

Reducing primary plastics production: what are the right measures?

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The issue of plastics pollution has escalated to a point where it poses a significant threat to our planet, particularly in our oceans. The United Nations Environment Assembly adopted a resolution on 2 March 2022, leading to the establishment of an Intergovernmental Negotiating Committee (INC) tasked with developing an international legally binding instrument (ILBI), referred to in this paper as “the instrument”, to address plastics pollution, including in the marine environment.

This paper from Reloop, prepared by Dr Dominic Hogg, considers plastics production and ways of approaching this crucial issue.

Understanding the Current Approach

The INC released a [Zero Draft](#) of the instrument in September in preparation for its third meeting (INC-3) in November 2023. This document appears to draw from an [options paper](#) prepared by the INC secretariat, suggesting measures aimed at reducing plastic pollution. This paper considers the control measure featured in the Zero Draft under the title “Reducing Plastic Polymers”.

While this measure focuses on reducing primary plastic polymers, its exclusive emphasis on initial production may not

be appropriate, considering the instrument’s overall objective. The pollution potential of plastics is largely unrelated to their recycled content once they reach the environment, be it land, rivers, or seas. Therefore, it is questionable why a measure aimed at reducing plastic use would target only primary polymers. On the other hand, if other control measures are intended to address plastic pollution on land, and in rivers and seas, as well as the externalities of secondary production, then this measure’s focus could be sufficient.

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The essential question is: What should the instrument aim to achieve, and which measures can best realise this goal? In Reloop's assessment of the instrument as a whole ([see Reloop paper on different types of options](#)), we considered the instrument as either an "Option 1" or an "Option 2/3" instrument. While Option 1 entails comprehensive actions, including banning problematic plastic products and setting targets for reuse, recycling, and design criteria, Option 2/3 implies limited obligations and carries a higher risk of undermining the instrument's credibility. Ultimately, the determination of whether control measures in the instrument are sufficient to support the instrument's success in reducing (primary) plastic production should be considered against a target. Such a target needs careful consideration and must take into account how things might evolve in the absence of a specific measure to address production/consumption (most studies assume significant growth in production in "business as usual" scenarios).

It helps to consider two extreme scenarios to illustrate possible outcomes from differently designed control measures.

In the first scenario, the objective is a complete phase-out of primary plastic production, so that a measure aimed at reduction is the driver towards zero production. A system of tradable allowances for primary plastic production might be a suitable measure to use, with the available allowances reduced over time.

The second scenario has no clearly defined target. That would not negate the value of a control measure for reducing primary plastic production but would not pre-determine the outcome. For example, the measure could be set to reflect the harm caused by pollution associated with plastics production, so that this is reflected in market prices (harmful effects are currently "externalities" so they are not reflected in prices). The eventual outcome is determined by the effect of the policy on consumption and use once those costs are made explicit.

Selecting the Right Economic Instrument

Selecting the appropriate control measure for addressing plastic production is a decision that can be guided by some principles of policy design. When the desired outcome is uncertain, and externalities are well understood, environmental levies that internalise externalities of plastic production are likely to be the best option. If the target is known, a policy aligned with the target is the logical choice. Among market-based measures,

a tradable allowance system would offer efficiency gains, assuming that the costs of reducing plastic production vary across actors (which they undoubtedly will). However, what if the target, or the damages caused by each additional unit of pollution, are uncertain? In such cases, hybrid measures, such as a tradable allowance scheme supported by a price floor (and price ceiling), may offer a flexible solution.

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Approach Under the Zero Draft

The current Zero Draft presents targets for reducing primary plastic polymer production, but limits discussions regarding a proposed global plastic pollution fee primarily to its role in funding the instrument's implementation. The connection between the fee as a means of financing and the outcome of the control measure is not made. Parties are expected to implement their own measures for reducing primary plastic production (even under Options 1 and 2), with no mention of the potential use of a global plastic pollution fee for this purpose. Options 1 and 2 would be based around a global target for reducing primary plastic pollution, suggesting – as regards market-based measures – either a tradable allowance scheme, or a fee which is continually adjusted to achieve the desired target.

Generally, interest has focused on constraining production rather than consumption, presumably with the reasoning that there are fewer actors who would need to pay the fee and that it would be simpler to administer. The production-based fee, though, relies upon Parties who are host to producers to collect (and pass on) the fee revenue, whilst others may not have to undertake any activity if there are no domestic producers. On the other hand, a fee based on consumption would have to track accurately the “plastic intensity” of all consumption, which is likely to prove challenging. An alternative “chargeable event” would be “first use” of a polymer: this might also have a more direct effect on demand, though could introduce complexities in respect of traded polymers (because of the potential for non-payment of fees).

It is somewhat surprising, given the orientation towards targets, that a plastic pollution fee is being discussed as part of an instrument, yet the use of a tradable allowance scheme for reducing plastic use has received limited attention (see sidebar). Such a scheme could complement a fee-based approach, if designed as a hybrid solution. If allowances are auctioned, revenue can still be raised to support implementation of the instrument.

Tradable Allowance Scheme – Back to Basics

Outline: The recommended approach is to mandate all (primary) polymer producers to acquire allowances that match their production/sale of polymers. Allowances would be auctioned.

Traded Unit: The traded units would be measured in “tonnes of polymer produced”. The trading system would involve a global cap that is annually reduced, allowing some banking and borrowing within limits.

Trading Rules: For a given target, the scheme would implement a global cap on primary (and secondary – see main text) polymer production, reduced progressively annually. While regional-level schemes are possible, the preference is for a global framework to ensure consistency. Robust monitoring mechanisms would be required to verify production levels and enforce compliance, including the surrendering of the requisite number of allowances within defined trading periods.

Outcome: The scheme's core principle is to reduce production of (and hence, use of) plastics, encouraging their use in applications where use of plastics offers greatest value and/or where substitution costs are highest. Higher-cost producers would be likely to experience greater reductions in production, relative to the situation without such a scheme in place.

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Towards a Comprehensive Solution

Addressing plastics pollution requires a multifaceted approach. The instrument needs to address both primary and secondary plastics production, taking into account their respective impacts. A hybrid approach, combining a tradable allowance scheme and a floor price for allowances, may provide an interesting approach that achieves a level of production constraint alongside revenue generation. However, given that different floor prices are likely to be appropriate for primary and secondary production, a suitable combination might be an allowance trading system with a floor price for primary production, complemented by a global fee for secondary production. This would encourage the use of secondary plastics over primary ones, while reducing production and consumption to support the instrument's objective.

It's important to note that a genuinely comprehensive approach would not focus "just" on plastics. Ignoring the impact of producing other materials which compete with plastics increases the likelihood of inefficient patterns of substitution. Trying to introduce a control measure that ensures only beneficial substitution can occur is likely to be an immensely challenging task, effectively regulating a huge range of consumption choices that are made daily.

Recommendations

- › 1. Delegates at INC-3 should prioritise an Option 1 instrument ([see Reloop paper on different types of options](#)) that encompasses a comprehensive set of measures, including banning problematic plastic products, setting reuse and recycling targets, and establishing design criteria. This should deliver a meaningful reduction in plastic production.
- › 2. Delegates – and the INC secretariat – will, at some stage, need to consider the argument for further reductions in use beyond those implied by other control measures, and ways in which targets can be established. They should also consider the order of magnitude of externalities which are not addressed by other control measures (or other policies).
- › 3. Based on these, the potential of a global allowance trading scheme and/or fee-based systems should be explored with a view to achieving the reduced plastics production target. This should deal with both primary and secondary plastics in a manner that reflects the role played by other control measures in the instrument.

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