

Plastics, Climate and Air Pollution

Geneva Beat Plastic Pollution Dialogues

Update on plastics and the environment [↗](#)
About the Plastics, Climate and Air Pollution Session [↗](#)

FACING INTERTWINED CRISES

While we are familiar with the presence and impact of plastic on oceans and the freshwater ecosystem, the plastic crisis is multifaceted and deeply connected to other aspects of the ongoing environmental crisis. For instance, the plastics sector is one of the main industrial contributors to **climate change and air pollution**. This global issue is increasingly urgent as petrochemicals are expected to become the largest driver of global oil demand growth from now through 2040 [1].

Addressing today's environmental challenges requires **connecting the dots** between plastics, climate change and air pollution. This summary highlights current scientific advancements on this topic, as well as paths forward to better tackle these intertwined issues.

STATE OF RESEARCH

Plastics deeply impact our climate, as greenhouse gas (GHG) are emitted throughout their lifecycle. In 2019, GHG emissions from the plastic sector were estimated at 0.86 gigatons CO₂-eq, the equivalent of 189 coal plants running non-stop for a year. By 2050, they could eat up 10-13% of the global carbon budget needed to keep global temperature rise below 1.5°C.

Thus, addressing plastics is instrumental to achieving the goals set in the Paris Agreement [2]. Some Member States are contributing with efforts in that direction.

Recent research on **airborne plastic pollution** revealed that airborne micro and nano plastics are found in urban, suburban and even remote areas including the Arctic [3,4,5]. These particles present huge **health risks** as chemicals easily stick to them, turning them into vehicles that deposit toxins inside humans' and animals' bodies [6]. Tracing the origin of atmospheric microplastics is critical to identify and address land-based sources of pollution.

NEXT STEPS

Action at the global and national level is necessary to concurrently address the climate, air pollution and plastics crises. Instruments should comprise measures along the whole plastic lifecycle to effectively reduce plastic pollution, including:

- ▶ End the production and use of **single use disposable** plastic
- ▶ Stop the development of new oil, gas and petrochemical **infrastructure**
- ▶ Reinvent industries to foster **circular economy** and recyclability and place producer responsibility as a critical component of circular economy
- ▶ Foster the transition to **zero waste** communities
- ▶ Support **research** on plastics and foster science-informed policy
- ▶ Develop design and labeling **standards**
- ▶ Support **technology transfer** and capacity building
- ▶ Maintain political **momentum** on the global level for international action