Climate law and public policy innovation for the Sustainable Development Goals: accelerating pre-CoP27 Paris Agreement compliance

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Executive summary

Our century faces critical global risks and challenges, including rising poverty, global pandemics and the shattering of planetary boundaries, especially in relation to global climate change. The science is clear. Human activities, particularly rising emissions levels due to fossil fuel combustion and other embedded high carbon intensity economic systems, are causing dangerous consequences under the UN Framework Convention on Climate Change and its Paris Agreement, Parties are obliged to submit and maintain an up-to-date Nationally Determined Contribution (NDC); to provide reports related to emissions reductions and technology transfer and on financial contributions; and to participate (in good faith) in the facilitative dialogue. An implementation and compliance mechanism supports this work.

Despite the intricate international accord and many firm pledges by Parties, however, implementation of the Paris Agreement across all Parties remains a critical challenge. In order to convert ambitious new commitments into obligations, domestic legal and public policy reform can contribute to many aspects of implementing the outcomes and impressive pledges of the Glasgow CoP26 and beyond. Legal and governance innovations across a variety of sectors can advance greenhouse gas (GHG) emissions mitigation, adaptation and resilience in the face of climate change impacts, and climate finance. Each pathway, however, requires embedded regional and domestic regulatory, institutional and public policy capacity, and this capacity remains extremely limited in nearly all jurisdictions.

Various noteworthy advancements to operationalise the Paris Agreement were agreed at CoP26, to such an extent that the CoP26 is viewed as having finally completed the ‘Paris Rulebook’ of guidelines and modalities for implementation of the treaty. Crucially, the Glasgow Climate Pact sets forth common timeframes for NDCs (Art 4.10) aligning target dates in five-year cycles, and

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1 Also Executive Secretary of the Climate Law and Governance Initiative (CLGI) and Senior Director of the Centre for International Sustainable Development Law (CISDL); Full Professor of Law, Faculty of Environment, University of Waterloo and former senior legal advisor to the UNFCCC Presidency. This brief highlights and builds on collaborations with many partners through the CLGI since its inception in 2005 CoP11 in Montreal, Canada, with special thanks and acknowledgements to Tejas Rao, also to Dr Fabiano de Andrade Correa, Tim Arvan, Dr Maria Antonieta Nestor and Dr Freedom-Kai Phillips for their insights and drafting assistance, as well as to Maeve McDermott and Valeria Zambianchi for their excellent research on legal and institutional reform in NDCs.
provides guidance operationalising the modalities, procedures and guidelines for enhanced transparency (Art. 13), requiring Parties to adhere to standard and regular formats for the communication of information on emissions reductions, as well as financial flows, technology transfer, and capacity building. Consensus on Article 6, one of the most politically complex issues of post-Paris negotiations was particularly welcome in Glasgow, with significant progress on carbon markets.

New key national net zero commitments accompanied 151 new NDCs announced for 2030, noting also India’s goal by 2070 and the US by 2050. If fully implemented, these pledges would lead to 1.8°C to 2.4°C of global warming by 2100. However, realising these commitments together with new NDCs, in order to keep a pathway to 1.5°C viable, will require a broad range of law and public policy innovations and the scale up of legal capacity. Of the 186 nationally determined contributions in the first-round of submissions, 169 Parties explicitly prioritised the need for legal or institutional reform to achieve their global contribution to climate change, with 99 Parties calling for increasing capacity-building for action, according to Centre for International Sustainable Development (CISDL) and Climate Law and Governance Initiative (CLGI) research and analysis in 2021. To successfully bridge the capacity chasm in climate law and public policy, institutions of all kinds must urgently undertake increased efforts to open opportunities for newly capable law and policy graduates and professionals to succeed in careers furthering the Paris Agreement in a way that supports the world’s Sustainable Development Goals. Research and educational institutions will play a critical role in scaling up contributions to build capacity for climate change action, and much work remains to harness the full potential of law and policy communities of practice to foster, rather than frustrate, sustainable development.

**Climate change: Shattered planetary boundaries and rising global risks**

Our century faces critical global risks and challenges, including rising poverty, global pandemics and the shattering of planetary boundaries, especially in relation to global climate change. The science is clear. Human activities, particularly rising emissions levels due to fossil fuel combustion and other embedded high carbon intensity economic systems, are causing dangerous consequences. In 2021, 415 parts per million CO2 in the atmosphere were surpassed, with a narrow carbon budget of just 400-500 GtCO2 remaining to limit overall warming to 1.5°C above pre-industrial levels. Annual global emissions now exceed 40 GtCO2/year. Ambition is not yet high enough, and aggregations of all current Nationally Determined Contributions (NDCs) to the global response to climate change under the Paris Agreement – even if entirely achieved - would still place global warming on pace to overshoot 2°C by the end of the century, according to the United Nations Environment Programme (UNEP) and others.  

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Climate change impacts are already occurring, including increased frequency and intensity of natural disasters, sea level rise, irreversible ecological damage, the spread of vector-borne disease, conflict over natural resources, and climate-induced displacement. These impacts disproportionately harm climate vulnerable nations, causing terrible loss and damage especially among communities lacking resilience, and the capacity to adapt or respond. While the costs of global action on climate are significant, the costs of inaction are incomparably larger, and ever-rising, with disaster-related losses estimated to have exceeded US$280 billion in 2021.4 High reductions are needed before 2030 and beyond.

Building on the legal and public policy outcomes of the UN Framework Convention on Climate Change 26th Conference of the Parties (CoP26), all stakeholders including governments and international organisations, financial institutions, the private sector, and civil society including world-leading universities, must now accelerate efforts towards the rapid and drastic course correction that is urgently needed at scale.

**International policy and legal responses: Global Sustainable Development Goals, the 1992 UN Framework Convention on Climate Change and its 2015 Paris Agreement**

Recent ‘wicked’ global problems and projections are not a surprise. The international community has examined scientific data, raised the alarm, and struggled to negotiate responses for over 75 years. International conferences and debates have slowly led to clearer definitions of problems; to general commitments to cooperate; and to fragmented, incoherent, conflicting and sometimes even overlapping attempts to act multilaterally.

It has become clear that a common global policy agenda is crucial to guide more coherent global responses. Concluded at the UN in September 2015, pre-dating the Paris Agreement by mere months, the 17 Sustainable Development Goals (SDGs) and their 169 associated targets for implementation address many legal and policy challenges implicated and impacted by climate change. The SDGs may be ‘soft law’, aspirational voluntary targets adopted to facilitate more coordinated international and domestic action, but a growing circle of international treaties and organisations – including the United Nations Framework Convention on Climate Change (UNFCCC), its Paris Agreement and financial institutions as the Green Climate Fund (GCF) and the Global Environment Facility (GEF) of the World Bank, as well as myriad national regulatory bodies across all spheres of human activity – provide tailored regimes to meet each target.5

Indeed, while the UNFCCC establishes a common framework for climate action, as a carefully crafted compromise intended to generate global participation, the Paris Agreement is

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predominantly a procedural ‘pledge and review’ commitment, with a core triangle of obligations: (1) nationally determined contributions to the global response to climate change, backed by (2) significant new and additional climate finance, secured by (3) transparent monitoring and reporting, which permits collective stock-taking and public awareness leading to pressure for higher ambition. Under the Paris Agreement, Parties are obliged to submit and maintain an up-to-date Nationally Determined Contribution (NDC) in accordance with Article 4; to provide reports related to emissions reductions and technology transfer as per Article 13.7 and 13.9 and on financial contributions as per Article 9.5 and 9.7; and to participate (in good faith) in the facilitative dialogue. Such obligations, which can lead to referral to the Paris Agreement Implementation and Compliance Committee (PAICC) if Parties to the treaty are unable to achieve them, are supported by a series of cooperative arrangements, mechanisms and other provisions, in a complex and engaging regime to keep human contributions to global climate change below dangerous levels.

Despite the intricate international accord and many firm pledges by Parties, however, implementation of the Paris Agreement across all Parties remains a critical challenge. Each facet of the regime requires embedded regional and domestic regulatory, institutional and public policy capacity, and this capacity remains extremely limited in nearly all jurisdictions.

Glasgow outcomes for implementation and compliance: The ‘Paris Rulebook’ from Katowice COP24 and after Glasgow CoP26

Various noteworthy advancements to operationalise the Paris Agreement were agreed at CoP26, to such an extent that the CoP26 is viewed as having finally completed the ‘Paris Rulebook’ of guidelines and modalities for implementation of the treaty. Crucially, the Glasgow Climate Pact sets forth common timeframes for NDCs (Art 4.10) aligning target dates in five-year cycles, and provides guidance operationalising the modalities, procedures and guidelines for enhanced transparency (Art. 13), requiring Parties to adhere to standard and regular formats for the communication of information on emissions reductions, as well as financial flows, technology transfer, and capacity building. Consensus on Article 6, one of the most politically complex issues of post-Paris negotiations was particularly welcome in Glasgow, with significant progress on carbon markets, including guidance on cooperative approaches for the trading of carbon credits (Article 6.2), modalities to govern the Sustainable Development Mechanism (SDM) and reinvest 5% of revenues in adaptation (Article 6.4), and a work programme for non-market approaches (Article 6.8). Article 6.2 sets out guidelines covering internationally transferred mitigation outcomes

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Article 6.4 establishes a Sustainable Development Mechanism, which is a function of the former Clean Development Mechanism—notably in a Supervisory Board that would approve all 6.4 projects—while potentially allowing some technical flexibility. For example, instead of using a set formula for establishing a baseline of carbon emissions, this new mechanism will examine individual party baseline estimates and allow them to be adjusted to their circumstances.

Additional progress was realised through new goals on climate finance including a call for developed countries to double contributions toward adaptation by 2025, a mobilisation of at least $40 billion; as well as certain advances for the Warsaw International Mechanism for Loss and Damage, with Parties recognising the imperative to establish means for compensation to climate-vulnerable developing nations and opening a dialogue on loss and damage funding, including through the Santiago Network on Loss and Damage established at COP25. Of importance for the legal community, further, was the adoption of rules of procedure for the Paris Agreement Implementation and Compliance Committee (PAICC) under Article 15. Especially of interest are the voting mechanisms, to allow for voting by consensus, and more critically elements of equity incorporated by including rules that maintain transparency, that all deliberations will be open, unless agreed to be confidential well-in-advance.

Glasgow climate action announcements: Net Zero pledges and sectoral promises

Beyond the formal decisions of the full CoP26, several notable multilateral commitments that were announced during the negotiations. During the pause in formal meetings due in large part to the global COVID-19 pandemic, the UK Presidency and many partners mobilised a ‘Race to Zero’ and other diplomatic efforts to convince countries and stakeholders to make additional pledges addressing (and financing) key aspects of climate action, raising ambition.

Of particular significance is the Glasgow Leaders’ Declaration on Forests and Land Use under which 120 countries committed to halt and reverse forest land loss and degradation by 2030; setting aside public funds for forest conservation, and committing to make 75% of forest commodity supply chains sustainable by 2030. This commitment may have contributed to the goodwill which permitted, finally, an agreement on the controversial arrangements to operationalise Article 6 in the ‘Paris Rulebook.’

Further, 100 countries committed to collectively reduce global methane emissions by 30% by 2030 under the Global Methane Pledge, a highly significant goal due to the potency of methane as a greenhouse gas relative to CO2. Public policies and regulatory reforms to promote climate-smart

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13 For further analysis of CoP 26 pledges and outcomes, see UK CoP26 Presidency website.
agriculture and animal husbandry by reducing methane emissions have been mobilised in key countries, such as the USA, since the pledge was adopted.

Glasgow also saw major strides in the alignment of finance flows with the Paris Agreement, as 450 asset management and other firms in 45 countries committed to direct $130 trillion in assets towards the net-zero transition before 2050 through the Glasgow Financial Alliance for Net Zero (GFANZ). Public policy and legal innovations, including a series of reforms to ensure more accurate monitoring and disclosure of climate risks by firms and investors, may play a role in supporting the efforts of the GFANZ partners.\textsuperscript{14} Seven new countries also joined the Powering Past Coal Alliance, while 23 countries (including major economies such as Indonesia, South Korea, Poland, Vietnam and Chile) committed to phase out coal for the first time. Several other commitments were made, covering renewable energy, transportation and other public policy domains.\textsuperscript{15}

New key national net zero commitments accompanied 151 new NDCs announced for 2030, noting also India’s goal by 2070 and the US by 2050. If fully implemented, these pledges would lead to 1.8°C to 2.4°C of global warming by 2100.\textsuperscript{16} However, realising these commitments together with new NDCs, in order to keep a pathway to 1.5°C viable, will require a broad range of law and public policy innovations and the scale up of legal capacity. Of the 186 nationally determined contributions in the first-round of submissions, 169 Parties explicitly prioritised the need for legal or institutional reform to achieve their global contribution to climate change, with 99 Parties calling for increasing capacity-building for action, according to Centre for International Sustainable Development (CISDL) and Climate Law and Governance Initiative (CLGI) research and analysis in 2021.\textsuperscript{17} The world’s climate law and public policy community, now more than ever, must find new ways to strengthen knowledge, capacity and practice – exponentially.

**Domestic law and public policy progress: Mitigation, adaptation and resilience, loss and damage and finance**

In order to convert ambitious new commitments into obligations, legal and public policy reform can contribute to many aspects of implementing the outcomes of the Glasgow CoP26 and beyond, particularly with regards greenhouse gas (GHG) emissions mitigation, adaptation and resilience in the face of climate change impacts, and climate finance.

\textsuperscript{14} For example, see the Task Force on Climate-Related Financial Disclosures. Online.
\textsuperscript{15} UNFCCC (2021). COP26 Reaches Consensus on Key Actions to Address Climate Change. Online. See also, UNFCCC (2021). Momentum Builds at COP26 for Gender Action. Online. Other promising initiatives that were cause for celebration include UNFCCC (2022). Cities, Regions, and Businesses Race to Zero Emissions. Online.
Towards more ambitious GHG emissions mitigation, rule of law, supported by enabling legal frameworks and human rights protection can achieve more sustainable GHG emission reductions. Many laws and institutions are relevant to GHG emissions reductions as part of the ‘Race to Zero’ mitigation agenda. With reliable legal frameworks, for instance, communities can share benefits and burdens more equitably as part of international mitigation schemes for low-carbon development. Such frameworks may be particularly important to implement the ‘Paris Rulebook’ operational guidelines and modalities for the SDM under Article 6.4, as well as REDD+ under Article 5, for instance. These include the rules governing energy technology development and promotion of renewable energy infrastructure, such as Feed-in Tariffs, as well as codes which can foster or frustrate energy efficiency in buildings or in transmission lines, for instance. They also include, particularly with regard to emission reductions through nature-based solutions, the rules governing land use planning systems, property rights and land tenure reform, as well as related access and benefit distribution systems for carbon credit schemes. Further, transportation laws, regulations and standards can have a significant impact on emission reductions, where some countries are phasing out non-electric private cars. As another example, pollution pricing, control and waste management, including for instance the rules governing management of ‘black carbon’ and extremely high-intensity hydrochlorofluorocarbons (HCFCs), can affect successful mitigation efforts. Environmental Impact Assessment (EIA) laws can be reformed to integrate climate change considerations, and new rules are often required to establish registries for monitoring, verification and reporting of GHG emissions, backed by institutional mandates for scientific review and codes to ensure access to scientific data. As one further example, in some countries there is ongoing effort to clarify the fiduciary duties of corporate boards in relation to GHG emissions and also climate risks, with climate risk disclosure requirements being adopted, and private contracting systems being set in place to ensure implementation of net zero commitments.

Adaptation and resilience involve public policy and legal adjustments to reduce vulnerability and risk, to respond to disasters and recover from unavoidable impacts of climate change. An enabling legal framework supported by the rule of law can strengthen capacity and financing to adapt and promote resilience to climate change, and legal empowerment can promote more equitable, accountable, rights-based adaptation and resilience. Such regulatory and institutional changes may be important to implement Articles 7-8 of the Paris Agreement, and also the renewed Warsaw International Mechanism on Loss and Damage (WIM), including for effective participation in the Global Dialogue on Loss and Damage that was agreed in Glasgow, and beyond. Regulatory systems and tribunals or other mechanisms could also be crucial, for instance, to guide efforts document and respond to domestic or international compensation claims in relation to loss and damage. Many law and institutions are highly relevant to adaptation, including legal and institutional frameworks.


for disaster risk reduction and management law; land planning, zoning, floods and coastal planning; construction and infrastructure regulations (urban plans, housing, energy); laws on public health, disease prevention and control; natural resource management laws, forestry law (including wildfire response) and water resource management; rules and regulations for climate-smart agriculture and food safety; as well as good governance and anti-corruption codes.

Public policy innovation and legal reform is also crucial to support accountable, effective mobilisation and investment of climate finance. Rule of law, supported by enabling legal frameworks and safeguards, can ensure more effective access to and use of climate finance.20 For instance, such frameworks are important for implementation of ‘Paris Rulebook’ provisions on emissions trading under Paris Agreement Article 6.2, and the SDM under Paris Agreement Article 6.4, as well as for accountable spending of funds granted through the Green Climate Fund and other international financial mechanisms, and for the CoP26 GFANZ $130 Trillion Pledge. Transparent and accountable legal reforms can help countries and projects attract and absorb climate finance, and communities can share benefits and burdens more equitably under clear regimes with recourse to dispute settlement where required. Many laws and institutions are highly relevant to climate finance, including the laws and policies governing foreign ownership/investment; the rules governing access to climate finance for small and medium enterprises; legislation and codes governing financing, subsidies and taxes for renewable energy resources and technologies versus fossil fuels; laws and guidelines on financial services and intellectual property rights for climate-smart technologies; rules and registries governing monitoring, verification, scientific review; also access to courts and alternative dispute resolution in the event of disagreements.

During CoP26 and beyond, over 200 committed law and governance partners came together through the Climate Law and Governance Initiative (CLGI) to share lessons among a growing community of practice and chart the future for this critical field – actively engaging professors, practitioners, judges and other leaders from international organizations, judiciaries, institutes, leading law firms and universities.21 Together, they pledged to increase climate law and governance capacity worldwide tenfold - from 600 to 6,000 legal specialists by 2024, engaging qualified leaders in every legal system and converting ambition to obligation worldwide.

21 In late October 2021, CLGI partners co-hosted an online academic climate law and public policy preparatory conference on Climate Change, the SDGs and the Law at the University of Cambridge, with over 750 registrants from over 90 countries. On Friday, 05 November, during CoP26, over 1,100 registrants from over 120 countries joined in Climate Law and Governance Day (CLGD) 2021 hosted online and in-person at the University of Glasgow, in partnership with Strathclyde and Cambridge universities, for 3 high level plenaries and 16 substantive sessions spanning all aspects of law and climate change. The Day culminated in a celebration of the new laureates of the 2021 Climate Law & Governance Global Leadership Awards and the 2021 International Student Essay Competition. To share outcomes at CoP26 itself, on 06 November key municipal, national, and international legal innovations were shared in an Official Side-Event on Net Zero Climate Law and Governance - Advancing Ambition and Action to Implement the Paris Agreement and the SDGs. The interactive legal roundtable brought together leading experts from the Net Zero Lawyers Alliance, Centre for International Sustainable Development Law (CISDL), Glasgow Centre for International Law and Security (GCILS) and other partners of the Climate Law and Governance Initiative, also IKEM, the Asociacion Ambiente y Sociedad and Centro Humboldt. Further, on 07 November 2021, helping to train a new generation of specialists world-wide, the Climate Law & Governance Specialization Course hosted in the University of Strathclyde certified 163 in person and virtual participants from over 60 countries.
Next steps for accelerators: Enhancing climate compliance, capacity and action

To successfully bridge the capacity chasm in climate law and public policy, institutions of all kinds must urgently undertake increased efforts to open opportunities for newly capable graduates and professionals to succeed in careers furthering the 17 SDGs. They would have the agency to shape post-pandemic recoveries consistently with the principles of equity and climate justice. Institutions must also provide avenues for the scale-up of relevant teaching and research, engage a broad array of stakeholders and align research agendas and curricula with priorities of sustainability. Much more effort is needed, including by leading law, policy and business faculties, to foster innovative solutions worldwide at all levels across economies and societies.

The future landscape can therefore be viewed with concern, but also with respectful optimism. CoP26 must serve as an invitation for more sustainable domestic and international climate law and policymaking in the future, and increased engagement in the design, and implementation of climate change responses across all sectors and at all levels. Research and educational institutions will play a critical role in scaling up contributions to build capacity for climate change action, and much work remains to harness the full potential of law and policy communities of practice to foster, rather than frustrate, sustainable development.