

INTERNATIONAL CRYOSPHERE CLIMATE INITIATIVE

Joint Submission to the Global Stocktake 2023

Executive Summary

This is a joint submission of the Durham Centre for Sustainable Development Law and Policy, The Centre for International Law at the National University of Singapore, and the International Cryosphere Climate Initiative.

The objective of the submission is to stress the criticality of limiting the global temperature increase to 1.5°C to avoid potentially irreversible global impacts of climate change for the present and for future generations. Since the Conference of Parties (COP) and the Conference of Parties Serving as the Meeting of Parties under the Paris Agreement (CMA) adopted the Glasgow Climate Pact, States have articulated their recognition that the impacts of climate change will be much lower at a temperature increase of 1.5°C. This can be interpreted as subsequent agreement of Parties on the interpretation of Article 2(1)(a) of the Paris Agreement, with corresponding implications for the modelling of national climate targets. Scientific research shows far-reaching impacts for every increment above 1.5°C. These impacts will affect millions of people in low-lying coastal zones and lead to displacement, through long-term committed sea-level rise from ice sheet loss, and both near-term and long-term water resource loss from progressive mountain glacier and snowpack melting.

Crucially, recent observed rates of ice and snow loss, including since the IPCC 6th Assessment Report, reveal alarming rates of change well above most current projections.

Key Messages

- Scientific research indicates that each fraction of a degree additional warming, especially above the lower 1.5°C Paris Agreement limit, will greatly increase long-term, irreversible global impacts affecting current and future generations, due especially to factors such as committed sea-level rise from ice sheet melt and mountain water resource loss from glaciers and snowpack.
- The increased emphasis placed in the Glasgow Climate Pact on maintaining the lower temperature objective of the Paris Agreement in the light of the science, and the urgency, strengthens the proposition that Parties share a common understanding that 1.5°C is endorsed as the preferred temperature threshold. This lower temperature limit represents the target that should be pursued in domestic policy and law frameworks.
- Interdisciplinary academic research should be considered as a key part of the process of the global stocktake, to ensure that the global stocktake unfolds as a robust international law mechanism.
- The collaboration between academia and countries should be supported and recognized as a means to develop best practices in achieving country-specific transitions to a low-carbon economy.
- The global stocktake should include the ocean as a key element to accurately reflect its role and potential in climate adaptation and mitigation.

Introduction and Context

Decision 19/CMA.1 and the Guiding Questions of the Co-Chairs

This is a joint submission of the Durham Centre for Sustainable Development Law and Policy, the Centre for International Law at the National University of Singapore, and the International Climate Cryosphere Initiative.

We appreciate the opportunity to make this submission to the global stocktake as non-Party organisations with observer status.

The submission seeks to strengthen the cryosphere science/law intersection for the interpretation of the Paris Agreement's temperature thresholds and to emphasise the role of academic research and involvement for the development of the global stocktake as a legal process.

Our submission is based on our ongoing interdisciplinary research and collaborative work.

It responds to Decision 19/CMA.1 paragraph 37, in which the CMA decided that the sources of input for the global stocktake include:

(g) Voluntary submissions from Parties, including on inputs to inform equity considerations under the global stocktake;

this is a

(i) submission from non-Party stakeholders and UNFCCC observer organizations.

In terms of the guiding questions of the Co-Chairs as contained in the revised paper of 18 November 2022, this submission addresses the cross-cutting questions, in particular with respect to the elements of intergenerational equity and the long-term goals of the Paris Agreement:

19. How is climate action respecting, promoting and considering Parties' respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity?

21. In what way are non-Party stakeholders (including subnational governments, indigenous peoples and local communities, youth, non-governmental organizations, international organizations, the private sector, financial institutions and multi-stakeholder initiatives) contributing to the progress made to achieve the purpose and long-term goals of the Paris Agreement?

Climate Science and Law, the Interpretative Role of Parties' Decisions

The Glasgow Climate Pact in Decisions 1/CP.26 and 1/CMA.3 emphasized the importance of maintaining the Paris Agreement's temperature limitation in the mitigation section, where it stated that the CMA:

15. *Reaffirms* the long-term global goal to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

16. *Recognizes* that the impacts of climate change will be much lower at the temperature increase of 1.5°C compared with 2°C, and resolves to pursue efforts to limit the temperature increase to 1.5°C.

17. *Also recognizes* that limiting global warming to 1.5°C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases.

This focus on the lower threshold of Article 2(1)(a) Paris Agreement can be interpreted, in the light of the context and the overall emphasis on "Science and Urgency" in the CMA and the COP cover decisions, as an increased focus on the 1.5°C long-term temperature limitation goal.

Treaty interpretation under Article 31(3)(a) of the 1969 Vienna Convention on the Law of Treaties includes consideration of decisions of conferences or meetings of Parties as subsequent agreement of the parties on the interpretation of a treaty provision.

The provision of Article 31(3)(a) reads:

There shall be taken into account, together with the context:

(a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;

In accordance with international law, decisions of conferences or meetings of Parties can constitute authentic means of treaty interpretation. These subsequent decisions of Parties can embody a common understanding, and thus represent an agreement of Parties. As such, they can carry significant interpretative weight in the process of treaty interpretation.

The International Court of Justice has confirmed that even decisions of conferences of Parties that are recommendatory can constitute subsequent agreement between Parties regarding the interpretation of the treaty in the sense of the 1969 Vienna Convention on the Law of Treaties (*Whaling in the Antarctic (Australia v Japan: New Zealand intervening)* [2014] ICJ Rep 226, 248 [46]: ‘These recommendations, which take the form of resolutions, are not binding. However, when they are adopted by consensus or by a unanimous vote, they may be relevant for the interpretation of the Convention or its Schedule’). The interpretative weight of COP and CMA decisions depends on the circumstances and the wording. The UN International Law Commission has recognised in its Draft conclusions on subsequent agreement and subsequent practice in relation to the interpretation of treaties, conclusion 11 paragraph 2 that ‘[d]epending on the circumstances, such a decision may embody, explicitly or implicitly, a subsequent agreement under Art. 31, paragraph 3(a), or give rise to subsequent practice under Art. 31, paragraph 3(b), [...]’.

The circumstances for the adoption of the cover decisions are defined by the best scientific knowledge which the Paris Agreement endorses as the basis for an effective and progressive response to the urgent threat of climate change (see, e.g., Preamble, Paris Agreement). The target of 1.5°C is indeed supported by scientific evidence. A growing body of research on changes in the global cryosphere emphasizes that the current trajectory of anthropogenic greenhouse gas (GHG) emissions will lead to devastating irreversible impacts because of the long-term response of the cryosphere and the potential to cross critical thresholds that lie between 1.5 and 2 °C. Consequences are especially far-reaching in terms of populations impacted and eventual displacement from long-term committed sea-level rise from ice sheets, and both near-term and long-term water resource loss from progressive glacier and snowpack loss at peak temperature this century for every increment above 1.5°C.

In addition to IPCC AR6 and post-AR6 modelling projections, recent *observed* rates of ice and snow loss reveal alarming rates of change well above most current projections. These severe implications go well beyond that reflected in the IPCC AR6 report cycle, including the SROCC, as accuracy and detail of observations and modelling projections evolve ever more rapidly.

Global warming also has triggered thaw of permafrost, which for millennia has bound large stores of GHGs. At current anthropogenic GHG emission rates, yearly GHG emissions from permafrost will soon equal the current yearly emissions of the largest few emitter countries. Even if temperature rise from anthropogenic GHG emissions were halted at once, thawed permafrost today is at least the tenth largest emitter of CO₂ and methane, and because of

feedback mechanisms will continue to emit at this level for one to two centuries. The longer we delay ambitious mitigation action, the more permafrost emissions will have to be offset by future generations to reach and secure net-zero.

The combination of AR6 and more recent data/projections leads to the conclusion, explicitly stated in growing bodies of research, that in the Global Stocktake context, current mitigation efforts are not sufficient given the long-term scale and effective irreversibility of these cryosphere processes.

The increased emphasis placed in the Glasgow Climate Pact on maintaining the lower temperature objective of the Paris Agreement in the light of the science, and the urgency, strengthens the proposition that Parties share a common understanding that 1.5°C is endorsed as the preferred temperature threshold. This lower temperature limit represents the target that should be pursued in domestic policy and law frameworks.

The Sharm el-Sheikh Implementation Plan reiterates the scientific urgency. While the wording does not further increase the focus on the 1.5°C target, it certainly does not diminish Parties' support for it nor support the conclusion that Parties reversed the strong emphasis given to the 1.5°C temperature threshold in the previous year. Indeed, the cover decision in the section of "Science and Urgency" provides that COP27:

2. *Recognizes* the importance of the best available science for effective climate action and policymaking;

[...]

4. *Reiterates* that the impacts of climate change will be much lower at the temperature increase of 1.5°C compared with 2°C and resolves to pursue further efforts to limit the temperature increase to 1.5°C.

and now specifically refers to the cryosphere:

5. *Recognizes* the impact of climate change on the cryosphere and the need for further understanding of these impacts, including of tipping points;

This iteration of a previously expressed view of Parties, in the same context of science and urgency, strengthens its interpretative weight. The view endorses the scientific evidence that the worst impacts of climate change can only be averted if the 1.5°C temperature threshold can be maintained. Parties have articulated a common understanding; this interprets the long-term temperature limitation goal of the Paris Agreement based on Parties' own subsequent understanding and expresses an agreement. This subsequent agreement on the interpretation is instructive for the implementation of the Paris Agreement at the domestic level.

Domestic Climate Targets

There is evolving case law in some jurisdictions in support of the view that climate targets in countries that take a leadership role, should be modelled preferably in accordance with a 1.5°C temperature limitation rather than with the 2°C (see, for example, *The State of the Netherlands*

v. Stichting Urgenda, Supreme Court of the Netherlands, 20 December 2019, para. 7.4.1; *Neubauer et al v. Germany*, German Constitutional Court, Order of the First Senate of 24 March 2021, para. 242¹). This is an issue that merits further study of the relevant developments and judicial decisions across a wide range of jurisdictions.

Climate Action and Sustainable Development

The Sharm el-Sheikh Implementation Plan ushered in a renewed awareness of the “urgent need to address, in a comprehensive and synergetic manner, the interlinked global crises of climate change and biodiversity loss in the broader context of achieving the Sustainable Development Goals, as well as the vital importance of protecting, conserving, restoring and sustainably using nature and ecosystems for effective and sustainable climate action.”

For developing countries, achieving their development goals while also complying with the Paris Agreement, will depend on knowledge transfer, capacity building and support.

Collaboration between academia and countries, especially in the Global South, gives new evidence for the development opportunities of best practices. Support through the UNFCCC and acknowledging the work that is undertaken in those partnerships is crucial for continuity of research-led country specific knowledge transfer and to increase training capacities within the energy transition.

The Legal Nature of the Global Stocktake

Article 14, paragraph 1, of the Paris Agreement states that the Conference of the Parties serving as the Meeting of the Parties under the Paris Agreement (CMA) shall periodically take stock of the implementation of the Paris Agreement to assess the collective progress towards achieving the purpose of the Agreement and its long-term goals, and to identify opportunities for enhanced action and support. The wording suggests that the stocktake has both a backward-looking (“take stock of the implementation” in Article 14(1)) and a forward-looking component (in the “updating and enhancing” provision in Article 14 (3)). The process and the outcome will define how Parties engage with the findings, and how their individual ambition will be informed by the outcomes of the collective exercise. Designed as an ambition enhancing mechanism, the global stocktake will be critical for “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” (Article 2(1)(a) Paris Agreement).

The CMA welcomed the start of the global stocktake at CMA3 in Glasgow and expressed its determination for the process to be comprehensive, inclusive and consistent with Article 14 and decision 19/CMA.1, in the light of the urgency of enhancing ambition and action in relation to mitigation, adaptation and finance in this critical decade. There are various legal questions that warrant in-depth examination, and addressing these offers the opportunity to accompany the global stocktake in a meaningful way and to engage with the subsidiary bodies, decision-makers and the UNFCCC secretariat. It is important to involve academic research on the

¹ The Federal Constitutional Court in *Neubauer*, expressed the view that climate targets can have an interference-like effect for the enjoyment of fundamental rights of future generations and can lead to an ‘off-loading’ of GHG reduction burdens into the future (ibid. *Neubauer*, para. 183).

process of the global stocktake, in order to recognise and strengthen the process' potential as a legal mechanism, including the requirement to consider the outcomes.

Decision 1/CMA.4, adopted in Sharm el-Sheikh as implementation plan, welcomes the progress of the first global stocktake and emphasises that the outcome shall inform Parties and updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provisions of the Paris Agreement (para. 75). Clarity in the nature and operation of this mechanism would be helpful in operationalizing the link between the global stocktake and the NDCs. The decision leaves the nature of the mechanism open and academic research is important to accompany and shape the process of the global stocktake as it develops.

The Global Stocktake and the Ocean

Climate change has profound impacts on the ocean. Of concern, in the light of the temperature objective and the research on sea level rise, is the integration of the oceans into the global stocktake.

At the same time, the ocean's critical role in climate change adaptation and mitigation merits more attention. Ocean-based mitigation actions could contribute up to 12% of the emission reductions required by 2030 to keep warming to less than 1.5°C while ocean-based adaptation could suppress the devastating impacts of climate change to marine biodiversity and coastal communities.

While there have been recent significant developments in ocean policy under the UNFCCC, it is unclear how this will translate in the implementation of the Paris Agreement. Clear mandates and ocean-specific assessment tools and targets are needed in the global stocktake so that Parties' ocean-based actions under Nationally Determined Contributions (NDCs) are fully accounted for.

Research, data, policies, and Party contributions within the UNFCCC support the inclusion of ocean-based actions in the GST. These include the various ocean-related mandates under the UNFCCC²; policy developments on the topic of ocean and climate change across various UNFCCC mechanisms³, and the inclusion of coastal and marine nature-based solutions for mitigation and/or adaptation in Parties' NDCs.

² Eg Strategic Action Roadmap on Oceans and Climate: 2016 to 2021, Oceans Pathway initiative, IPCC's Special Report on the Ocean and the Cryosphere in a Changing Climate, and the two Ocean and Climate Change Dialogues (Dec 2020 and June 2022). The First Dialogue discussed how to strengthen action on the ocean and climate change related to adaptation and mitigation while the Second Dialogues focused (a) strengthening and integrating national ocean climate action under the Paris Agreement and (b) enabling ocean climate solutions and optimizing institutional connections.

³ Eg Focus Area on the ocean, coastal areas, and ecosystem and its activities under the Nairobi Work Programme and ocean-related supplementary technical guidelines for National Adaptation Plans (NAPs); 2020 Policy Brief on loss and damage in coastal zones by the Warsaw International Mechanism for Loss and Damage; Inclusion of information and action on coastal wetlands, mangrove forests, tidal marshes, and seagrass meadows in National Greenhouse Gas Inventories and REDD+; Consideration of financing for ocean-based action under the Standing Committee on Finance as well as other financial mechanisms including the Adaptation Fund, the Green Climate Fund, and the Global Environmental Facility.

Article 14 of the Paris Agreement states that the GST shall be undertaken in a “comprehensive and facilitative manner, considering mitigation, adaptation, and the means of implementation and support, and in light of the equity and the best available science.” The IPCC Special Report on the Ocean and Cryosphere in a Changing Climate, the work of the SBSTA through the Ocean Dialogues and the development of ocean issues throughout the other UNFCCC processes, and in particular the Parties’ NDCs, demonstrate that a comprehensive Global Stocktake should include oceans as a key element as reflected below:

- The COP should build on the reports, discussions, and submissions from the Ocean Dialogue to establish ocean-specific assessment tools for the GST.

The Informal Summary Report of the first Ocean Dialogue indicated, that inclusion of the ocean in the assessment of collective progress and in the global stocktake is necessary to strengthen action under the UNFCCC.

A robust global stocktake that considers NDCs with ocean-based actions as part of their reporting requires common indicators and set targets. Providing guidelines for Parties and goals specific to ocean-based action will encourage Parties to enhance their level of ambition and provide accurate information on collective progress.

- The GST should include a process for determining Parties’ specific needs in assessing, reporting, and implementing ocean-based climate action towards achieving the long-term goals of the Paris Agreement; and

Participants to the 2022 Ocean Dialogue also made more specific inputs on solutions for overcoming challenges and strengthening ocean action at country level to enable sustainable livelihoods such as more investments on science; capacity supplementation, building, resources, and investments; mobilize public, private, and blended funding.

As Parties implement their NDCs and ultimately look to the ocean for more ways to accelerate adaptation and mitigation efforts, it is important to address the means to assess, report, and implement on these efforts. Responding adequately to these needs will also encourage Parties to prioritize ocean-based actions.

- Building on GST outputs, the COP should establish cross-sectoral mechanisms for sharing of best practices on ocean-based climate action that would maximize efforts and avoid conflict between various UN processes.

The UN and other international processes can support ocean climate action and invoke synergies across processes by:

- Mainstreaming and integrating ocean-climate action within the UNFCCC and other UN bodies;
- Exchanging information and best practices; and
- Enhancing coordination across UN entities engaged in both oceans and climate.

Outside the UNFCCC, international legal framework/regimes on ocean and climate change has also expanded.⁴ Given this, cross-sectoral mechanisms should be established to enhance coordination, encourage synergy, maximize opportunities, and avoid conflict.

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⁴ Eg the International Maritime Organization has developed an extensive program on energy efficiency and reduction of greenhouse gas emissions from ships. The Convention on Migratory Species has a Working Group dedicated to climate change that studies the impacts of climate change on migratory species and identifies options for interventions.

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