

Submission on topics to be discussed at the global dialogues in 2024 under the Sharm el-Sheikh Mitigation Ambition and Implementation Work Programme

Introduction and summary

This submission responds to the CMA.6 decision encouraging Parties, observers and other non-Party stakeholders to submit via the submission portal by 1 February 2024 suggested topics in line with the scope of the work programme to be discussed at the global dialogues in 2024” (extract from paragraph 7 of *Decision/CMA.6 Sharm El-Sheikh Mitigation Ambition and Implementation Work Programme referred to in Decision 4/CMA.4.*)

This submission proposes **freshwater requirements of climate mitigation measures** as a topic for a global dialogue in 2024, based on the preliminary results of analysis of the freshwater requirements [presented at COP 28](#).

This submission is made by the World Meteorological Organisation (WMO) as a co-coordinator of the UN-Water Expert Group on Water and Climate Change (UNWEGWCC).

Information

Analysis of the freshwater requirements of the climate mitigation measures needed to achieve Paris Agreement goals (as assessed by the Intergovernmental Panel on Climate Change 6th cycle (IPCC6) reports) is being conducted by UNWEGWCC and the International Universities Climate Alliance (IUCA), for reporting in June 2024.

The measures covered by this study are those required for the clean energy transition, those depending on the carbon sequestration role of wetlands, peatlands, forests and other freshwater water-based ecosystems, and those for reducing emissions (mainly of methane) from water itself, such as poorly managed wastewater, irrigation systems and reservoirs.

Preliminary estimates of the UNWEGWCC and IUCA study were released at COP 28 in the [joint statement](#) by UNWEGWCC and IUCA.

These estimates indicate very large volumes of water being potentially required. The water required for clean energy measures (such as biofuels, hydrogen fuels and battery components) alone is estimated to far exceed current water consumption by the energy sector.

All scenarios for constraining global warming to 1.5 and 2 degrees assume the rapid expansion of clean energy and sequestration by natural ecosystems, yet the availability of water for these measures cannot be assumed, particularly in water scarce regions.

Assuring water supply for these measures requires that their demand is actively planned for and managed and the potential effects on other water-dependent objectives (such as food security) considered in preparing Nationally Determined Contributions. Any failure of a country's NDC's due to the unavailability of freshwater would jeopardise their capacity to contribute to Paris Agreement.

Water availability is therefore a likely precondition to the global efforts endorsed at COP 28 (CMA.4) in response to the First Global Stocktake:

- Tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030 (CMA.4 paragraph 28(a));
- Accelerating efforts globally towards net zero emission energy systems, utilizing zero- and low-carbon fuels well before or by around mid-century (CMA.4 paragraph 28(c));
- Accelerating zero- and low-emission technologies, including, inter alia, renewables, nuclear, abatement and removal technologies such as carbon capture and utilization and storage, particularly in hard-to-abate sectors, and low-carbon hydrogen production (CMA.4 paragraph 28);
- Accelerating and substantially reducing non-carbon-dioxide emissions globally, including in particular methane emissions by 2030;...” (CMA.4 paragraph 28(f)); and
- “...conserving, protecting and restoring nature and ecosystems towards achieving the Paris Agreement temperature goal, including through enhanced efforts towards halting and reversing deforestation and forest degradation by 2030, and other terrestrial and marine ecosystems acting as sinks and reservoirs of greenhouse gases and by conserving biodiversity...” (CMA.4 paragraph 33).

The final results of the UNWEGCC and IUCA study will be released at the Bonn meetings of the Subsidiary Bodies (June 2024). By including freshwater requirements of mitigation measures as a topic for the second 2024 Global Dialogue and subsequent reporting by the Working Group to COP 29 would encourage and assist the parties to ensure water availability is fully considered in their next NDCs.

Further background

The current state of knowledge of the water dependencies of climate mitigation measures was considered at the [Technical Workshop on Water and Climate Change Mitigation Interdependencies](#) of 13 June 2023. Further discussion and assessment of what is known and not known about the water requirements can be found in the [workshop report](#).