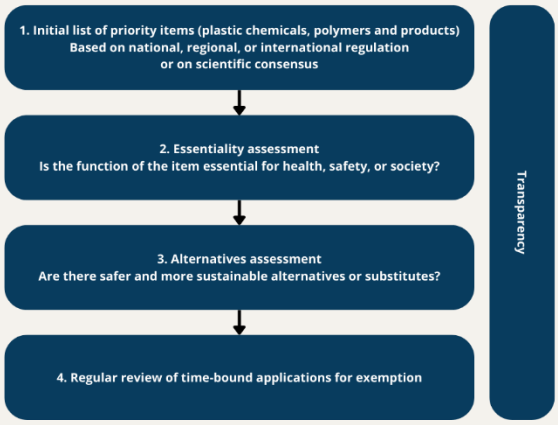
Scientists' Coalition for an Effective Plastics Treaty

The Essential Use Concept for the Global Plastics Treaty

Key Messages

- **Many uses of the 460 million tons of plastics produced every year (doubled from 2000)[1] may be non-essential.**[2,3] The United Nations Environment Programme estimates that half of all plastic produced is designed for single-use purposes,[4] and these short-lived products make up two thirds of global plastic waste.[1] Plastic production pollutes at all stages of its lifecycle from extraction of feedstocks to the technologies used for pollution removal and remediation. The recent PlastChem report (2024)[2] identified more than 16,000 plastic chemicals, a quarter of which can be hazardous to human health and the environment, many of which 'serve similar and non-essential functions'.[2]
- **We propose the application of the Essential Use Concept in the Global Plastics Treaty through the development of essentiality assessment criteria for plastics.** These criteria can be used to address the phase down of groups of plastic chemicals and products regulated under existing Multilateral Environmental Agreements (MEAs), national legislation of signatories, and scientific consensus on hazardous, and/or unsustainable plastic chemicals,[5] polymers, products, technologies, systems, and services (otherwise referred to as 'items'), except for 'essential' uses (Figure 1).
- **The successful *application* of the Essential Use Concept in the Montreal Protocol,** which effectively phased out ozone-depleting chlorofluorocarbons, except for certain 'essential' uses sets a precedent for its application in the Global Plastics Treaty.[3]
- **The *adoption* of essentiality assessment criteria as a decision-making tool will support feasible, efficient, and effective reductions in hazardous and unsustainable items** across sectors, in line with Precautionary and Prevention Principles, and if accompanied by sufficient financing, resources, and technical support, offers a rights-based approach supportive of a just transition.

Figure 1. A start and strengthen approach grounded in essentiality



The Essential Use Concept: Definition and Precedent

The Essential Use Concept could guide the phase out of items independently assessed and found to be hazardous and unsustainable (starting with those already restricted in other MEAs and national policy frameworks) whilst ensuring essential uses and functions for health, safety and society are maintained through alternatives or substitutes (assessed as safe and sustainable) or, where none is available or feasible, with time-bound exemptions accompanied by risk minimisation, planning and support for subsequent phase-out.[3]

Further to the Montreal Protocol, the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) authorisation process provides a legal basis for the implementation of the Essential Use Concept.[6] In its Chemical Strategy for Sustainability (CSS),[7] the European Commission proposes to apply the concept as part of its efforts, including developing essentiality assessment criteria, to increase protection of the environment and human health from hazardous chemicals.[8] The concept is also currently proposed for the regulation of per- and polyfluoroalkyl substances (PFAS).[5]

What are the benefits of the Essential Use Concept?

Applying the Essential Use Concept as a decision-making tool by developing clear essentiality assessment criteria, with the support of a subsidiary science-policy body (SPI)[9], under the future instrument would provide:

- An **efficient and cost-effective approach to managing groups of hazardous and unsustainable plastic chemicals, polymers, products, technologies, systems, and services** (e.g. PFAS, single-use plastic food service ware).
- A **flexible approach** that can be adapted to reflect **emerging evidence including consideration of the safety and sustainability of alternatives** (including novel bio-based plastics) **and substitutes** (e.g. bamboo).[10]
- **A harmonised approach that can be applied by regulators and industry,**[5] **across all sectors,** to identify and eliminate non-essential uses and to identify safe and sustainable alternatives and substitutes supported by transparency standards and certification schemes.

How does the Essential Use Concept complement broader Global Plastics Treaty priorities?

Simplifying and streamlining the development and implementation of standards, monitoring and reporting mechanisms, while expediting removal of hazards. The Essential Use Concept is well suited to addressing groups and classes of items according to specific properties, functionalities, and hazards, to enable streamlined reporting and transparency and more efficient removal and/or substitution.

Facilitating a hazard-based approach, aligning with Precautionary and Prevention Principles: Essentiality criteria can be used to assess known or suspected hazardous or unsustainable characteristics or properties and incur prohibitions or restriction before market release. This aligns with Precautionary and Prevention Principles, and Article 5 of REACH's Registration of Substances: 'no data, no market'.[6] This hazard-based approach is a safer, more practical, and more efficient regulatory approach than individual risk assessments.

Accelerating plastics production reduction, reducing pressure on costly and inefficient waste management, and reducing plastics pollution: The application of the Essential Use Concept to develop essentiality assessment criteria can substantially reduce globally aggregated plastics production volumes by eliminating items with non-essential uses or functions, thus reducing downstream plastics pollution burdens.

Complementing a just transition: Measurable time-bound exemption applications from signatories may be considered where items are assessed as hazardous and/or unsustainable but as also having an essential use or function, for which there are no available technically and economically feasible alternatives or substitutes that are acceptable from an environmental, social and health perspective. The financial, capacity-building, and technical mechanisms of the future instrument would be required to support the rapid and just transition to safe and sustainable alternatives and substitutes.

Recommendations for the Adoption of the Essentiality Use Concept in the Global Plastics Treaty

- **Transparency:** Data disclosure and robust transparency criteria and assessment are critical to essentiality assessments. Transparency data may include provenance, chemical, polymer and recycled content, and safe and sustainable production, consumption, and waste management.
- **Consistent terminology:** 'Problematic', 'avoidable', and 'unnecessary' have no precedent in MEAs, can be broadly interpreted, and could be collectively more accurately captured under the following assessment criteria: safety (hazard-based), sustainability, transparency, and essentiality. 'Problematic' plastic chemicals, polymers, products, technologies and systems and services would be assessed as 'hazardous' and/or 'unsustainable' and/or lacking in 'transparency'. The terms 'avoidable' and 'unnecessary' could be replaced with 'non-essential'.
- **Regularly reviewed:** Essentiality assessments, their resulting annex lists, and temporary exemption applications would be comprehensively assessed, reviewed, and updated by independent experts of a dedicated SPI[9], with a robust conflict of interest policy.

Contributors

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