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Tax policy considerations for the circular economy

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Executive summary

ABOUT 88 PERCENT of materials are thrown away rather than re-used or recycled in the European Union. That creates mountains of refuse that is expensive to dispose of, and wastes valuable resources that could re-enter the economy rather than being incinerated or buried. Tax systems favour linear 'take-make-waste' practices because the environmental harms associated with virgin material extraction remain largely unpriced. Price-based instruments can help move the behaviour of producers and consumers towards more efficient use of resources.

THE EU CIRCULAR ECONOMY ACT being prepared by the European Commission should aim to improve the effectiveness of fiscal instruments. Empirical research on how they have worked in practice indicates that the upstream price signals (taxes on virgin materials and aggregates) applied so far are too weak to change behaviour, and they need to be combined with downstream measures. At the consumption stage, loss-framed penalties such as plastic-bag levies work well, but differentiated value-added tax treatment works less well because of incomplete pass-through, as well as high administrative and compliance costs. End-of-life instruments (eg landfill taxes, pay-as-you-throw, deposit-refund systems) perform best, but their effectiveness depends on the presence of complementary policies.

HIGH LABOUR TAXATION PENALISES repair and remanufacturing relative to extraction, because the former is often more labour-intensive. Harmful subsidies undercut circular price signals. The EU and its members should embark on incremental improvements at the EU level, complementary measures at the national level, and longer-term structural reforms to incentivise circularity.

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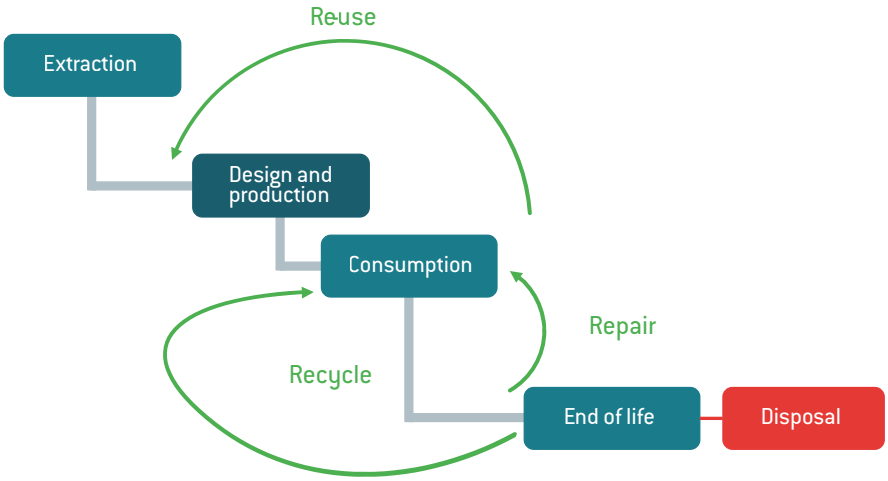
1 Introduction

The European economy extracts, processes and discards raw materials at an unsustainable rate. Despite policy initiatives at the European Union, national and sub-national levels, only about 12 percent of materials re-enter the European economy through reuse or recycling [1]. This reflects a systematic tilt towards the linear 'take-make-waste' model, which fails to account for the environmental impacts of resource use.

In a more circular economy, end-of-life waste flows would be avoided by reintroducing materials into production chains and improving resource efficiency (Bocken *et al*, 2016). Beyond environmental considerations, the circular economy would help underpin EU economic security (Grabbe and Moffat, 2024). Greater resource efficiency can reduce dependence on imported raw materials and limit exposure to geopolitical disruptions. Increased critical raw materials recycling could benefit European firms and improve overall economic security by reducing dependence on imports.

In principle, shifting from a linear to a circular economy would correct environmental and economic inefficiencies that emerge at different stages of a product's lifecycle: (i) extraction of raw materials, (ii) product design and manufacturing, (iii) product use and consumption, and (iv) end-of-life management, including repair, reuse, recycling and disposal at different stages (Figure 1). At each stage, the right policies could correct distortions arising from the misalignment of private and social costs and benefits.

Figure 1: Simplified product lifecycle



Source: Bruegel.

1 See Eurostat news of 19 November 2025, 'Over 12% of materials in the EU come from recycling', https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20251119-1.

In his report on EU competitiveness, Mario Draghi (2024) pointed out that internalising the carbon cost of virgin material production would make secondary materials more price-competitive. He argued that, "*for most product/material streams… secondary raw materials are more expensive compared to primary raw materials, and recycling tends to be more expensive than landfilling. The economics however tend to change if the negative environmental externalities associated with the resource-intensive (energy, carbon) production of primary raw materials would be internalised*" (Draghi, 2024).

Tax can be one such 'correcting' policy to internalise the economic costs of production. Taxation may not always be preferable to, for example, regulation or public procurement rules (see section 2), but it has the benefit that it harnesses the price mechanism, which increases the incentives to avoid waste and to innovate for circularity. Regulation gives certainty about quantities but ignores cost differences, while procurement rules only impact public spending. Taxation is thus a powerful complementary instrument.

The Commission will put forward a Circular Economy Act later in 2026. Indications so far are that the level of ambition will be relatively low, seeking incremental changes rather than major changes in the structure of incentives that economic actors face. Nevertheless, there are some useful ways in which the Commission could enhance the role of price-based instruments and make its existing fiscal measures more effective in fostering circularity. We set out below a tax-design perspective on how EU level and national measures could be made more effective through the forthcoming Act and its implementation.

We examine the potential role of a range of tax measures at the EU level and national government levels. In evaluating taxation to boost the circular economy, we classify tax instruments according to the point in the product lifecycle at which they apply. Upstream measures target activities at the beginning of the chain, such as taxes on virgin material extraction or resource use. Midstream measures influence production and consumption choices, including incentives related to product design, durability and repair. Downstream measures target end-of-life outcomes through instruments such as recycling subsidies or deposit-refund systems and landfill and incineration taxes.

2 Why tax?

The 'take-make-waste' model is not simply the outcome of consumer preferences or technological constraints. It is at least partly the result of market failures that systematically disfavour circular activities. Understanding those failures is the starting point for designing tax instruments to correct them.

The foundational justification for environmental taxation derives from Pigou (1920) and Baumol and Oates (1988): when an economic activity imposes costs on third parties that are not borne by whoever is carrying out the activity, the market will

produce too much of it. A corrective tax restores efficiency by making the polluter pay for what would otherwise be a generalised, or social, cost. This logic is robust and well-established but only works optimally when a single, identifiable pollution source needs to be corrected at a single point in the production chain. The circular economy recognises the multiple, interlocking incentives for resource waste and pollution, presenting a fundamentally different challenge for taxation policy.

Each stage in the lifecycle of a material generates a cost that requires a corrective signal

Each stage in the lifecycle of a material generates a cost that requires a corrective signal. For extraction, environmental damage is most often unpriced. At the production stage, the product designer does not expect to pay the cost of end-of-life disposal. During use, consumers are given no reason to favour repair over replacement. At disposal, landfill and incineration are priced below their true social cost, undermining the competitiveness of recycling. No single tax instrument can simultaneously optimise incentives across all stages (Walls and Palmer, 2001). Pigouvian logic, applied at one point in the chain, does not propagate cleanly upstream or downstream. A 'tax architecture' of multiple instruments, each targeted at the point where behaviour can be changed, is thus needed.

Furthermore, environmental taxes change not only what firms and consumers choose to do today; they also influence which technologies are developed for tomorrow. Via *"directed technical change"*, the direction of clean innovation responds to price signals (Acemoglu *et al*, 2012). A credible price on, for example, virgin material use or waste disposal creates an incentive for firms to invest in circular process innovation. Environmental tax subsidies (or tax expenditures), such as R&D tax credits or investment allowances for circular production equipment, work according to the same dynamic logic. A combination of instruments is likely to be optimal. A corrective tax shifts relative prices but may drive only a slow transition if the innovation system remains tilted towards linear technologies. Circular R&D subsidies directly counteract the path dependency embodied in linear innovation systems, bringing forward the point at which circular alternatives become self-sustaining.

Regulation and public procurement are alternatives to tax. Regulation is typically preferable when a minimum threshold must be enforced, when behaviour responds weakly to price signals or when damages increase sharply beyond a threshold and a specific outcome must be guaranteed regardless of cost. Otherwise, tax instruments have three major advantages (Adam *et al*, 2011; Goulder and Parry, 2008):

1. They are economically efficient, differentiating between economic agents with different abatement costs and allowing the cheapest reductions to happen first;
2. They generate revenue that can be recycled to reduce other distortionary taxes or fund the transition;
3. Compared with prescriptive standards, they typically involve less detailed regulatory design, reducing opportunities for regulatory capture.

3 Tax design principles

Any tax instrument should be benchmarked against the Pigouvian ideal. It should be equal to the difference between the social and private costs of the activity, levied as close as possible to the source of the harm[2]. The goal is not to maximise revenue but to provide the right incentive by making taxpayers face the full social costs of their decisions, while not distorting economic choices that carry no external cost. A tax set too low leaves the externality partially uncorrected; a tax set too high or applied to an overly wide base suppresses socially valuable activity.

In practice, however, tax design faces several complications that are especially important for the shift to a circular economy:

Measurement and proximity

Ideally, harms – emissions, extraction or disposal (in our simplified lifecycle model) – should be taxed directly. If measurement is costly or technically impossible, a proxy can be used instead, such as product taxes on items containing harmful inputs, or levies on a production process correlated with the damage it causes. The further the tax is from the source of harm, the blunter the price signal and the greater the risk of unintended distortions (Fullerton *et al*, 2010). This is the core economic objection to using value-added tax differentiation as a circular economy instrument (Box 1). It also explains why taxes on virgin material extraction are theoretically preferable to taxes on downstream products: the price signal from the extraction tax propagates through the supply chain in a more targeted way.

Framing

The framing of tax incentives matters for their effectiveness. A $0.05 tax on disposable shopping bags in the United States reduced usage by more than 40 percent, while an equivalent $0.05 bonus for reusable bags had almost no measurable effect (Homonoff, 2018). This reflects loss aversion – that consumer behaviour responds more to penalties than to rewards – and provides a behavioural rationale for favouring such visible disciplining taxes over bonuses or subsidies.

Multiple externalities, multiple instruments

No single tax can correct the externalities that arise at each stage of a product's lifecycle. A tax might correct behaviour at the point at which it is levied, but the harms associated with products arise at different stages. A disposal tax raises the cost of sending waste to landfill but may not influence product designers to choose recyclable materials years earlier. A virgin material tax raises the cost of primary inputs but does not by itself create incentives to recover and recycle those materials at end of life. Combinations of instruments are thus required: upstream charges to internalise

2 This difference can be negative, in which case a tax subsidy may be justified.

extraction or production externalities, and a downstream instrument, such as a recycling subsidy or deposit-refund scheme, to correct end-of-life incentives (Walls and Palmer, 2001).

Box 1: VAT is the wrong instrument for circular economy policy but should not obstruct circularity

VAT is generally a poor vehicle for environmental policy signals for three reasons:

1. VAT is applied to the price of a product, not the environmental harm associated with it, and is thus misaligned with the Pigouvian principle of taxing as close to the source of damage as possible.
2. Differentiating VAT rates by product category or material content can be administratively demanding (eg it would require parallel certification processes) and can generate classification disputes that are costly to resolve and easily exploited for fraud.
3. Differentiated VAT rates do not directly influence producers to favour circular inputs as VAT is typically fully recoverable and therefore does not affect producers' costs.

The behavioural impact of any VAT change also depends on two uncertainties: whether suppliers pass the rate change through to consumer prices, and whether consumers respond to the resulting price change. In practice, it is well-documented that pass-through of VAT to prices is partial and variable, depending on market structure, the degree of competition and the price elasticity of demand (Benedek *et al*, 2020; Benzarti and Carloni, 2019).

There may be partial exceptions, such as reduced VAT on repair services. Repair is a well-defined service category and the price margin between repair and replacement is sometimes thin enough that a tax advantage could in principle shift consumer choices. However, in practice, this does not seem to happen. The most carefully documented case, Sweden's 2017 repair VAT reduction, found mixed results, with most repair businesses unable to attribute any demand change to the measure (Dalhammar *et al*, 2020).

A 2022 amendment to the EU VAT Directive (Council Directive (EU) 2022/542) recognised this limited but potentially useful role for VAT on repairs by giving governments greater scope to apply reduced VAT rates to repair services for household appliances, clothing, shoes and other products, in support of extending product lifetimes and boosting the circular economy. However, any such changes would not overcome the structural limitations of VAT as an environmental instrument.

The revenue-behaviour trade-off

A correctly designed Pigouvian tax raises the cost of the taxed behaviour, thus reducing that behaviour and in doing so eroding its own revenue base. This creates an inherent tension, and policymakers should be cautious about justifying circular-economy taxes primarily on revenue grounds or designing them to maximise yield. The double-dividend hypothesis – that environmental tax revenues can finance cuts in distortionary labour taxes, delivering both an environmental and a welfare gain – might be an intuitively appealing argument for green fiscal reform, but the welfare gain may be uncertain. Environmental taxes raise the price of goods and so have their own distortionary effects, which may or may not be offset by tax reductions elsewhere (Adam *et al*, 2011). The primary justification for environmental taxation is the environmental benefit, which is welfare enhancing on its own. This single dividend should be sufficient.

Administrative costs and avoidance

Complex tax structures are costly to operate. They require more administrative enforcement effort and more private compliance effort. A fundamental problem arises when a tax raises sharply the cost of a regulated activity relative to an unregulated alternative: the incentive for avoidance grows. Waste disposal taxes can induce households and firms to illegally dump – rather than recycle – waste, substantially undercutting the environmental effectiveness of the instrument (Fullerton and Kinnaman, 1995).

The general lesson is that enforcement capacity is a binding constraint on instrument design. A tax that outpaces enforcement generates displacement rather than abatement. Tax design should aim for the fewest, broadest-based instruments to deliver the required price signal, with rates set high enough to change behaviour, applied with minimal exemptions and matched to realistic enforcement capacity.

Border tax adjustments

Circular-economy taxes face a particular challenge because material supply chains are highly globalised. Taxes on virgin material use, waste disposal or resource-intensive production can strengthen circular incentives domestically, but may also shift production or sourcing to jurisdictions with weaker policies. Border tax adjustment mechanisms could address this by applying equivalent charges to imports and offering rebates to exports. However, few countries have implemented such measures[3].

Implementation of such instruments is substantially more difficult than for a single externality, such as carbon emissions. Circularity depends on multiple product characteristics, including recycled content, durability, repairability and lifecycle impacts, which are difficult to measure consistently across complex value chains. Regulation should therefore complement any tax measure by constraining avoidance

3 No country has a full set of border tax adjustments designed explicitly around circularity objectives, but some countries like Denmark or the UK levy taxes on virgin materials (such as gravel or plastics) which also cover imports.

channels and ensuring that the tax signal translates into actual circular behaviour, rather than displacement.

An additional challenge relates to customs administration. Customs systems based on Harmonized System (HS) codes classify products by type rather than production characteristics, meaning two otherwise identical products may receive the same classification regardless of their recycled content, virgin material use or other circular-economy attributes[4]. This creates practical difficulties for implementing differentiated tax treatment and may require additional certification or reporting systems, further increasing the already considerable administrative burden on customs authorities.

Policy coherence

Tax instruments will not work as intended if they are offset by contradictory signals elsewhere in the tax system. A levy on virgin polymers sends a clear price signal in favour of recycled alternatives, but that signal will be weakened if fossil-fuel subsidies simultaneously reduce the production cost of primary plastic feedstocks. The same tension pervades carbon pricing more broadly, with energy subsidies routinely depressing the prices that authorities seek to raise through carbon taxes (OECD, 2025).

4 The EU framework for circular economy taxation

The deployment of fiscal instruments to support the circular-economy transition by changing incentives across the product lifecycle is increasing. In the EU, some instruments have evolved at national level (see section 5) before being harmonised at EU level. These include taxes on virgin materials, landfill disposal, plastics levies, reduced VAT for repair and deposit-refund systems, which now operate in 17 EU countries (section 4.1; annex 1). However, the EU has relied primarily on regulation rather than fiscal measures, with significant rules set out in the Ecodesign for Sustainable Products Regulation (Regulation (EU) 2024/1781), the Packaging and Packaging Waste Regulation (Regulation (EU) 2025/40) and extended producer responsibility (EPR) obligations (section 4.2). EU countries meeting in the Council of the European Union have jointly endorsed the use of targeted tax credits and accelerated depreciation to promote clean technologies and circular business models across European industry[5].

4 However, more narrowly for plastics, the European Commission has stated it "*will revise customs codes to differentiate virgin plastics from recycled products*". See European Commission Q&A of 12 December 2025, 'Questions and answers on the circularity plastics package', https://ec.europa.eu/commission/presscorner/detail/en/qanda_25_3152.

5 See Council of the EU press release of 10 October 2025, 'Taxation: Council approves conclusions on the use of tax incentives to support clean technologies and industry', https://www.consilium.europa.eu/en/press/press-releases/2025/10/10/taxation-council-approves-conclusions-on-the-use-of-tax-incentives-to-support-clean-technologies-and-industry/.

4.1 EU-level fiscal instruments for the environment

The EU requirement for unanimous agreement of member countries on tax measures has proved too high a bar for a coherent EU tax architecture, including taxation related to the circular economy. The EU can however adopt regulatory pricing mechanisms and environmental measures without unanimity. In this context, we highlight the following instruments of relevance to the circular economy:

- The EU emissions trading system (ETS; Directive (EU) 2023/959) prices carbon emissions from industrial facilities, including energy-intensive manufacturing of primary raw materials. Draghi (2024) recommended extending the ETS to incineration and landfilling to make recycled materials more competitive relative to virgin ones. This would be in line with tax-design principles, but is politically unfeasible at present (Draghi, 2024).
- The carbon border adjustment mechanism (CBAM, Regulation (EU) 2023/956), fully operational from 2026, complements the ETS by placing a carbon price on imports of carbon-intensive goods: steel, aluminium, cement, fertilisers and electricity. It thus creates an indirect incentive for resource efficiency, though it was not framed as a circular-economy measure and covers only carbon emissions (Monjon and Quirion, 2011; European Commission, 2022).

The plastic packaging levy aligns with EU policy objectives but fails to tax the harm directly at the point of production

- The plastic packaging levy has been an EU 'own resource', or source of revenue for the EU budget, since January 2021. Under it, EU countries pay a levy of €0.80 per kilogramme of plastic packaging waste they do not recycle[6]. This is an EU budget contribution based on national waste volumes rather than a direct producer tax. The levy aligns with EU policy objectives (Darvas *et al*, 2025) but fails to tax the harm directly at the point of production (EEA, 2022; Milios, 2021). Its environmental impact therefore depends on complementary measures at national level. EU countries are free to determine how they finance this obligation nationally, through a dedicated plastic tax, EPR fees or the general budget. So far, only Spain and Portugal have introduced active national plastic taxes since 2021; Italy has adopted but not implemented a tax (see annex 1).
- The European Commission has proposed a similar levy of €2/kg (indexed to inflation) on non-collected electrical and electronic equipment (EEE) as a contribution to the 2028-2034 EU budget package[7]. Its objectives are to help reduce the health risks from hazardous substances in EEE, contribute to environmental protection and promote the recovery of critical raw materials. Like the plastic packaging levy, it would be paid from national budgets and its effectiveness in respect of these objectives will depend on whether EU countries take complementary measures to incentivise economic actors (Darvas and Dom, 2026).
- The EU has started to apply a €3 customs duty per item on low-value e-commerce

6 See 'Council Decision 2020/2053 on the system of own resources of the European Union', 14 December 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020D2053.

7 See 'European Commission (2025) 'Proposal for a Council Decision on the system of own resources of the European Union and repealing Decision (EU, Euratom) 2020/2053'.

consignments from outside the EU[8]. This measure primarily recovers customs costs and levels the playing field with non-EU retailers, but may indirectly support circularity by reducing the competitive advantage of ultra-low-cost, short-lived, poorly repairable imports. Such duties are not Pigouvian and should be regarded as complementary to, rather than substitutes for, circular-economy taxation.

4.2 Extended producer responsibility

The EU's main mechanism to encourage circularity is extended producer responsibility (EPR), a system under which producers contribute financially to the management of their products when they reach the waste stage. Typically, they outsource this responsibility to a producer-responsibility organisation. The fees such organisations charge can change producer behaviour similarly to a tax, but their effectiveness depends on how they are used in practice, particularly whether the fees fund circularity and innovation in getting value from waste. However, in two countries, Hungary and Croatia, there is no conventional producer-responsibility organisation, with EPR fees collected instead via a state fee or tax and spent primarily on conventional disposal (Ahlers *et al*, 2021). Where EPR has been reduced to a state-administered fee, it is unlikely to change behaviour, as shown by the low level of recycling in Hungary compared to the European average[9] (EUROPEN, 2025).

The distinguishing feature of EPR was meant to be physical and organisational responsibility on producers, restructuring who manages waste rather than just who pays for disposal (Lindhqvist, 2000), leading to a system that changes producer behaviour by charging higher fees for products that are harder to reuse, repair or recycle[10]. Through 'ecomodulation', the fees paid by producers vary according to the environmental characteristics of waste products. The difference in fees must be large enough to alter design decisions and must extend beyond recyclability to reusability, durability and reparability to be effective (Lifset *et al*, 2023).

Germany pioneered EPR in the early 1990s through its Green Dot system, and most EU countries implemented schemes throughout the 1990s. In addition to general rules, EPR and ecomodulation is written into various EU laws on specific waste streams, including waste electrical and electronic equipment, batteries and packaging.

EPR has increased collection and recycling rates substantially where schemes are well-designed, though evidence of upstream design impacts remains limited (Lindhqvist, 2000; Massari and Ruberti, 2013; Lifset *et al*, 2023). France is the most advanced EU country in directing EPR revenues to upstream activities: its packaging

8 The duty is temporary pending a more long-term measure. See Council of the EU press release of 12 December 2025, 'Customs: Council agrees to levy customs duty on small parcels as of 1 July 2026', https://www.consilium.europa.eu/en/press/press-releases/2025/12/12/customs-council-agrees-to-levy-customs-duty-on-small-parcels-as-of-1-july-2026/.

9 See EUROPEN, 'Recommendations for a cohesive EU Extended Producer Responsibility environment', January 2025, https://www.europen-packaging.eu/wp-content/uploads/2025/02/EUROPEN-EPR-Recommendations-January-2025.pdf.

10 Article 8a(4)(b) of the EU Waste Framework Directive (Directive 2008/98/EC) requires fees to be *"modulated based on the product's durability, reparability, reusability, recyclability and the presence of hazardous substances… taking into account its entire life cycle"*.

scheme (Citeo) generated €1.6 billion in 2023, funding recycling infrastructure, eco-design and reuse[11]. France's textiles scheme (called Refashion) directs revenue to R&D, repair funding and ecomodulation bonuses (Refashion, 2023).

4.3 Tax rules and reporting

The instruments discussed so far are explicit pricing mechanisms designed to put a price on specific activities. But the nuances in tax rules and reporting requirements can shape incentives for circularity independent of any environmental levy. At the EU level, two examples – related to VAT and tax reporting – show how such rules can help or hinder circular business models.

'Embedded VAT' poses a challenge to reuse or remanufacturing. When used goods loop back into production process, the VAT paid during their first lifespan is 'embedded' (and invisible) in the item's price and cannot be deducted by the producer that buys the used good as an input. By contrast, VAT paid on virgin inputs can be reclaimed. A producer purchasing second-hand components from a consumer cannot deduct the VAT paid by the original buyer, creating a cost disadvantage versus new inputs[12]. Under the VAT Directive, for transactions involving second-hand goods VAT is charged only on the reseller's margin, instead of charging VAT on the full selling price (which includes the 'embedded' VAT and therefore risks double taxation). However, this provision is limited in scope and only provides a solution for business-to-consumer sales[13].

Another challenge is that VAT treatment of unsold goods can make destruction cheaper and simpler than donation. When unsold goods (such as food and clothing) are donated, this can be treated as a deemed supply, triggering output VAT, while destruction leaves the original input VAT deduction untouched and generates no further liability. The VAT Directive allows, but does not require, EU countries to provide VAT relief for donations to charities and humanitarian organisations, and so uptake varies.

On tax reporting and information sharing, the seventh amendment to the EU Directive on Administrative Cooperation (DAC7, Council Directive (EU) 2021/514) illustrates the trade-offs that can arise when tax compliance measures overlap with circular-economy objectives. One of the goals of DAC7 is to close tax gaps in the platform economy, deter undeclared commercial activity and ensure fairness between digital platforms and traditional retailers. Among its provisions, it requires digital

11 See UNEP news story of 29 May 2025, 'By making producers part of the solution, France aims to rein in plastic pollution', https://www.unep.org/news-and-stories/story/making-producers-part-solution-france-aims-rein-plastic-pollution.

12 Assume a virgin and used good of the same quality and assume competitive markets (ie price taking). Suppose a consumer originally buys the virgin good for €60.50, consisting of €50 plus €10.50 VAT (21%). Later, the consumer sells the used good to a business for €60.50. Since the consumer is not a VAT-registered business, no VAT is separately charged on the resale, and the business cannot reclaim the €10.50 of VAT embedded in the €60.50 purchase price. The business therefore has a cost of €60.50. If it then sells the used good for €121 including VAT, it pays €21 in VAT and makes a margin of €39.50. By contrast, if the business buys a new good for €60.50, it can reclaim the €10.50 VAT, giving it a real cost of €50 and a margin of €50 when reselling it for €121. Thus, the used good gives the business a €10.50 lower margin because the VAT originally paid by the consumer is embedded in the purchase price and cannot be reclaimed.

13 The provision (the 'margin scheme') applies to dealers in second-hand goods, works of art, collectors' items and antiques only. This avoids the cumulative taxation that would otherwise arise when goods from private consumers re-enter the market.

platforms to collect and report information on sellers, including traders in second-hand goods, with sales above relatively low thresholds[14]. Such requirements may, by increasing compliance burdens, reduce participation in secondary markets and therefore work against circular-economy objectives.

This is not an argument against DAC7's underlying rationale, but an illustration of why tax compliance requirements should be assessed through the broader lens of policy coherence, while ensuring that compliance obligations remain proportionate to the tax risks involved. The European Commission has recognised these concerns in a proposed recast of the Directive on Administrative Cooperation: this would mean raising the monetary threshold and removing the transaction threshold for sales of goods[15]. If adopted, these changes would better align tax administration with the objective of promoting reuse, while preserving tax transparency.

Academic studies consistently identify a significant gap in national tax systems: upstream price signals are too weak to affect product design and material choice. A more targeted circular-economy taxation framework is needed across the EU, including virgin material taxes, VAT reductions on repairs and labour tax relief for circular activities (Milios, 2021; Vence and López Pérez, 2021; EEB, 2022; Ellen MacArthur Foundation, 2026).

5 Circular economy tax instruments in EU countries: trends and effectiveness

Fiscal instruments are most effective when they provide a strong, visible price signal close to the harm they target, and are embedded in a coherent policy framework

Experience in EU countries shows that fiscal instruments are most effective when they provide a strong, visible price signal close to the harm they target, and are embedded within a coherent policy framework. In the case of environmental harm caused by the linear economy, end-of-life instruments have generally succeeded, whereas upstream and consumption-stage measures have produced much weaker results. Meanwhile, gaps in the wider tax system can undo the effects of even well-designed circular economy taxes. This section sets out the evidence for that claim.

Assessing the effectiveness of price-based instruments for the circular economy remains challenging. A major limitation is the absence of a common framework for measuring circular-economy performance. Studies rely instead on indicators ranging from resource productivity and recycling rates to circular material use rates and material footprints. Moreover, effectiveness is evaluated against different policy objectives, including behavioural change, market development for secondary materials, allocative efficiency, revenue generation and overall reductions in material use. Such

14 The threshold is €2,000 or 30 transactions for goods sales.

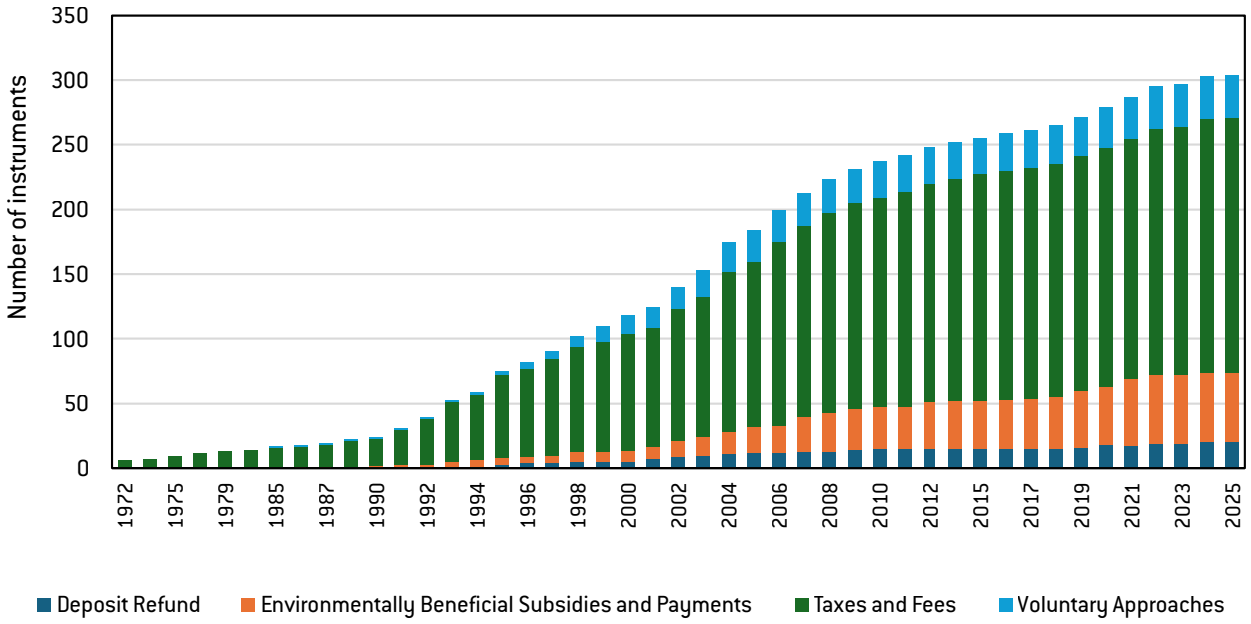
15 See 'Proposal for a Council Directive on administrative cooperation in the field of taxation (recast)', June 2026: https://taxation-customs.ec.europa.eu/document/download/a0d3b6b2-1108-4567-b091-1d0b38944bd6_en?filename=Explanatory%20Memorandum_DAC_Proposal%20for%20a%20Council%20Directive%20-%20Taxation.pdf.

differences make the evidence fragmented and limit the comparability of findings across instruments and jurisdictions (Svatikova *et al*, 2025).

5.1 Trends

While the EU provides an overarching legislative framework, design and implementation of price-based instruments are done primarily by EU governments, making national instruments the clearest lens through which to view how fiscal policy supports the circular transition. EU countries have expanded their use of such instruments substantially, from fewer than 30 in 1990 to more than 300 by 2025 (Figure 2). This expansion has broadly coincided with successive waves of EU environmental legislation (section 4), which sets common objectives that EU countries implement through national economic instruments (Svatikova *et al*, 2025). Taxes and fees dominate the national-level circular-economy policy mix, accounting for around two thirds of all instruments. More recently, deposit-refund schemes and environmentally beneficial subsidies have been deployed (Figure 2).

Figure 2: Growth of circular economic instruments in the EU, 1972-2025 (cumulative)

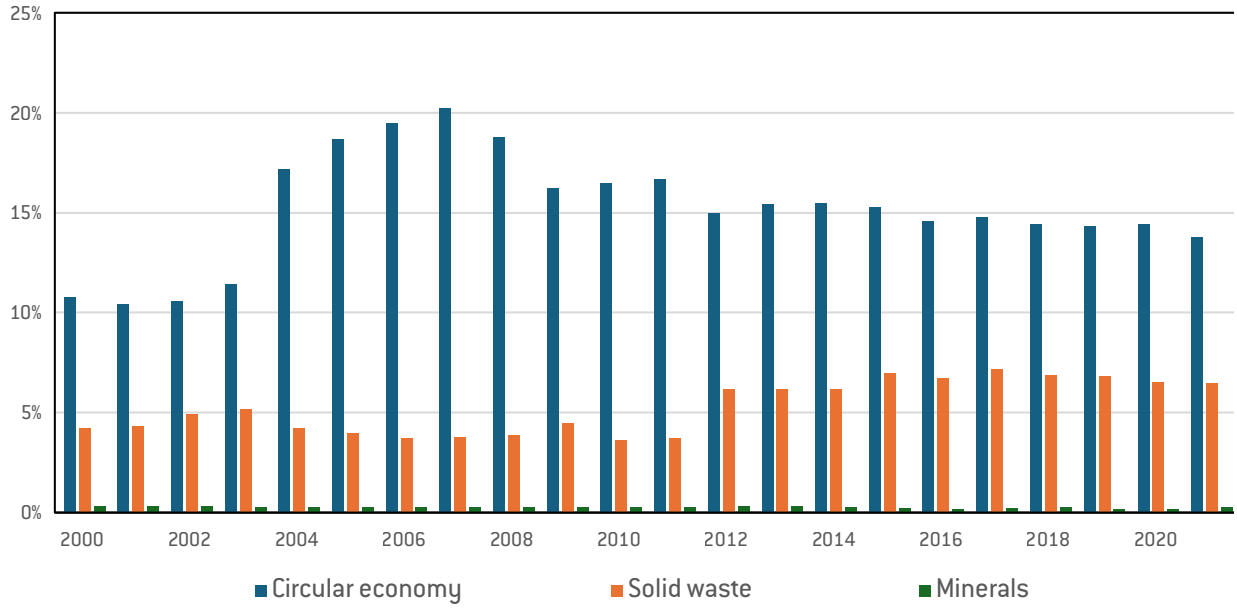


Source: Bruegel based on OECD Policy Instruments for the Environment (PINE) dataset (April 2026).

This growth in the number of policy instruments is not evenly distributed across the product lifecycle (Figure 2). The revenue data hints at why. Circular-economy-tagged taxes account for between 11 percent and 20 percent of total environment-related tax revenue, substantially exceeding the shares associated with solid waste (4 percent to 7 percent) and minerals (0.2 percent to 0.3 percent) (Figure 3). These figures represent the share of total environmental-related tax revenue attributed to each policy domain and should not be interpreted as cumulative. The classifications overlap considerably:

approximately 57 percent of instruments tagged as circular economy are also classified as solid waste, with further overlap with minerals. Examining the composition of revenues within the circular economy category reveals that motor vehicle taxes account for more than two-thirds of revenues classified under this tag in the OECD Environmentally Related Tax Revenue (ERTR) dataset, which is the data source for Figures 2 and 3[16].

Figure 3: Circular economy, solid waste and minerals instruments as a percent of total environmental revenue



Source: Bruegel based on OECD, Environmentally Related Tax Revenue (ERTR) database, April 2026. Note: to avoid duplicates, the filter 'overlap' was applied. Shares are computed against total environment-related tax revenue across all 22 PINE environmental domains. The three series shown represent only the domains used here to proxy the circular economy; they do not sum to 100 percent. The remaining revenue derives from the other 19 domains: air pollution, water pollution, soil pollution, ozone, noise, radiation, fisheries, forests, freshwater, renewable energy, fossil fuels, climate mitigation, climate adaptation, biodiversity, land degradation, ocean, chemical management, energy efficiency and mercury. PINE domain tags are also non-exclusive: a single instrument may be tagged to several domains, so the series overlap one another and are not cumulative.

5.2 Upstream instruments remain comparatively weak

Instruments applied early in the product lifecycle, such as taxes on virgin materials and on construction aggregates (sand, gravel and crushed rock)[17] and tax incentives for recycling investment, show the weakest evidence of effectiveness. Ex-post evaluations are limited, and those that exist find little measurable impact on input choices or investment decisions, largely because rates are too low or coverage is too narrow. Taxes on aggregates in Denmark, Sweden and the United Kingdom have contributed

16 In the OECD PINE database, taxes on the ownership of motor vehicles are tagged as circular economy measures because they disincentivise the consumption of new resource-intensive products (Chhun *et al*, 2024).

17 Aggregates are the largest material flow by weight in the EU economy, so a small per-tonne levy could shift demand toward recycled construction and demolition waste.

to a reduction in the use of primary aggregates, but only when paired with measures to build demand for and supply of secondary materials (EEA, 2008; Söderholm, 2011). Without that complementarity, the price signal is too weak to make a difference.

The exception is investment tax incentives, where the evidence that tax relief raises capital investment is comparatively strong. Accelerated depreciation and bonus depreciation consistently increase capital investment by 10 to 20 percent, with larger effects when tax relief is immediate rather than deferred (Ohrn, 2019; Zwick and Mahon, 2017). These findings are broadly consistent with the established user-cost elasticity of capital (Hassett and Hubbard, 2002). Accelerated depreciation can also generate environmental benefits by reducing firms' carbon intensity (Cao *et al*, 2025). Although to our knowledge no evaluation has examined investment incentives targeted specifically at recycling or remanufacturing capacity, these findings provide the closest available benchmark for circular-economy investment incentives.

5.3 Consumption-stage instruments have produced mixed results

At the consumption stage, price signals are typically more visible and immediate, making behavioural responses easier to observe. Product levies such as plastic-bag charges satisfy most core design conditions: they are loss-framed, administratively simple and generate a price signal relative to product value. Ireland's 2002 levy of €0.15 per plastic shopping bag cut consumption by over 90 percent within a year, from roughly 328 to 21 bags *per capita*, while directing revenue to an environmental fund (Convery *et al*, 2007). In England, single-use bag sales at major retailers fell by more than 98 percent after the 2015 charge, to about two bags per person per year (Defra, 2023).

Positive incentives have fared less well. Consumer price pass-through of reduced VAT on repair services is partial and highly variable (around 25 to 77 percent of the reduction), with only modest behavioural responses. Non-price barriers, including product repairability, spare-part availability and low consumer awareness, often constrain repair decisions more than price (Kosonen, 2015; Harju and Kosonen, 2013; Almén *et al*, 2022; Milios, 2021). Feebate[18] and bonus-malus schemes, primarily in vehicle markets, can substantially alter the composition of purchases, but may also stimulate additional consumption that offsets part of the environmental gain (D'Haultfœuille *et al*, 2014). Likewise, consumer-rebate programmes often suffer from low additionality. Houde and Aldy (2017) estimated that around 70 percent of recipients of a US appliance rebate programme would have purchased the qualifying product even in the absence of the subsidy. Every dollar spent that actually changed someone's behaviour therefore cost roughly ten times what it would under comparable programmes. Taken together, consumption-stage instruments seem to work best when they penalise an unwanted purchase, rather than subsidise a desired one.

18 A feebate combines a fee on environmentally worse-performing products with a rebate for better-performing ones, typically designed so the fees fund the rebates.

5.4 End-of-life instruments have delivered the strongest results

Instruments that act at the point of disposal or return, including landfill taxes, pay-as-you-throw (PAYT) charging and deposit-refund systems (DRS), work best.

Landfill taxes are the most widely adopted circular economy instrument across OECD countries. The volume of waste sent to landfill in the EU declined by about 21 percent between 2010 and 2022, in the context of progressively higher landfill taxes and broader waste policy reforms (EEA, 2025). A €29-per-tonne landfill tax increase in Catalonia reduced landfill disposal by 12 percent and increased recycling rates by six percentage points, particularly in municipalities without advanced collection systems (Jofre-Monseny and Sorribas-Navarro, 2024). Higher rates in Italy significantly reduced landfilling, albeit gradually and unevenly across regions (Nicolli and Mazzanti, 2013). However, such taxes price waste disposal rather than waste generation, shifting waste up the hierarchy but not in themselves reducing the amount of waste generated in the first place (Mazzanti and Zoboli, 2009). Effectiveness of landfill taxes depends on complementary measures, including separate collection systems and extended producer responsibility (Svatikova *et al*, 2025).

PAYT schemes, which charge households according to the volume, weight or frequency of residual waste collected, rather than a flat fee, consistently reduce residual waste and increase recycling relative to flat-rate charging (OECD, 2006; EEA, 2016). A study in Trento, Italy found a 37.5 percent reduction in unsorted waste (Bueno and Valente, 2019), while evidence from the Netherlands showed that weight- and bag-based pricing can halve residual waste and raise recyclable collection by around 20 percent (Dijkgraaf and Gradus, 2004; Allers and Hoeben, 2010), consistently outperforming volume- and frequency-based systems (Dijkgraaf and Gradus, 2004; 2015). Concerns about illegal dumping appear to be context-specific, arising primarily where PAYT is introduced without adequate recycling alternatives or complementary waste policies (OECD, 2022).

Deposit-refund systems achieve strong outcomes by rewarding the desired behaviour, rather than only applying penalties

Deposit-refund systems achieve similarly strong outcomes by rewarding the desired behaviour, rather than only applying penalties. European schemes with full coverage routinely exceed 85 percent collection for targeted packaging. In the US, deposits convert occasional recyclers into consistent ones, with the largest effects among households with the lowest baseline recycling rates (Viscusi *et al*, 2011, 2013). This is not incidental to the instrument's design: where illegal disposal is a feasible alternative, a deposit-refund structure rather than a simple disposal charge is the welfare-optimal instrument precisely because the refund removes the incentive to dump (Fullerton and Kinnaman, 1995).

However, even the best designed end-of-life instrument cannot fully solve a problem rooted in jurisdictional mobility. Waste moves easily across borders within Europe's single market. A staggered PAYT rollout in Emilia-Romagna, Italy showed waste being diverted to neighbouring municipalities with less stringent charging (Compagnoni and Torbert, 2025). For the EU, this supports introducing coordinated disposal-tax levels to avoid variation in national rates that leads to displacement of the harmful activity, rather than responsible behaviour.

5.5 The wider tax system still favours linear production over circularity

Sections 5.2 to 5.4 discuss circular economy measures. A broader question is whether the general tax system supports circular-business models. Often, it does not, in ways that have little to do with environmental tax design as conventionally understood.

While sub-sectors vary, the circular economy, especially repair and reuse, is substantially more labour-intensive than the linear economy (Llorente-González and Vence, 2020). High labour taxation therefore creates a structural bias in favour of the linear economy by raising the relative cost of extending product lifetimes, while leaving resource use comparatively undertaxed. Reducing the tax burden on labour would improve the relative competitiveness of circular business models without requiring governments to pick particular sectors or technologies (Ex'Tax, 2022). If needed, revenue neutrality could be ensured by raising taxes on consumption or environmentally harmful activities (environmental taxes were equal to just 2.1 percent of EU GDP in 2024), although corrective taxation can erase its own base over time.

This sits alongside a related coherence problem. EU environmental subsidies reached €45 billion in 2023, up 39 percent in 2022, but remain dominated by energy and renewables rather than circular-economy measures (Eurostat, 2026). Meanwhile, fossil-fuel subsidies[19] continue to reduce the cost of carbon in many European countries (EEA, 2024), making virgin materials relatively cheaper than secondary materials and directly working against the objectives of the instruments discussed in sections 5.2 to 5.4. Removing these contradictory signals would strengthen existing circular-economy instruments without requiring any additional layer of taxation.

Tax administration illustrates the same point from a different angle: rate-setting is not the only lever available, and the EU's own administrative rules can help or hurt circularity independent of any explicit environmental tax (section 4.3). None of these features of the tax system, whether that is the labour-tax bias, the subsidy mix or the EU administrative and reporting rules, was designed with the circular economy in mind, yet each affects it materially.

6 Policy recommendations

Price-based instruments, especially taxes, should aim to keep products and components in use, not just materials. Should the forthcoming Circular Economy Act prioritise reuse, repair, refurbishment and remanufacturing over recycling, it could include fiscal incentives and public procurement policies to favour repair and second-

19 EU fossil fuel subsidies were €111 billion in 2023, down from a crisis peak in 2022, with total energy subsidies estimated at €340 billion in 2024 (European Commission, 2025; see David Callanan, 'EU Energy Subsidies 2025: decline in support but fossil fuel aid remains high', *European Gas Hub, 17* March 2026, https://europeangashub.com/report-presentation/eu-energy-subsidies-2025-decline-in-support-but-fossil-fuel-aid-remains-high/). The pre-crisis baseline 2015-2021 was €57 billion to €62 billion per year (EEA, 2024).

hand products, and provisions on EPR schemes to prioritise reuse and repair before recycling, ensure full cost coverage for these activities, and include financial support for the social economy. Such measures would make sense, but the Act should also have a tax-design perspective to ensure that fiscal measures are effective in keeping products and components in use.

Because the EU's ability to legislate directly on taxation is limited by the unanimity requirement, we organise recommendations into a set of measures that should be written into the forthcoming Circular Economy Act, and complementary measures that EU countries should implement, and which the European Commission should encourage, model or coordinate through harmonisation.

6.1 Recommendations for the Circular Economy Act

Reform EPR governance

EPR fees can function like taxes when poorly designed, but a well-designed system involves organisational responsibilities and ecomodulation mechanisms that go beyond what a simple tax can achieve (section 4.2).

The Act should require EPR revenues to be used only for circularity, closing the loophole that allows revenues to be spent on activities such as municipal street-cleaning, rather than reinvested in collection, recycling and research. This means updating the mandatory list of eligible spending destinations, which is currently too narrowly focused on waste management (under the Waste Framework Directive, Directive 2008/98/EC), to extend explicitly across the full lifecycle. EPR fees should also be defined based on secondary material content to create a starker price difference between materials, goods and services derived from circular practices, and those from linear activities. The Act should harmonise how EU countries transpose minimum EPR fee levels, which differ widely in how they are set. Harmonisation would make it easier for operators active across several countries to recover maximum value from waste through economies of scale. The Act should also strengthen ecomodulation requirements, so that fee differentiation is large enough to meaningfully influence producer design decisions, extending criteria beyond recyclability to reward durability and reparability (Lifset *et al*, 2023).

Complement or replace the EU plastics and e-waste levies with taxes targeting the source of harms

The EU budget levy on non-recycled plastic waste and the similar proposed levy on e-waste (section 4.1) are aligned with EU public policy objectives, but only tax the source of the harm indirectly by incentivising EU countries to take complementary action. Although some countries have enacted national taxes to pay for the plastics levy, many EU countries simply pay the levy from general revenue, in which case no behavioural incentive is created. The levy also lacks any built-in monitoring or evaluation framework (Parente, 2024), creating a risk that it is defended on revenue grounds, rather than assessed on environmental effectiveness.

In a first-best world the externality itself – the disposal or non-recycling of plastic – would be taxed at the point where the relevant decision is made. The levy would be replaced with an instrument that charges producers or importers directly, such as a harmonised EU minimum tax on virgin plastic content at the point of production or import, and should build in systematic ex-post evaluation and monitoring. As discussed in section 2, this may be complex to administer. However, the Commission is already taking steps towards distinguishing virgin from recycled content. At present, this is feasible for polyethylene terephthalate (PET, used for example in plastic bottles), providing a base for targeted tax measures. Continued developments in the identification of other elements could therefore allow the system to be expanded progressively.

Extend the EU ETS to incineration and landfilling, paired with minimum recycled-content requirements

The EU should extend its approach under the ETS of internalising carbon costs by applying it to virgin material production, pairing this move with minimum recycled-content mandates. That would prevent a perverse shift toward landfill as incineration becomes relatively more expensive when it is included in the ETS in future, and also stop cheaper virgin imports from crowding out EU secondary material production.

Set EU minimum landfill tax conditions to support the 2035 diversion target

In the context of the blocking of an outright EU landfill ban by a minority of EU countries (European Parliament, 2026), the Circular Economy Act should establish uniform minimum conditions obliging municipalities to set landfill fees high enough to generate a real behavioural incentive in favour of circularity. The proposed Act should also address the current weakness of highly uneven rates across member states, ranging from €5/tonne in Lithuania to over €100/tonne in Belgium (EEA, 2023).

Review the DAC7 reporting thresholds to avoid discouraging peer-to-peer resale

The Commission's proposed recast of DAC7, raising the monetary threshold and removing the transaction threshold for digital platform reporting on second-hand goods sales (section 4.3), should be supported and adopted. This will correct the unintended consequence that current tax compliance rules are burdensome and may thus suppress participation in circular resale markets.

Evaluate the impact of differentiated VAT treatment

Because the tax-design literature is inconclusive on VAT differentiation as an effective behavioural instrument, the use of differential rates should be further tested and evaluated. Incentive effects should be weighed against fraud risks and extra administrative burdens. The VAT Directive permits national governments to apply reduced VAT on repairs, and they should test whether it increases demand for and supply of repair services.

Recognise reused goods and recovered materials as deductible inputs similarly to virgin inputs

VAT should apply once on net value added, regardless of whether that value comes from extraction or from circular recovery. Several options are available, including extending the scheme under which VAT is applied only on the margin earned by resellers of second-hand goods or introducing a notional input VAT deduction. A more detailed assessment is needed to establish their respective costs and benefits.

Monitor the effectiveness of the levy on small parcel imports

Since 1 July 2026, goods entering the EU in small consignments valued at less than €150 are subject to a fixed €3 customs duty, applied to non-EU sellers (section 4.1). The measure runs until 1 July 2028, when the duty is expected to be replaced with normal *ad-valorem* tariffs. A separate €2 EU-wide handling fee is under negotiation for late 2026. Because the EU's stated rationale for these instruments is to reduce unfair competition and fraud and to increase consumer safety, their effectiveness as a circular economy or environmental instrument needs to be monitored.

6.2 Complementary measures at the national level

Reduce the tax burden on labour, prioritising relief for repair and reuse services

This is one of the clearest tax-design recommendations to emerge from empirical work on effectiveness (see Ex'Tax, 2022). Even without a full structural tax shift, EU countries could reduce labour taxes specifically on labour-intensive circular activities, such as repair and reuse, correcting the systematic bias that currently makes replacement cheaper than repair. Revenue neutrality could be ensured by raising taxes elsewhere, for instance on consumption or environmentally harmful activities. However, policymakers should be cautious about justifying corrective taxes primarily on revenue grounds as they can erase their own base over time. Just as revenues from taxation of fossil fuels can be expected to decline with the transition to renewable energy, fiscal systems must adjust to new sources of revenue as taxation of environmental harms changes behaviour. Finance ministries will have to manage the trade-off between the goals of incentivising the public good of sustainability versus maximising state revenue.

Reduced VAT rates for circular economy activities should be approached cautiously

The empirical evidence on the effectiveness of reduced rates remains weak and inconclusive. Moreover, their effectiveness may also be weakened by implementation complexity, which can increase fraud risks. Taxes levied closer to the source of the harm are generally better targeted than reduced VAT rates.

Relieve VAT on donations to charities

The VAT Directive allows this, yet not all EU countries take advantage of this possibility.

Consequently, businesses are steered towards destroying unsold goods rather than donating them.

Reform national EPR governance to ring-fence revenues for circularity

National regulators should close the loophole that allows EPR fees to be absorbed into general state budgets, rather than reinvested in collection, recycling, repair and R&D, complementing the EU-level reforms recommended above.

Remove environmentally harmful subsidies, particularly fossil-fuel subsidies

Even well-designed circular economy taxes are weakened if conflicting subsidies elsewhere keep virgin material and fossil-fuel-derived production artificially cheap. EU countries should pursue the elimination of these subsidies as a low-cost way to reinforce existing circular-economy instruments without adding new layers of taxation.

Use national tax policy to support fiscal incentives that keep products and components in use, not just materials

Civil-society organisations have called for the Circular Economy Act to prioritise reuse, repair, refurbishment and remanufacturing over recycling, including through fiscal incentives and public procurement policies[20].

6.3 The longer term

Pursue an EU-level CBAM-style border adjustment for virgin materials

While the EU's competence here is limited by the unanimity requirement, national governments can act directly through their national tax codes and procurement frameworks to favour repair and second-hand products over the purchase of new goods. Applying a CBAM-equivalent mechanism to imports of virgin materials could achieve a level playing field for circularity (section 4.1). However, this is currently politically unfeasible. CBAM only entered into force on 1 January 2026, covering embedded carbon emissions only, and the political climate is unfavourable to measures that raise input costs. Extending CBAM would also be administratively very difficult, given the complexity of measuring recycled content and circularity attributes. However, over the longer term, the Commission should revisit this idea.

Shift taxation away from labour and towards materials and other resources

This is the next frontier for price-based incentives for circularity, as argued by Letta (2024) and Ex'Tax (2022). This shift could gain more support among finance ministries in future if revenues from taxing fossil fuels diminish as a result of the energy transition to renewables.

20 See the Cambridge Institute for Sustainability Leadership and other organisations, letter of 1 August 2025, 'The EU Circular Economy Act: A Key Opportunity for Sustainable Resource Use, Long-Term Competitiveness, and Strategic Resilience', https://eeb.org/wp-content/uploads/2025/08/Circular-Economy-Act-Letter-Aug-1-2025.pdf.

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Annex 1: Plastic taxes and related measures in EU countries

Country	National Plastic Tax / Measure	Key Related Measures & Current Status	How EU Levy Is Funded
Austria	None	DRS launched Jan 2025: €0.25 deposit on single-use PET bottles and cans; 81.5% collection rate in the first year of operation.	National budget
Belgium	None	Plastic packaging covered by EPR schemes under the EU single-use plastics rules, updated by Royal Decree in Jul 2024. No DRS: the 2024 Flemish and Walloon coalition agreements dropped the earlier commitment to deposits.	National budget
Bulgaria	None	Product fee on plastic packaging if recycling targets are missed, plus a new EPR fee on single-use plastics introduced in 2024, rate still to be set. DRS in preparation.	National budget
Croatia	None	DRS since 2005: deposit raised from €0.07 to €0.10 in Jan 2025 on one-way containers above 0.2 L; 77% collected in 2023.	National budget
Cyprus	None	DRS regulations consulted on in 2023; awaiting adoption of the implementing decree.	National budget
Czechia	None	No DRS; PET collection about 82% via kerbside. A CZK 4 deposit approved by government in Oct 2024 for a Jan 2026 start stalled before the 2025 elections.	National budget
Denmark	None	Excise duty on carrier bags and disposable tableware, raised Jan 2024; fee on tobacco filters. DRS since 2002: DKK 1.00–3.00 deposits; collection above 90%.	National budget
Estonia	None	DRS operating since 2005: €0.10 deposit; return rates of 87–89% for plastic, metal and glass in 2021.	National budget
Finland	None	Packaging tax of €0.51 per litre on beverage containers, waived for producers in the voluntary DRS; return rates of 97–98%.	National budget
France	None	EPR obligations on packaging strengthened and certain single-use plastics banned since 2021. No DRS: in Sept 2026 the government ruled out a mandatory deposit in favour of voluntary local schemes; PET collection 58.3% in 2024, against a 77% target.	National budget
Germany	CANCELLED Merz government abandoned national plastic tax plans entirely	Single-Use Plastics Fund Act in force since Jan 2024: manufacturers and importers report the single-use plastic they place on the market and pay fees that fund waste management. The broader plastic tax intended to pass on EU levy costs was abandoned after the Apr 2025 elections. DRS since 2003: €0.25 on PET, €0.08–0.15 on glass.	Federal budget (EU levy). EWKFondsG fund charges separate.

Greece	None	Fee on single-use plastic bags. National DRS (DRS Hellas) expected to operate from 2026.	National budget
Hungary	None	Environmental Product Charge on packaging since 2011, with an EPR system from Jul 2023; the duplicate charge-and-EPR reporting obligation was dropped for some product flows in Jan 2025. DRS since Jan 2024: HUF 50 (about €0.13); 88.8% returned in 2025.	National budget
Ireland	None	Plastic bag levy of about €0.22 since 2002, funding the Circular Economy Fund. DRS since Feb 2024: €0.15/€0.25 deposits; collection rose from 49% to about 91% in the first year.	National budget
Italy	Planned: €0.45/kg on non-recycled single-use plastic (MACSI) – delayed eight times; now expected 1 Jan 2027	Approved in the 2020 Budget Law, covering single-use packaging such as food packaging, plastic films and bottles, with recycled and compostable plastic exempt. Postponed eight times and still not in force as of Aug 2026. No DRS, though one could lift PET collection from about 73% to 94%.	National budget until operational; then national plastic tax funds EU levy
Latvia	None	Natural Resource Tax on plastic packaging: about €0.80/kg where recyclable but not recycled, €1.25/kg where non-recyclable, with the higher rate extended to foam polymers and polystyrene in 2024. DRS since Feb 2022: €0.10 deposit; 80% returned by end-2023, PET at 83%.	National budget
Lithuania	None (pollution tax on packaging applies)	Pollution tax on filled plastic and PET packaging, with lower rates for reusable and recyclable packaging from Jan 2025. DRS since 2016: PET collection rose from 34% to 90% by end-2025.	National budget
Luxembourg	None	17% VAT on certain plastic bags. A deposit scheme is foreseen in law but awaits a Grand-Ducal regulation; deposits currently cover mainly kegs and reusable containers.	National budget
Malta	None	Excise tax on plastic bags. DRS since Nov 2022: returns rose from under 20% to about 70% within 150 days.	National budget
Netherlands	None (informal contribution applies)	Industry contribution rather than a formal tax, on producers placing 50,000 kg or more a year on the market; EPR fees extended to cigarette filters in 2024. DRS on large PET bottles since 2006 (€0.25), extended to small bottles in 2021 and cans in 2023 (€0.15).	National budget
Poland	None (escalating fees on single-use plastics from 2025)	Fee on single-use plastics rising from 0.10 PLN/kg in 2025 to 1.00 PLN/kg in 2026 and 5.00 PLN/kg in 2027, plus a 0.20 PLN recycling fee per plastic bag. DRS launched 1 Oct 2025 under a multi-operator model.	National budget
Portugal	Yes Contribution on single-use takeaway packaging: €0.10/package (reduced from €0.30, Jan 2024)	Contribution on single-use plastic and multi-material takeaway packaging since Jul 2022, extended to aluminium; cut from €0.30 to €0.10 per package in Jan 2024, with retailers required to pass on at least €0.20. Packaging with 25% or more recycled monomaterial content is exempt, and a separate €0.10 fee applies to lightweight plastic bags. DRS launched 8 Apr 2026, excluding glass.	National plastic contribution funds EU levy
Romania	None	DRS operating (RetuRO): 83% collected in 2025, with over 5.2 billion containers returned through one of Europe's densest return networks.	National budget
Slovakia	None	DRS operating since Jan 2022 for PET bottles and cans; return rate 93% in its second year.	National budget
Slovenia	None	No DRS: the Environmental Protection Act allows one by decree, but none has been adopted; a scheme for bottles and cans is planned.	National budget

Spain	Yes €0.45/kg on non-recycled plastic packaging (Law 7/2022, effective Jan 2023)	Applies to all non-reusable plastic packaging placed on the Spanish market, with recycled and compostable plastic exempt; additional levies on incineration and landfill, plus a plastic bag charge since 2018. DRS planned for 2027; PET collection about 41%.	National plastic tax covers EU obligation
Sweden	None	Tax on plastic bags only. DRS since 1984 (cans, later extended to plastic bottles); 87.6% return rate for PET bottles and cans in 2024.	National budget

Source: Bruegel based on Sensoneo, 'Overview and results of Deposit Return Schemes in Europe', available at: https://www.sensoneo.com/waste-library/deposit-return-schemes-overview-europe/, accessed August 2026.
Note: DRS = deposit return scheme.

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