Science based principles on plastic in the circular economy

draft version

'Essential usage and **circularity** are the foundation for using plastic in a sustainable way'

Plastic is used a lot by many stakeholders and plastic pollution is ubiquitous. Scientific research has been and should be the drive to develop policies. These principles have been drawn up by natural scientists and lawyers, considering the latest research on plastic, and are aimed to incorporate sustainability and safety in the plastic usage.

We call upon policy makers and legislators to take in account these plastic principles:

1. Develop and implement the concept of **essential use** of plastics, to minimize negative environmental and health impacts, and resource depletion.

2. Strive for **chemical simplicity**, in order to enable effective circularity as well as to minimize hazard impacts from plastics on human health and the environment.

3. Strive for **transparency in the plastic value chain**, to enhance the opportunities for safe production, use, consumption, and recycling of plastic products, and to enable hazard assessment of mixed additives to plastic materials in a circular economy.

4. Ensure **material integrity** in substances and products of plastic, with the aim of enhancing durability and of preventing emissions in both the use and disposal phase.

5. Acknowledge the **persistency** of plastic materials, including the fragmentation of plastics, and the need to prevent future increase of plastic pollution.

6. Achieve **systemic solutions**, while providing adequate safeguards for society and nature, in order to lower plastic usage resulting in reduced environmental and health impacts.

7. Act upon the **assessment of alternatives**, to avoid regrettable substitutions and minimize trade-offs in the production life cycle chain as well as pollution of other impacts to the environment.

8. Establish a coherent **monitoring framework**, to get grip on the presence, magnitude and nature of the plastic pollution and it's impacts in environmental compartments, as well as to monitor the plastic production, use and disposal chain allowing to set benchmarks and assess effectiveness of measures and policies.

9. Safeguard **knowledge-science based decision making**, to transparently enable dialogues, relate underlying assumptions to knowledge, prevent polarized debate and develop solutions that tackle the root of the problem.

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Look through the plastic visor: advancing science based rules

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