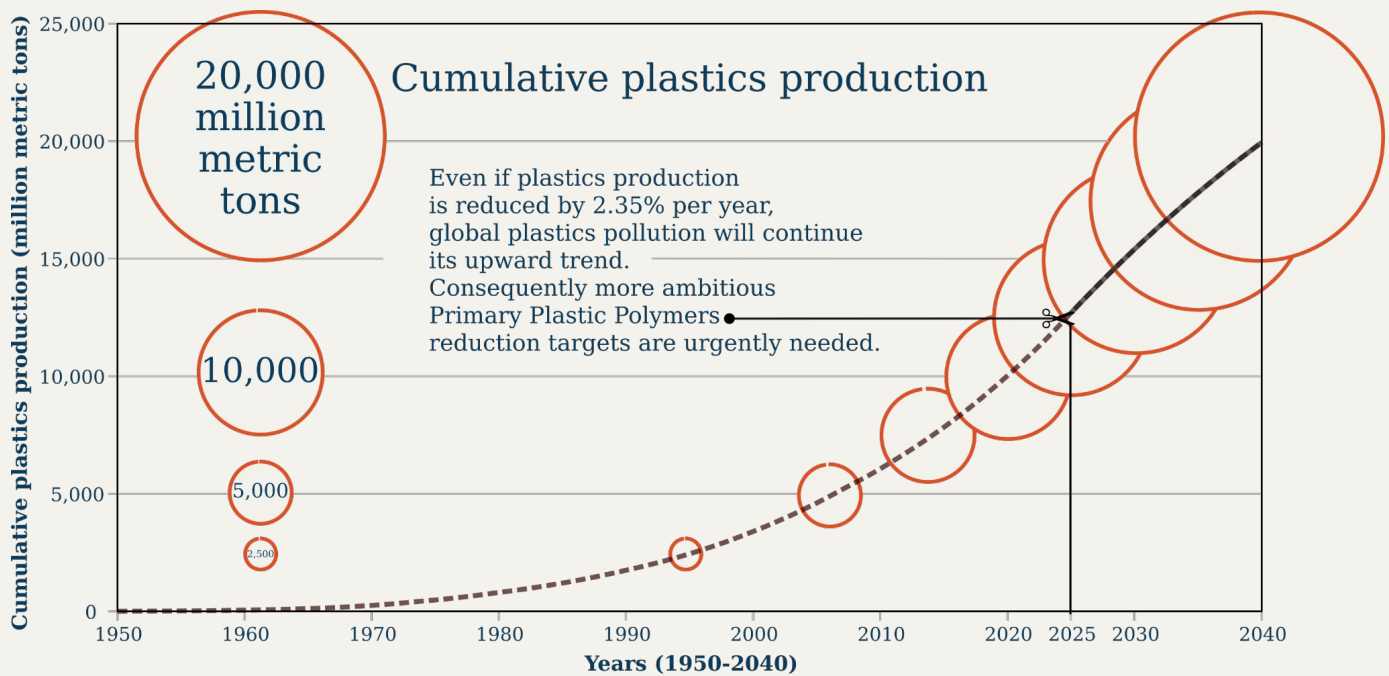


# Primary Plastic Polymers: Urgently needed upstream reduction

## Why reduce Primary Plastic Polymers production?

By 2040, it is estimated that at least 20,000 million metric tons of plastics will have been produced. Starting in 2025, the UN international legally binding instrument on plastic pollution (UNEA resolution 5/14) aims to reduce plastics pollution. However, midstream and downstream assessments show that optimizing waste management, removal technologies, and improved circularity is not sufficient to curb plastics pollution in the short-, mid- or long-term. And evidence demonstrates the need to set Global Aggregate Targets for reducing Primary Plastic Polymers\* production: in 2017, Geyer, Jambeck and Lavender-Law<sup>1</sup> introduced a cumulative perspective on plastics, with plastics production as the main proxy for pollution. To help address this Lau, Palardy, and colleagues argued in 2020 for reducing plastics production by 2.35% per year for the 2021-2040 time period<sup>2</sup>. However, calculations show that this annual globally aggregated production reduction target will still be grossly ineffective in ending plastics pollution (Figure 1), and that significantly more ambitious global and national Primary Plastic Polymers reduction targets are needed at the supply level.



**Figure 1:** Cumulative plastics production shows that even with a Global Aggregate Reduction Target of 2.35% per year starting in 2025, plastics production (as the main proxy for pollution) will continue to increase at unsustainable rates. Note the inflection in 2025 when the line turns to dark gray. The dark gray represents a reduction of 2.35% per year as a Global Aggregate Target.

\*Primary Plastic Polymers (PPP) are 'plastic materials made of synthetic and semi-synthetic polymers that are used for the first time to create plastic products in any form.' This includes all thermoplastic, thermoset, elastomer, and composite resins made from both bio-based and fossil-based feedstocks<sup>3</sup>.

## Primary Plastic Polymers: Urgently needed upstream reduction

Therefore, we have to look upstream to the root of the problem and define binding national phase-down schedules and Global Aggregate Targets in order to reduce Primary Plastic Polymers production. However, we face the challenge of a lack of production data transparency including disclosure of polymer type and chemical content. There is an urgent need to ensure Primary Plastic Polymers production and consumption data is available, as this information is essential for establishing baselines, targets, monitoring, reporting, and a comprehensive regulatory framework.

The new legally binding instrument should address the upstream sources and pathways of plastics production and related pollution from the extraction of bio-based and fossil fuel plastics feed-stocks. The instrument should prioritize significantly reducing and simplifying the production of chemicals of concern and Primary Plastic Polymers in any form used to make plastic products, along with reduction targets for their manufacture, sale, distribution, import, and export.

### How to reduce Primary Plastic Polymers production?

We know the causal links that lead to major negative impacts from plastics pollution, and we can identify socio-environmental priorities more clearly than ever before<sup>4</sup>. In light of independent scientific evidence, we face a critical normative challenge: developing a legally binding instrument to reduce the production of Primary Plastic Polymers. We need to root action in multi-stakeholder processes grounded in a robust, evidence-based and conflict-of-interest free policy, supported by transparent monitoring, reporting, and assessment processes based on five key reduction pathways (Figure 2).

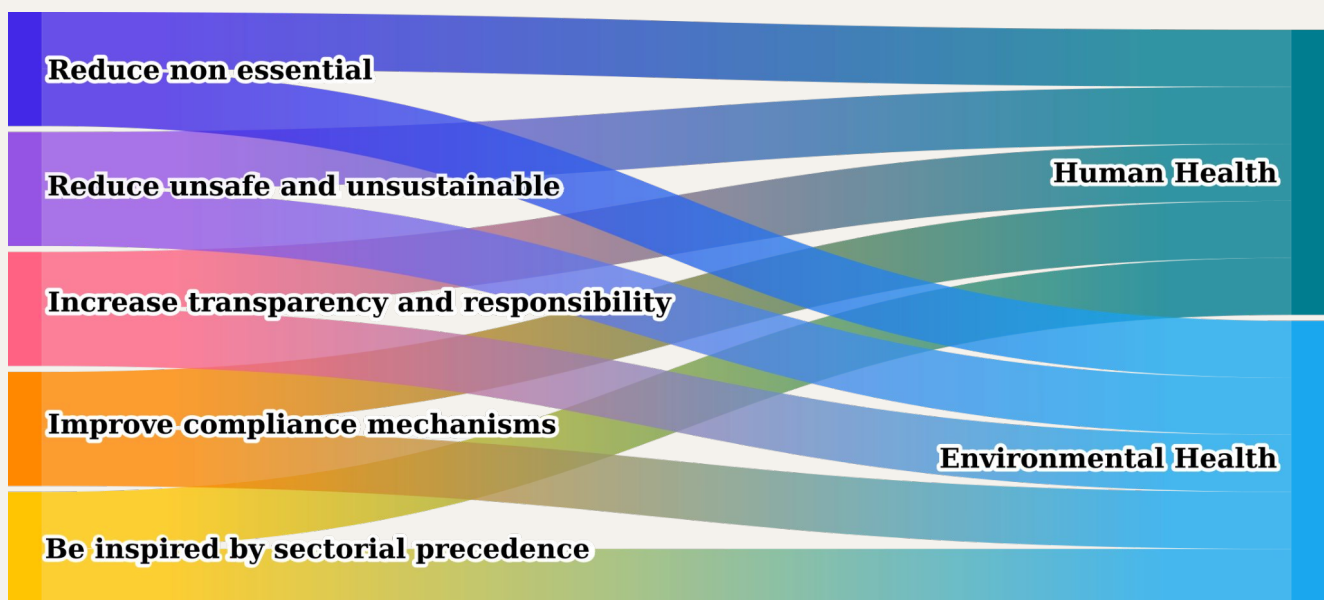


Figure 2: The five key Primary Plastic Polymers reduction pathways.

We close with the words of Dr. Nicolas Olea: "I do not want to describe the size of a tumor in very high resolution, I want to avoid the patient having a tumor." This is a metaphor for the overwhelming evidence available today, and it is a call to draw on the UN's core values to urgently reduce Primary Plastic Polymers production and, therefore, also the main source of plastics pollution.



This Policy Brief was prepared by members of the Scientists' Coalition for an Effective Plastics Treaty in March 2024, prior to the fourth meeting of the Intergovernmental Negotiating Committee (INC-4).

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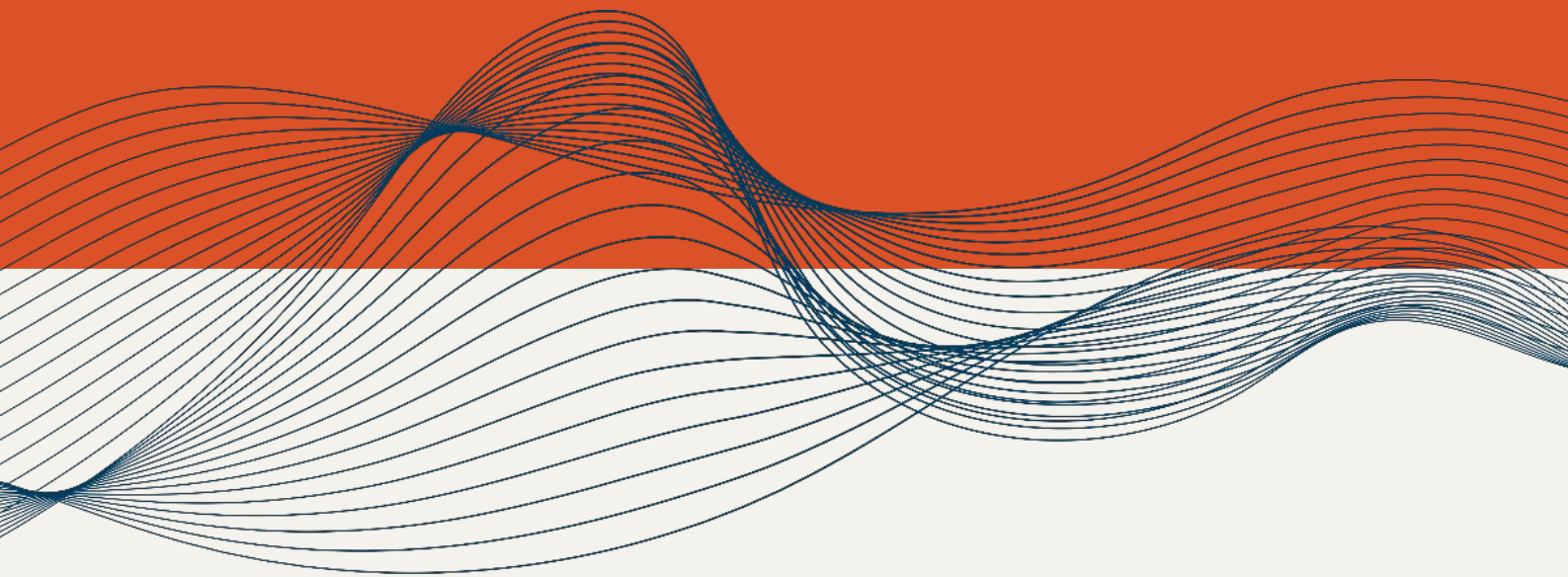
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