ZERO WASTE EUROPE

The circular leverage

Could a Dutch fossil plastics tax serve as Europe's circular blueprint?

Policy briefing

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Executive summary

The EU consumed 55.2 million tonnes of plastics in 2022, or 105 kg per person, and this volume depends on continued fossil fuel extraction. Under business as usual (BAU), the global plastics sector would emit 7 Gt CO2e a year by 2050, with cumulative emissions of 129 Gt CO2e, or 32% of the entire 1.5°C budget. Recycling, low-carbon production, bio-based feedstocks and carbon capture cannot close this gap on their own. Ultimately, limiting global warming requires reducing consumption of plastics significantly within the coming years.

Effective policy measures to reduce demand are currently scarce; virgin material use remains largely unpriced, while labour-intensive circular business models such as reuse and repair are heavily taxed. EU-level measures to curb virgin material consumption are unlikely to be introduced in the forthcoming Circular Economy Act. This is why Member States must take the lead. The Dutch 'circular leverage' proposal (*de circulaire hefboom*), put forward by the Plastic Tafel,[1] would tax the share of virgin fossil plastic in products placed on the market, using Digital Product Passport (DPP) data. Revenues would feed a 'transition fund for the circular economy'. The tax is supposed to narrow the price gap with recycled and bio-based alternatives (bio-based resins cost 1.5–2 times more than fossil ones) and rewards reuse, repair, and sharing models. It would apply to all products on the market, so Dutch producers are not disadvantaged against foreign ones. Roll-out would start with textiles and construction materials in 2027 and cover all product categories later on. The Dutch government's initial analysis found no legal grounds preventing a national levy.

The proposal is untested and holds opportunities as well as risks: the DPP could face delays, and there is limited traceability of plastic content in packaging, as well as the risk of misleading mass-balance accounting. Moreover, harmful bio-based substitution and the conflation of circular and bio-based concepts must be avoided. The tax level must also follow the required consumption cut in line with the climate goals, not merely match the virgin–recycled price gap, and the revenues must support the whole waste hierarchy, including reuse and repair. Finally, a lone national frontrunner limits the impact, while a coordinated effort of countries at the EU level could amplify its positive effects.

Concrete recommendations put forward in this paper are:

- Align the Dutch design process with EU DPP development, ensuring the data granularity needed for a material-based tax, and speeding up delegated acts.
- Find alternative arrangements (other taxes or EPR fees) for products and packaging outside the DPP.
- Direct fund revenues to all tiers of the waste hierarchy: prevention, reuse, repair and remanufacturing, not only recycling.

[1] i: A Dutch consortium of industry (plastics, chemicals, food), recyclers, PROs, and civil society.

- Share knowledge between Member States and work towards a harmonised EU-wide tax on virgin fossil plastics, avoiding Single Market fragmentation.
- Monitor growth in bio-based plastics closely and apply safeguards such as the cascading use principle.
- In the long term, extend a harmonised approach to consumption of other virgin materials, aligning EU material consumption with planetary boundaries.

Introduction

The EU struggles to come to terms with its high material consumption, especially plastic use, which amounted to 55.2 million tonnes in 2022, or 105 kg/capita per year.[2] Sweeping measures across the bloc to address the unsustainable level of virgin material consumption seem unlikely to be put forward in forthcoming policy, such as the EU Circular Economy Act.[3] However, EU Member States already have effective tools at hand to curb virgin material consumption and can lead the transition to circularity – if they dare to step up.

In the Netherlands, solutions to the lagging circularity of plastics have been discussed at the 'Plastic Tafel'.[4] A notable proposal that has the potential to change how plastics are used and recycled is 'de circulaire hefboom'. It translates to 'circular leverage' and envisions a tax on the proportion of virgin fossil-based plastics in a given product. As a result, the use of bio-based or recycled material would be rewarded, as would moving towards circular business models based on reuse, repair, sharing, and refurbishment. To determine the share of virgin fossil plastic in a product, the EU Digital Product Passport (DPP) will play a pivotal role. While the DPP remains uncharted territory, over time, it could become an effective and reliable method for material-based taxation.

This proposal is particularly noteworthy because national and EU circular economy goals are often not sufficiently supported by concrete measures targeting the use of new, virgin material. Instead, they focus on improving consumer information, building waste management infrastructure, and setting recycling and recycled content targets. Enforcing effective measures to curb virgin material consumption would mark a step change in circular policy. The EU's target to double circularity from 12.2% in 2025 to 24% by 2030, set in the EU Clean Industrial Deal,[5] will require rethinking dated policy approaches and finding measures to limit the overall virgin material input. The ambition of the Netherlands to achieve a fully circular economy by 2050, with plastics selected as a priority value chain,[6] could soon be supported by the proposed 'circular leverage'.

While difficult questions about appropriate safeguards against regrettable substitution with bio-based materials remain unanswered, and there is a risk of conflating circular and bio-based approaches, this initiative has the potential to serve as a blueprint for other material value chains and EU Member States.

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[2] EEA. 2025. Total plastics consumption by end-users in the EU27+3.

[3] European Commission. 2026. Strategy, Circular Economy.

[4] i: A Dutch consortium of industry (plastics, chemicals, food), recyclers, PROs, and civil society. See: Plastictafel. 2025. 'Eindrapport Plastictafel'.

[5] European Commission. 2025. 'The Clean Industrial Deaservel'.

[6] Government of the Netherlands. 2023. National Circular Economy Programme 2023-2030. Circular Economy in the Netherlands by 2050

Why is material consumption relevant?

Global material extraction and processing is the main driver of the triple planetary crisis of climate change, biodiversity loss, as well as pollution and waste. It is, for example, responsible for over 55% of greenhouse gas emissions (GHG), rising to 60% if land-use-change climate impacts are considered. And the trends are alarming: material use has already increased more than three times over the last 50 years, and demand for resources is expected to grow even further without decisive action. By 2060, resource extraction could rise by 60% from 2020 levels.[7]

Much of the material consumed via goods and services by Europeans is extracted elsewhere and imported to the EU, either as raw materials or incorporated in finished products, resulting in a staggering EU material footprint of over 14 tonnes per capita per year (2024),[8] a level widely considered unsustainable and above the global average. While the EU's 8th Environment Action Programme[9] aims to significantly cut this level of material consumption, the European Environment Agency estimates that, based on historical trends and projections, it appears unlikely this goal can be achieved in the next decade.[10]

Zooming in on plastics consumption in particular, it becomes evident that remaining within the 1.5°C carbon budget for the sector is impossible if current consumption trends continue. Reducing the consumption of high-GHG-emitting materials such as plastics will indeed be crucial to avoid the worst impacts of climate change. The scale of emissions reduction needed by 2040 varies according to sector. For plastics, a 2024 study concluded that consumption must drop by around 54% by 2040 to align with the 1.5°C carbon budget of the sector.[11] Without a shift away from current practices, total annual GHG emissions in 2050 are estimated to reach 7 Gt CO2e, with cumulative emissions reaching 129 Gt CO2e. This is greater than the budget for all material production and 32% of the IPCC's entire budget for limiting warming to 1.5°C. The demand for plastics would need to be reduced by 3% each year, whereby the annual consumption would be halved by 2050 - this would result in a per capita consumption reduction of around 75%.[12]

A reduction target of 40% by 2040 (40×40) as proposed by Rwanda and Peru at INC-4 in April 2024 could achieve a reduction in demand of 35% – 269Mt annually – compared to business as usual (BAU) by 2040, which aligns at least with a <1.7°C carbon budget.[13]

Those estimates need to be seen against the backdrop of the 2026 UNEP Emissions Gap Report, which found that the 'lowest possible' 1.5°C overshoot scenario limits peak warming around mid-century to 1.7-1.8°C and requires overall emissions cuts of 45% by 2035 (69 per cent by 2040), alongside increasing CO_2 removal

[7] UNEP. 2024. Global Resources Outlook 2024.
[8] EEA, 2025. Europe's material footprint.
[9] EEA. 2023. European Union 8th Environment Action Programme.
[10] EEA, 2025. Europe's material footprint.
[11] Eunomia. 2024. Managing materials for 1.5°C.
[12] ZWE. 2022. Is Net Zero Enough for the Material Production Sector.
[13] Eunomia. 2024. Aligning the Global Plastics Treaty with <1.5°C.

throughout the century. Those findings underline the urgency of immediate and significant emissions reduction, including in the materials sector.[14]

Policy options: how to introduce effective price signals on virgin material use

The effort to cut material consumption, including plastics, means switching to goods and services that require less material, or circular business models. This calls for bold policy innovations that prevent material substitution and burden shifting. Those policy options have been discussed at length, and the literature suggests that, ultimately, the price of a material must reflect its environmental externalities. The OECD noted in its 'Policy Scenarios for Eliminating Plastic Pollution by 2040', that to curb plastic production and demand, taxes play a central role: 'the early implementation of selected policies by 2030 – most notably the plastics tax and EPR schemes – significantly contribute to rapidly reductions in plastics intensity'.[15]

Recently, Bruegel concluded that the EU's fiscal systems favour linear production as virgin extraction stays largely unpriced, while labour-intensive circular measures (repair and remanufacturing) are heavily taxed. Research indicates that upstream price signals, like taxes on virgin materials and aggregates, are currently too weak to change behaviour towards greater resource efficiency. When looking at consumption-level taxation, some fiscal measures such as plastic-bag levies were found to work well, while others like value-added tax are less effective. End-of-life instruments like landfill taxes and pay-as-you-throw also perform well. However, to effectively drive circularity, the tax design must ideally set price signals at the virgin material level.[16]

The key EU policy designed to achieve the internalisation of (some) environmental externalities is the EU Emissions Trading System (EU ETS), and its complement, the Carbon Border Adjustment Mechanism (CBAM). However, the Draghi Report noted that this system for pricing emissions is 'easy to circumvent ' and poses 'a risk of downstream leakage.'[17]

A recent study commissioned by ZWE[18] structured three policy options for the EU to reflect the environmental burden of virgin material consumption in material pricing:

1. Enhancing the ETS/CBAM combination by broadening the scope to more materials, including organic chemicals such as plastics, to ensure the price reflects carbon-intensive production methods. To prevent migration of production of finished products outside the EU, relevant downstream products would have to be included in the scope.

[14] United Nations Environment Programme. 2026. Emissions Gap Report 2026: The point of return – Urgent emissions cuts needed to come back from overshoot of 1.5°C.
[15] OECD. 2024. Policy Scenarios for Eliminating Plastic Pollution by 2040.
[16] Bruegel. 2026. Policy Brief: Tax policy considerations for the circular economy.
[17] Mario Draghi. 2024. The Draghi report: In-depth analysis and recommendations (Part B).
[18] Dr Dominic Hogg, Equanimator Ltd. 2026. Towards resource autonomy: Proposals for a Circular Economy Act.

2. Complementing the EU ETS and CBAM for greenhouse gas (GHG) emissions with a tax on the main air pollutants contributing to ill health, alongside border tax adjustment for imported and exported products.
3. Shifting from an emissions-trading scheme to a tax-based system, or levy, and progressively increasing the level of tax towards a level aligned with the emissions trajectory consistent with commitments made under the Paris Agreement.

Revenues derived from the three different measures could then feed into an expanded EU Innovation Fund to support projects that reduce primary resource consumption consistent with the EU's circular ambition.[19]

As EU-level measures on material consumption are currently not on the political agenda, e.g., via the forthcoming Circular Economy Act, and the EU does not have the prerogative on taxation, action taken at the Member State level comes into focus. Discussions are evolving at different speeds at the national level and often with the aim of financing the EU plastics own resource for non-recycled plastic packaging waste, instead of reducing overall virgin input.[20] [21]

Ultimately, applying the concept of 'strategic use of materials', developed by the Zero Waste Europe network, can play a crucial role in guiding financial incentives on material consumption at all levels of decision-making. It underlines:

> *'the need to reduce the overall material consumption (measured as material footprint) to align with the planetary boundaries concept while ensuring well-being for all. More precisely, the strategic use of materials will reduce the dependency on imports of (critical) raw materials from unreliable supply chains. (...) Transitioning to a circular economy can achieve this vision; this includes resource-efficient systems, demand-side and upstream measures, as well as prioritising scarce materials for essential applications that provide the most benefit to society.'*[22]

What makes plastics stand out among other materials?

Fossil fuel extraction and high levels of plastic consumption are intrinsically linked. The EU's consumption of 55.2 million tonnes of plastics in 2022, or 105 kg/per person,[23] depends on today's oil and gas extraction, which produces plastics alongside fossil fuels. Producing the same volumes from bio-based or other non-fossil

[19] Dr Dominic Hogg, Equanimator Ltd. 2025. Towards resource autonomy Prodecision-makinglevelsposals for a Circular Economy Act.
[20] i: France and Germany debated taxation of plastics nationally to finance its national contributions to the EU plastic own resource; In Germany, the EU own resource contributions should be supported by a new fee starting in July 2027: 550 euros will be charged for every metric ton of plastic used in packaging. Composite packaging containing more than five percent plastic is also affected. Recycled plastic may be exempt from the tax, bio-based polymers not. The levy will apply to both manufacturing and retail; The Italian Plastic Tax (currently postponed) is designed to charge all single-use plastics (not just packaging) made from virgin polymers (it exempts recycled polymers and compostable plastics) whether domestically produced or imported, at a rate of 450 Eur/t. Spain adopted a similar measure.
[21] European Commission, 2026. Plastics Own Resource.
[22] ZWE. 2026. What is Strategic Use of Materials?
[23] EEA. 2025. Total plastics consumption by end-users in the EU27+3.

feedstocks would very likely be unfeasible. Besides that, even a full switch to bio-based feedstock would exceed the plastics sector's share of the carbon budget by far, alongside increasing pressure on land use, and competing with food production.[24]

What has shaped the way we use plastics today is mainly its low price point: it dominates in short-lived, low-cost applications such as single-use packaging and fast fashion textiles. Packaging alone accounts for around 35% of all plastics used in the EU (2024).[25] At the same time, recycled and bio-based alternatives struggle to compete on price: bio-based resins typically cost 1.5-2 times as much as their fossil counterparts.[26]

There is no generally recognised figure of a 'sustainable' level of plastics consumption. Modelling can, however, estimate how much plastic production fits within a share of the remaining carbon budget for limiting warming to 1.5°C. A 2022 study by Eunomia[27] allocated 100 Gt CO2e of the remaining global 1.5°C budget of 400 Gt CO2e from 2020 to the materials sector. Plastics received 16 Gt CO2e, in line with their current share of material emissions. These allocations have not been updated in line with more recent emissions trends and involve value judgements, yet they show the scale of change needed.

Under a BAU scenario, global plastics production will grow by 4% a year by 2050. The sector would then emit 7 Gt CO2e a year by 2050, amounting to cumulative emissions of 129 Gt CO2e. That is about eight times the plastics budget and 32% of the entire 1.5°C budget for all sectors. Supply-side measures alone will not close this gap. Even when combining higher recycling, low-carbon production, bio-based feedstocks and carbon capture, cumulative emissions remain around three times the budget. Instead of growing by 4% annually, global plastics consumption would need to shrink by about 3% a year - roughly halving annual consumption by 2050, or a reduction of about 75% per capita.[28]

Zero Waste Europe therefore suggested a credible pathway for emissions reduction of the sector, combining:

- Reducing plastics consumption by half by 2050, mainly by eliminating non-essential short-lived and single-use applications and shifting to more durable and reusable options;
- Sourcing the remaining material from recycled plastics as a priority, and from non-fossil feedstocks, including bio-based ones, as a secondary option. These materials should be sustainably sourced, preferably in the EU, with safeguards such as the cascading use principle and priority given to residues and wastes;

[24] ZWE. 2022. Is Net Zero Enough for the Material Production Sector.
[25] Plastics Europe. 2026. The Circular Economy for Plastics MAY 2026 A European Analysis.
[26] European Commission, Joint Research Centre. 2026. Bio-based plastics in a sustainable and circular bioeconomy.
[27] ZWE. 2022. Is Net Zero Enough for the Material Production Sector.
[28] ZWE. 2022. Is Net Zero Enough for the Material Production Sector.

- Treating carbon capture as a limited, high-risk option to reduce emissions instead of positioning it as a solution to continue fossil-based production or incineration. Its role must be monitored closely, grounded in scientific evidence, to avoid lock-in effects.[29]

Moving forward, this ambitious pathway must be supported by appropriate policy measures, including bold instruments that target the price difference between virgin, fossil-based plastic and its alternatives.

[29] ZWE. 2022. Is Net Zero Enough for the Material Production Sector.

What is the Dutch circular leverage proposal?

To address the consumption of fossil-based virgin plastics and achieve the circular economy in the Netherlands by 2050, the 'Plastic Tafel' - a consortium of industry (plastics, chemicals, food), recyclers, PROs, and civil society[30] has proposed a policy coined the 'circular leverage' (*de circulaire hefboom*), which foresees a tax on the proportion of fossil plastics in products. This policy aims at reducing the price difference between virgin fossil-based plastic and more expensive recycled or bio-based alternatives and thereby boost circularity.[31] The idea was developed against the backdrop of the mounting risk of bankruptcy of Dutch plastic recyclers and bio-based producers due to the limited market uptake and price instability for their products. The measure is supposed to support said actors while not harming Dutch plastic producers and placing them on equal footing with foreign producers, as the tax would apply to all equally.[32]

In December 2025, (former) State Secretary Aartsen informed the House of Representatives about the proposals of the Plastic Tafel and outlined the next steps, including a feasibility study examining legal and regulatory barriers. He noted that, "as EU Member States are free to levy taxes on products based on objective criteria (...), provided that there is no direct or indirect discrimination against products from other Member States and that there is no conflict with other European legislation relating to the same product. An initial analysis of these principles has not identified any grounds that could prevent a statutory levy from being introduced. Given the objective, inclusion in the Environmental Taxation Act ('Wet belastingen op milieugrondslag') would appear to be the obvious course of action."[33]

The proposal foresees that when a producer places new products containing virgin fossil plastics on the market, they would pay a tax, calculated based on data stored on the Digital Product Passport. The collected fees would then contribute to an investment fund dedicated to circularity. The system would be designed to reward companies that switch to circular materials and penalise those opting for virgin fossil-based material. Over time, as more and more companies switch to circular materials, the fund would shrink and eventually disappear.[34] [35]

The measures put forward by the Plastic Tafel were intended to address some of the challenges resulting from earlier circular policies in the Netherlands, namely the plastic tax and the National Circular Plastics Standard

[30] i: Parties that signed the final report of the Plastic Tafel: VNCI, Groene Chemie, Verpact, FNLI, NRK Recycling, urgenda, Vereeniging Afvalbedrijven, Unilever, NVRD, MVO Nederland, VNONCW, Plastics Europe, NRK, and Natuur & Milieu.
[31] Plastictafel. 2025. Eindrapport Plastictafel.
[32] MVO Nederland, June 2025. Circulaire hefboom.
[33] Rijksoverheid. Kamerstuk 19-12-2025: Kamerbrief over stand van zaken voorstellen Plastictafel en plasticafdracht aan EU.
[34] Future Up. 2026. Video: 'Wat is de circulaire hefboom (Circulair Leve „and designed torage)?'.
[35] Rijksoverheid. Kamerstuk 19-12-2025: Kamerbrief over stand van zaken voorstellen Plastictafel en plasticafdracht aan EU.

(NCPS). Both measures would have created an uneven playing field at the disadvantage of Dutch producers. Said plastic tax would have been levied on fossil plastics produced in the Netherlands. In practice, this could have negatively affected Dutch plastic producers, as it would have placed them at a competitive disadvantage compared to foreign producers by making plastic produced in the Netherlands more expensive. The NCPN obligation scheme would have required producers to use a minimum percentage of recycled material in new plastics, however, only for plastics produced in the Netherlands, while foreign producers remain unaffected, which would have created the risk of shifting production abroad.[36]

The Plastic Tafel has, therefore, proposed several new instruments:[37]

- Producers and retailers should voluntarily commit to the exclusive use of circular plastics in packaging. This requires improvements in the quality of recycled material. Setting the right incentives, such as making packaging that is recyclable by design financially more attractive, is an important measure to achieve this.
- All levels of government should commit to circular procurement of products containing recycled plastics to stimulate demand.
- The 'Circular Leverage' should tax the proportion of new fossil plastics in a product based on data from the Digital Product Passport (DPP) to disincentivise its use and make recycled material more competitive.
- The additional costs of producing circular plastics should be reduced to make them more cost-competitive. This could entail subsidising the cost difference between 'circular plastics' and fossil plastics, but could also include making cheaper energy available for recycling operators.

Prior to the publication of the Plastic Tafel report, a study by CE Delft [38] calculated the environmental and economic impacts of a tax on virgin fossil-based plastics in the Netherlands. Researchers compared different tax rates and two possible variations of the tax: Firstly, a *tax on polymers* - meaning the plastic granules that plastic products are made from. As the number of large companies and importers is limited, the design would be rather simple, and the tax would apply to all plastics on the market, regardless of the final product. Secondly, a *tax on finished plastic products* was examined - this would be more difficult to design and implement, but has the least competitive disadvantages and leakage effects.[39] While both variants could result in significant global CO2 emission reductions, the authors estimated the highest reduction potential when a tax (800 euros per tonne of plastics) is levied on polymers. This would result in a global CO2 reduction of up to 1,600 kilotonnes per year in 2030 and a 46% reduction in plastics production. In comparison, a lower tax

[36] Institute for Sustainable Process Technology. 2025. New measures for plastics recycling following scrapping of Plastic Tax and NCPN.
[37] Plastictafel. 2025. Eindrapport Plastictafel.
[38] CE Delft. 2022. Geert Warringa, Geert Bergsma, Johannes Bollen, Joram Dehens en Lynn Snijder. Rapport: Een nationale belasting op primair fossiel plastic? Effecten op milieu en economie.
[39] i: production of affected goods moving outside the jurisdiction where the policy applies.

burden of around 100 euro per tonne would not be sufficient to encourage investment in the use of recycled or bio-based plastics. At the same time, the negative economic impact on Dutch plastics producers was estimated to be higher when the tax is levied on the polymer rather than at the product level. The authors concluded that the subject has received little attention in research so far and that more detailed analysis was needed on the availability and additional costs of using extra recyclate. Moreover, they suggest introducing a tax at the European or global level to be more effective - in particular for polymers at risk of leakage effects.[40]

How would the circular leverage work in practice?

Producers would pay a tax based on the amount of new fossil-based plastics in the products they place on the Dutch market. The collected revenues are then invested in circular solutions via an investment fund. The system therefore rewards companies that switch to circular materials. This leverage would be designed to complement existing policies such as Extended Producer Responsibility (EPR) and minimum requirements for product design.

Special focus on different sectors was initially foreseen in the report, as it suggested starting with textiles and construction materials in 2027; furniture and electronics would then be added in 2028; mattresses as of 2029; and all product categories after 2030. This progression would mean that almost half of the plastics consumption in the Netherlands is covered by the circular leverage in 2028.[41]

Finally, the proceeds of the circular leverage would be reinvested in the market via a 'transition fund for the circular economy' to make circular alternatives scalable more quickly. While every sector will require a targeted transition approach, the final report lists, among others, investments in: innovation; subsidies for unprofitable peaks; quality improvement of recyclate; supply chain collaboration; and consumer awareness. The funding that will become available for investments in the circular supply chain transition can offset the (temporarily) high costs faced by circular frontrunners.[42]

To determine the share of virgin fossil plastic in a product, the EU DPP will play a pivotal role.[43] According to the European Commission, 'the DPP is a digital container for products, components, and materials, which will store relevant information to support products' sustainability, promote their circularity and strengthen and facilitate legal compliance.'[44] It should help all actors access reliable product information in a standardised way. Its legal basis is the Ecodesign Regulation (ESPR), and the EU foresees its introduction progressively across selected product groups – the first being batteries placed on the market as of February 2027. Priority product groups were identified via the ESPR Working Plan; however, this does not automatically mean that the use of a DPP among these products will become mandatory. Rather, an in-depth study and impact assessment will be

[40] CE Delft. 2022. Geert Warringa, Geert Bergsma, Johannes Bollen, Joram Dehens en Lynn Snijder. Rapport: Een nationale belasting op primair fossiel plastic? Effecten op milieu en economie.
[41] Plastictafel. 2025. Eindrapport Plastictafel.
[42] MVO Nederland, June 2025. Circulaire hefboom.
[43] Plastictafel. 2025. Eindrapport Plastictafel.
[44] European Commissions. 2026. What is a Digital Product Passport?

conducted to determine whether a DPP is a suitable tool for each product group. The indicative timeline to complete this evaluation and the adoption of final rules is 2026 for iron and steel, 2026–2029 for energy-related products, 2027 for textiles, tyres, and aluminium, 2028 for furniture, and 2029 for mattresses and ICT products.[45] As indicated above, this timeline reflects the sectors foreseen for the circular leverage in the Plastic Tafel report.[46]

In practice, a DPP will be created as follows: economic operators gather the product information required under applicable EU legislation and create and register the DPP in the EU DPP Registry. Products manufactured in the EU must be registered before they are placed on the market. Competent National Authorities of EU Member States are then responsible for implementing and enforcing the regulation within their territories.[47] In the packaging sector, no DPP is foreseen, and targets for bio-based or recycled material as per Packaging and Packaging Waste Regulation (PPWR) will apply at the company level, not product level, making the proposed tax difficult to implement nationally.[48]

How is material composition accounted for under the DPP? The specific data that a DPP must contain is determined by 'delegated acts' adopted under the ESPR or by product-specific legislation. Chapter II of the Ecodesign Regulation defines how the DPP works for these products - which product categories are covered and what information must be included.[49] The product aspects that the delegated acts should improve (where those aspects are relevant to the product group) include recycled content, and the product parameters listed in Annex I specify: (h) use or content of recycled materials and recovery of materials, including critical raw materials; (i) use or content of sustainable renewable materials.[50] These parameters would form the basis of determining the fossil plastic content of a given product.

To account for recycled material, the methodology defining data requirements for the Digital Product Passport[51] provides a reference overview and lists EN 45557:2020 as a primary choice and, as an alternative, ISO 14021:2016.[52] Whether a mass-balance approach is permitted to determine product material composition, however, depends on the respective delegated act. For example, the textile-specific DPP requirements will be defined through the future delegated act that will also introduce the ecodesign requirements. This information

[45] European Commission. 2026. Frequently Asked Questions on the Digital Product Passport (DPP).
[46] Plastictafel. 2025. Eindrapport Plastictafel.
[47] European Commissions. 2026. What is a Digital Product Passport?
[48] Official Journal of the European Union. Regulation (EU) 2025/40 on packaging and packaging waste.
[49] European Commission. 2026. Frequently Asked Questions on the Digital Product Passport (DPP).
[50] Official Journal of the European Union. Regulation (EU) 2024/1781.
[51] JRC. 2026. Methodology for defining data requirements for the Digital Product Passport under the ESPR framework. 3.4.3. Step C.3: Setting DPP data granularity.
[52] i: EN 45557:2020 European standard for assessing the proportion of recycled material content in products (European Committee for Standardisation, 2020d). As th. Fore benefit of reusing different materials differs considerably, these should not be summed up, but be considered individually, as any legal mandate should and likely would act on that level (e.g. mandate minimum recycled plastic content, but not recycled steel or copper content as the latter two bring no environmental benefitWhethers). As an alternative it lists ISO 14021:2016 – Defines terms for recycled content in environmental claims (distinguishes post-consumer vs pre-consumer recycled content). (International Organization for Standardization, 2016).

may include fibre composition (as required under the Textile Labelling Regulation). Adoption is planned for Q4 2027.[53] [54]

Regarding the relationship to existing EPR schemes, the proposal foresees that if a sector takes significant, ambitious steps towards circularity, the levy under this mechanism can be reduced to eliminate unnecessary cost accumulation. However, current trends do not suggest any sector is on track to full circularity.[55]

Example of the circular leverage applied to the textiles sector

In this estimation, 1% more virgin fossil plastics equals 1 cent higher levy. Every few years, the leverage dynamic for each material sector is reviewed and adjusted upward or downward depending on the pace of a sector's progress toward becoming fully circular by 2050.

Based on the leverage system linked to the HS code (percentage share of virgin fossil plastics × weight of a product (+ any bonus levy on a product characteristic), the levy is calculated automatically. The invoice is sent to the brand owner, and the proceeds flow directly into the transition fund. The trendline for textile products shows that polyester is mainly used in the low-price segment (fast fashion) and less in premium products; however, there are exemptions. Additional costs for polyester may be passed on from brand owners and importers to consumers. Yet, a number of retailers are already demonstrating that they can offer affordable products with less virgin plastic. As economies of scale emerge once circular economic activity gains momentum, the costs of sustainable substitution will also decrease. This will limit price increases for consumers, while simultaneously boosting circular production.[56]

Share of virgin fossil-based plastics in a textile product (examples)	**Hypothetical leverage dynamics based on the weight of the product placed on the market**
0–9% virgin fossil-based polyester/nylon/acrylic	- (no levy on a single button)
10% virgin fossil-based polyester/nylon/acrylic	10 cents per 0.1 kg (shirt: + €0.3/sweater: + €0.6)
33% virgin fossil-based polyester/nylon/acrylic	33 cents per 0.1 kg (shirt: + €1/sweater: + €2)
100% virgin fossil polyester/nylon/acrylic	100 cents per 0.1 kg (shirt: + €3/sweater: + €6)
Hypothetical bonus payment for different types of materials in a textile product (1%+)	
One type of material (easy to recycle)	+ €0.00
Two materials	+ €0.25
Three materials	+ €1
Four or more materials (difficult to recycle)	+ €2

[53] European Commission. 2026. Textile Apparel and the Digital Product Passport (DPP).
[54] European Commission. 2026. The Textile Labelling Regulation (EU) 1007/2011.
[55] MVO Nederland, June 2025. Circulaire hefboom.
[56] MVO Nederland, June 2025. Circulaire hefboom.

Assessment of risks and opportunities

The proposal has not yet been tested under real market conditions in its proposed form. The risks, opportunities, and success factors outlined below therefore reflect potential effects that would need to be assessed through implementation and monitoring.

Key opportunities:

- Creating a more 'level playing field' for circular and bio-based materials through targeted taxation on fossil-fuel-based ones. By adjusting the price producers pay for placing a product on the market based on its material content, the markets for alternative materials could be transformed.
- Investments into circularity via the 'transition fund for the circular economy' could unlock the funds needed to scale circular businesses offering services at the higher tiers of the waste hierarchy, including reuse, repair, sharing, and remanufacturing. The fund provides public authorities with a budget-neutral way to stimulate the circular economy, especially in times of decreasing public spending.
- The circular leverage is bound to stimulate a more local economy, securing local jobs in waste collection, recycling, repair, reuse, and more. The money from the new fund can stimulate those local circular businesses.
- The proposal offers a feasible solution to boost circularity at a time when regulation is increasingly under pressure, national budgets to support the circular transition are tight, and the European recycling sector is at risk of bankruptcy. Despite the identified risks below, material-based taxation is an opportunity for Member States to further the transition and utilise the full potential of the EU Single Market to drive circular economics when coordinating their efforts. Similar measures have already been either discussed or introduced in several EU Member States such as Austria, France, Germany, Italy, and Spain, often in relation to financing national contributions to the EU plastics own resource.[57]

"This proposal could help to make the business case for more circular solutions in repair, reuse, and recycling. Entrepreneurs in the circular economy need the authorities to start shaping the marketplace, and the circular leverage could be a defining instrument to support a more local economy focused on retaining value."

Rob Buurman, General Director, Fair Resource Foundation

[57] European Commission, 2026. Plastics Own Resource.

Possible risks and factors for success:

- Lonely frontrunner or policy influencer? The Netherlands could remain the sole country implementing a tax on virgin fossil plastics while others don't follow suit, limiting the full potential of the measure. The positive effects of such a tax on circularity could be scaled if it was introduced at the EU or global level. This could also pave the way for the introduction of a tax on polymers (instead of the product content), easing policy design and monitoring, as it would target all plastics granules on the market and make monitoring of product content via the DPP redundant.[58] A harmonised tax across the EU on plastic polymers, whether imported or produced domestically, could hence become a longer-term ambition, once the proposed circular leverage is successfully implemented in the Netherlands and other EU Member States agree on coordinating efforts.

- Losing focus on the actual environmental impact: It will be paramount to ensure that the level of the tax is determined to achieve the goal of reducing the overall production of fossil-based feedstock and reduce the negative impacts of fossil fuel production. The tax must not merely match the price gap between virgin and recycled material but align with the required annual consumption reduction to limit or revert global warming to 1.5°C.

- Uncertainty about DDP scope and delays: The rollout of the DPP per product group will take time, and the passport will not become mandatory for all product groups. Moreover, the concrete information requirements on material content per product group are determined via delegated acts.[59] However, ensuring the swift transposition and application of the DPP for textiles can provide regulators with detailed information on a major fossil-based polyester-consuming sector and will allow for appropriate taxation.

- The impact on packaging remains opaque: The DPP is not foreseen for packaging and therefore omits a major consuming sector of plastics, i.e., around 35% of all plastics consumed in the EU in 2024.[60] While the PPWR foresees the introduction of targets for recycled and bio-based material in packaging as well as labelling requirements, those provisions will apply at the company level, instead of the product level. This accounting method calls into question the possibility of taxing at the product level in a Member State. Moreover, the method to account for recycled content is still pending (see next bullet point). The proposed tax could complement requirements for the proportion of recyclate and bio-based content in packaging and products. Even if such requirements are sufficiently ambitious and applied consistently, a tax on the remaining proportion of virgin fossil-based plastics could further drive recycled content use by closing the price gap between virgin and recycled or biobased plastics.

[58] CE Delft (2022) Geert Warringa, Geert Bergsma, Johannes Bollen, Joram Dehens en Lynn Snijder. Rapport: Een nationale belasting op primair fossiel plastic? Effecten op milieu en economie.
[59] European Commission. 2026. Frequently Asked Questions on the Digital Product Passport (DPP).
[60] Plastics Europe. 2026. The Circular Economy for Plastics MAY 2026 A European Analysis.

Since the EU will not impose such requirements for all products, a blanket tax on fossil-plastics use would have effects on multiple product groups at once.[61]

- Risk of applying inappropriate accounting methods for material content in products: It is central to the success of the proposed measure to define exactly how the material in a product is accounted for. To ensure traceability and transparency, any share of materials should be measured as 'weight-based', otherwise, there is a risk of misleading accounting (i.e. chains of custody including mass balance and 'book and claims'). This could lead to so-called 'goldplating' of the products placed on the market in the Netherlands - meaning that products produced for the Dutch market have a higher reported recycled content, while the overall production methods of a company do not change as products sold elsewhere become part of the calculation.[62] [63] [64] This dynamic underlines once again the importance of considering taxation across the entire EU, as listed above.

- Risk of conflation of concepts: the distinct concepts of *circular* and *bio-based* materials must be clearly defined and not mixed up – legal definitions derived from the circular economy and bioeconomy frameworks must remain clear-cut. This risk of mixing up those materials has already been observed during the policy negotiations on the PPWR, which introduced requirements for packaging design, including on recycled and bio-based content.[65]

- Substitution risk: the substitution of fossil-based with bio-based material holds new challenges. The potential significant increase in the production of bio-based materials[66] to replace fossil-based plastics must not be underestimated. Virgin bio-based feedstock is distinct from other circular options and must meet sustainability criteria. This should include applying the cascading use principle[67] and

[61] i: 'The current area required for beet production would double (80,000 hectares extra) if a polymer tax of 800 euro per tonne is levied on 250 ktonnes of bio-based plastic produced in the Netherlands. An alternative option is to import bioplastics, for example from Brazil.' See: CE Delft. 2022. Geert Warringa, Geert Bergsma, Johannes Bollen, Joram Dehens en Lynn Snijder. Rapport: Een nationale belasting op primair fossiel plastic? Effecten op milieu en economie.

[62] ZWE. 2023. Impacts of allocation rules on chemical recycling – consequences on the environment and maximum circularity of plastics.

[63] ZWE. 2026. Response to consultation | Setting a framework for recycling: Regulatory requirements under the Packaging Packaging Waste Regulation.

[64] ZWE. 2024. 'Dual-use output' issues for accounting recycled plastic content.

[65] ZWE. 2023. Using biobased plastic to meet the recycled content target for plastic packaging – a false "bonne idée".

[66] CE Delft. 2022. Geert Warringa, Geert Bergsma, Johannes Bollen, Joram Dehens en Lynn Snijder. Rapport: Een nationale belasting op primair fossiel plastic? Effecten op milieu en economie.

[67] i: 'Cascading use is the efficient utilisation of resources by using residues and recycled materials for material use to extend total biomass availability within a given system. From a technical perspective the cascading use of wood takes place when wood is processed into a product and this product is used at least once more either for material or energy purposes.' See: European Commission. Knowledge4Policy (K4P). 2025. Cascading use.

considering a material application hierarchy[68] that restricts the use of material in single-use and short-life applications.

- Misguided funding for circularity: The tax revenues flowing into the foreseen 'transition fund for the circular economy' must support all levels of the circular economy, especially the higher tiers of the waste hierarchy such as repair, reuse, refurbishment, remanufacturing, sharing, and refill of packaging instead of channelling finance exclusively to recycling. The importance of building up additional recycling infrastructure varies by waste stream and must be assessed separately for each value chain, e.g., for the textiles sector, recycling lags far behind waste generation.
- Compliance risks: False reporting or brand owners attempting to purchase low-cost, non-compliant recycled material from abroad to use in their products could pose a risk to the circular transition. Safeguards such as those present in other recycled content requirements must be put in place.

[68] i: 'While the principle of minimising overall material use should be the priority, there will inevitably be certain applications where the use of one material over another is clearly desirable from an environmental perspective, and for a given material, some applications that are clearly more desirable from an environmental perspective than others.' See: Eunomia. 2024. Managing materials for 1.5°C.

Conclusion and recommendations

The EU's plastic consumption and its overall material footprint are well beyond sustainable levels, yet EU-level measures to curb virgin material use are unlikely in the forthcoming Circular Economy Act, so Member States must take the lead. The Dutch 'circular leverage' would tax the share of virgin fossil plastic in products, using Digital Product Passport (DPP) data, and channel the revenue into a transition fund. This would narrow the price gap with recycled and bio-based alternatives and incentivise producers to move away from virgin fossil plastic and embrace circular business models, including reuse and repair. The measure would also avoid the risk of placing Dutch producers at a competitive disadvantage. The proposal is still untested and faces risks: DPP delays, limited traceability of plastic content in packaging, regrettable material substitution, misleading claims through mass-balance accounting, among others.

What are the next steps and policy opportunities? The successful implementation of the tax on fossil plastics in the Netherlands has the potential to create a precedent that can shine beyond the Netherlands and inspire other EU Member States to follow suit and coordinate at the EU level on a harmonised tax regime. Once such a precedent exists, other materials could be considered as well - targeting overall EU material consumption, incentivising circularity, and aligning high-level objectives in the fields of circularity, climate, and strategic autonomy. Pricing virgin material consumption is the blatantly missing piece in the EU's policy framework governing the circular economy. The current EU focus on recycled content, public procurement, and EPR as part of the Circular Economy Act, as well as waste incineration as part of the EU ETS proposal, are important elements but lack teeth without addressing primary material consumption. We must keep in mind that ultimately, limiting global warming and returning to 1.5°C, will require significant annual consumption reduction of plastics.[69] Policy measures must align with this challenge; we therefore recommend:

- Coordinating between the Dutch policy design process of the circular leverage and the EU-level development of the DPP for different product groups – ensuring the required data granularity to levy a raw material-based tax and accelerating the adoption of the delegated acts per product group;
- Finding other arrangements for product streams and packaging that will not be subject to the DPP (or only after 2030). Other taxes or EPR fees could become a relevant lever in this case.
- Ensuring the appropriate allocation of the collected funds in the Netherlands towards circular innovation and infrastructure, targeting all tiers of the waste hierarchy (prevention, reuse, repair, remanufacturing) and not exclusively recycling;
- Sharing knowledge and coordination between EU Member States to examine the possibility of introducing similar measures in other countries and working together towards a harmonised EU-wide

[69] ZWE. 2022. Is Net Zero Enough for the Material Production Sector.

tax on the use of fossil-based virgin plastics in products. This approach will also avoid fragmentation of the Single Market;

- Monitoring the potential significant increase in the use of bio-based plastics closely,[70] and applying appropriate safeguards, such as the cascading use principle. An application hierarchy for biomaterials more generally should also be considered, one that takes a holistic view on biomass production, use, and impacts;
- In the long term, exploring how a similar approach of an EU-level harmonised tax could be levied on other virgin materials, addressing the overall material consumption in Europe and aligning it with planetary boundaries.

[70] i: there is a considerable variation between studies and a high degree of uncertainty around projected biomass demand in 2050 in the EU. The variation equates to the difference between requiring an extra 50% or 150% biomass in addition to what is currently used. This uncertainty raises important questions about how biomass supply will be structured in 2050, and its climate and environmental consequences. See: forthcoming ZWE. 2026. Report on bio-based plastics.

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