

Submission from Plastics & Climate Project

Dear COP President Andre Correa do Lago and colleagues,

Thank you for the opportunity to submit input to your welcome initiative on developing a roadmap to transition away from fossil fuels in a just and equitable manner.

I have been engaged in the UN climate treaty negotiations since INC 11, before COP1, including as a negotiator on President Clinton's U.S. team at the US Department of State. I am writing now as the Co-Founder and Executive Director of the [Plastics & Climate Project](#). We published the first and only peer-reviewed compilation and analysis of data regarding the climate impacts of plastics. See our [paper and summary report](#).

One of our key findings is that the climate impacts of plastics are undercounted, significant, and growing. 99% of plastics are made of oil, gas, or coal, and they have significant impacts on climate change at every stage of their lifecycle. The impacts are undercounted, and therefore plastics are using more of the carbon budget than currently assumed.

I am writing to help ensure that plastics and petrochemicals are an integral part of the transition. This is a largely neglected sector, and one led by the same countries and companies that have obstructed progress in both the UN climate and plastic treaty processes.

Here first are some facts, followed by barrier to progress, and recommendations.

FACTS:

--Plastics have three main categories of impact on climate change:

-Greenhouse gas (GHG) emissions:

If the global plastics industry were a country, it would be about the 4th highest emitter of GHGs, with global plastics production accounting for around 5% of total global GHG emissions, or double those from aviation. This is an underestimate of plastics' total GHG emissions, as they occur across the entire plastics lifecycle— including during use (i.e., F-gases from foam insulation), transport, import/export, and waste management, as well as from unmanaged waste (i.e. methane)—not just from production.

-Interference with carbon cycling:

Plastics constantly shed chemical-laden micro- and nano-plastics—including textile fibers, affecting carbon sequestration in the ocean, coastal blue carbon ecosystems, soils, and plants.

-Interference with Earth's radiation budget:

Micro- and nano-plastics may also affect the balance between incoming and outgoing radiation.

--Data are lacking in each category, but the overall trend is clear: plastics are having a warming effect.

--Even if all plastic production, use, and waste stopped today, many of plastics' climate impacts would continue—and increase, as degrading plastics on land, in water, and in the atmosphere continue to emit GHGs and shed micro- and nano-plastics.

--The fossil fuel industry is rapidly expanding plastic production in response to the uptake of electric vehicles and renewable energy to preserve their profits rather than transitioning away from fossil fuels into 21st century technologies.

--The World Economic Forum estimates that plastic production will double by 2040.

--The International Court of Justice's Advisory Opinion on climate change underscores States' legal duty to act on the best available science and reinforces the imperative to recognize and address the linkages between plastic pollution and climate change.

The issues involved in the plastics-climate nexus are relevant to many of the themes that were addressed at COP-30 and will be at COP-31, including a just transition away from fossil fuels; planetary boundaries; super-pollutants; oceans; and land use, including forestry and agriculture.

BARRIERS TO PROGRESS

--The primary barrier that is hindering implementation of the transition away from fossil fuels is the continued **extreme profit-seeking** of fossil fuel and petrochemical companies, both private and state-owned. An integral part of this is the direct and indirect **subsidies** that these companies receive, and the **financial contributions** that fossil fuel and petrochemical interests make to elected officials.

--Another barrier is the **absence of the Precautionary Principle** which requires a thorough evaluation of the human and environmental health impacts of products and technologies prior to their release in the marketplace.

--A third barrier is the **lack of transparency** about what fossil-fuel derived materials contain.

--Another key barrier is the **lack of awareness** about climate change, what causes it, and why it matters, among most people whose focus is not on this topic.

SOLUTIONS THE UN CLIMATE REGIME CAN IMPLEMENT

--SBSTA - Accounting

SBSTA and other relevant bodies should work with private entities who have promulgated carbon accounting systems to develop methodologies for data

gathering and accounting of plastic's climate impacts. This needs to happen in order to reasonably include all of the impacts into climate models, emissions scenarios, and reporting mechanisms while researchers continue to fill in the missing data.

--IPCC - Models & scenarios

Scientists should incorporate the full range of climate impacts from plastics into climate models and GHG emissions scenarios.

--IPCC - Experts meeting

Representatives of the IPCC have expressed interest in convening an experts meeting. The [Plastics & Climate Project](#) is already working on creating a consortium, with the IPCC, universities, and research institutions, to convene leading scientists, policymakers, and carbon accounting experts to consolidate and accelerate the necessary research. The anticipated 2027 convening will produce a coordinated research and policy agenda (with the one recommended in our paper as a starting point (see [page 22](#)), launch a practitioner network, and enable continual updating of the Project's open-access [repository](#) of publications. Deliverables are likely to include a synthesis of the outcomes into a strategy document that establishes actionable pathways for scientific coordination, integration of plastics into the next round of NDCs, and methodologies for accounting and reporting. By fostering global communication and coordinated action, the convening and roadmap will spotlight the undercounted climate impacts of plastics and help ensure that they are measured, modeled, and mitigated.

---Parties - Reporting

Parties should include reporting on the climate impacts from plastics that they are responsible for in their Biennial Transparency Reports (BTRs) and Nationally Determined Contributions (NDCs), including emissions, and carbon sink and radiation budget impacts.

QUESTIONS & RESOURCES

For any questions or further information, please do not hesitate to contact me. In the meantime, you may refer to the following resources:

--The [Plastics & Climate Project](#) website.

--*Frontiers in Environmental Science* paper: [The knowns and unknowns in our understanding of how plastics impact climate change: a systematic review](#).

--Summary report: [Plastics: Exposing their climate impacts - what we know, what we need to know, and recommendations for research & policy](#), co-authored with Monterey Bay Aquarium, the Environmental Law Institute, and the University of Wollongong.

--Policy Brief for COP30:
[Including the uncounted climate impact of plastics in the UN climate regime](#)

Thank you again for the opportunity to submit this input.