IUCN Climate Crisis Commission: Opportunities and Challenges

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The Climate Action Imperative

The world community faces a critical juncture in addressing human-caused climate change. The Paris Agreement long-term temperature goal of 1.5°C will be likely reached in the coming years (latest data points to 2028[1]) and current policies would deliver around 3°C global warming by the end of this century[2]. Human-caused climate change is already affecting climate trends and extremes in every region across the globe, resulting in widespread adverse impacts including loss and damage to people and nature. Vulnerable communities who have contributed least to the problem are disproportionately affected. Every increment of global warming intensifies multiple and concurrent hazards and climatic and non-climatic risks will increasingly interact, creating compound and cascading risks that are more complex and difficult to manage[3]. While some may see short-term benefits, climate change is ultimately a "non-zero-sum game" as we either all win, or we all will ultimately lose.

The climate crisis has two root causes: (1) the use of fossil fuel for energy and (2) biodiversity loss.

The more widely known cause is the greenhouse gas (GHG) emissions from the use of fossil fuel for energy, as well as from agriculture and cement production, now responsible for ~90% of global annual emissions[4]. Halting these emissions requires actions that lead to deep, rapid, and sustained reductions. Transformative climate action is essential in all sectors if we are to stabilise atmospheric GHG concentrations and achieve a discernible slowdown in global warming within around two decades. Even if we achieve this, enhanced radiative forcing from the stabilised but elevated atmospheric GHG concentrations would still linger at around 4Wm^2; combined with the lag effects on ocean warming, the result will be ongoing climate disruption that will demand adaptation for centuries to come [2].

The second root cause of the climate crisis - biodiversity loss - is most evident by the emissions from deforestation and degradation. These emissions are responsible for about 1/3 of the accumulated carbon in the atmosphere and 10% of annual global emissions. Ecosystems are one of two natural sinks (oceans being the other) that are key components of the global carbon cycle. They remove carbon from the atmosphere and accumulate it in living and dead biomass and soil pools. To date however, the climate and biodiversity crises have been treated as independent challenges. The reality however is these two crises amplify each other, and neither will be solved unless they are solved together. Meeting the Kunming- Montreal global Biodiversity Framework's 2050 Goals and 2030 Targets to protect and restore ecological integrity and reverse biodiversity loss is a foundational solution for the climate crisis as well as essential for maintaining the underpinnings of life and every ecosystem service on which humanity relies.

Unravelling the web of life is reducing the integrity and stability of ecosystems, amplifying risks to the stability of carbon storage in ecosystems and increasing the likelihood of releasing once stable carbon stores into the atmosphere.

Put simply, to mitigate GHG emissions, climate action is needed that enables the transition rapidly away from fossil fuel to clean energy and, at the same time, halts deforestation and degradation.

CCC Priorities

The IUCN has always led the way globally in meeting the challenges of protecting and restoring nature and the irreplaceable benefits they provide people. Among the many ongoing threats to ecological integrity, human-forced climate change now requires IUCN's utmost attention. However, while climate impacts on species and ecosystems is already evident, nature is not a "passive victim" but has a vital role to play in mitigating CO_2 emissions and providing ecosystem services for risk management and adaptation.

The vision of the IUCN Climate Crisis Commission (CCC) is a world in which global warming is limited to 1.5° C above pre-industrial levels and society is adapting to manage climate risks in ways that enhance socio-ecological resilience, are nature positive, and promote just outcomes for all.

The Climate Crisis Commission's mandated aims are to (1) mobilize and coordinate the Union's climate advocacy and action and (2) engage with its NGO and Government member organisations, Regional and National IUCN Committees and broader civil society efforts to reduce greenhouse gas emissions and adapt to climate change based on the best available science coming from the IPCC and IPBES by taking into account the actions and initiatives developed in the UNFCCC and through the Global Climate Action Agenda, the K-M GBF and CBD decision 16/22 on climate and biodiversity.

To meet its mission and aims in the coming quadrennial, the CCC must work collaboratively with the IUCN community to:

- Craft and promote a coherent and comprehensive portfolio of evidence-based climate policies.
- Develop new knowledge products, global standards and guidelines that (i) support the rapid transition away from fossil fuels to clean energy solutions, end deforestation and degradation, and promote regenerative agriculture, (ii) enable climate resilient development, (iii) prioritise nature positive approaches and (iv) advance climate justice.
- Work with partner organisations to test and showcase locally feasible and appropriate solutions that generate synergies for climate, biodiversity and people - and avoid perverse outcomes.
- Contribute to IUCNs engagement with the climate and biodiversity conventions via policy option discussion papers, technical reports, facilitating multi-stakeholder dialogues, and related activities.

With a total of around 500 commission members, the CCC has an extraordinary depth of human resources and capacity to undertake these tasks. The CCC is currently organised into four thematic groups - (i) Climate and Nature; (ii) Climate Finance; (iii) Climate Justice; and (iv) Solutions and Innovative Approaches. Going forward, these are best understood as cross cutting themes that inform all climate actions. The priority for the CCC in the coming 4-years is to activate the membership and engage them fully in formulating and implementing the commission's programme of work.

Like all commissions, the CCC needs a ***Flagship Initiative***. One idea is for IUCN to use it global networks of governments, non-government organisations and commission experts to co-design a Global Climate Protection Plan (GCPP) that helps inform, catalyse, build capacity and resource integrated climate action. This GCCP could be IUCNs response to the Climate COP30 President Designate's call for collective action in this critical decade of exponential climate progress and for all to respond decisively through an ambitious, integrated, and solutions-oriented Action Agenda that matches the urgency and scale of climate change and biodiversity loss.

Such is the urgency of the climate crisis and, given its U.N. General Assembly Observer status and commitment to nature and justice, IUCN has a broad responsibility to help civil society understand that the timeline for effective and just climate solutions is shrinking fast and the importance of supporting synergistic climate and biodiversity actions that help retain and restore high integrity, carbon dense ecosystems.

R***eal net zero*** and ***climate resilience*** must be a fundamental societal goal, and the IUCN can make vital contributions by identifying and enabling integrated solutions that:

- enhance synergies between climate mitigation, adaptation, biodiversity and ecological integrity;
- avoid perverse outcomes that cause more emissions or escalate risks;
- support community-centered approaches that are socially acceptable and culturally informed;
- promote the role of biodiversity and ecosystems in stabilizing the climate and the understanding needed for the full deployment of nature-based solution.

Climate solutions require enabling, evidence-based policies at all levels of governance. As a Coordinating Lead Author for the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report, and now a Review Editor for the IPCC 7th Assessment, I am well qualified to ensure that IUCN's engagements and efforts are informed and guided by the best available science.

IUCN and UNFCCC Opportunities

The current key objectives for climate action under the UNFCCC's Paris Agreement have been organised for COP30 around six themes: I-Transitioning Energy, Industry, and Transport; II- Stewarding Forests, Oceans, and Biodiversity; III- Transforming Agriculture and Food Systems; IV- Building Resilience for Cities, Infrastructure and Water; IV- Building Resilience for Cities, Infrastructure and Water; and VI- Cross-cutting issues - Unleashing Enablers and Accelerators, including on Finance, Technology and Capacity Building

In addition, there is a growing agenda for enhancing policy coherence between the Rio conventions and the SDGs, and in particular for synergies between climate and biodiversity. Lack of decisive and effective climate action is now a major long-term impediment to protecting and restoring nature and advancing sustainable development [5] .

The IUCN has critical roles to play and contributions to make in all six themes and convention synergies including in domains outside its historic focus. For example, to date IUCN has not played a major role in addressing the core mitigation challenge of the rapid transition away from fossil fuel to clean renewable energy sources. To limit global warming, clean energy and electrification are needed for all sectors and communities, with the required infrastructure delivered at unprecedented scales. Yet at the same time,

this must be undertaken in ways that provide clean renewable energy for all, protect biodiversity and ecosystem integrity, and respect the rights of Indigenous Peoples and local communities.

Irrespective of our success or failure to mitigate, escalating climate-related risks demand these be met by a phase-shift in adaptation and advancing the Global Goal on Adaptation. Nature-based solutions, especially ecosystem-based approaches that prioritise the protection and restoration of ecological integrity, are essential for meeting adaptation needs. IUCN can help ensure Indigenous Peoples and vulnerable communities exposed to worsening climate-related hazards such as sea level rise, receive the capacity building and resources they urgently need. IUCN is well-placed, given its global-to-local reach, to develop approaches and mechanisms that help harmonise top-down policies and regulatory frameworks with place-based, community-centred solutions.

IUCN must also support today's young professionals and help mentor and empower them to be tomorrow's climate leaders and experts. Theirs is the generation who must live with the impacts from a rapidly changing climate and biodiversity loss, and be the inventors and champions of the necessary solutions.

References

1. Kirchengast, G. & Pichler, M. A traceable global warming record and clarity for the 1.5 °C and well-below-2 °C goals. *Commun. Earth Environ.* **6**, 402 (2025).
2. Hansen, J. E. *et al.* Global warming in the pipeline. *Oxf. Open Clim. Change* **3**, kgad008 (2023).
3. IPCC. *IPCC AR6 Working Group 1: Summary for Policymakers*. https://www.ipcc.ch/report/ar6/wg1/chapter/summary-for-policymakers/.
4. Friedlingstein, P. *et al.* Global Carbon Budget 2024. *Earth Syst. Sci. Data* **17**, 965–1039 (2025).
5. Mackay, S., Hales, R., Hewson, J., Addis, R. & Mackey, B. Addressing climate inaction as our greatest threat to sustainable development. *Glob. Environ. Change* **91**, 102969 (2025).

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