

Navigating the Climate Crisis: Exploring International Law's Evolution and Application

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Abstract

The climate crisis demands a global effort to mitigate its impact and adapt to the changing environment. International law is essential in addressing this crisis, enabling cooperation and providing a framework for action. This study explores the evolution and effectiveness of international law in navigating the climate crisis. It examines the historical development of international environmental law, highlighting key milestones like the UNFCCC and the Paris Agreement. The study evaluates the effectiveness of international law in driving climate action through mechanisms such as emission reduction targets, reporting obligations, financial assistance, and technology transfer. It also addresses challenges within the existing legal framework, including enforcement mechanisms, compliance issues, and equitable treatment of developing countries. Furthermore, the study explores the evolving role of non-state actors in shaping climate governance and influencing international legal norms. It investigates transnational networks, voluntary initiatives, and corporate social responsibility as complementary to international legal instruments. Finally, the research identifies pathways for future development and enhancement of international climate law, emphasizing more ambitious emission reduction commitments, integrating climate considerations into other areas of international law, and exploring innovative legal approaches like climate litigation and climate-related trade measures.

Keywords: *Climate Crisis, International Climate Law, International Frameworks, Paris Agreement, Emission Reduction Targets, Compliance Mechanisms*

Introduction

'Climate change' according to the United Nations Framework Convention on Climate Change (UNFCCC), is a "change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."² The climate crisis, characterized by escalating global temperatures, extreme weather events, and disruptions to ecosystems, presents an unparalleled peril to humanity and the planet.³ Addressing this crisis necessitates a collective global endeavour, with international law serving as an indispensable tool for fostering cooperation and driving action.⁴ This research aims to explore the evolution and application of international law in navigating the climate crisis, evaluating its effectiveness, limitations, and prospects for future development.

Over recent decades, the development of international environmental law has played a pivotal role in tackling global environmental challenges, including climate change. Early environmental agreements, such as the 1972 Stockholm Declaration and the 1992 Rio Declaration, laid the

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² *United Nations Framework Convention on Climate Change*, Article 1(2).

³ PANEL ON, GLOBAL WARMING OF 1.5°C: IPCC SPECIAL REPORT ON IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PREINDUSTRIAL LEVELS IN CONTEXT OF STRENGTHENING RESPONSE TO CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY (2022), <https://www.cambridge.org/core/books/globalwarmingof15c/D7455D42B4C820E706A03A169B1893FA>. (last visited Jun 9, 2023).

⁴ Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope?*, 110 THE AMERICAN JOURNAL OF INTERNATIONAL LAW 288 (2016).

groundwork for international collaboration on environmental issues.⁵ These agreements acknowledged the interrelated nature of environmental problems and underscored the imperative of collective action.

The establishment of dedicated institutions and multilateral frameworks further propelled the advancement of international environmental law. Notably, the United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, stands as a significant milestone (UNFCCC, 1992).⁶ The UNFCCC provides the overarching framework for global climate cooperation, delineating principles, objectives, and obligations for the collective response to climate change.

The Paris Agreement, adopted in 2015 under the UNFCCC, represented a pivotal juncture in international climate endeavours.⁷ It introduced a novel approach to tackling the climate crisis, emphasizing nationally determined contributions (NDCs) and long-term goals to curtail global temperature rise. The Paris Agreement exemplified an evolving comprehension of the necessity for collaborative action and demonstrated nations' commitment to combatting climate change.

As the climate crisis intensifies, international law assumes a vital role in driving climate action. Mechanisms deployed under international law, such as emission reduction targets, reporting and transparency obligations, financial assistance, and technology transfer, provide a framework for nations to adopt concrete measures.⁸ These mechanisms aim to foster cooperation, enhance accountability, and facilitate the exchange of knowledge and resources.

However, the effectiveness of international climate law encounters challenges and constraints. Enforcement mechanisms remain feeble, and compliance with commitments varies among nations. Developing countries often grapple with limited resources and encounter difficulties in fulfilling their obligations, necessitating a more equitable and supportive approach.⁹ Moreover, the rapidly evolving nature of the climate crisis demands continuous innovation in legal frameworks to effectively address emerging issues.

In addition to state actors, non-state actors, encompassing cities, businesses, and civil society organizations, have emerged as influential participants in shaping climate governance.¹⁰ Transnational networks, voluntary initiatives, and corporate social responsibility endeavours contribute to the implementation of climate-related actions and exert influence on the development of international legal norms.¹¹

To address these challenges and harness the potential of international law in navigating the climate crisis, further development and improvement are imperative. This research will explore avenues for future enhancements, encompassing heightened ambition in emission reduction commitments,

⁵ *Stockholm Declaration on the Human Environment*, UN Doc. A/CONF.48/14/Rev.1 (June 16, 1972); *Rio Declaration on Environment and Development*, UN Doc. A/CONF.151/26/Rev.1 (June 14, 1992).

⁶ *United Nations Framework Convention on Climate Change*, May 9, 1992, 1771 U.N.T.S. 107 (entered into force Mar. 21, 1994).

⁷ *Paris Agreement*, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015).

⁸ HARRIET BULKELEY & PETER NEWELL, *GOVERNING CLIMATE CHANGE* (2023).

⁹ Bodansky, *supra* note 2.

¹⁰ Jonathan W. Kuypers, Björn-Ola Linnér & Heike Schroeder, *Non-state actors in hybrid global climate governance: justice, legitimacy, and effectiveness in a post-Paris era*, 9 WILEY INTERDISCIPLINARY REVIEWS: CLIMATE CHANGE (2017); Karin Bäckstrand, Jonathan Kuypers & Naghmeh Nasiritousi, *From collaboration to contestation? Perceptions of legitimacy and effectiveness in postParis climate governance*, 9 EARTH SYSTEM GOVERNANCE 100115 (2021), <https://www.sciencedirect.com/science/article/pii/S2589811621000197>.

¹¹ Lisa Benjamin, *International and Transnational Climate Change Law and Policies*, in COMPANIES AND CLIMATE CHANGE: THEORY AND LAW IN THE UNITED KINGDOM 78–112 (2021).

integration of climate considerations into other domains of international law, and exploration of innovative legal approaches.

By scrutinizing the evolution and application of international law in the context of the climate crisis, this research endeavours to provide valuable insights into the accomplishments, challenges, and potential of the existing legal framework. It underscores the significance of ongoing efforts to fortify international cooperation, enhance compliance mechanisms, and promote innovative approaches to tackle the pressing global challenge of climate change.

Evolution of International Environmental Law

International environmental law has undergone significant evolution over the years, reflecting a growing recognition of the need for global cooperation to address environmental challenges, including climate change.

Early Environmental Agreements and Conventions:

The emergence of international environmental law can be traced back to early agreements and conventions that laid the foundation for global cooperation on environmental issues. The 1972 Stockholm Declaration on the Human Environment, adopted during the United Nations Conference on the Human Environment, emphasized the importance of environmental protection and sustainable development.¹² This landmark declaration recognized the need for international cooperation to address environmental challenges.

Another significant agreement is the 1992 Rio Declaration on Environment and Development, which articulated principles such as the precautionary principle,¹³ common but differentiated responsibilities,¹⁴ and sustainable development.¹⁵ The Rio Declaration emphasized the interdependence of environmental protection and socio-economic development, providing a guiding framework for subsequent environmental initiatives.

Establishment of Dedicated Institutions and Multilateral Frameworks:

The establishment of dedicated institutions and multilateral frameworks has been instrumental in advancing international environmental law. The United Nations Environment Programme (UNEP), established in 1972, serves as the leading global authority on environmental matters and promotes environmental governance.¹⁶ UNEP facilitates cooperation among nations, coordinates environmental initiatives, and supports the development of international environmental law.

Key Milestones in the Development of International Environmental Law:

Several key milestones have shaped the evolution of international environmental law. The adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 marked a significant step in addressing climate change at the global level. The UNFCCC aimed to stabilize greenhouse gas concentrations in the atmosphere and prevent dangerous anthropogenic interference with the climate system.¹⁷ The UNFCCC established a framework for international cooperation on climate change, emphasizing the principle of common but differentiated responsibilities and respective capabilities.

¹² *United Nations Conference on the Human Environment*, Stockholm, 5-16 June 1972, U.N. Doc. A/CONF.48/14/Rev.1.

¹³ *Rio Declaration on Environment and Development*, Principle 15.

¹⁴ *Rio Declaration on Environment and Development*, Principle 15.

¹⁵ *Rio Declaration on Environment and Development*, Principle 3 and Principle 4.

¹⁶ Steffen Bauer, *United Nations Environment Programme*, in AMANDINE ORSINI 3 (2014).

¹⁷ Christopher J. Rhodes, *The 2015 Paris Climate Change Conference: COP21*, 99 *SCIENCE PROGRESS* 97 (2016), <https://journals.sagepub.com/doi/pdf/10.3184/003685016X14528569315192> (last visited Jun 19, 2023).

The subsequent Conference of the Parties (COP) meetings under the UNFCCC have witnessed the development of key protocols and agreements. Notably, the Kyoto Protocol, adopted in 1997, introduced binding emission reduction targets for developed countries.¹⁸ It represented a significant step in international efforts to address climate change, although it faced challenges in achieving broad participation and comprehensive emission reductions.

The Paris Agreement, adopted in 2015, represents a landmark achievement in international environmental law. It aims to limit global temperature rise well below 2 degrees Celsius above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5 degrees Celsius.¹⁹ The Paris Agreement embodies a collective effort to address climate change, highlighting the importance of nationally determined contributions and enhanced global cooperation.

The evolution of international environmental law reflects an increasing recognition of the urgency and complexity of environmental challenges. It demonstrates a shift toward more comprehensive and inclusive frameworks that involve both developed and developing countries in addressing climate change. However, challenges remain in terms of implementation, compliance, and equity, requiring ongoing efforts to strengthen and refine the legal frameworks.²⁰

By understanding the evolution of international environmental law, we can appreciate the milestones and key instruments that have shaped the legal framework for addressing climate change. This understanding provides a foundation for exploring the effectiveness and limitations of international law in navigating the climate crisis and identifying areas for future development and improvement.

The United Nations Framework Convention on Climate Change (UNFCCC)

The United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, is a landmark international treaty aimed at addressing climate change.²¹ The UNFCCC sets out the overarching framework for global cooperation in tackling the climate crisis.

Objectives and Principles of the UNFCCC:

The primary objective of the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system.²² It recognizes that climate change is a common concern of humanity and that nations have a responsibility to protect the climate system for present and future generations.²³

Key Provisions and Mechanisms for Addressing Climate Change:

The UNFCCC establishes key provisions and mechanisms to guide climate action at the international level. These include:

¹⁸ Lee Chung Lau, Keat Teong Lee & Abdul Rahman Mohamed, *Global warming mitigation and renewable energy policy development from the Kyoto Protocol to the Copenhagen Accord—A comment*, 16 RENEWABLE AND SUSTAINABLE ENERGY REVIEWS 5280 (2012).

¹⁹ IPCC, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5 °C AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY (Masson-DelmotteValérie et al. eds., 2022).

²⁰ Bodansky, *supra* note 2.

²¹ Tim Cadman, *The United Nations Framework Convention on Climate Change*, in THE PALGRAVE HANDBOOK OF CONTEMPORARY INTERNATIONAL POLITICAL ECONOMY 359 (Timothy M Shaw et al. eds., 2019), https://doi.org/10.1057/9781137454430_23.

²² *United Nations Framework Convention on Climate Change*, Article 2.

²³ Thomas Cottier & Tetyana Payosova, *Common concern and the legitimacy of the WTO in dealing with climate change*, in RESEARCH HANDBOOK ON CLIMATE CHANGE AND TRADE LAW 9 (Panagiotis Delimatsis ed., 2016).

1. Mitigation: The UNFCCC promotes efforts by countries to reduce greenhouse gas emissions and enhance removals from the atmosphere. It emphasizes the principle of "common but differentiated responsibilities and respective capabilities," recognizing that developed countries should take the lead in mitigating climate change.²⁴
2. Adaptation: The UNFCCC recognizes the need for countries, particularly developing nations that are most vulnerable to the impacts of climate change, to adapt to the changing climate conditions. It calls for the development and implementation of adaptation measures to reduce vulnerability and build resilience.²⁵ (UNFCCC, 1992).
3. Finance and Technology Transfer: The United Nations Framework Convention on Climate Change (UNFCCC) recognizes and emphasizes the significance of financial resources and technology transfer to assist developing countries in their endeavours to address climate change.²⁶ It calls for developed countries to provide financial assistance, capacity-building support, and access to environmentally sound technologies to developing nations.²⁷
4. Reporting and Transparency: The UNFCCC establishes a framework for countries to regularly report on their greenhouse gas emissions, mitigation actions, and support provided or received. Article 4(1)(b) of the UNFCCC highlights the obligation of countries to develop and regularly update national inventories of greenhouse gas emissions and removals. It emphasizes the importance of accurate and consistent reporting to facilitate the monitoring and assessment of climate change mitigation efforts. Article 4(3) emphasizes the need for developed countries to provide financial and technological support to assist developing countries in meeting their reporting obligations and enhancing their capacity to do so. Also, article 12 establishes the framework for the provision of financial and technical support to developing countries for the preparation of their national communications and the implementation of the reporting requirements under the convention. This transparency mechanism aims to enhance accountability and promote a better understanding of global climate efforts.
5. Capacity Building: The UNFCCC emphasizes the importance of capacity-building support, particularly for developing countries, to enhance their ability to effectively respond to climate change challenges. This includes providing training, education, and technical assistance. Article 4(5) of the UNFCCC emphasizes the importance of supporting capacity-building efforts in developing countries, particularly those that are particularly vulnerable to the adverse effects of climate change. Article 11 specifically focuses on capacity-building support by calling for developed countries to enhance the capacity of developing countries to take effective climate action, including providing financial resources, technology transfer, and capacity-building support for activities such as training, education, and public awareness. Also Decision 2/CP.7 adopted by the Conference of the Parties to the UNFCCC, further elaborates on capacity building. It establishes the framework for capacity-building activities and identifies specific areas for capacity building, including institutional strengthening, technology transfer, training, education, and public awareness. These provisions, among others, collectively highlight the importance of capacity building and call for support and assistance to be provided to developing countries in their efforts to enhance their capacity to address climate change challenges.

Role of the Conference of the Parties (COP):

²⁴ *United Nations Framework Convention on Climate Change*, Article 3(1).

²⁵ See *United Nations Framework Convention on Climate Change*, Article 4(1).

²⁶ Daniel Puig, James Arthur Haselip & Fatemeh Bakhtiari, *The mismatch between the in-country determinants of technology transfer, and the scope of technology transfer initiatives under the United Nations Framework Convention on Climate Change*, 18 INTERNATIONAL ENVIRONMENTAL AGREEMENTS: POLITICS, LAW AND ECONOMICS 659 (2018), <https://doi.org/10.1007/s10784-018-9405-1> (last visited Jun 19, 2023).

²⁷ See *United Nations Framework Convention on Climate Change*, Articles 4(3), 4(4), and 11.

The Conference of the Parties (COP) serves as the supreme governing body of the UNFCCC.²⁸ It brings together representatives from member countries to review progress, negotiate agreements, and make decisions on various aspects of climate change. The COP meetings take place annually, providing a platform for countries to discuss and advance international climate action.

The COP has played a crucial role in shaping the implementation of the UNFCCC. It has witnessed the adoption of important protocols and agreements, such as the Kyoto Protocol and the Paris Agreement, which have further advanced international efforts to address climate change. The COP meetings facilitate negotiations, exchange of knowledge and best practices, and coordination of climate actions among nations.

The UNFCCC and its COP meetings provide a vital framework for international cooperation on climate change. By establishing objectives, principles, and key mechanisms, they guide nations in their efforts to mitigate greenhouse gas emissions, adapt to climate impacts, and foster global collaboration. These international instruments and platforms play a pivotal role in addressing the climate crisis and shaping the trajectory of climate action worldwide.

The Paris Agreement

Overview of the Paris Agreement:

The Paris Agreement, adopted in 2015, is a landmark international treaty under the United Nations Framework Convention on Climate Change (UNFCCC).²⁹ It aims to address the global climate crisis by strengthening the global response to climate change and enhancing the implementation of the UNFCCC.³⁰ The Paris Agreement represents a significant step forward in international efforts to combat climate change.

Key Elements and Commitments:

The Paris Agreement incorporates several key elements and commitments to tackle climate change effectively:

1. **Long-Term Temperature Goal:** The agreement aims to hold the increase in global average temperature to well below 2 degrees Celsius above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5 degrees Celsius.³¹ This provision sets the objective of limiting global warming to well below 2 degrees Celsius and encourages efforts to limit the temperature increase to 1.5 degrees Celsius compared to pre-industrial levels. It acknowledges that limiting warming to 1.5 degrees Celsius would provide even greater benefits in terms of reducing the risks and impacts of climate change. This temperature goal reflects the scientific consensus on the need to prevent catastrophic impacts of climate change.
2. **Nationally Determined Contributions (NDCs):** Under article 4.2 of the Paris Agreement, countries are required to submit their Nationally Determined Contributions, which outline their efforts to reduce greenhouse gas emissions and adapt to the impacts of climate change.³² This provision recognizes that the NDCs are determined by individual countries, taking into account their national circumstances, capabilities, and priorities. It also emphasizes the principles of equity and common but differentiated responsibilities, acknowledging that countries have varying levels of responsibility and capacity to address climate change.

²⁸ A Kaya & Lynne Steuerle Schofield, *The Determinants and Importance of States' Attendance at Conferences of the United Nations Framework Convention on Climate Change (UNFCCC)*, in 9TH ANNUAL CONFERENCE ON THE POLITICAL ECONOMY OF INTERNATIONAL ORGANIZATIONS (2015).

²⁹ Saheed Matemilola, Oluwaseun Fadeyi & Timothy Sijuade, *Paris Agreement*, in ENCYCLOPEDIA OF SUSTAINABLE MANAGEMENT 1 (Samuel Idowu et al. eds., 2020).

³⁰ IPCC, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 2022, *supra* note 18.

³¹ *Paris Agreement*, art. 2.1(a).

³² *Paris Agreement*, art. 4.2

3. **Transparency and Accountability:** The Paris Agreement establishes a robust transparency framework to enhance the understanding and tracking of countries' climate actions.³³ Countries are required to regularly report on their greenhouse gas emissions and progress in implementing their NDCs. The agreement also emphasizes the need for accountability and international review processes to ensure that countries fulfil their commitments.
4. **Climate Finance:** The Paris Agreement recognizes the importance of providing financial resources to support developing countries in their climate mitigation and adaptation efforts.³⁴ Developed countries are urged to provide financial assistance to developing countries to help them address climate change and enhance their capacity to adapt and build resilience. It also calls for improved access to climate finance, simplified procedures, and enhanced support for capacity-building and technology transfer.

Enhanced Ambition and the Concept of Nationally Determined Contributions (NDCs):

One of the key features of the Paris Agreement is its emphasis on enhanced ambition over time. The agreement recognizes that current commitments are insufficient to meet the long-term temperature goals. To address this, the concept of NDCs plays a central role.

NDCs represent each country's climate commitments and actions. They outline the country's efforts to mitigate greenhouse gas emissions and adapt to the impacts of climate change. Importantly, NDCs are expected to be regularly updated and strengthened to reflect increasing ambition over time.

The Paris Agreement establishes a global stocktaking process to assess collective progress towards the long-term goals and inform the updating of NDCs. This process encourages countries to continuously enhance their ambition and take more aggressive actions to address climate change.³⁵

Effectiveness of International Law in Driving Climate Action

International law plays a crucial role in driving climate action by establishing mechanisms and obligations to address the global challenge of climate change. Several key aspects of international law contribute to the effectiveness of efforts to combat climate change:

Emission Reduction Targets and Commitments:

One of the primary ways in which international law drives climate action is through the establishment of emission reduction targets and commitments. The Paris Agreement, for instance, requires countries to submit Nationally Determined Contributions (NDCs) that outline their specific targets and actions to reduce greenhouse gas emissions. These NDCs are considered legally binding commitments under international law.³⁶ By setting clear targets, international law provides a framework for countries to take concrete actions to mitigate climate change.

Reporting and Transparency Obligations:

International law also includes reporting and transparency obligations to ensure accountability and enhance the effectiveness of climate action. The Paris Agreement establishes a robust transparency framework that requires countries to regularly report on their emissions, progress in implementing their NDCs, and efforts to adapt to the impacts of climate change.³⁷ This transparency enables countries to track each other's progress and hold each other accountable for their commitments. It

³³ *Paris Agreement*, art. 13.

³⁴ *Paris Agreement*, art. 9.

³⁵ Jamal Srouji, Nate Warszawski & Hannah Roeyer, *Explaining the First "Global Stocktake" of Climate Action*, WORLD RESOURCES INSTITUTE (2022), <https://www.wri.org/insights/explaining-global-stocktake-paris-agreement> (last visited Jun 20, 2023).

³⁶ Benoit Mayer, *International Law Obligations Arising in relation to Nationally Determined Contributions*, 7 TRANSNATIONAL ENVIRONMENTAL LAW 251-275 (2018).

³⁷ Radoslav Dimitrov et al., *Institutional and environmental effectiveness: Will the Paris Agreement work?*, 10 WILEY INTERDISCIPLINARY REVIEWS: CLIMATE CHANGE (2019).

also facilitates knowledge sharing and learning, leading to improved practices and more effective climate action.

Financial Assistance and Technology Transfer Mechanisms:

Addressing climate change requires significant financial resources and the transfer of climate-friendly technologies to developing countries. International law recognizes the need for financial assistance and technology transfer to support developing countries in their climate mitigation and adaptation efforts. The Paris Agreement reaffirms the commitment of developed countries to provide financial resources to developing countries, with a goal to mobilize \$100 billion annually by 2020, and to further enhance this support in the future.³⁸ Additionally, the agreement promotes the transfer of environmentally sound technologies to developing countries to enable their transition to low-carbon and climate-resilient pathways.

Challenges and Limitations

Despite the progress made in international climate law, there are several challenges and limitations that need to be addressed to enhance its effectiveness in driving climate action. These include:

Enforcement Mechanisms and Compliance Issues:

One of the challenges in international climate law is the lack of strong enforcement mechanisms. While international agreements like the Paris Agreement establish obligations and commitments, they often rely on voluntary compliance by member states. This raises concerns about the enforceability and effectiveness of these agreements.³⁹ The absence of robust enforcement mechanisms can undermine the implementation of climate actions and hinder the achievement of emission reduction targets.

Treatment of Developing Countries and Differentiation:

Another challenge is the treatment of developing countries and the principle of differentiation. International climate law recognizes the historical responsibility of developed countries in contributing to climate change and the need for these countries to take the lead in emission reductions. However, achieving a fair and equitable balance between developed and developing countries' responsibilities and capabilities remains a complex task.⁴⁰ Developing countries often face challenges in accessing financial resources and clean technologies to support their climate actions, which can hinder their capacity to fully participate in global efforts.

Potential Gaps and Areas for Improvement:

There are potential gaps and areas for improvement in international climate law. For instance, some argue that existing legal frameworks do not adequately address emerging issues such as climate-related loss and damage, which refers to the irreversible impacts of climate change.⁴¹ Enhancing the legal mechanisms to address these issues and incorporating them into international agreements can strengthen the effectiveness of climate action.

³⁸ Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope?*, 110(2) AMERICAN JOURNAL OF INTERNATIONAL LAW 288-319 (2016).

³⁹ *Id.*

⁴⁰ David Victor, *Climate change: Embed the social sciences in climate policy*, 520 NATURE 27 (2015), <https://doi.org/10.1038/520027a>.

⁴¹ Meinhard Doelle & Sara Seck, *Loss & damage from climate change: from concept to remedy?*, in THE THIRD PILLAR OF INTERNATIONAL CLIMATE CHANGE POLICY: ON "LOSS AND DAMAGE" AFTER THE PARIS AGREEMENT (Morten Broberg & Beatriz Martinez Romera eds., 2021).

Moreover, there is a need to enhance the coordination and coherence among various international climate agreements and legal instruments to ensure consistency and avoid fragmentation.⁴² This includes aligning efforts under the Paris Agreement with other international frameworks such as the Sustainable Development Goals.

Role of Non-State Actors

Non-state actors play a critical role in driving climate action alongside governments. Their involvement contributes to the effectiveness and implementation of international climate law. Key aspects of the role of non-state actors include:

Influence of Cities, Businesses, and Civil Society Organizations:

Cities, businesses, and civil society organizations have emerged as influential actors in addressing climate change. Cities, in particular, have significant potential to implement climate mitigation and adaptation measures due to their concentration of population and resources.⁴³ They can establish climate targets, implement sustainable policies, and promote innovation.

Businesses, as major emitters of greenhouse gases, also play a crucial role in climate governance. Many companies have recognized the importance of sustainable practices and have adopted measures to reduce their carbon footprint.⁴⁴ They can contribute to climate action through innovation, investment in renewable energy, and implementation of sustainable business models.

Civil society organizations, including environmental NGOs and advocacy groups, mobilize public support and raise awareness about climate change issues. They engage in policy advocacy, monitoring, and grassroots initiatives, influencing public opinion and pressuring governments and businesses to take stronger climate action.⁴⁵

Transnational Networks and Voluntary Initiatives:

Transnational networks and voluntary initiatives also contribute to climate governance. These networks connect non-state actors across borders, facilitating knowledge exchange, capacity-building, and collaboration on climate-related issues. Examples include The Climate Group's RE100 initiative, which brings together companies committed to 100% renewable electricity, and the Global Covenant of Mayors for Climate & Energy, which connects cities in a shared commitment to combat climate change.⁴⁶

Corporate Social Responsibility and its Impact on Climate Governance:

Corporate social responsibility (CSR) has gained prominence in the business sector, influencing climate governance. Many companies recognize the need to integrate environmental sustainability into their business strategies and operations. They voluntarily commit to reducing emissions,

⁴² Dug Cubie & Tommaso Natoli, *Coherence, Alignment and Integration: Understanding the Legal Relationship Between Sustainable Development, Climate Change Adaptation and Disaster Risk Reduction*, in *CREATING RESILIENT FUTURES: INTEGRATING DISASTER RISK REDUCTION, SUSTAINABLE DEVELOPMENT GOALS AND CLIMATE CHANGE ADAPTATION AGENDAS* 45 (Stephen Flood et al. eds., 2022), https://doi.org/10.1007/9783030807917_3.

⁴³ Jörg Cortekar et al., *Why climate change adaptation in cities needs customised and flexible climate services*, 4 *CLIMATE SERVICES* 42 (2016).

⁴⁴ Blake Morgan, *101 Companies Committed To Reducing Their Carbon Footprint*, *FORBES* (2019), <https://www.forbes.com/sites/blakemorgan/2019/08/26/101-companies-committed-to-reducing-their-carbon-footprint/?sh=27fce02f260b> (last visited Jun 20, 2023).

⁴⁵ Karin Bäckstrand et al., *Non-state actors in global climate governance: from Copenhagen to Paris and beyond*, 26 *ENVIRONMENTAL POLITICS* 561 (2017).

⁴⁶ Angel Hsu et al., *Beyond states: Harnessing sub-national actors for the deep decarbonisation of cities, regions, and businesses*, 70 *ENERGY RESEARCH & SOCIAL SCIENCE* 101738 (2020).

adopting sustainable practices, and supporting renewable energy initiatives.⁴⁷ CSR initiatives contribute to shaping climate governance by demonstrating the potential for private sector leadership and innovation in addressing climate change.

Future Development and Improvement of International Climate Law

International climate law is continuously evolving to address the pressing challenges of climate change. Future development and improvement efforts focus on several key aspects:

Increasing Ambition in Emission Reduction Commitments:

One of the priorities for future development is to enhance the ambition of emission reduction commitments. As the urgency of climate action increases, there is a need for more ambitious targets to limit global temperature rise. Regularly revising and strengthening Nationally Determined Contributions (NDCs) is crucial to ensure that countries' actions align with the long-term goals of the Paris Agreement.⁴⁸ Encouraging countries to enhance their targets and adopt more stringent measures is essential to drive effective climate action.

Integration of Climate Considerations into Other Areas of International Law:

To achieve comprehensive climate action, it is crucial to integrate climate considerations into other areas of international law. This includes sectors such as trade, finance, investment, and human rights. Integrating climate goals into these areas can ensure policy coherence and avoid conflicting actions that undermine climate objectives.⁴⁹ By mainstreaming climate change across various legal regimes, international law can promote holistic and synergistic approaches to address the climate crisis.

Innovative Legal Approaches, such as Climate Litigation and Trade Measures:

In addition to traditional approaches, innovative legal mechanisms are emerging to drive climate action. Climate litigation has gained prominence globally, with lawsuits filed against governments and corporations for their inadequate response to climate change.⁵⁰ These legal actions aim to hold actors accountable and seek remedies for the impacts of climate change.

Trade measures are another avenue for leveraging international law to address climate change. Some countries have implemented carbon pricing mechanisms or imposed carbon-related tariffs on imported goods to incentivize emissions reductions and promote a level playing field.⁵¹ Such measures can create economic incentives for businesses to reduce their carbon footprint and contribute to global climate goals. For instance the European Union Emissions Trading System (EU ETS),⁵² which is the largest cap-and-trade system globally and the United Kingdom's Carbon Price Floor.

These innovative legal approaches can complement existing mechanisms and enhance the effectiveness of international climate law in driving climate action.

⁴⁷ Hashmi M Anaam, Amal Damanhoury & Divya Rana, *Evaluation of Sustainability Practices in the United States and Large Corporations*, 127 JOURNAL OF BUSINESS ETHICS 673 (2015), <https://doi.org/10.1007/s1055101420564>.

⁴⁸ CHIARA FALDUTO & MARCIA ROCHA, *Aligning short-term climate action with long-term climate goals Opportunities and options for enhancing alignment between NDCs and long-term strategies*, WWW.OECD.ORG 9 (2020), <https://www.oecd.org/environment/cc/LEDS-NDC-linkages.pdf> (last visited Jun 20, 2023).

⁴⁹ Harro van Asselt, Tim Rayner & Åsa Persson, *Climate policy integration*, in RESEARCH HANDBOOK ON CLIMATE GOVERNANCE 388 (Karin Bäckstrand & Eva Lövbrand eds., 2015).

⁵⁰ JOANA SETZER & CATHERINE HIGHAM, *Global trends in climate change litigation: 2022 snapshot*, [HTTPS://WWW.LSE.AC.UK/GRANTHAMINSTITUTE/](https://www.lse.ac.uk/granthaminstitute/) (2022), <https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/> (last visited Jun 20, 2023).

⁵¹ 2021 JAMES ROAF ET AL., CARBON PRICING: WHAT ROLE FOR BORDER CARBON ADJUSTMENTS? 1 (2021).

⁵² Rie Watanabe & Guy Robinson, *The European Union Emissions Trading Scheme (EU ETS)*, 5 CLIMATE POLICY 10 (2005).

Conclusion

International climate law is a crucial tool for navigating the climate crisis. Through the establishment of agreements such as the Paris Agreement and the United Nations Framework Convention on Climate Change (UNFCCC), international law provides a framework for countries to take action and mitigate the impacts of climate change.

However, continuous efforts are needed to improve its effectiveness, address challenges, and seize opportunities for a more sustainable and resilient future. Moving forward, it is crucial to strengthen international cooperation and improve climate governance to effectively address the climate crisis. The following recommendations are put forth:

- i. **Enhanced Ambition:** Encourage countries to increase the ambition of their emission reduction commitments and regularly revise their NDCs to align with long-term climate goals. This can be facilitated through international peer pressure, knowledge sharing, and financial incentives.
- ii. **Integration of Climate Considerations:** Integrate climate considerations into other areas of international law, such as trade, finance, and human rights. This can ensure policy coherence and promote a holistic approach to addressing climate change, recognizing its interconnectedness with various societal and economic dimensions.
- iii. **Strengthened International Cooperation:** Foster enhanced international cooperation and collaboration among governments, non-state actors, and international organizations. This includes sharing best practices, technologies, and financial resources to support developing countries' climate actions and build capacity at all levels.
- iv. **Innovative Approaches:** Explore innovative legal approaches, such as climate litigation and trade measures, to complement existing mechanisms and hold actors accountable for their climate actions. These approaches can contribute to increased transparency, accountability, and the achievement of climate goals.

By implementing these recommendations and strengthening international cooperation, we can further advance climate action, mitigate the impacts of climate change, and build a sustainable future for generations to come.