQW2G].

companies from making false "dolphin-safe" claims.[43] The Federal Trade Commission has adopted guidelines governing "green" advertising which cover marketing claims about "the environmental attributes" of products or packaging.[44] Some states also have laws regulating green marketing claims.[45] When these laws were challenged on the ground of first amendment rights, the U.S. Court of Appeals for the Ninth Circuit held that the state's interests in preventing deceptive advertising sufficed to justify the burden on commercial speech rights.

Voluntary sustainability standards (VSS), have showed a more nuanced results relating to farm yields, farmers' incomes, poverty alleviation, environmental benefits and governance coherence.[46]

Firms' greenwashing behavior has a profound negative effect on consumer and investor confidence in green products. Some scholars also have questioned whether greenwashing is always problematic. Combatting these behaviors is challenging in a limited and uncertain regulatory framework. What is important is that the widespread corporate "greenwashing" should not be an excuse to abandon private initiatives altogether.

Research have shown that drivers of greenwashing include three levels: external, organizational, and individual.[47] The external drivers of greenwashing include pressures from both non-market actors (regulators and NGOs) and market actors (consumers, investors, and

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[43] 16 U.S.C. § 1385(d)(1).
[44] 16 C.F.R. § 260.
[45] See, e.g., CAL. BUS. & PROF. CODE § 17580.5 (regulating environmental marketing claims) (West 2023).
[46] Brandi, C. (2020). The changing landscape of sustainability standards in Indonesia: Potentials and pitfalls of making global value chains more sustainable. In A. Negi, J. A. Pérez-Pineda, & J. Blankenbach (Eds.), *Sustainability standards and global governance* (pp. 133–144). Springer Singapore. https://doi.org/10.1007/978-981-15-3473-7_8
[47] Delmas, M.A., & Burbano, V.C. (2011). The drivers of greenwashing. *California Management Review*, 54(1), 64-87.

competitors).[48] Organizational-level drivers include firm incentive structure and ethical climate, effectiveness of intra-firm communication, and organizational inertia.[49] Individual-level drivers include narrow decision framing, hyperbolic intertemporal discounting and optimistic bias.[50] While it is unlikely that there will be significant regulatory change in the near future, research argues that the roles of managers and NGOs are critical in reducing greenwashing. The recommendations include increasing the transparency of environmental performance, increasing knowledge about greenwashing, and effectively aligning intra-firm structures, processes, and incentives.[51]

Additionally, insufficient data and transparency hinder effective monitoring, as firms may not have reliable emissions tracking mechanisms or standardized reporting practices. This reduces the credibility of private climate governance and makes it difficult to assess its real impact.

B. Coordination Issues and Accountability Gap

PCG is limited in its ability to address structural and systemic climate challenges, such as fossil fuel dependency, deforestation, and the need for large-scale renewable energy infrastructure. Additionally, global coordination challenges arise as companies operate in multiple jurisdictions with different climate policies, making it difficult to implement consistent sustainability strategies. An accountability gap exists for regulating the environmental impacts of transnational

[48] Delmas, M.A., & Burbano, V.C. (2011). The drivers of greenwashing. *California Management Review*, 54(1), 64-87.
[49] I.d.
[50] I.d.
[51] I.d.

corporations.[52] Addressing this issue requires reorienting international environmental law to hold non-state actors accountable. One approach is to enhance compliance with the OECD Guidelines by strengthening the role of National Contact Points.[53] Additionally, countries could improve access to legal remedies against transnational corporations by adopting universal jurisdiction, removing barriers to transnational litigation, and revising legal frameworks to ensure that parent companies cannot evade responsibility by undercapitalizing their subsidiaries. A focus on corporate liability could even open new avenues for advancing the currently intractable loss-and-damage negotiations under the climate regime. A positive development in this regard is the European Commission's proposal—following legislative actions in France and Germany—to extend due diligence obligations on corporations operating abroad, requiring them to assess and mitigate potential human rights and environmental violations.[54]

C. Equity Concerns

Additionally, climate action remains unevenly distributed. On the international level, developing countries bear disproportionate climate costs while wealthier nations reap the economic benefits of sustainability initiatives. In fact, consumers in fast growing markets appeared to have higher concern levels than those in developed countries, with 85% in India, 81% in Brazil and 73% in China, for example, reporting being very or extremely concerned, compared with 53%

[52] Hunter, D. (2022). Moving beyond State-Centrism in International Environmental Law. *Environmental Policy and Law*, *52*(3-4), 201-212.
[53] I.d.
[54] Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937, COM (2022) 71 final, 2022/0051(COD) (23 Feb. 2022)

in the U.S., 54% in Germany and 56% in the UK. After all, consumers in growing markets are bearing the costs of climate crisis disproportionately, while developed countries already transitioned to a cleaner economy which involves a high ratio of service industry.

On the domestic level, PCG is mobilized primarily as a strategy of accumulation, rather than in service of climate mitigation. PCG is utilized by elite groups for the purpose of securing global market access and managing the associated risks of capital expansion, which is a more serious problem than greenwashing. Specifically, case studies from Southeast Asian markets reveal that PCG is driven by the interests of domestic but internationalizing fractions of capital, namely, oligarchic capital in Indonesia and the managers of state capitalism in Singapore.[55] These private climate initiatives are being harnessed by these dominant social forces for transnational conglomerate expansion out of Indonesia, and for post-industrial economic growth to buttress party-state dominance in Singapore, respectively.[56] Hence, the development of PCG is also shaped by domestic political-economic conditions rather than technical limitations alone. Mance also points to the problematic nature of private enforcers in directly enforce statutes or regulations.[57] Mance argues that private enforcers use the mantle of environmental protection to prioritize private

[55] Bal, C., Al-Fadhat, F., & Paramitaningrum. (2025). What is the point of private climate governance? A study of emerging initiatives in Indonesia and Singapore. *Review of International Political Economy*, 1–25. https://doi.org/10.1080/09692290.2024.2447738

[56] I.d.

[57] Mance, Anna, How Private Enforcement Exacerbates Climate Change (2022). 44 Cardozo L. Rev. 1493 (2023), SMU Dedman School of Law Legal Studies Research Paper No. 569, Available at SSRN: https://ssrn.com/abstract=4204954

interests, which paradoxically exacerbating climate problems, deepening inequality, and placing a disproportionate burden on those with the least voice.[58]

V. Policy Recommendations for Strengthening IEL and Enhancing PCG: The Way Forward

To strengthen international environmental law in support of private climate governance, several strategic measures can be implemented, even in the absence of significant regulatory change in the near future. The evolving landscape of climate governance suggests that private actors are playing an increasingly crucial role in climate mitigation and adaptation efforts. However, to maximize their impact, international legal frameworks must provide better coordination, incentives, and enforcement mechanisms.

A. Strengthening Accountability and Enforcement

To enhance the effectiveness of private climate governance, international environmental law must integrate stronger mechanisms to ensure corporate accountability and prevent greenwashing. One key step is the development of standardized Monitoring, Reporting, and Verification (MRV) systems under global institutions like the UNFCCC, ensuring that corporate climate commitments are credible, consistent, and independently verified. Additionally, strengthening liability and due diligence frameworks, such as the EU's Corporate Sustainability Due Diligence Directive (CSDDD), would hold transnational corporations accountable for the environmental impact of

[58] Id.

their global supply chains.

To ensure transparency in voluntary carbon markets, IEL should establish minimum verification standards for carbon credits, integrating mechanisms such as blockchain-based tracking and mandatory third-party audits. To further enhance corporate responsibility, establishing a minimum international carbon price could create economic incentives for emissions reductions while discouraging firms from exploiting regulatory differences between jurisdictions.

B. Leverage Legal and Economic Incentives

Functionalist view PCG can be improved by improved technical designs and firmer public regulatory oversight for better outcomes.[59] Indeed, aligning business interests with climate goals requires embedding sustainability commitments into trade and investment agreements would strengthen PCG. International economic policies should incorporate environmental standards, as exemplified by the EU's Carbon Border Adjustment Mechanism (CBAM), which pressures companies to adopt greener production practices beyond national borders. Additionally, strengthening legal frameworks for green finance—including clearer regulations for carbon offsets, green bonds, and ESG investments—would improve market credibility and minimize financial greenwashing. Public-private partnerships (PPPs) also play a crucial role in mobilizing resources for climate action. Governments and international institutions, such as the Green Climate Fund, should collaborate with businesses to finance low-carbon technologies, green supply chains, and

[59] Kaplan, R. S., & Ramanna, K. (2021). How to fix ESG reporting. *SSRN Electronic Journal* (Working Paper 22-005), 1–15. https://doi.org/10.2139/ssrn.3900146

climate resilience projects, ensuring that corporate sustainability goals align with global climate objectives.

C. Enhancing Soft Law Mechanism and Voluntary Standards

Given the political challenges of enacting binding international climate regulations, strengthening soft law mechanisms can reinforce private governance without direct government mandates. Voluntary sustainability initiatives such as the Task Force on Climate-related Financial Disclosures (TCFD), the Science-Based Targets initiative (SBTi), and the UN Principles for Responsible Investment (PRI) provide structured guidelines that influence corporate behavior. To enhance their effectiveness, international legal frameworks should formally recognize these standards within the Paris Agreement's transparency mechanisms, increasing accountability and alignment with global climate goals. Moreover, improving technical designs and regulatory oversight of voluntary carbon markets and corporate disclosure frameworks would further enhance their impact, ensuring that businesses meaningfully contribute to emissions reductions rather than relying on superficial commitments.

D. Promoting Climate Equity and Justice in Governance

Private climate governance must prioritize climate justice and equity to ensure that sustainability efforts do not disproportionately benefit developed economies while shifting environmental burdens to developing nations. Private climate governance must engage more with

distributive politics and the domestic level as well.[60][61] Establishing corporate accountability frameworks that mandate reporting on environmental justice impacts and fair-trade policies can help address the unequal distribution of climate risks and benefits. Furthermore, global climate governance must ensure that developing nations have a fair role in shaping international climate policies rather than merely adapting to decisions made by wealthier countries. By integrating justice-oriented policies into environmental law—such as enforcing corporate due diligence in vulnerable communities and supporting equitable carbon finance mechanisms—private climate governance can contribute to both environmental sustainability and global justice.

Conclusion

In conclusion, the research highlights the growing importance of PCG in global climate governance and its potential to bridge gaps left by state-centric approaches. By examining the synergies between legal frameworks and economic incentives, this paper offers actionable insights for policymakers, corporate leaders, and legal scholars seeking to harness private sector innovation for a sustainable future. It underscores the urgency of recalibrating IEL to support collaborative solutions that address the multifaceted challenges of climate change.

PCG represents a critical evolution in global climate governance, complementing traditional state-driven approaches. By bridging IEL with economic incentives, private actors can enhance

[60] Aklin, M., & Mildenberger, M. (2020). Prisoners of the wrong dilemma: Why distributive conflict, not collective action, characterizes the politics of climate change. *Global Environmental Politics*, *20*(4), 4–27. https://doi.org/10.1162/glep_a_00578
[61] Green, J. F. (2020). Less talk, more walk: Why climate change demands activism in the academy. *Daedalus*, *149*(4), 151–162. https://doi.org/10.1162/daed_a_01824

climate resilience and mitigation efforts. This paper underscores the need for IEL reforms to standardize and integrate PCG mechanisms, ensuring greater accountability, efficiency, and equity in climate action.

As private climate governance expands, IEL must evolve to ensure accountability, transparency, and equity. Strengthening legal frameworks, integrating voluntary standards, and leveraging market incentives will be critical in aligning private sector action with global climate goals. Future research should explore how IEL can enforce corporate climate commitments, reduce regulatory arbitrage, and support just climate transitions in developing economies.