1. Title of the side event: Microplastic: understanding the challenge and its impacts
2. Date: 31 May 2023
3. Co-organizers (name, title and organization):
   - Leah Mupas Segui, Principal Associate, The Pew Charitable Trusts
   - Margaret Spring, Chief Conservation and Science Officer, Monterey Bay Aquarium and Stefano Aliani, Research Director, National Research Council of Italy
   - Alessio Gomiero, Senior Researcher, NORCE - Norwegian Research Centre
   - Maria Westerbos, Founder & Director, Plastic Soup Foundation; Co-founder, Plastic Health Council and Sian Sutherland, Co-founder, A Plastic Planet; PlasticFree, Plastic Health Council
   - Marc Metian, Research Scientist, International Atomic Energy Agency
4. Presenters and titles:
   - Leah Mupas Segui, Principal Associate
   - Margaret Spring, Chief Conservation and Science Officer
   - Stefano Aliani, Research Director
   - Alessio Gomiero, Senior Researcher
   - Maria Westerbos, Founder & Director Plastic Soup Foundation; Co-founder Plastic Health Council
   - Sian Sutherland, Co-founder A Plastic Planet, PlasticFree, and Plastic Health Council
   - Marc Metian, Research Scientist
5. Number of participants and breakdown of types of participants:
   - 47 participants, including speakers, representing UN Member States, UN agencies, Intergovernmental Organizations, and stakeholders including Non-governmental Organizations, research institutions, and the private sector
   - 29 F, 18 M
6. Key messages resulting from the event:
   A. Microplastic pollution is greater than previously estimated based on additional source identification not considered before (e.g., paint), and it is increasing with plastic production.
   B. Microplastics and nanoplastics enter the environment at all stages of the plastic lifecycle, from production, to use, disposal and management (including recycling)
   C. They are found in all environmental compartments, including water, soil, biota and air-as well as in human bodies - including lung tissues and reproductive organs.
   D. Harm is caused from both chemical effects (leaching, adsorption, etc.) and physical effects (size, shape).
   E. Microplastic pollution must be addressed at the source, putting the responsibility and costs on producers to prevent pollution in the first place. Microplastic pollution must also be addressed globally, especially in high-income countries where microplastic pollution is the highest.
   F. Recycling is not necessarily a simple option today as present technology can recycle many polymers just once or twice maximum. Recycling also produces microplastics. Burning toxic chemical polymers is expensive and risky for people and the environment and shall be properly regulated.
   G. We don’t need more evidence before we act. The harmful health impacts of plastics and its chemicals must be front and centre during the Global Plastics Treaty negotiations.
H. Science has wide knowledge of the problems plastics generate in the environment, in humans and in their activities, including health and economy, and can provide valuable support to decision makers for a knowledge-based policy.

I. Robust and reliable monitoring plans of the plastic lifecycle are necessary to understand impacts and effectiveness of remediation measures. Important reservoirs of plastics in the environment are still to be found in the air, in the deep sea, in agriculture and especially in the nano world.

7. Key policy considerations for the INC process resulting from the event, including the INC-2 discussions, and outstanding gaps to address in moving forward towards an international legally binding instrument:

A. Mandatory binding policies are needed to reduce microplastic pollution and resulting harm to human health and the environment.

B. Policies must be developed to protect human health and the environment and be adaptive to include new science and new sources of microplastic pollution as information becomes available. Examples exist in California, which has established a risk-based approach to microplastics.

C. Toxicological research on microplastic and nanoplastics is moving quickly to support setting health-based limits, with results likely in the next 2 years, which will require policy planning and preparation.

D. The Treaty should seek to reduce the chemical complexity of plastic products; fully disclose plastics’ components and improve their traceability; and promote the use of sustainable non-toxic materials based on rigorous and transparent risk assessments and science-based and measurable safety criteria and design standards, that would also be suitable for the circular economy, as the current hazardous chemicals in plastics make them unfit for the purpose of circularity.

E. Put the human health impacts of microplastics/additives at the heart of the Global Plastics Treaty

F. The Treaty should consider the specificity of plastic pollution as in many instances impact is very different from traditional chemical pollutants. And some traditional regulations may not be effective.

G. Understanding more about exposure and transport pathways - especially lesser known atmospheric pathways, will support source prioritization.

H. The Plastic Health Council calls for: A global position statement on plastic and its human health impact; 1-, 3-, and 10-year mandatory plastic reduction targets; a global position statement against unsafe and irresponsible forms of plastics recycling; UN Member States provides fiscal incentives to accelerate uptake of plastic-free materials; a worldwide ban on toxic plastic additives; stricter regulation on chemical recycling claims; mandatory testing for pre-market plastic product toxicity; international criminalisation of over-production of toxic single-used plastics as a form of Ecocide, an international ‘greenwashing’ transparency and accountability standard; and a worldwide real extender producer responsibility.
8. What are the key knowledge products and resource tools that are currently available to inform negotiators in this process (this is not intended as a bibliography, please provide a maximum 3-5 resources)? Please also comment on any data and knowledge gaps (if any).

A. Breaking the Plastic Wave, The Pew Charitable Trusts and Systemiq, 2020
B. Plastic Paints the Environment, Environmental Action, 2022
E. The Minderoo-Monaco Commission on Plastics and Human Health (2023)
F. Microplastic, Summary Report from Interstate Technology Regulatory Council (ITRC, 2023)
G. State of California Microplastics Approach Appendix A – Microplastics (ITRC 2023)
H. Toxicity of Microplastics Explorer (TOMEX 2.0)
I. PLASTICFREE materials and systems platform.
J. Forever Toxic: The science on health threats from plastic recycling (2023)
K. Additives in the Plastics Industry (2011)