European Environment Agency

European Union 8th Environment Action Programme

Monitoring report on progress towards the 8th EAP objectives 2025

EEA Report

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Executive summary

The 8th Environment Action Programme (8th EAP) is the European Union's legally agreed, overarching framework for action on EU environmental policy until 2030.

The programme includes a long-term priority objective of living well within planetary boundaries by 2050 at the latest. It also sets out six thematic priority objectives for 2030 and identifies the conditions needed to achieve them. It builds on the European Green Deal (EGD) and aims to accelerate the green transition, as well as to protect, restore and improve the state of the environment.

The 8th EAP requires progress towards the priority objectives to be monitored annually, taking into account the enabling conditions and the overall goal of systemic change. The priority objectives, the enabling conditions and the monitoring framework and governance of the 8th EAP are described in Annex 1.

The European Environment Agency (EEA) takes stock of progress towards the 8th EAP objectives annually, based on a set of 28 headline indicators and corresponding targets. This report is the third in the annual series and is accompanied by the updated 8th EAP scoreboard. Previous editions of this report are available here: 2023 edition, 2024 edition.

The European Commission (EC) selected and adopted the indicators and targets after broad consultation with stakeholders, Member States and the EEA. They represent key aspects of the 8th EAP and were outlined in the EC communication on the 8th EAP monitoring framework.

The EEA developed and applied a methodology to assess the prospects of meeting the 28 monitoring targets by 2030, based on the expected direction of the corresponding 28 ([a]) 8th EAP headline indicators, described in Annex 2.

The headline indicators, their targets and the prospects of meeting them by 2030 are presented in the form of a scoreboard in Table ES.1. Specifically, the table presents the indicators and corresponding targets for each of the six thematic priority objectives, the long-term priority objective and the enabling conditions in line with the EC's Communication on the 8th EAP monitoring framework.

([a]) The European Commission Communication on 8th EAP monitoring refers to 26 headline indicators and targets. This is because two of the headline indicators (and associated targets) are doubles. Specifically, the indicator on designated protected areas is two indicators: one on terrestrial and one on marine protected areas, with separate targets. The indicator on the environmental goods and services sector is also two distinct indicators and targets: one on employment and one on gross value added of the environmental goods and services sector.

Table ES.1 8th Environment Action Programme monitoring results, 2025

8TH EAP PRIORITY OBJECTIVES AND ENABLING CONDITIONS **8th EAP indicators** Monitoring targets	Outlook of meeting the targets by 2030 On track	Likely on track	Likely off track	Off track
CLIMATE CHANGE MITIGATION				
Greenhouse gas emissions Reduce net GHG emissions by at least 55% by 2030 from 1990 levels		●		
GHG emissions from land use, land-use change and forestry Increase net GHG removals by carbon sinks from the LULUCF sector to -310 million tonnes CO_2 equivalent by 2030				●
CLIMATE CHANGE ADAPTATION				
Climate-related economic losses Reduce overall monetary losses from weather and climate-related events				●
Drought impact on ecosystems Decrease the area impacted by drought and loss of vegetation productivity			●	
A REGENERATIVE CIRCULAR ECONOMY				
Raw material consumption Significantly decrease the EU's material footprint, by reducing the amount of raw material needed to produce the products consumed in the EU			●	
Total waste generation Significantly reduce the total amount of waste generated by 2030			●	
ZERO POLLUTION AND A TOXIC FREE ENVIRONMENT				
Premature deaths due to exposure to fine particulate matter Reduce premature deaths from air pollution by 55% (from 2005 levels) by 2030	●			
Nitrates in groundwater Reduce nutrient losses by at least 50% in safe groundwater resources			●	
BIODIVERSITY AND ECOSYSTEMS				
Designated terrestrial protected areas Legally protect at least 30% of the EU's land area by 2030			●	
Designated marine protected areas Legally protect at least 30 % of the EU's sea area by 2030			●	
Common bird index Reverse the decline in populations of common birds			●	
Forest connectivity Increase the degree of connectivity in forest ecosystems with a view to creating and integrating ecological corridors and increase climate change resilience			●	
ENVIRONMENTAL AND CLIMATE PRESSURES RELATED TO EU PRODUCTION AND CONSUMPTION				
Energy consumption Reduce by 2030 the primary and the final energy consumption levels to respectively 992.5 and 763 million tonnes of oil equivalent			●	
Share of renewable energy in gross final energy consumption At least 42.5% of energy from renewable sources in gross final energy consumption by 2030			●	
Circular material use rate Double the ratio of circular material use by 2030 compared to 2020				●
Share of buses and trains in inland passenger transport Increase the share of collective transport modes (buses, coaches and trains)			●	
Area under organic farming 25% of EU agricultural land organically farmed by 2030				●

Table ES.1 8th Environment Action Programme monitoring results, 2025 (cont.)

8TH EAP PRIORITY OBJECTIVES AND ENABLING CONDITIONS **8th EAP indicators** Monitoring targets	Outlook of meeting the targets by 2030 On track	Likely on track	Likely off track	Off track
ENABLING CONDITIONS				
Share of environmental taxes in total tax revenues Increase the share of environmental taxes in total revenues from taxes and social contributions			●	
Fossil fuel subsidies Reduce environmentally harmful subsidies, in particular fossil fuel subsidies, with a view to phasing them out without delay			●	
Environmental protection expenditure Increase spending by households, corporations and governments on preventing, reducing and eliminating pollution and other environmental degradation			●	
Share of green bonds in total issued bonds Increase the issuance of green bonds to boost public and private financing for green investments		●		
Eco-innovation index Increasing eco-innovation as a driver for the green transition	●			
LIVING WELL, WITHIN PLANETARY BOUNDARIES				
Land take No net land take by 2050			●	
Water exploitation index plus Reduce water scarcity			●	
Consumption footprint Significantly decrease the EU's consumption footprint, i.e. the environmental impact of consumption				●
Employment in the environmental goods and services sector Increase the share of green employment in the whole economy	●			
Gross value added of the environmental goods and services sector Increase the share of the green economy in the whole economy	●			
Environmental inequalities Reduce environmental inequalities and ensure a fair transition			●	

● On track ● Likely on track ● Likely off track ● Off track

The assessment for four headline indicators — total waste generation, forest connectivity, fossil fuel subsidies and the eco-innovation index — remained unchanged from the 2024 edition of the report since new data were not available at the time of publication. This is due to the fact that several of these indicators are produced on a multiannual basis rather than being updated annually.

The 8th Environment Action Programme scoreboard shows uneven progress toward the EU's environmental and climate targets. Indicators on premature deaths from air pollution, eco-innovation, green employment and the green economy are assessed as 'on track'. Greenhouse gas (GHG) emissions and the green bond indicator are assessed as 'likely on track'. By contrast, the indicators under organic farming, circular material use, the EU consumption footprint, climate-related economic losses and land use, land-use change and forestry (LULUCF) greenhouse gas emissions and removals are assessed as 'off track'. The remaining 17 indicators are assessed as 'likely off track' for meeting the 2030 target.

With the adoption of most of the proposed European Green Deal legislation, the EU has established a solid legal framework for climate and environmental action. However, achieving the 8th EAP vision of living well within planetary boundaries by 2050 will require sufficient funding as well as timely and effective implementation across all sectors and Member States.

Several key EU policy measures have only recently or not yet entered into force and their full impact is not yet reflected in the indicators. It is therefore too early to assess the full impact of these measures on the environment. The report however acknowledges policy measures that are about to be implemented and that are expected to have a significant positive influence on the evolution of specific indicators.

Key messages from the 8th EAP scoreboard according to priority objective and enabling conditions

Climate change mitigation

The 8th EAP mirrors the vision of the European Green Deal [1] which is to make Europe the world's first climate-neutral continent by 2050 [2] through a just transition that leaves no one behind. It aims to reduce the EU's net greenhouse gas (GHG) emissions as well as to enhance carbon removal in the land use, land-use change and forestry (LULUCF) sector. These efforts are also central to strengthening the EU's resilience, competitiveness and strategic autonomy, as underlined in the strategic agenda 2024-2029 as well as in the Political Guidelines 2024-2029 and in the Competitiveness Compass.

In 2024, the total net GHG emissions are estimated to have fallen by 2.5%, compared to 2023 [3]. Following the exceptional drop achieved in 2023, emissions are continuing to decrease. They now stand at over 37% below 1990 levels and 39% when only domestic emissions are considered. The GHG emission reductions observed since 1990 have largely been driven by structural changes in the energy system, including the accelerated deployment of renewables in line with REPowerEU. This has been achieved over the same period of time that the EU economy has grown by 71%. This continued decoupling of emissions from economic growth demonstrates that climate action and prosperity can go hand in hand, to strengthen Europe's economic stability and energy security at the same time.

The EU has made significant progress towards meeting its 55% emissions reduction target. To close the remaining gap, the legally binding measures under the Fit for 55 package have created a framework to further accelerate emission reductions across all sectors. The latest GHG projections from March 2025 indicate that the policies and measures adopted and planned by Member States at the time of submission will deliver net GHG emission reductions of 54% by 2030 ([b]).

The LULUCF sector acts as a net GHG sink in the EU. It removes GHGs from the atmosphere and thereby contributes to a reduction in the EU's net GHG emissions. In 2023 it removed around 198 million tonnes of carbon dioxide equivalent ($MtCO_2e$), equivalent to 6.5% of the EU's annual GHG emissions. Preliminary estimates for 2024 indicate that there will be increasing removals for a second consecutive year, offering some grounds for optimism.

However, the trend over the past 10 years has largely been negative and the latest Member State projections, based on current and planned policies and measures, fall well short of the target, indicating the EU is off track to reach its LULUCF 2030 target. The recently adopted Nature Restoration Regulation [4], together with initiatives on carbon farming and sustainable land management, can provide important momentum if they are implemented swiftly and comprehensively.

([b]) This 54% projected reduction applies the EU climate target scope as defined in the European Climate Law, including net removals from the LULUCF sector as well as emissions from international aviation and maritime transport activities regulated under EU law. If EU domestic GHGs are considered on their own (excluding international transport), GHG emissions are projected to reduce by 56% by 2030.

In line with updates to their national energy and climate plans, Member States continue to implement further policies and measures to support their objectives in this area. Key to delivering a climate-neutral, resilient and competitive Europe is ensuring coherence across climate, energy, agriculture, circular economy and biodiversity policies as well as mobilising investments.

Climate change adaptation

The 8th EAP requires continuous progress to enhance the EU's adaptive capacity, strengthen its resilience and reduce its vulnerability to climate change.

The EU is off track to reduce overall monetary losses from weather- and climate-related events by 2030 and likely off track to decrease the area impacted by drought and loss of vegetation productivity. The 2024 *European Climate Risk Assessment* concluded that climate risks in Europe are accelerating, with several already at critical levels. Many weather- and climate-related extreme events, such as floods, droughts and heatwaves, will become more frequent and severe in Europe and around the world, confirming earlier findings from an Intergovernmental Panel on Climate Change (IPCC) assessment [(5)].

Implementing EU and national and regional climate laws with adaptation provisions, strategies and plans is expected to strengthen Europe's adaptive capacity. The EU Mission on Adaptation to Climate Change supports implementation actions like floodplain restoration, early-warning systems and urban heat mitigation. Yet even taking into account the policies which are already in place, adaptation remains too slow to match the rising frequency and severity of climate-related extreme weather events. It is necessary to introduce comprehensive and integrated approaches to enhance the EU's adaptive capacity and to increase societal, economic and environmental resilience against climate change.

A regenerative circular economy

The 8th EAP aims to move towards a regenerative circular economy that gives back to the planet more than it takes.

The EU is likely off track to meet its targets to significantly decrease its material footprint and the total amount of generated waste by 2030. Economic growth has been a key driver behind the trends seen for both material footprint and total waste generation. There is legislation already in place to prevent waste generation and to manage waste sustainably; this includes legislation relating to recycling and the use of recycled materials. To date, it has only succeeded in achieving relative — not absolute — decoupling of raw material consumption and waste generation from economic growth.

Significant additional efforts are necessary to reduce the impact of EU consumption and to move towards a circular economy to reach the 2030 targets. There has been continued implementation of the 2020 Circular Economy Action Plan and recent adoption of legislation such as the Ecodesign for Sustainable Products Regulation [(6)], the Batteries and Waste Batteries Regulation [(7)] (with more significant rules effective since 2025) and the Packaging and Packaging Waste Regulation [(8)] (entering into application in 2026). These have all placed more focus on product design and hold promise for accelerating the shift toward a regenerative circular economy.

Two main recommendations for unlocking the circular transition have been identified: the need for action on implementation by Member States and investment in the early stages of the product life-cycle [(9)]. This shift should be further reinforced by upcoming initiatives such as the Circular Economy Act planned for 2026 and the EU bioeconomy strategy which will outline how to move the bioeconomy from niche innovation to large-scale deployment. These laws will offer a coherent framework for Member States and industry to align investments, governance and long-term planning and have the potential to help close the gap to the 2030 targets, although further actions will still be needed.

Zero pollution and a toxic-free environment

The 8th EAP pursues a zero pollution aim to achieve a toxic-free environment by 2030.

The 57% decline in deaths attributable to fine particulate matter ($PM_{2.5}$) observed in 2023, relative to 2005 levels, indicates that the EU is on track to meet its 2030 target for reducing premature deaths from air pollution (with the required reductions achieved in 2023 needing to be sustained and enhanced). Despite the ongoing improvement, there were 182,000 premature deaths attributable to fine particulate matter in the EU in 2023. Continued enforcement of air, climate and energy policies is expected to maintain and possibly enhance these positive changes in the coming years.

The EU is likely off track to meet its target to reduce nutrient losses into groundwater by at least 50% by 2030. Despite legislation in place, progress in reducing nutrient losses, especially from agriculture, has remained limited. Some progress is nevertheless expected by 2030 as new initiatives under the European Green Deal, such as the Zero Pollution Action Plan, take effect, although the results are likely to fall short of meeting the target.

Biodiversity and ecosystems

The 8th EAP aims to protect, preserve and restore Europe's biodiversity.

The EU is likely off track to meet any of the four biodiversity and ecosystem-related monitoring targets within this priority objective by 2030. The targets are: to reverse the decline in populations of common birds, increase the degree of connectivity in forest ecosystems and legally protect at least 30% of the EU's land area and at least 30% of the EU's sea area by 2030.

A key driver of biodiversity loss and the degradation of ecosystems and the services they provide is the high pressure exerted on terrestrial, freshwater and marine ecosystems by socio-economic sectors such as agriculture, fisheries and urban development. To meet the 8th EAP targets, Member States must better implement existing legislation, take additional measures to restore biodiversity and further mainstream biodiversity within other policies such as the common agricultural policy (CAP) and the common fisheries policy (CFP).

A major recent development has been the entry into force of the Nature Restoration Regulation; this aims to restore degraded ecosystems across the EU's land and sea areas by setting binding restoration targets. The outcomes depend on multiple factors, including the type and timing of restoration measures. As Member States now prepare their draft national restoration plans, the choices they make regarding restoration priorities, approaches and financing will be essential in contributing to achieving the 2030 biodiversity goals.

Environmental and climate pressures related to EU production and consumption

The 8th EAP aims to promote environmental sustainability and significantly reduce key environmental and climate pressures related to EU production and consumption.

The EU is likely off track to meet its 2030 targets to reduce primary and final energy consumption to 992.5 and 763 million tonnes of oil equivalent respectively and to increase the share of collective passenger transport (buses, coaches and trains). The EU is also likely off track to reach its target for at least 42.5% of gross final energy consumption to come from renewable sources. However, the recent acceleration in the decarbonisation of the EU electricity supply offers an encouraging sign of systemic transformation of the EU energy system.

The targets for at least 25% of EU agricultural land to be organically farmed and to double the circular material use rate (CMUR) from 2005 levels are assessed as off track for 2030. The target to increase the CMUR to 24% by 2030 has also been taken up in the Clean Industrial Deal as a key performance indicator, underscoring its strategic importance.

A common denominator across all five indicator assessments is the scale, speed and depth of change required in underlying systems. Currently the energy dimension is the only area where sufficient scale-up and acceleration can be observed to suggest the potential for near-term improvement. Reducing overall consumption, curbing energy and material demand, as well as enabling more sustainable choices in consumption, energy use, food and mobility are key determinants of success.

Enabling conditions

To meet the priority objectives of the 8th EAP, a number of enabling conditions need to be fulfilled.

The EU remains on track to meet its target to increase eco-innovation by 2030. It is expected that eco-innovation will increase further in the coming years, supported by the ambitious EU environmental and climate objectives of the European Green Deal and new initiatives such as the Clean Industrial Deal. These are enabling favourable conditions for innovation in industry.

The EU remains likely on track to meet its 2030 targets: increasing the share of environmental taxes in total revenues from taxes and social contributions, and raising the share of green bonds in total issued bonds. Following a temporary slowdown in 2023, green bond issuance has resumed strong growth in 2024, supported by the EU's sustainable finance framework and the continued issuance of NextGenerationEU green bonds. The share of green bonds in total bonds issuance is expected to continue increasing in future years.

However, the EU is likely off track to increase its environmental protection expenditure and the share of environmental taxes in total tax and social contribution revenues by 2030. Although additional resources have been made available through the EU budget and instruments such as the Recovery and Resilience Facility, which ends in 2026, overall environmental expenditure has stagnated in several Member States and remains insufficient to achieve the 2030 objective. Despite increased revenue from emissions trading and ongoing work to reform the Energy Taxation Directive, the overall share of environmental taxes in total revenues has continued to decline.

The EU is also likely off track to reduce the volume of fossil fuel subsidies in line with the ambition of the 8th EAP. Although this assessment is based on 2023 data (as 2024 data were not available at the time of publication), recent evidence confirms that this conclusion remains valid. The *State of the Energy Union Report 2025* [10] indicates that in 2024 Member States allocated around 18% more public funds to fossil fuel subsidies compared to the pre-crisis year 2021.

Continued reliance on imported fuels remains a major risk to EU energy security and resilience and undermines competitiveness by distorting investment incentives away from the clean energy transition [10]. Many Member States still lack concrete phase-out plans. While subsidy levels declined in 2024 (34% lower than in 2023 and 49% lower than in 2022) [10], they remain above pre-crisis levels, reflecting continued reliance on temporary support measures introduced to mitigate the social impacts of high energy prices following the COVID-19 recovery and Russia's invasion of Ukraine.

Living well within planetary boundaries

The 8th EAP aims to ensure that, by 2050 at the latest, EU citizens live well within the limits of the planet in a well-being economy.

The EU is on track to meet its targets to increase the share of the green economy and of the green employment by 2030. The ongoing implementation of EU environmental and climate policies under the European Green Deal, along with new initiatives such as the Clean Industrial Deal — which sets out upcoming policy measures to promote circular material use, industrial decarbonisation and lead markets for clean products through public procurement — is likely to further accelerate the shift towards green business models.

The EU aims to achieve no net land take by 2050. However, it is likely off track to meet its intermediate 2030 target on land take and to reduce water scarcity and environmental inequalities by 2030. Recent data and projections show that built-up areas in the EU are likely to expand substantially by 2030, hampering achievement of the no net land take goal. However, measures have been put in place under the Biodiversity Strategy for 2030, the Nature Restoration Regulation and the Directive on soil monitoring and resilience [11] to support more sustainable land use and progress towards no net land take by 2050.

Reducing water scarcity in the coming years is challenging due to climate change impacts which are adding further stresses in the area of water availability. These challenges are being addressed through recent EU initiatives, including the Water Resilience Strategy [12], which aims to strengthen water efficiency, reuse and drought preparedness.

Despite improvements, air pollution still poses the greatest environmental risk to health in Europe [13]. Although the gross domestic product -related environmental inequalities associated with air pollution are an imperfect proxy of environmental inequalities, the absence of progress in past indicator trends suggests that existing policies may be insufficient to address these inequalities effectively.

The EU is off track to meet its target to significantly decrease the EU's consumption footprint by 2030. There is broad agreement in the scientific [14] and policy community [15], supported by EC projections [16], based on current consumption patterns and expected economic growth, that the EU will not reduce its consumption footprint in the coming years.

Changing prospects in terms of meeting targets

This annual report takes stock of progress towards the objectives of the 8th EAP, based on EEA assessments of the prospects of meeting the 28 targets by 2030. The changes over time in the assessed prospects are presented in Table ES.2.

In 2025, the outlook for meeting the 2030 targets deteriorated for three indicators compared with the previous assessment, with one of them moving into the lowest assessment category 'off track'.

The outlook for the share of environmental taxes in total tax revenues indicator has deteriorated from 'on track' to 'likely off track', reflecting the continued decline in the relative share of environmental taxes despite the expansion of emissions trading and ongoing work on energy taxation reform.

The outlook for environmental protection expenditure has changed from 'likely on track' to 'likely off track', as overall spending has stagnated in several Member States and remains insufficient to achieve the 2030 target despite the availability of EU-level funding that can complement national investments.

Finally, the outlook for climate-related economic losses has deteriorated from 'likely off track' to 'off track' due to the increasing frequency and severity of climate-related extreme events and the limited evidence of progress in reducing associated losses.

No indicators show an improved outlook for meeting the 2030 targets this year.

Table ES.2 Changes in 8th EAP monitoring results, 2023-2025

8th EAP indicators	2023	2024	2025	2026	2027	2028	2029	2030
CLIMATE CHANGE MITIGATION								
Greenhouse gas (GHG) emissions								
GHG emissions from land use, land-use change and forestry								
CLIMATE CHANGE ADAPTATION								
Climate-related economic losses								
Drought impact on ecosystems								
A REGENERATIVE CIRCULAR ECONOMY								
Raw material consumption								
Total waste generation								
ZERO POLLUTION AND A TOXIC FREE ENVIRONMENT								
Premature deaths due to exposure to fine particulate matter								
Nitrates in groundwater								

Table ES.2 Changes in 8th EAP monitoring results, 2023-2025 (cont.)

8th EAP indicators	2023	2024	2025	2026	2027	2028	2029	2030
BIODIVERSITY AND ECOSYSTEMS								
Designated terrestrial protected areas	Likely off track	Likely off track	Likely off track					
Designated marine protected areas	Likely off track	Likely off track	Likely off track					
Common bird index	Likely off track	Likely off track	Likely off track					
Forest connectivity	Likely off track	Likely off track	Likely off track					
ENVIRONMENTAL AND CLIMATE PRESSURES RELATED TO EU PRODUCTION AND CONSUMPTION								
Energy consumption	Off track	Likely off track	Likely off track					
Share of renewable energy in gross final energy consumption	Likely off track	Likely off track	Likely off track					
Circular material use rate	Off track	Off track	Off track					
Share of buses and trains in inland passenger transport	Likely off track	Likely off track	Likely off track					
Area under organic farming	Off track	Off track	Off track					
ENABLING CONDITIONS								
Share of environmental taxes in total tax revenues	Likely on track	Likely on track	Likely off track					
Fossil fuel subsidies	Likely off track	Likely off track	Likely off track					
Environmental protection expenditure	On track	On track	Likely off track					
Share of green bonds in total issued bonds	Likely on track	Likely on track	Likely on track					
Eco-innovation index	On track	On track	On track					
LIVING WELL, WITHIN PLANETARY BOUNDARIES								
Land take	Likely off track	Likely off track	Likely off track					
Water exploitation index plus	Likely off track	Likely off track	Likely off track					
Consumption footprint	Off track	Off track	Off track					
Employment in the environmental goods and services sector	On track	On track	On track					
Gross value added of the environmental goods and services sector	On track	On track	On track					
Environmental inequalities	Likely off track	Likely off track	Likely off track					

On track · Likely on track · Likely off track · Off track

In conclusion

The assessment of progress towards the 8th EAP priority objectives and associated 2030 targets confirms the ongoing need for decisive and urgent action to protect and restore Europe's environment, mitigate climate change and adapt more effectively to changing conditions. The EU has already transgressed several planetary boundaries [(17)] and climate risks in Europe continue to accelerate, with several already reaching critical levels.

Many of the 8th EAP targets reflect the heightened ambition of EU environmental and climate policies under the European Green Deal. The Political Guidelines 2024 confirm these objectives. Initiatives such as the EC's Competitiveness Compass and the Clean Industrial Deal aim to promote circularity, decarbonisation and stronger market demand for sustainable products.

Several climate change mitigation and energy targets have been adopted only recently and Member States are in the process of implementing newly adopted EU legislation and aligning national policies, measures and ambitions with these objectives. Although many initiatives under the European Green Deal, such as the Nature Restoration Regulation and the Directive on soil monitoring and resilience have now been adopted, their full effect will materialise over time.

Nevertheless, current assessments, coupled with modest implementation to date, underline the need for accelerated and decisive actions to ensure that 8th EAP targets can be met by 2030, provided that legislation and policies are implemented in a timely and ambitious manner and are sufficiently financed. While the 8th EAP sets a clear pathway, the EC's report *Update of the costs of not implementing EU environmental law* estimates that these costs would total EUR 180 billion per year in relation to environmental targets which currently apply, rising to EUR 325 billion per year in relation to environmental targets which will apply in the near future [(18)].

The scale and speed of the change required to meet the targets should not be underestimated: most of the indicators highlight the need for a much faster pace of change in the years leading to 2030 compared to the previous decade. Most indicators remain likely off track and some off track to meet the 2030 targets, with none showing an improved outlook compared to the 2024 monitoring report. As only two years have passed since the first 8th EAP monitoring report, many recently adopted policy measures have had limited time to deliver measurable effects. This underscores the need for accelerated and sustained implementation of existing and forthcoming environmental legislation to ensure progress towards the 2030 targets.

The 2030 outlook results related to the 8th EAP priority objectives on 'environmental and climate change pressures related to EU production and consumption' and 'climate change adaptation' remain the most concerning. There will need to be substantial acceleration in the pace of change for the underpinning indicators in the coming years, requiring deep transformations of Europe's energy, mobility, food and industrial systems, as well as the built environment. This is consistent with the *Europe's Environment 2025* report [(19)], which highlights the need for systemic change in Europe's production and consumption systems to ensure they operate within planetary boundaries.

The 'zero pollution and a toxic-free environment' objective and 'enabling conditions' show the most positive, though uneven, results. In 2023, the EU met the 2030 target for reducing premature deaths from air pollution but further effort is needed to sustain this progress. In contrast, the EU remains likely off track to halve nutrient losses into groundwater, as current and planned measures are insufficient.

Despite the deteriorating outlook for two out of five indicators, the overall results for 'enabling conditions' remain among the most positive in the 8th EAP monitoring. However, these enablers have not yet translated sufficiently into the structural changes required to achieve the priority objectives. The green transition requires unprecedented levels of investment, with current European Commission estimates pointing to annual additional investment needs of more than EUR 620 billion [20] between 2021 and 2030 to meet the objectives of the European Green Deal [5]. While significant, these additional investment needs are considerably lower than the potential costs of inaction. Future economic losses from coastal floods alone could potentially exceed EUR 1 trillion per year in the EU if no further action is taken [21].

Increases in the EU budget and the broader sustainable finance framework have helped mobilise capital towards sustainable investment but the forthcoming expiry of the Recovery and Resilience Facility is likely to create a funding gap for several Member States. However, it remains uncertain whether the current policy mix will be sufficient to close the investment gap by 2030, particularly in terms of mobilising private capital at the scale required to complement public funding.

In this context, further measures are needed to align public financial frameworks and private investment incentives with climate and environmental objectives and to phase out fossil fuel and other environmentally harmful subsidies. This would enable a wider range of green technologies, beyond the promising developments in the production and storage of renewable energy, to become more competitive and widely adopted.

The proposal for the future Multiannual Financial Framework aims to make the EU budget more impactful by setting a clear climate and environment spending target and adopting two key horizontal principles: 'do no significant harm' and 'climate resilience by design'. The ongoing review of the sustainable finance framework should provide an opportunity to reinforce the EU's commitment to mobilising private finance for the sustainable transition.

Overall, the 8th EAP monitoring assessment underscores the urgent need to strengthen the implementation of environmental legislation and to introduce additional measures where necessary. Examples include: setting concrete goals to reduce Europe's material footprint beyond waste collection and recycling; advancing policies that drive fundamental shifts in consumption patterns and boost secondary material usage to remain within planetary boundaries [22] and addressing climate-related risks at the European level [21].

It also remains essential to continue to integrate environmental and climate objectives into industrial, agricultural and other policy domains. The EU's transition to sustainability is unfolding during a period of overlapping crises, bringing priorities such as competitiveness, security, defence and fairness to the forefront of policy debate. It is absolutely necessary to ensure that climate and environmental goals are embedded within these priorities and that they are recognised as mutually reinforcing, given that economic stability, security, strategic resilience and fairness all depend on a stable climate and healthy environment as Europe advances towards sustainability [23].

Figure ES.1 **8th Environment Action Programme scoreboard, 2025**

Note: Access the interactive chart here.

Source: EEA.

8TH EAP THEMATIC PRIORITY OBJECTIVE

Climate change mitigation

1 Climate change mitigation

Reducing greenhouse gas emissions and enhancing carbon removals

Addressing climate change is one of the defining challenges of our time. The European Green Deal was the blueprint for a transformational change to make Europe the world's first climate-neutral continent by 2050 through a just transition that leaves no one behind. The 8th Environment Action Programme built on the European Green Deal vision and emphasised the achievement of targets on greenhouse gas (GHG) emissions and carbon removal in the land use, land-use change and forestry (LULUCF) sector.

To capture progress on climate change mitigation efforts, the European Commission's 8th EAP monitoring framework uses two indicators and corresponding 2030 targets:

- an indicator on total GHG emissions to monitor progress on achieving the target to reduce net EU GHG emissions to at least 55% below 1990 levels by 2030;
- an indicator on GHG emissions from LULUCF to monitor whether this sector will be able to remove an additional -42 million tonnes of CO_2 equivalent ($MtCO_2e$) from the atmosphere by 2030 ([c]), resulting in total net removal of -310$MtCO_2e$ ([d]).

The indicator assessment results are summarised further below. In 2023, the EU made significant progress with a sharp 8% year-on-year reduction in GHG emissions. Preliminary estimates suggest that in 2024, net emissions fell by a further 2.5% compared with 2023 levels, bringing net GHG emission reductions to 37% below 1990 levels. The GHG projections submitted by Member States to the EEA in 2025 indicate that existing and planned policies and measures should deliver an aggregated 54% net reduction in GHG emissions by 2030 compared to 1990 levels ([e]).

In terms of progress towards meeting the LULUCF target, data for 2023 and 2024 show a modest increase in the carbon sink; this suggests the potential reversal of a negative trend that has seen LULUCF removals declining since 2013. Projections submitted to the EEA in 2025 indicate that more ambitious measures are needed to reach the target by 2030.

([c]) As compared to the yearly average of net removals over the reference period 2016-2018.
([d]) The average yearly net removals for the years 2016, 2017 and 2018, as reported in the 2020 GHG inventory submission plus the additional -42$MtCO_2e$ net removals and total net removals of -310$MtCO_2e$ at the EU level. Any methodological adjustments in the inventory data reporting will be taken into account in the compliance check against the 2030 target.
([e]) If EU domestic GHGs are considered on their own (excluding international transport), GHG emissions are projected to fall by 56% by 2030.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

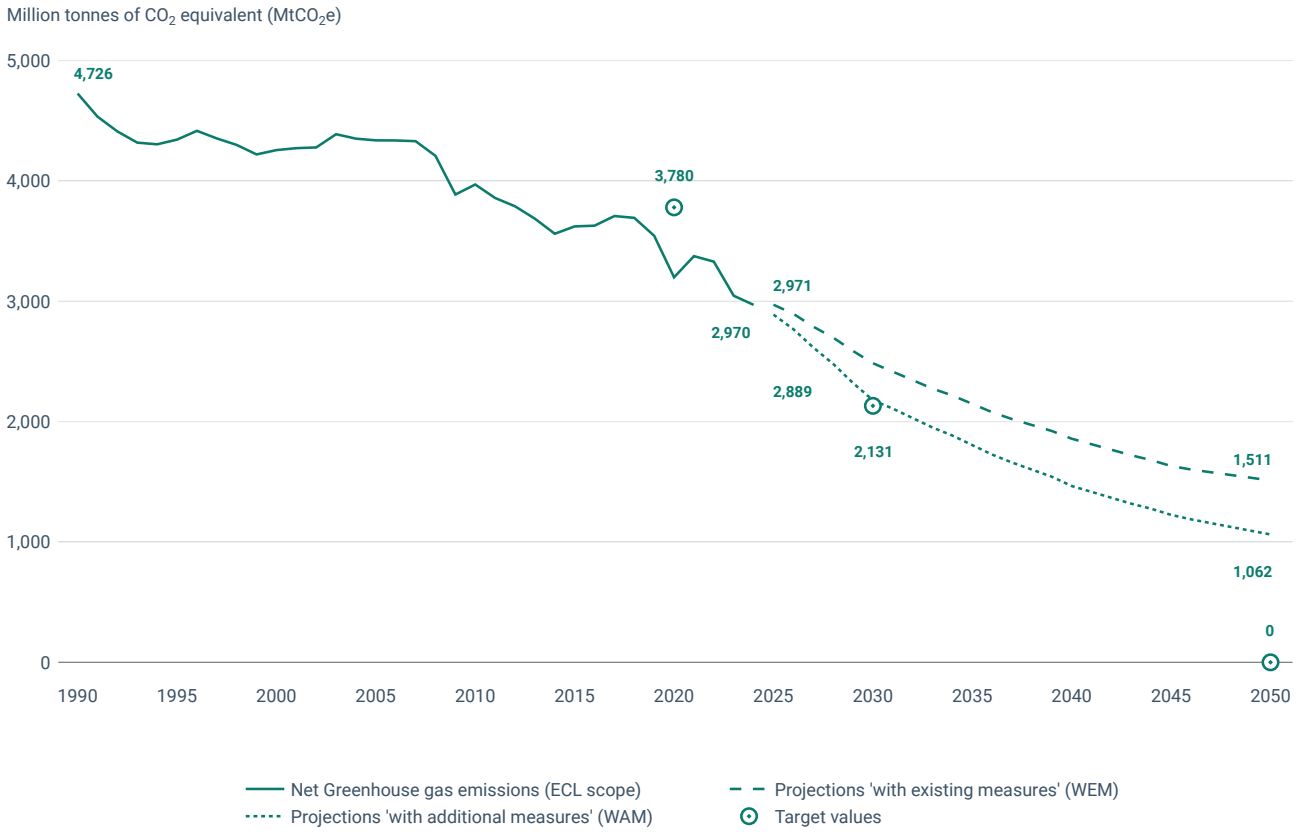
Methodology key		
Will the objective be met by 2030?		
	On track	There is a high degree of confidence that the objective will be met by 2030
	Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
	Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
	Off track	There is a high degree of confidence that the objective will not be met by 2030

1.1 Greenhouse gas emissions

Will the EU cut net GHG emissions by at least 55% by 2030 from 1990 levels?

Likely on track. It is estimated that the EU net GHG emissions have decreased in 2024, with a year-on-year reduction of 2.5%, bringing net GHG emissions to 37% below 1990 levels. The latest aggregated projections indicate that policies and measures already in place and planned should result in net GHG reductions of 54% by 2030.

Figure 1.1 Progress towards achieving climate targets, EU



Notes: In this figure, the EU total net greenhouse gas emissions refer to the emissions under the scope of the European Climate Law (ECL), taking into account emissions and removals from the land use, land use change and forestry sector (LULUCF) sector and GHG emissions from international aviation and maritime, as regulated by EU law.
Access the interactive chart here.

Source: EEA.

Relevance and policy target

- The reduction of net GHG emissions is vital to slow the rate of global warming and mitigate its impact on the environment and on human health.
- The EU is a frontrunner in climate ambition, with the European Climate Law setting binding targets to reduce net GHG emissions by at least 55% from 1990 levels by 2030 and to achieve climate neutrality by 2050 in the EU.

Indicator past trend (1990-2024): decrease ↓
Latest value (2024, preliminary estimates ([f])): 37% reduction relative to 1990

- Preliminary estimates indicate that, in 2024, net GHG emissions fell by a further 2.5% below 2023 levels. This marks a deceleration from the record year-on-year emission reduction of 8.5% in 2023, bringing estimated 2024 emissions to 37% below 1990 levels.

- A reduction in net GHG emissions has taken place primarily within the past two decades, in line with the gradual strengthening of policies. The EU surpassed its 2020 climate target.

- The decline in emissions since 1990 reflects a shift in energy production methods, with sharply decreasing use of coal and a steadily increasing share of renewable energy. In addition, improved energy efficiency resulted in a reduction in primary energy consumption, while technological innovation led to substantial decreases in GHG emissions linked to specific industrial production processes [(24)].

2030 outlook

- When looking to 2030, achieving the 55% net emissions reduction target will require an average annual emissions reduction of 131MtCO_2e. If the 2018-2023 trend continues, this target appears within reach. Preliminary figures for 2024 suggest a lower annual reduction of 75MtCO_2e, representing roughly 60% of the annual decrease required to meet climate targets.

- According to the latest Member States' projections if current national policies and measures are considered, Member States expect to reduce emissions by 47% by 2030. When planned measures (not yet enacted in legislation) are included, the projected reduction in GHG emissions rises to 54% below 1990 levels. The updated national energy and climate plans offer an opportunity to implement these new measures.

- Furthermore, new EU-wide policy tools — such as the emission trading system for fuels used in buildings, road transport and additional sectors — offer additional incentives to reduce emissions.

- The adoption of crucial technologies is rapidly gaining momentum, as illustrated by recent and very fast deployment of solar photovoltaics, heat pumps and electric cars [(25)(26)(27)]. If this trend continues, these technologies will contribute to the required acceleration in emission reduction.

- To meet the target, a significant increase in effort is needed in aviation, road transport and building heating as well as in the land use, land use change and forestry sectors.

For more references and additional information see the full indicator version.

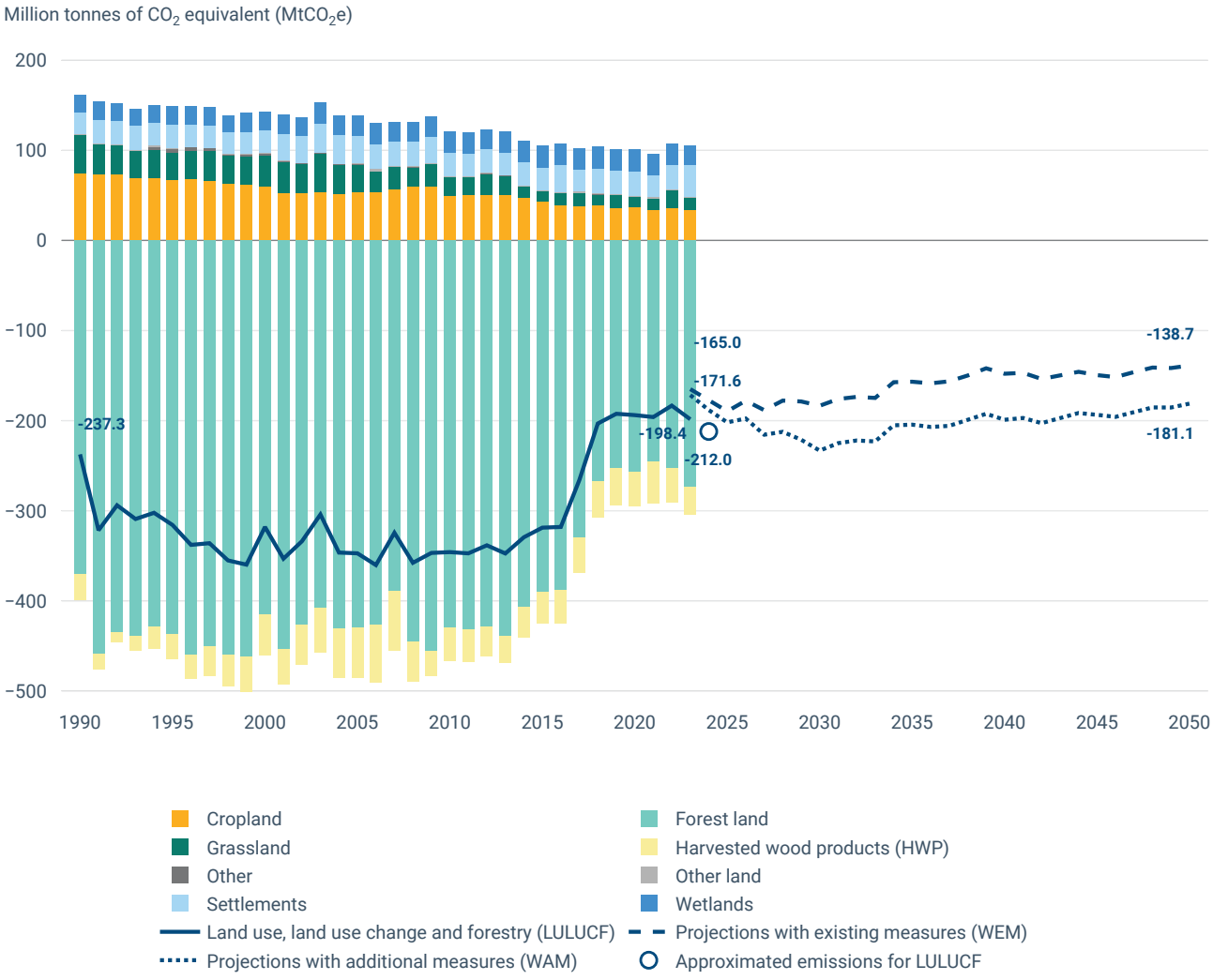
([f]) Based on aggregated GHG projections from March 2024, updated by some Member States in 2025, of the policies and measures that Member States had adopted and planned at the time of submission.

1.2 GHG emissions from land use, land-use change and forestry (LULUCF)

Will the EU increase net GHG removals from the LULUCF sector to -310 million tonnes CO_2 equivalent by 2030?

Off track. In the past 10 years, net GHG removals have decreased and Member States' projections show that the planned policies fall short of reaching the target.

Figure 1.2 **Greenhouse gas emissions and removals of the land use, land-use change and forestry sector plus projections, EU**



Note: Access the interactive chart here.

Source: EEA.

Relevance and policy target

- Mitigating climate change would need both a reduction in greenhouse gas emissions and their removal from the atmosphere to reach climate neutrality by 2050. The land use, land-use change and forestry (LULUCF) sector has the potential to contribute by removing CO_2 from the atmosphere and reducing emissions in other sectors through substitution.

- The LULUCF Regulation [28] sets an EU-wide target to generate a further -42MtCO_2e of net removals in the land sector as compared to the average in 2016-2018. This will result in a total from the sector of -310 million tonnes of CO_2 equivalent (MtCO_2e) by 2030 ([9]).

Indicator past trend (2012-2023): decrease ↓
Latest value (2024, preliminary): -212 million tonnes of CO_2 equivalent removed

- In 2023, the EU's LULUCF sector accounted for the net removal of -198MtCO_2e, equal to 6% of the EU's total GHG emissions. Despite the small increase in 2023, the overall CO_2e removals have declined over the past decade rather than increased. This has mainly been because of the impacts of climate change and natural disturbances in forests as well as increased harvesting of wood — partly driven by increased salvage logging and ageing forests as well as the lower sequestration of carbon by ageing forests in some Member States. Nevertheless, preliminary removal estimates predict an increase to -212MtCO_2e for 2024 [29].

2030 outlook

- It is very unlikely that the target will be met unless additional fast-response mitigation measures are implemented.

- Reaching the target would require reversing the past trend. This is made challenging by the combination of less carbon sequestration in forests as they age, increased harvesting levels and faster decomposition of dead organic matter in ecosystems driven by higher temperatures and other climate change impacts.

- The most recent Member State projections, taking into account existing and intended additional measures, suggest that net removal will amount to -233MtCO_2e by 2030 [29]. This means that at present the EU is off track to meet its net removal target of -310MtCO_2e by 2030.

- More ambitious removal measures must be implemented to breach the gap. Measures with additional mitigation potential include increased afforestation, decreased deforestation and improved forest management — such as a reduction in the annual average area of forests affected by wildfires and biotic damage — reduced harvesting levels, rewetting of drained peatlands, improved crop rotation and improved grassland management. However, for many of the measures, there is a time lag between implementation of a mitigation measure and the visibility of its impact.

For more references and additional information, including at country level, see the full indicator version.

([9]) Corresponding to a removal target as reported in 2020.

8TH EAP THEMATIC PRIORITY OBJECTIVE

Climate change adaptation

2 Climate change adaptation

Enhancing the capacity to adapt, strengthening resilience and reducing vulnerability to climate change

Climate change is happening already. Europe is the fastest warming continent in the world and climate risks are threatening its energy and food security, ecosystems, infrastructure, water resources, financial stability and people's health [21]. Beyond deploying measures to cut greenhouse gas (GHG) emissions and slow the pace of global warming, there is also a need for proactive preparation and adjustment to the effects of climate change such as sea-level rise, water scarcity, more frequent and more severe floods, heatwaves and storms. The 8th Environment Action Programme, in line with the Paris Agreement and the EU Climate Law, requires continuous progress in enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change. The EU adaptation strategy, together with the EU Mission on Adaptation, aims to build resilience and ensure that the EU is well-prepared to manage the risks and adapt to the impacts of climate change.

The European Commission's 8th EAP monitoring framework includes two indicators and corresponding targets for 2030 to capture aspects of progress on climate change adaptation:

- an indicator on economic losses from weather- and climate-related extremes in the EU to monitor progress on achieving the target to reduce overall monetary losses from weather- and climate-related events;
- an indicator on drought impact on ecosystems to monitor whether the EU area affected by drought and loss of vegetation productivity will decrease.

The indicator assessment results are summarised below. Overall, it is projected that the EU is off track to decrease the economic losses from climate- and weather-related extremes and likely off track to decrease the drought impact on ecosystems by 2030. Long-term trends in both cases show a deterioration in the situation. In addition, the IPCC [30] predicts that climate change will intensify extreme weather events globally, increasing the risk of systemic impacts and economic losses in Europe.

The first *European Climate Risk Assessment* [21] confirms that climate risks are accelerating, with several already at critical and high-urgency levels. Many of the climate risks threatening the EU have already reached critical levels and could become catastrophic without urgent and decisive action [21]. Thus, it is important to implement comprehensive, integrated approaches to mitigate future impacts and to increase the region's resilience against climate change.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

Methodology key

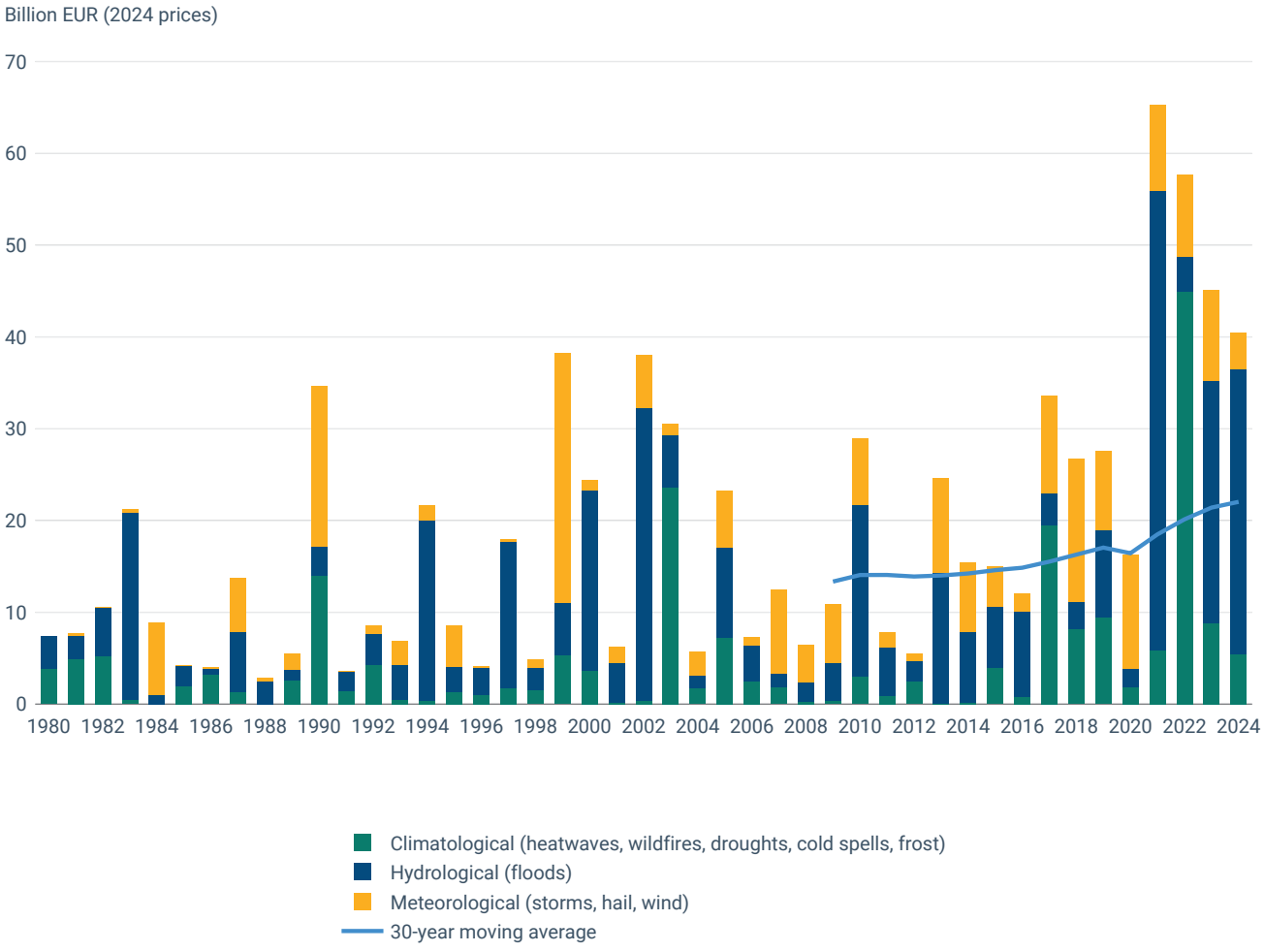
Will the objective be met by 2030?	
On track	There is a high degree of confidence that the objective will be met by 2030
Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
Off track	There is a high degree of confidence that the objective will not be met by 2030

2.1 Economic losses from climate- and weather-related extremes

Will monetary losses from weather- and climate-related events fall in the coming years?

Off track. Weather- and climate-related extreme events are projected to intensify further, though full implementation of climate change adaptation policies at EU, national and local levels can limit the costs.

Figure 2.1 **Economic losses caused by weather- and climate-related extreme events, EU**



Note: Access the interactive chart here.

Sources: Risklayer; EEA.

Relevance and policy target

- Weather- and climate-related hazards, such as extreme temperature, heavy precipitation and droughts, pose risks to human health and ecosystems and can lead to substantial economic losses.

- The EU adaptation strategy aims to build resilience and ensure the EU is well-prepared to manage these risks and can adapt to the impacts of climate change. The EU aims, among other things, to ultimately reduce overall monetary losses from weather- and climate-related events.

Indicator past trend (2009-2024, 30-year moving average, in 2024 prices): increase ↑
Latest value (2024): EUR 40.4 billion (2024 prices)

- Between 1980 and 2024, the cost of weather- and climate-related extremes amounted to EUR 822 billion (2024 prices), of which EUR 40.4 billion (2024 prices) was in 2024. Hydrological events (floods) account for more than 47%, meteorological events (storms including lightning and hail) account for almost 27% and climatological events (mostly heatwaves but also droughts, wildfires and cold waves) account for almost 26% of total losses.

- The economic losses show high year-to-year variability, making trend analysis difficult. However, statistical analysis (a 30 year moving average) indicates an increasing trend over time, with the losses in the 2021-2024 period among the five highest in the entire 45-year time series.

2030 outlook

- The EU is off track to reduce economic losses associated with extreme weather and climate events by 2030.

- The IPCC [30] predicts that weather- and climate-related extreme events will become more frequent and severe around the world because of climate change. This could affect multiple sectors and cause systemic failures across Europe, leading to greater economic losses. The first ever *European Climate Risk Assessment* concluded that climate risks in Europe are accelerating and several of the 36 key climate risks are already at critical levels and require urgent action now [21].

- The future cost of weather- and climate-related hazards depends not only on the frequency and severity of events but also on several other factors, such as the value and resilience of the assets [5] [31] and the envisaged climate adaptation measures [5] [32]. In Europe, climate-related extreme events are expected to intensify further and the pace of adaptation is not currently keeping up [21].

- If fully implemented, the EU and the national adaptation strategies will contribute to limiting the economic costs of weather- and climate-related events. To do so, adaptation plans should ideally include a balanced set of measures, covering governance and institutional, economic and financial, physical and technological aspects, as well as nature-based solutions, knowledge and behavioural change [33].

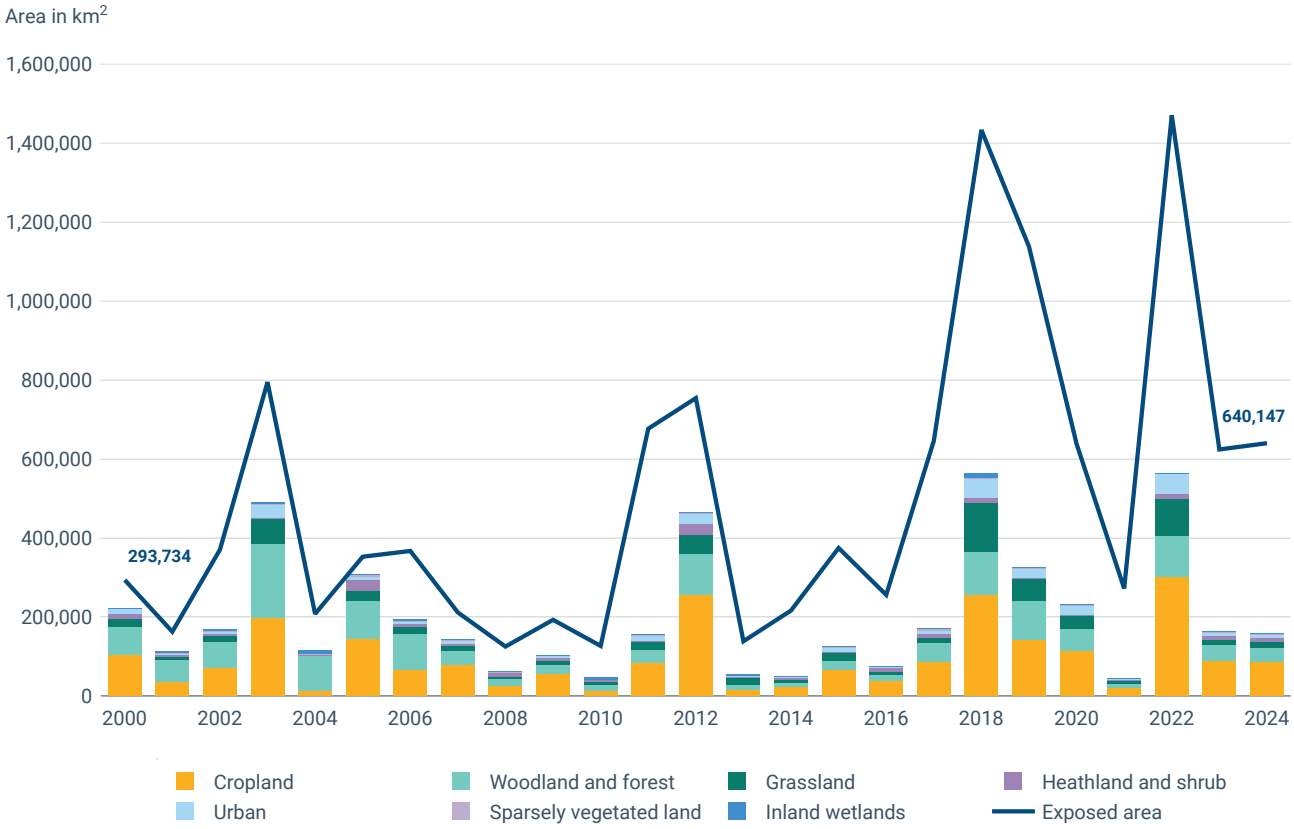
For more references and additional information, including at country level, see the full indicator version.

2.2 Drought impact on ecosystems

Will the area impacted by drought decrease in the coming years?

Likely off track. The strength and frequency of drought events is projected to increase, and it remains uncertain whether current climate change adaptation strategies are sufficient to keep pace with increasing risks.

Figure 2.2 Annual area exposed (line) and impacted by drought (bars), EU



Notes: Drought exposure is defined as the area experiencing strong deficit in soil moisture compared to the 2000-2020 baseline. Drought impact is defined as the area where vegetation productivity did not return to the 2000-2020 baseline conditions due to drought.
Access the interactive chart here.

Sources: EEA; Copernicus Land Monitoring Service and Copernicus Emergency Service.

Relevance and policy target

- A drought impacted area is defined as the area where vegetation productivity did not return to the 2000-2020 baseline conditions due to drought. The area exposed to drought is defined as the area experiencing a strong deficit in soil moisture compared to the 2000-2020 baseline.

- Droughts hamper nature's ability to deliver a wide range of environmental, economic, social and biodiversity benefits. Droughts also impact the EU's ability to achieve its climate change mitigation [(2)(34)] and adaptation [(35)] aims. It is therefore important that the EU takes action to decrease the severity of impacts and strengthens ecosystem resilience against droughts.

- As set out in the European Water Resilience Strategy [(12)], droughts and water scarcity are an increasing challenge in the EU, both for the environment, economy and society at large.

Indicator past trend (2000-2024): increase ↑
Latest value (2024): 157,000 km^2

- In 2024, drought had an impact on 156,703km^2 or 3.7% of EU land — slightly above the 2000-2020 baseline of around 152,000km^2 (3.5%). While impacts eased compared with the devastating record 2022 drought, low precipitation, high evaporation and heatwaves fuelled by climate change continued to stress European ecosystems.

- In 2024, severe droughts exposed 601,193km^2 across Europe, with vegetation productivity failing to return to the baseline productivity levels on the area of 156,703km^2. Drought impacts showed an east-west divide: eastern Europe and the eastern Mediterranean regions faced widespread dryness, while western regions had wetter than usual conditions [(36)].

- Over 25 years, the areas impacted by the soil dryness and incomplete vegetation recovery to baseline conditions have increased, with 2024 values exceeding the 2000-2020 baseline.

- The two most affected land cover types were croplands and forests, which sequester large amounts of carbon and provide important habitats for wildlife. Heathlands and shrubs as well as sparsely vegetated areas were also impacted but to a much smaller extent. Heathlands are among the most biodiverse areas in the EU and hold significant carbon storage potential, whereas impacts on sparsely vegetated areas could contribute to desertification.

2030 outlook

- The EU is likely off track to reduce drought-affected areas by 2030.

- The extent of drought-affected areas increased over the examined period. Due to climate change, the frequency and intensity of heatwaves is projected to increase [(21)(37)], whereas in the continental and Mediterranean regions, summer precipitation is projected to decrease [(38)].

- This means that drought-affected areas may not decrease by 2030 if EU and national adaptation strategies and adaptive land and water management practices are not put in place in a timely manner to mitigate the future impacts of droughts.

For more references and additional information, including at country level, see the full indicator version.

8TH EAP THEMATIC PRIORITY OBJECTIVE

A regenerative circular economy

3 A regenerative circular economy

A wellbeing economy that gives back to the planet more than it takes and accelerates the transition to a circular economy

A sustainable economy is a prerequisite for a well-being economy. In 2020 the EU adopted the Circular Economy action plan [39] to ensure that resources in the EU economy remain in use for as long as possible and that when they become waste, they are properly managed. Building on this, the 8th Environment Action Programme aims for a regenerative circular economy that gives back to the planet more than it takes.

In order to capture progress towards a regenerative circular economy, the European Commission 8th EAP monitoring framework includes two indicators and corresponding targets for 2030:

- an indicator on raw material consumption to monitor whether the EU will significantly decrease its per capita material footprint;
- an indicator on total waste generation to monitor waste prevention efforts to significantly reduce per capita EU waste generation by 2030.

The indicator assessment results are summarised further below. In short, the EU is likely off track to meet the targets for these two indicators by 2030. Economic growth has so far been a key driver behind the trends in both cases. At the same time the potential of circular technologies and processes for fully decoupling economic growth from primary resource consumption and waste generation has not been exploited sufficiently.

Legislation already in place to prevent waste generation and improve waste management — including through recycling and the reuse of materials — has contributed to a relative decoupling of raw material consumption and waste generation from economic growth. Therefore, significant additional efforts to reduce the EU's consumption of primary natural resources and move further towards a circular economy are needed to reach the 2030 targets.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

Methodology key

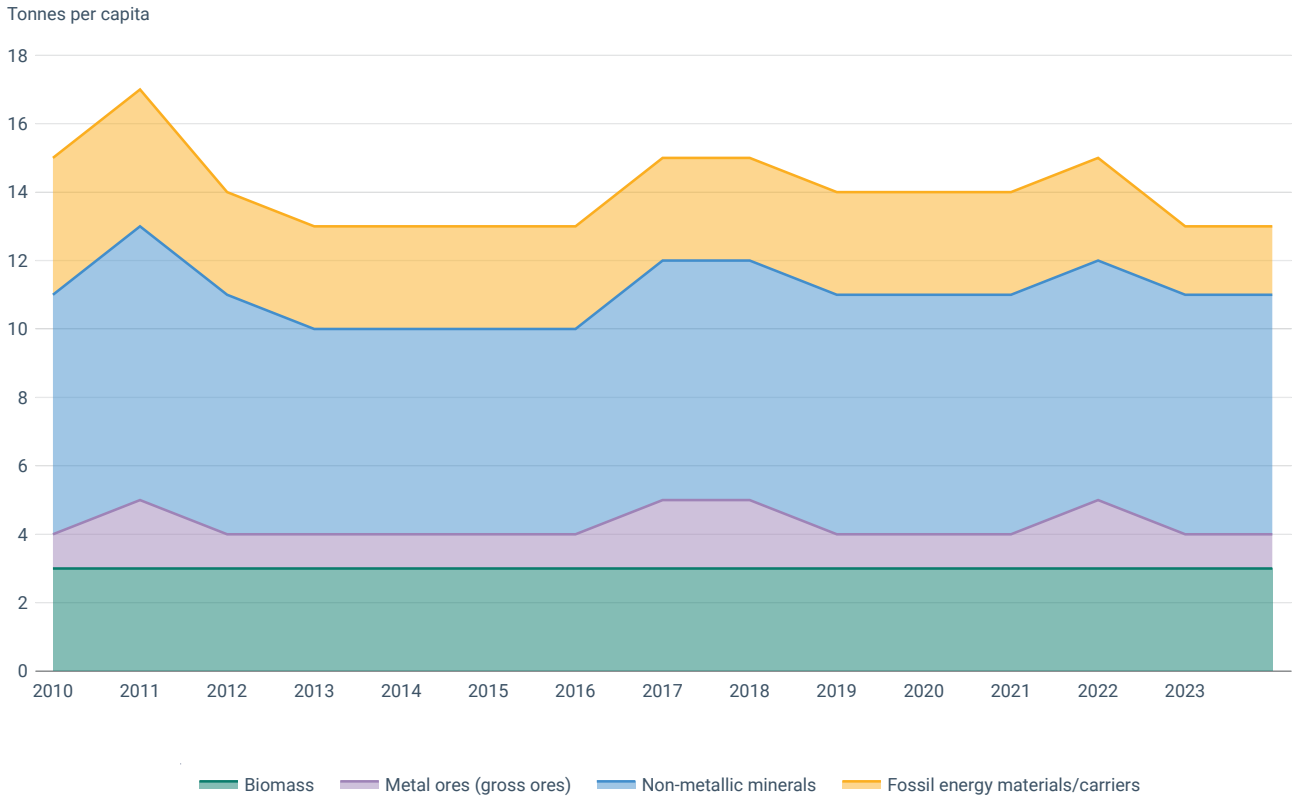
Will the objective be met by 2030?	
On track	There is a high degree of confidence that the objective will be met by 2030
Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
Off track	There is a high degree of confidence that the objective will not be met by 2030

3.1 Raw material consumption (also known as material footprint)

Will those who live in the EU significantly decrease their material footprint in the coming years?

Likely off track. There has been no real decrease in this area and projections show increases in future demand for materials in the EU. While 2023 saw a sharp drop, the 2024 data show no change, leaving it uncertain whether this reduction will be sustained.

Figure 3.1 **EU material footprint, expressed in tonnes of raw material equivalent per capita**



Note: Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- The material footprint shows the amount of extraction, both inside and outside the EU, of raw materials needed to produce the goods and services that the EU consumes. It provides an overall measure of resource use; it does not directly capture the heterogeneous impacts arising from the consumption of different material types.

- The 8th EAP aims to decrease the EU's material footprint significantly in order to safeguard precious natural resources and reduce the significant environmental and climate impacts from extraction and processing of these resources, such as biodiversity loss and climate change.

Indicator past trend (2010-2024): stable →
Latest value (2024): 14.1 tonnes of raw material equivalent per capita

- Between 2010 and 2024 the EU's material footprint decreased by 5.5% and in 2024 it stood at 14.1 tonnes per capita. The extraction of non-metallic minerals (e.g. gravel and sand), which mainly serves the construction sector, accounts for about half of the material footprint and is largely responsible for the overall trend in the 2010-2024 period. Yet, non-metallic minerals have a lower environmental and climate impact than metals and fossil fuels because they are mostly composed of inert materials such as gravel or limestone.

- In 2024, the EU's material footprint remained unchanged from 2023, following a sharp decrease of 6.2% in the previous year, mainly driven by a decrease in the consumption of fossil fuels and metals (resulting from the geopolitical response to the war in Ukraine).

- The EU's current material footprint is higher than the global average and exceeds the planet's 'safe operating space' [(40)] for resource extraction. In other words, if the whole world were to consume resources at the level of the EU, it would exceed the capacity of the planet to provide these resources [(41)(42)].

2030 outlook

- The EU is likely off track to decrease its material footprint significantly this decade.

- It is anticipated that the horizontal and product group-specific requirements foreseen under the Ecodesign for Sustainable Products Regulation will have a substantial effect on resource consumption, for example through the extension of product lifetimes.

- There has been only limited progress in reducing the EU's material consumption footprint over the years. Projections for material use — such as the Organisation for Economic Co-operation and Development (OECD) Global Material Resources Outlook — indicate that there will be an increase in future demand for materials in the EU [(43)].

- Moving towards a circular economy could decouple economic activity from raw material consumption by substituting primary raw materials with recovered materials. Overall, significant efforts are needed to reduce consumption and material extraction alongside a switch to goods and services that require less material.

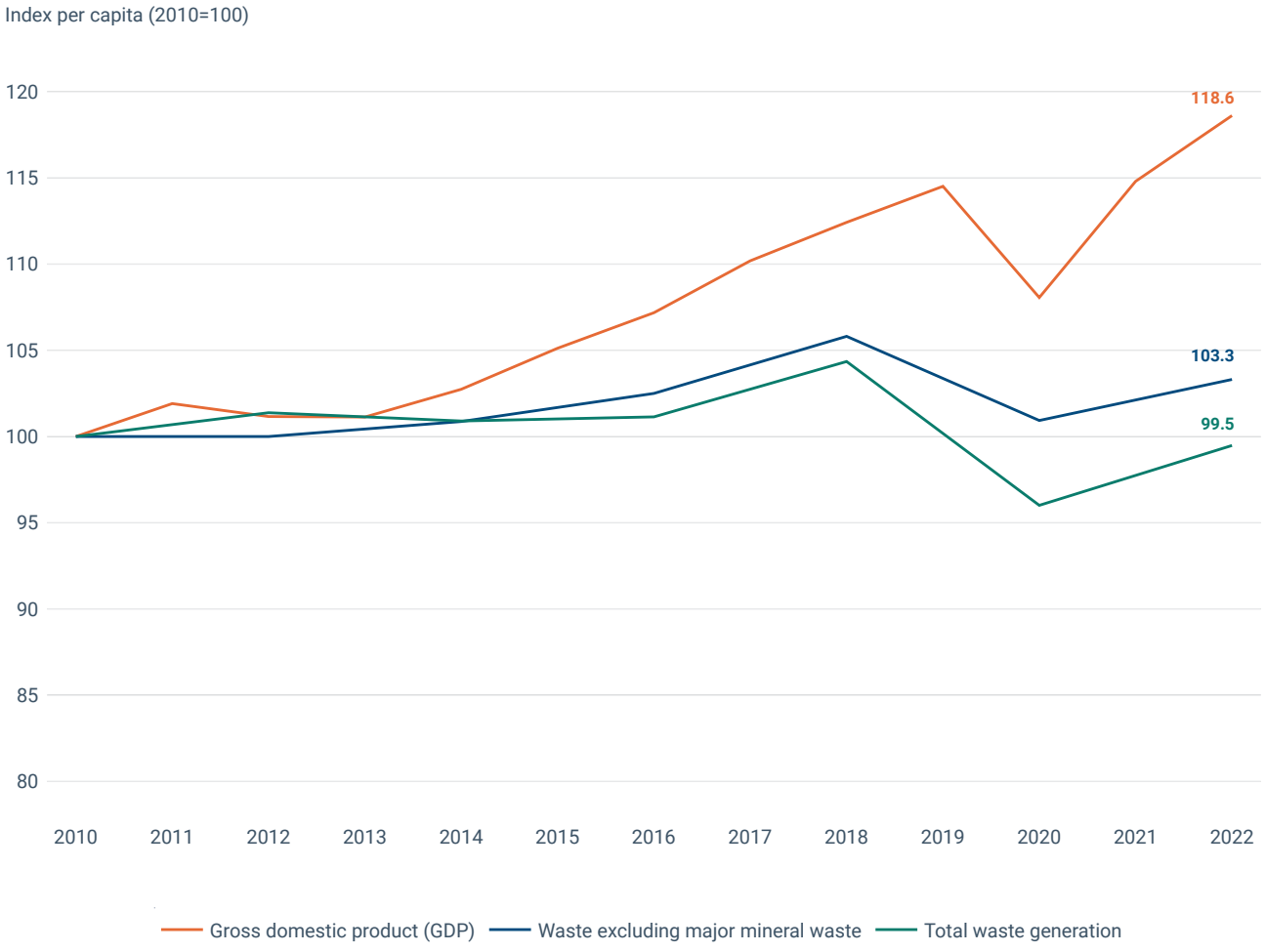
For more references and additional information, including at country level, see the full indicator version.

3.2 Total waste generation (h)

Will those who live in the EU significantly reduce the total amount of waste they generate by 2030?

Likely off track. Historically, waste generation has closely followed economic growth trends and economic growth is expected to be positive in the coming years. Policies in place can nevertheless limit the effect of economic growth on waste generation.

Figure 3.2 Waste generation and decoupling, EU



Note: Access the interactive chart here.

Source: Eurostat.

(h) This indicator assessment is identical to that presented in the 2024 edition of the report since 2024 data were not available at the time of publication. This indicator follows a biennial update cycle.

Relevance and policy target

- Reducing the generation of waste safeguards material and energy resources and reduces the environmental impacts associated with producing products and managing waste.
- The Circular Economy Action Plan aims to significantly reduce total waste in the EU by 2030.

Indicator past trend (2010-2022): stable →
Latest value (2022): 5.0 tonnes per capita

- Between 2010 and 2022, total waste generation in the EU decreased slightly, by 0.5% or 26kg per capita, to reach 5 tonnes per capita in 2022. Following a decline in waste generation in 2018-2020, driven by the COVID-19 pandemic and the ensuing economic slowdown, waste generation per capita increased to almost the same levels as in 2010.
- Although total waste generation remained stable, there were some variations in underlying waste streams. Sorting residues almost doubled in the 2010-2022 period (indicating increases in the collection of recyclable waste), while excavated soils and mineral waste, from construction and demolition, increased by more than 100kg per capita. This was largely offset by a decrease in the generation of other mineral waste, by around 400kg per capita over the same period.

2030 outlook

- It is unlikely but uncertain that per capita total waste generation will significantly decrease by 2030.
- Economic growth has been a key driver of waste generation trends [44] and EU GDP growth rates are projected to remain positive in the coming years [45]. Waste prevention and management policies currently in place could limit the causal relationship between GDP growth and waste generation [46].
- It would require substantial additional effort, in terms of implementing circular economy measures including waste prevention, to sustain the decrease in waste generation in the future. The Ecodesign for Sustainable Products Regulation, which has now been adopted, calls for more durable, repairable and recyclable products and has the potential to directly improve the CMUR if implemented swiftly and comprehensively.

For more references and additional information, including at country level, see the full indicator version.

8TH EAP THEMATIC PRIORITY OBJECTIVE

Zero pollution and a toxic-free environment

4 Zero pollution and a toxic-free environment

Pursuing zero pollution to achieve a toxic-free environment

EU citizens are already benefiting from years of successful environmental policies that have contained or reduced the emissions of key pollutants to the air, water and soil. However, pollution still harms human health and the environment. The 8th Environment Action Programme (EAP) pursues a zero pollution goal to achieve a toxic-free environment. The European Commission's Zero Pollution Action Plan, a key deliverable of the European Green Deal, underpins the implementation of the 8th EAP and includes actions to reduce pollution by 2030 and to achieve levels that are no longer harmful to human health and natural ecosystems by 2050.

To capture the progress on efforts to reduce pollution, the European Commission's 8th EAP monitoring framework includes two indicators and corresponding 2030 targets:

- an indicator on premature deaths attributed to exposure to fine particulate matter to monitor whether the EU will reduce such deaths by at least 55% compared to 2005 levels by 2030;
- an indicator on nitrates in groundwater to monitor whether the EU will reduce nutrient losses into groundwater resources by at least 50% by 2030.

The indicator assessment results are summarised further below. The target for reducing premature deaths attributed to fine particulate matter was achieved in 2023, with a 57% reduction compared with 2005 levels. The achieved reductions need to be sustained and enhanced. Continued implementation of existing legislation and new legislation are expected to further reduce premature deaths attributed to fine particulate matter. As such, it is anticipated that the measures taken will be sufficient to meet the 2030 target.

For groundwater quality, the EU remains likely off track to reduce nutrient losses into groundwater by 50% by 2030 due to limited progress to date. This is despite the fact that legislation has been in place for several decades. Most of these losses result from excessive fertiliser use. Some progress is expected by 2030 thanks to additional initiatives under the European Green Deal, for example the Zero Pollution Action Plan, although these are unlikely to be sufficient to meet the target in full.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

Methodology key

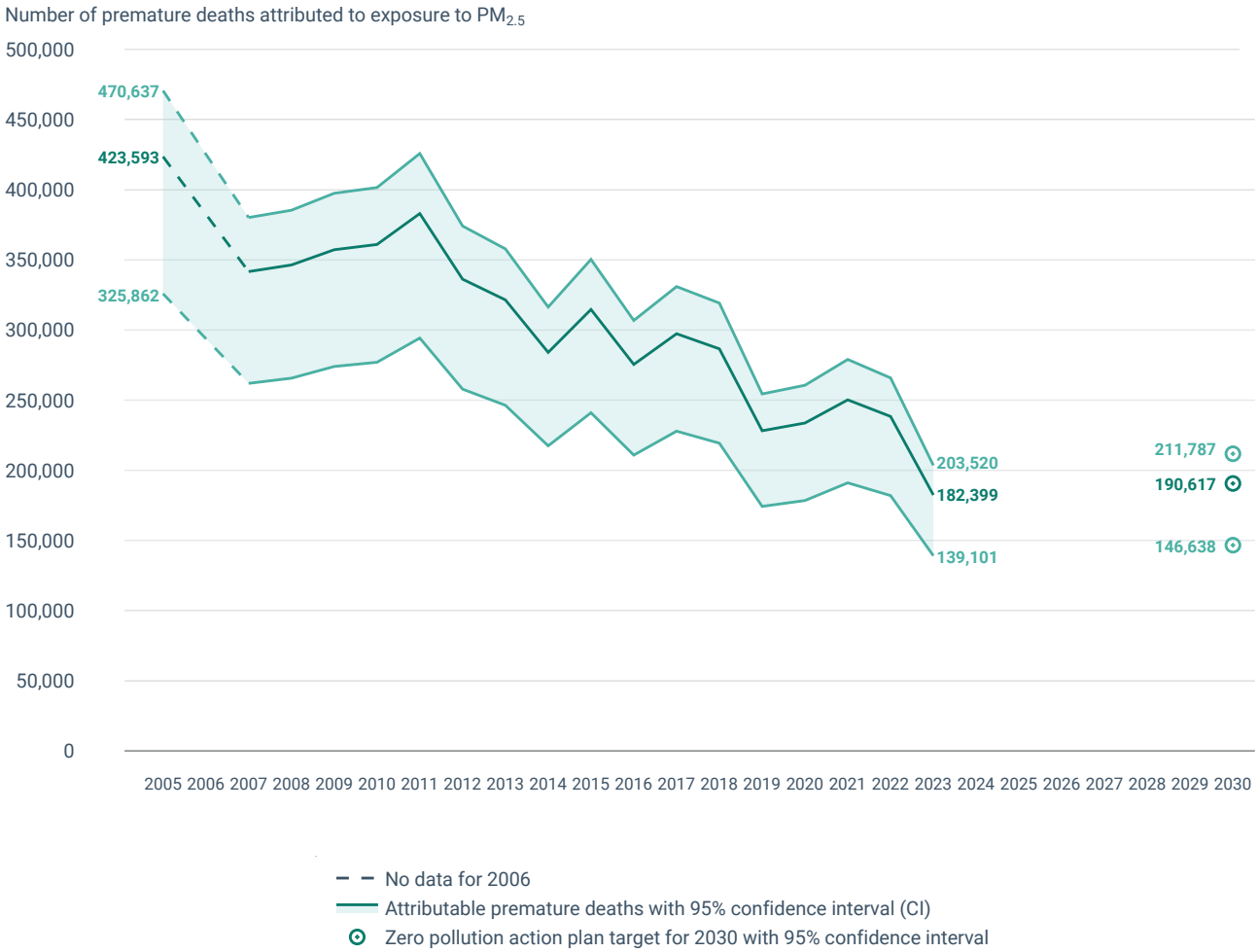
Will the objective be met by 2030?	
On track	There is a high degree of confidence that the objective will be met by 2030
Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
Off track	There is a high degree of confidence that the objective will not be met by 2030

4.1 Premature deaths due to air pollution (exposure to fine particulate matter)

Will they be reduced by 55% from 2005 levels by 2030?

On track. In 2023 the target to reduce premature deaths due to air pollution by 55% by 2030 had been met, with data showing such deaths had reduced by approximately 57% compared with 2005. The achieved reductions need to be sustained and enhanced. Despite ongoing improvements, there were still 182,000 premature deaths attributable to $PM_{2.5}$ in the EU in 2023.

Figure 4.1 **Premature deaths attributable to exposure to fine particulate matter ($PM_{2.5}$), EU**



Note: Access the interactive chart here.

Source: EEA.

Relevance and policy target

- Air pollution is a major cause of mortality and disease in Europe and is the largest environmental health risk [47]. Fine particulate matter ($PM_{2.5}$) is the air pollutant with the strongest evidence for adverse health outcomes [48].

- The European Commission's zero pollution action plan sets a target of reducing the health impacts of air pollution (estimated by the number of premature deaths attributable to $PM_{2.5}$) by at least 55% by 2030, compared to the 2005 level.

Indicator past trend (2005-2023): decrease ↓
Latest value (2023): 182,000 premature deaths attributable to exposure to fine particulate matter

- Between 2005 and 2023, the number of premature deaths in the EU attributable to exposure to $PM_{2.5}$ above the WHO air quality guideline of 5µg/m^3 fell by 57%. Despite ongoing improvement, 182,000 premature deaths in the EU were attributable to air pollution in 2023.

- The decline in premature mortality was the result of implementing EU and derived national and local policies to improve air quality and to reduce emissions of air pollutants. These policies succeeded in reducing $PM_{2.5}$ emissions, as well as $PM_{2.5}$ precursor emissions, in particular from sources in the domestic heating, industry and transport sectors [49].

2030 outlook

- With 2023 data showing an approximately 57% reduction compared with 2005, the target has been achieved and needs to be maintained.

- Measures to reduce $PM_{2.5}$ emissions (as well as $PM_{2.5}$ precursor emissions of ammonia (NH_3), sulphur dioxide (SO_2) and nitrogen oxides (NO_x)) and $PM_{2.5}$ concentrations need to be maintained and enhanced to make sure that the levels achieved in 2023 are maintained and further improved in the coming years with a view to achieving the long-term (2050) zero pollution objective.

- The *4th Clean Air Outlook* [50] and the *Zero pollution monitoring and outlook 2025* [15] reports project a decline in premature deaths from air pollution of approximately 62-68% by 2030 compared to 2005, across all modelled scenarios.

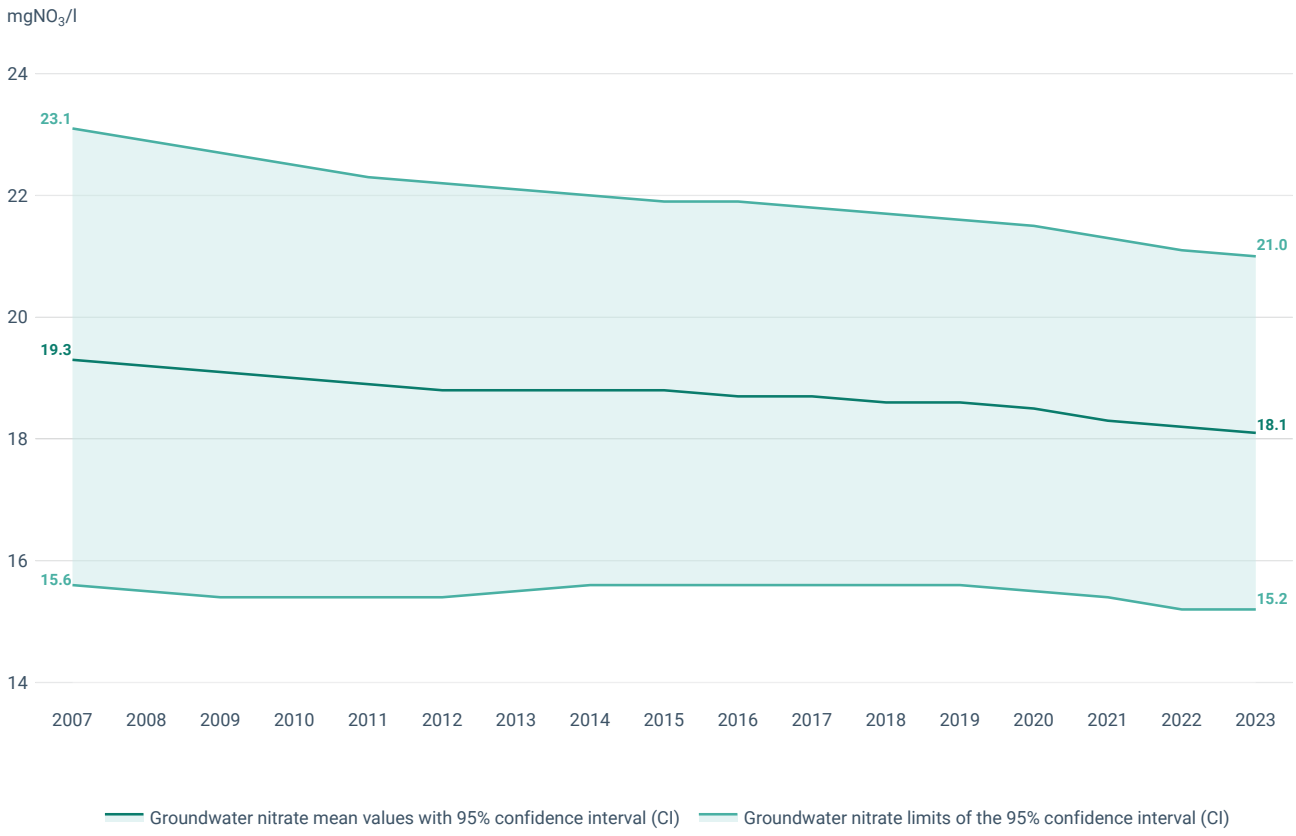
For more references and additional information, including at country level, see the full indicator version.

4.2 Nitrates in groundwater

Will nutrient losses into safe groundwater resources decrease by at least 50% by 2030?

Likely off track. Although average nitrate concentrations in groundwater have decreased slowly, current trends suggest the EU is likely off track to meet the 2030 target.

Figure 4.2 Nitrates in groundwater, EU



Note: Access the interactive chart here.

Source: EEA.

Relevance and policy target

- Nutrients such as nitrogen not absorbed by plants are lost to the environment. When present in excessive amounts, they become pollutants. This includes high levels of nitrate (NO_3) in groundwater, which poses a threat to the environment and to human health [(51)(52)].

- The European Green Deal, with its Zero Pollution Action Plan, the Biodiversity Strategy for 2030 and commitment on nutrient pollution reduction in the Kunming-Montreal Global Biodiversity Framework, sets a goal for the EU to reduce nutrient losses to the environment (air, water and soil) by 50% by 2030.

- Several directives address nitrogen losses to the environment. The Water Framework Directive aims to ensure pollutant concentrations, including nitrates, should not exceed water quality standards. The Drinking Water Directive and Groundwater Directive set the maximum allowable concentration for nitrate at 50mg NO_3/l to protect human health and drinking water resources. The Nitrates Directive requires Member States to implement measures to reduce pollution of groundwaters with nitrates of agricultural origin.

Indicator past trend (2007-2023): stable →
Latest value (2023): 18.1 milligrams of average nitrate concentration per litre of groundwater

- Despite the slow decline between 2007 and 2023 the average NO_3 concentration in EU groundwater remained at approximately 18.1mg NO_3/l in 2023. In the most recent analysis of groundwater concentrations reported under the Nitrates Directive covering the period 2016-2019, 14.1% of groundwater monitoring stations exceeded the maximum allowable concentration of 50mg NO_3/l. This is comparable to the 13.2% observed in the previous reporting period of 2012-2015 [(53)].

- Mineral fertilisers and manure are the main sources of nitrate concentrations in EU groundwater. An estimated 80% of the nitrogen discharge to the EU aquatic environment comes from agriculture [(51)(53)].

2030 outlook

- It remains unlikely that nutrient losses to groundwater will decrease by 50% by 2030 across the EU. However, in recognition of the seriousness of the problem, the broad portfolio of measures under the European Green Deal, Water Resilience Strategy [(12)] and biodiversity strategies, zero pollution ambition and the European Climate Law [(2)], in combination with the Common Agricultural Policy (CAP, 2023-2027) [(54)], should lead to improvements.

- The analysis by the EC Joint Research Centre (JRC) modelled impacts, in a high ambition scenario, of improvements in domestic wastewater treatment and reductions in nutrient emissions to air. It used measures under the CAP 2023-2027, needed to achieve the biodiversity strategy, that are particularly relevant for reducing groundwater nutrient load. While these projected reductions would be substantial, they still fall below the target for a 50% reduction in nutrient losses. These reductions alone will not result in the EU reaching its target [(15)].

For more references and additional information, including at country level, see the full indicator version.

8TH EAP THEMATIC PRIORITY OBJECTIVE

Biodiversity and ecosystems

5 Biodiversity and ecosystems

Protecting and restoring terrestrial and marine biodiversity and ecosystems

Society and the economy fundamentally depend on healthy, resilient ecosystems and biodiversity for essential services such as the provision of food, clean air and water, climate regulation, as well as mental and physical well-being. The EU Biodiversity Strategy for 2030, launched in 2020, aims to put Europe's biodiversity on the path to recovery by 2030 for the benefit of people, climate and the planet. The 8th Environment Action Programme builds on the biodiversity strategy and aims to protect, preserve and restore Europe's biodiversity by 2030 and beyond. These policies also contribute to meeting the EU's commitments under the Kunming-Montreal Global Biodiversity Framework.

To capture progress towards key objectives for biodiversity conservation and restoration, the European Commission's 8th EAP monitoring framework includes four indicators and corresponding targets to be met by 2030:

- an indicator on the EU common bird index, to monitor whether the decline in populations of common birds will be reversed by 2030;
- two indicators on designated terrestrial and marine protected areas to monitor whether overall coverage of protected areas will reach at least 30% of the EU's land and sea area by 2030;
- an indicator on EU forest connectivity to monitor whether the degree of forest connectivity will increase, with a view to creating and integrating ecological corridors and increasing climate change resilience.

The indicator assessment results are summarised further below. In summary, the EU is likely off track to meet any of the four biodiversity and ecosystem-related monitoring targets under this priority objective by 2030. A common reason for this across the indicators is the high pressure on terrestrial, freshwater and marine ecosystems from socio-economic sectors such as agriculture, fisheries and urban development.

If the 2030 targets are to be met, Member States will need to make significant additional efforts to improve implementation, introduce new measures to restore biodiversity and further mainstream biodiversity into policies such as the Common Agricultural and Fisheries policies. The adoption of the Nature Restoration Regulation and the Directive on soil monitoring and resilience [(11)] marks a potential watershed moment for restoring biodiversity and ecosystems, along with the benefits they provide.

However, there will be a time lag between the implementation of measures and the final outcomes in terms of improved biodiversity. The EU Biodiversity Strategy dashboard that tracks progress towards the targets under the EU biodiversity strategy for 2030 points to a similar set of conclusions [(55)].

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

Methodology key

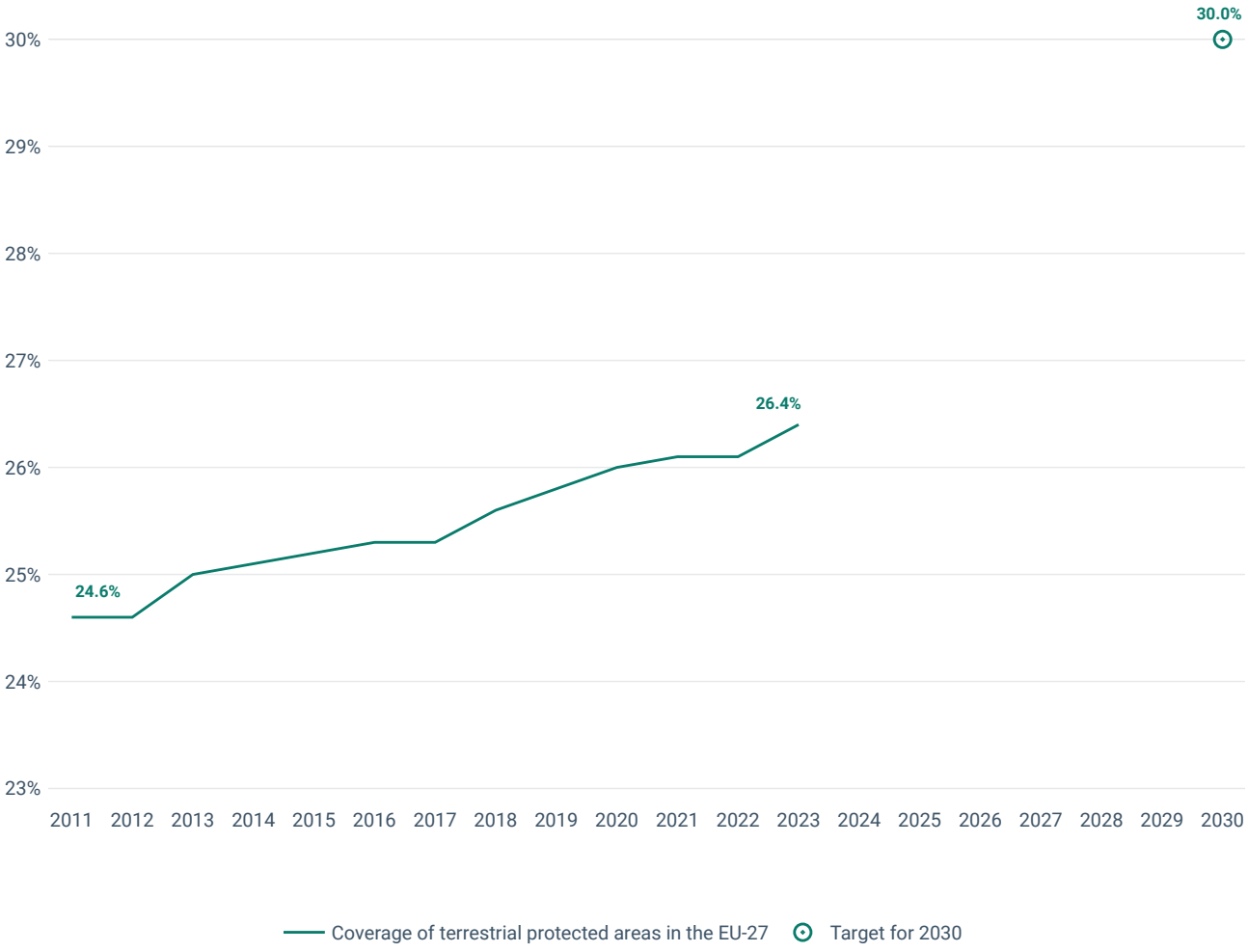
Will the objective be met by 2030?		
	On track	There is a high degree of confidence that the objective will be met by 2030
	Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
	Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
	Off track	There is a high degree of confidence that the objective will not be met by 2030

5.1 Designated terrestrial protected areas

Will at least 30% of the EU's land be legally designated as terrestrial protected areas by 2030?

Likely off track. The pace of progress has been slow over the past 10 years and will have to more than double to reach the 2030 target.

Figure 5.1 **Coverage of the designated terrestrial protected area, EU**



Note: Access the interactive chart here.

Sources: EEA; EuroGeographics.

Relevance and policy target

- Terrestrial protected areas benefit species, habitats, ecosystems and the environment overall; they also contribute to human health and well-being. Protected areas provide economic and employment opportunities and have significant cultural value.

- The EU Biodiversity Strategy for 2030 sets the target of legally protecting and effectively managing a minimum of 30% of EU land.

Indicator past trend (2011-2023): increase ↑
Latest value (2023): 26.4%

- Over the 2011-2023 period, the share of protected EU land increased from 24.6-26.4%. This was mainly driven by designations to fulfil the Natura 2000 network requirements — a network of protected areas designated under the EU Birds Directive and Habitats Directive — and to a lesser extent by complementary national designations [(56)].

- Overall slow progress reflects a combination of competing high land-use pressures such as from agricultural production, forestry and bioenergy, transport and urban development, as well as complex legal and administrative procedures and varying levels of political commitment and administrative capacity across Member States [(57)].

2030 outlook

- It is likely that the EU is off track to meet the 2030 target.

- The overall area of the EU reported as protected has steadily increased since 2011, by 1.8 percentage points. The pace of designating new protected areas will need to more than double compared to that of the past decade to meet the 2030 target.

- The designation of protected areas is not in itself a guarantee that biodiversity will be protected. It is important to manage the sites effectively and in a way that ensures spatial and functional connectivity between them.

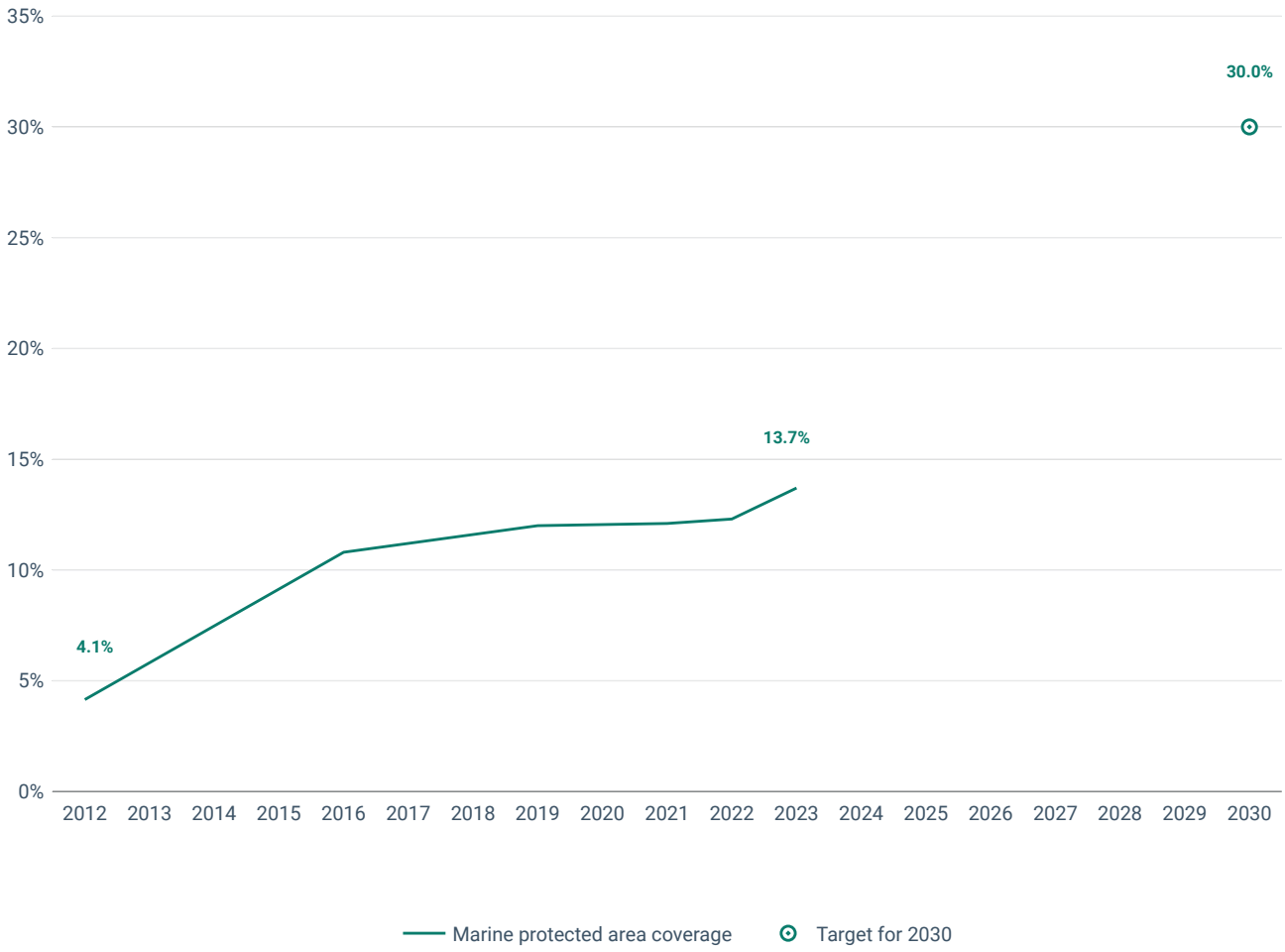
For more references and additional information, including at country level, see the full indicator version.

5.2 Designated marine protected areas

Will at least 30% of the EU's sea areas be legally designated as marine protected areas by 2030?

Likely off track. Despite steady progress over the years, the pace of designation must more than double to reach the 2030 target. Additional pledges submitted by Member States in 2023 will determine the prospects of achieving the target.

Figure 5.2 Marine protected area coverage, EU



Note: Access the interactive chart here.

Sources: EEA; HELCOM Secretariat; OSPAR Commission; SPA RAC (SPAMI Barcelona Convention).

Relevance and policy target

- Marine protected areas play a key role in maintaining biodiversity and conserving coastal and marine ecosystems. They also provide significant economic and societal benefits and support local livelihoods.
- The EU biodiversity strategy for 2030 set the target for at least 30% of the EU sea area to be legally protected and well managed by 2030.

Indicator past trend (2012-2023): increase ↑
Latest value (2023): 13.7%

- Over the last decade, the total area covered by marine protected areas in the EU has increased substantially — from 4.15% in 2012 to 13.7% in 2023. This increase is mainly due to the expansion of the Natura 2000 network — a network of protected areas designated under the EU Birds Directive and Habitats Directive — while complementary national designations have also contributed [58].

2030 outlook

- The EU is likely off track to meet the 2030 target.
- The starting point is low and, in order to meet the target, the annual rate of increase would need to more than double compared to that observed since 2012.
- To be effective, new marine protected areas designations need to be defined based on sound scientific analysis; these need to be ecologically representative, coherent and connected and it is necessary to ensure that all marine protected areas are well managed.

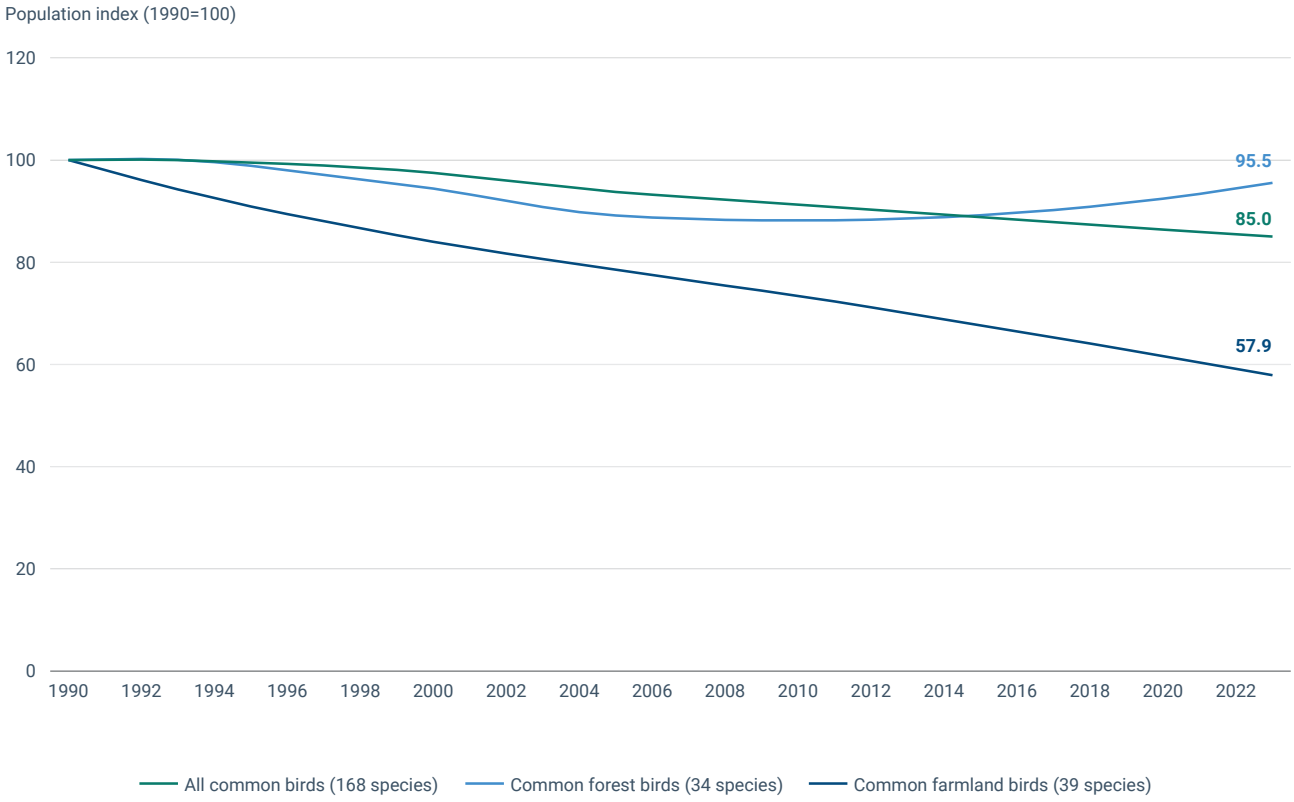
For more references and additional information, including at country level, see the full indicator version.

5.3 Common birds

Will the decline in the population of common birds reverse by 2030?

Likely off track. There has been a steady decline in the population of common birds, driven by the continuing decline in the numbers of common farmland birds; this is unlikely to be reversed by 2030.

Figure 5.3 Common bird index, EU



Note: Access the interactive chart here.

Sources: European Wild Bird Indices, 2024 update, European Bird Census Council, BirdLife International, Royal Society for the Protection of Birds, Czech Society for Ornithology.

Relevance and policy target

- Common birds are sensitive to environmental pressures. Their population numbers can reflect changes in ecosystems and other animal and plant populations, making them good indicators of biodiversity and environmental health.

- The EU has taken action to protect all wild bird species present in EU territory since the adoption of the Birds Directive in 1979. The directive protects rare and threatened as well as common species. Special Protected Areas (SPA), established as part of Natura 2000 network, help protect threatened species and their habitats.

- The EU biodiversity strategy for 2030 aims to put Europe's biodiversity on a path to recovery by 2030. The EU Nature Restoration Regulation paves the way for the restoration of a broad range of ecosystems, with obligations to achieve increases in the indices for farmland and forest bird populations.

Indicator past trend (1990-2023): decrease ↓
Latest value (2023): 85 (1990=100)

- The common birds index showed a 15% decline in the 1990-2023 period. The decline in common farmland birds over the same period was much more pronounced (42%), while the common forest bird index decreased by 4.5%.

- The decline in farmland birds has mainly been caused by intensive agricultural management and land use changes [(59)], partly driven by increasing competition for land for producing renewable energy and biofuels [(60)(61)(62)]. Other factors that have adverse effects on the recovery of common bird populations include climate change [(63)] and illegal killing.

2030 outlook

- It remains unlikely that the steady decline in the population of farmland birds can be reversed by 2030, as there are currently no signs of a slowdown in the decline or recovery. This trend is expected to continue exerting downward pressure on the common bird index as a whole. The EU Nature Restoration Regulation could be a watershed moment, as it introduces binding restoration targets and requirements to improve trends in the numbers of farmland and forest birds. However, the design, scale and timing of restoration measures will be critical in determining their measurable impact.

- To ensure the recovery of common birds, Member States will need to strengthen the implementation of existing biodiversity conservation and restoration policies and design new, targeted measures. EU policies such as the CAP need to include more effective and ambitious measures to halt biodiversity loss and encourage Member States to make full use of the biodiversity support opportunities available under the CAP [(64)].

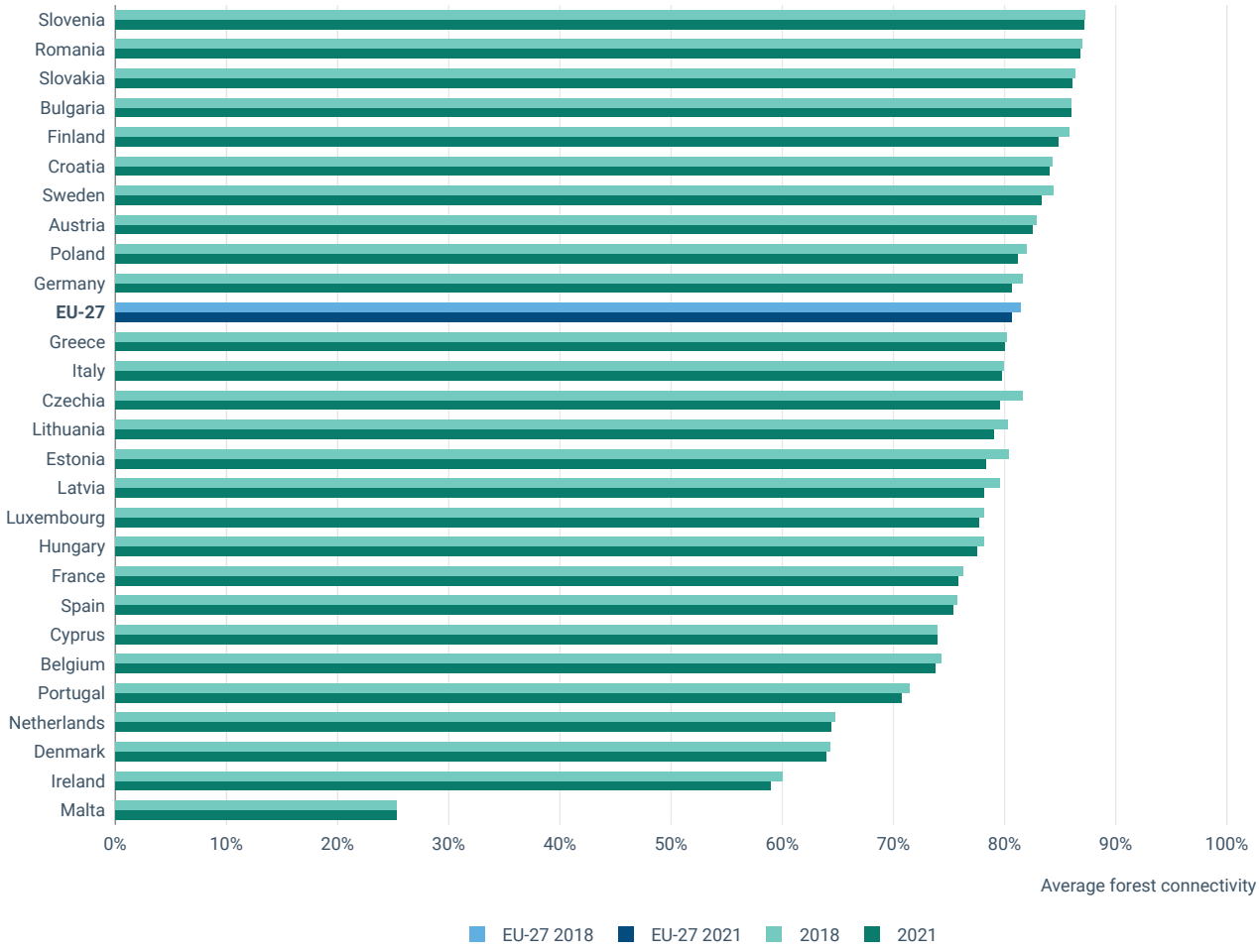
For more references and additional information, including at country level, see the full indicator version.

5.4 Forest connectivity ([i])

Will the degree of connectivity in forest ecosystems increase in the coming years?

Likely off track. The potential positive effects on forest connectivity of measures undertaken under the EU forest and biodiversity strategies and the Regulation on Nature Restoration will take a long time to bear fruit. In contrast actions which break forest connectivity can have immediate effects.

Figure 5.4 **Change in average forest connectivity in EU member states**



Note: Access the interactive chart here.

Sources: EEA (methodology: Joint Research Centre).

([i]) This indicator assessment is identical to that presented in the 2024 edition of the report due to the fact that data for 2024 were unavailable at the time of publication. This indicator follows a three-year update cycle.

Relevance and policy target

- Increasing the connectivity of forested landscapes is a key measure towards improving biodiversity and the ecological functions of forests [65]. Forest connectivity is promoted by the Nature Restoration Regulation, the Forest Strategy for 2030 and the Biodiversity strategy for 2030, which include a pledge to plant at least 3 billion additional trees by 2030.

Indicator past trend (2018-2021): decrease ↓
Latest value for forest connectivity (2021): 80.6%

- In 2021, the EU average for forest connectivity (i) was 80.6%, a decrease of 0.8% compared to 2018.

- Average forest connectivity was stable (less than 0.1% change) in four countries. Almost all other countries saw a decrease in average forest connectivity, with decreases of more than 1.5% in Estonia, Czechia and Latvia due to logging, partly related to storms and bark beetle outbreaks.

- Historically, forests have become fragmented because of conversion to cropland and pastures, urbanisation and infrastructure developments [66][67]. Storms, forest fires and pests have also contributed to fragmenting forest cover.

2030 outlook

- The EU is likely not on track to improve forest connectivity by 2030 [68].

- Full and timely implementation of the Nature Restoration Regulation, forest and biodiversity strategies will have positive effects on forest connectivity. They will promote biodiversity-friendly afforestation, reforestation and the restoration of forest ecosystems. However, even if fully implemented, the effects of most of these measures will only become apparent after 2030 because of the time lag between actions in the field and improved connectivity.

- On the other hand, actions increasing forest fragmentation — such as deforestation, storms, wildfires and pests — can have immediate effects. Measures to prevent and mitigate these phenomena as well as to increase forest resilience may reduce the risk of connectivity being lost due to natural hazards, which will likely intensify with climate change.

For more references and additional information, including at country level, see the full indicator version.

(i) This indicates that on average, 80.6% of the 10-hectare area surrounding a 100m² forest pixel was covered by forest or other woody features. The indicator is calculated only on cells of the grid covered by or adjacent to forest land.

8TH EAP THEMATIC PRIORITY OBJECTIVE

Environmental and climate pressures related to EU production and consumption

6 Environmental and climate pressures related to EU production and consumption

Reducing environmental and climate change pressures, and moving towards environmental sustainability

Promoting environmental aspects of sustainability and significantly reducing key environmental and climate pressures related to the European Union's production and consumption are central to the success of its environment and climate policy. The EU's 8th Environment Action Programme has recognised this and made it one of the priority objectives for 2030.

In order to capture progress towards this objective, the European Commission's 8th EAP monitoring framework includes five indicators and corresponding 2030 targets:

- an indicator on energy consumption to monitor whether the EU will reduce primary and final energy consumption l levels to 992.5 and 763 million tonnes respectively of oil equivalent by 2030;
- an indicator on renewable energy sources to monitor whether the EU will increase the share of renewable energy sources in gross final energy consumption to at least 42.5% by 2030;
- an indicator on circular material use rate to monitor whether the EU share of recycled material in overall material use will double by 2030 compared to 2020;
- an indicator on public transport to monitor whether there will be an increase in the share of buses and trains in inland passenger transport in the EU;
- an indicator on organic farming to monitor whether the share of the EU's agricultural land that is organically farmed increases to at least a quarter by 2030.

The indicator assessment results are summarised further below. In summary, despite observed progress, the prospects of meeting the 2030 targets are, at present, limited. Common denominators across all five indicators are the extent of the required changes, the speed at which they need to take place and the need for a deep transformation of the systems that underpin these five areas.

Achieving the targets will depend on reducing the consumption of energy and primary materials, increasing how efficiently they are used and facilitating sustainable choices by consumers and businesses in energy use, production and mobility patterns.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

Methodology key

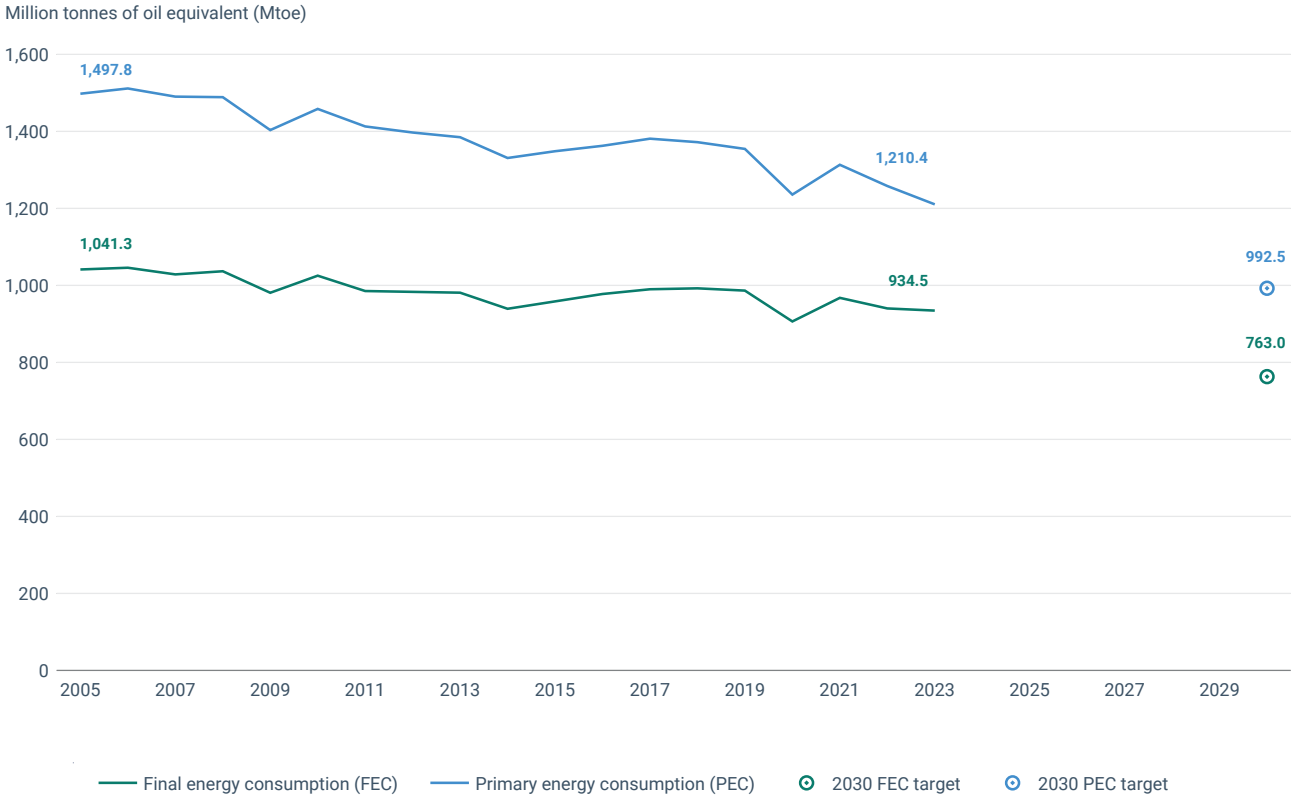
Will the objective be met by 2030?		
	On track	There is a high degree of confidence that the objective will be met by 2030
	Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
	Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
	Off track	There is a high degree of confidence that the objective will not be met by 2030

6.1 Energy consumption

Will primary and final energy consumption levels fall to 992.5 and 763 million tonnes of oil equivalent respectively by 2030?

Likely off track. Recent final energy consumption declines are encouraging. Achieving both targets will require sustaining a faster rate of reduction in the second half of the decade, underscoring the need for continued decisive action at both the national and EU levels.

Figure 6.1 Primary and final energy consumption, EU



Note: Access the interactive chart here.

Sources: EEA; Eurostat.

Relevance and policy target

- Reducing energy consumption reduces the costs associated with it, decreases energy dependence and reduces the environmental and climate impacts of energy supply and use.
- The EU has a binding target to bring final energy consumption (FEC) levels down to 763 million tonnes of oil equivalent (Mtoe) by 2030 [(69)]. Final energy consumption is the energy consumed by end users such as households and transport.
- The EU also aims to reduce the levels of primary energy consumption (PEC) to no more than 992.5Mtoe [(69)] by 2030. PEC represents the total energy demand within a country, including losses through the production and distribution of the energy to end users.

Indicator past trend (2005-2024): decrease ↓
Latest value (2024): FEC: 886 million tonnes oil equivalent (Mtoe), PEC: 1,224Mtoe

- Over the 2005-2024 period, FEC fell by 13% and PEC by 18%.
- The ongoing substitution of fossil fuels and nuclear energy with typically more efficient renewable energy in electricity generation, coupled with improvements in energy transformation processes, have contributed significantly to the observed reduction in primary energy consumption.
- Energy saving and energy efficiency measures, structural changes towards less energy-intensive industries and gradually warmer winters because of climate change have been the main reasons for the decrease in final energy consumption.

2030 outlook

- The EU is likely off track to meet its 2030 PEC and FEC targets.
- The long-term historical trend indicates the EU is not yet on track to meet its targets. However, recent figures give grounds for some optimism with three consecutive years of promising reductions in FEC. A more ambitious rate of reduction would need to be sustained through to the end of this decade for both targets to be met, highlighting the importance of maintaining decisive action at the national and EU levels.
- A continued deep and fast transformation of the energy sector is necessary if the targets are to be met. To maximise benefits, new measures will be needed to empower users to operate in response to the system's needs.

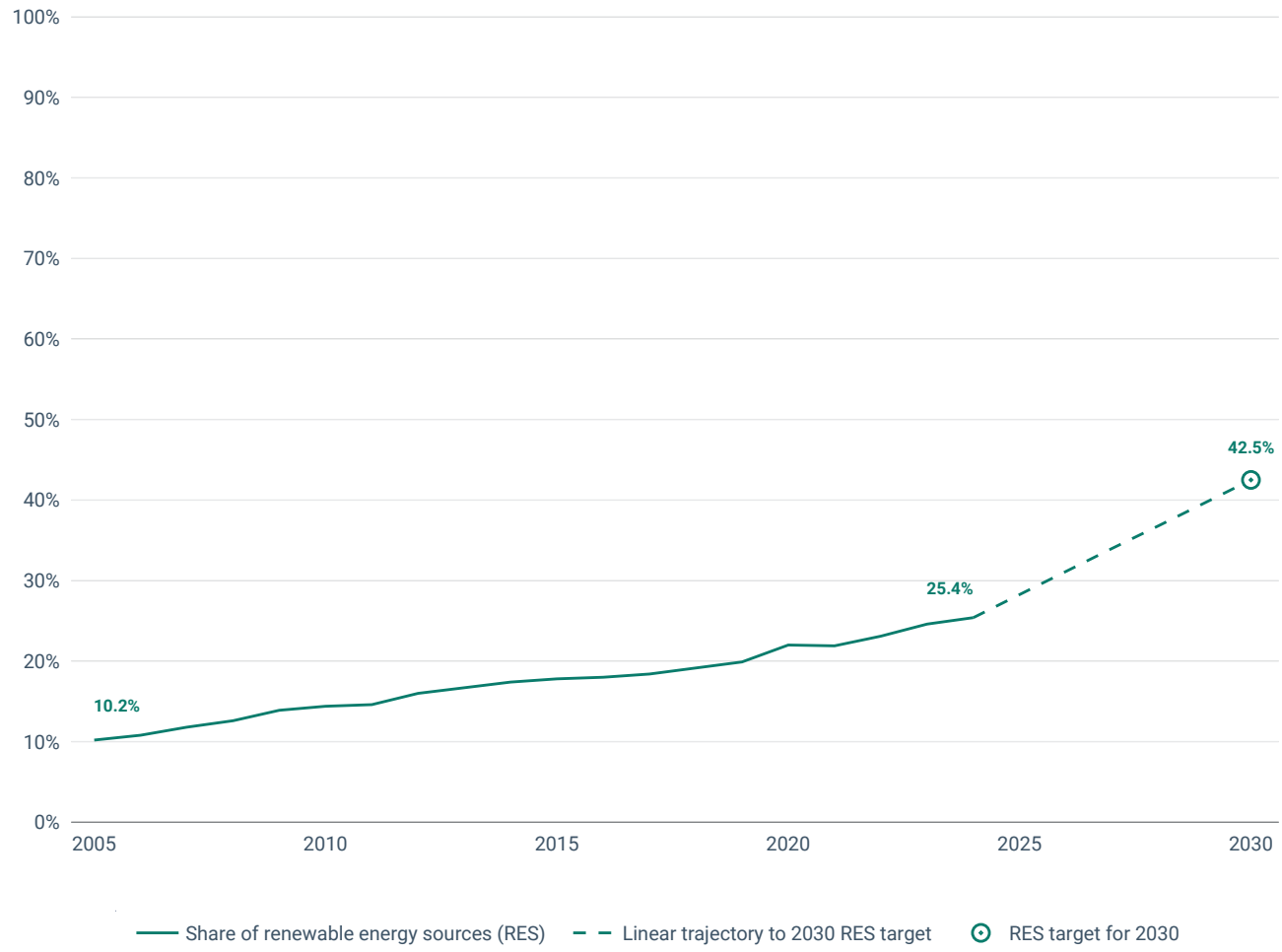
For more references and additional information, including at country level, see the full indicator version.

6.2 Renewable energy sources

Will the share of renewable energy in gross final energy consumption reach at least 42.5% by 2030?

Likely off track. Achieving the 2030 target would require doubling the rates of renewables deployment seen over the past decade. Recent rapid deployment of renewable energy technologies — in particular solar and wind power — and heat pumps provides some grounds for optimism in meeting the 2030 target.

Figure 6.2 **Share of renewable energy in gross final energy consumption, EU**



Note: Access the interactive chart here.

Sources: Eurostat; EEA.

Relevance and policy target

- An increase in the use of renewable energy has multiple benefits for society, such as mitigating climate change, reducing the emission of air pollutants and improving energy security.

- The revised Renewable Energy Directive increases the binding target from 32% to a minimum 42.5% share of renewables in EU energy consumption by 2030, with the aim of achieving 45% [70].

Indicator past trend (2005-2024): increase ↑
Latest value (2024): 25.4%

- The EU's renewable energy share has more than doubled between 2005 and 2024, reaching 25.4% in 2024, according to early estimates by the EEA. Progress so far is attributed to dedicated policies and support schemes, as well as the improved economic competitiveness of renewable energy sources.

- The fastest deployment of renewables in 2024 continued to occur in the power sector, with 47% of all electricity generated from renewable sources. This was followed by the heating and cooling sector (27%) and transport (11%).

- In 2024, solid, gaseous and liquid biomass resources remained the most significant sources in the renewable energy mix; they accounted for nearly half (46%) of all renewable energy consumption. Wind (18%), hydro power (12%) and solar photovoltaics (11%) were the next three largest renewable energy sources, followed closely by heat pumps and liquid biofuels (both accounting for an 8% share of all renewable energy use).

2030 outlook

- The EU is likely off track to meet its target by 2030. To reach the target, the average annual increase in the share of renewable energy sources up to 2030 would need to be more than twice the rate observed over the past decade.

- Nevertheless, modelling from the International Energy Agency (IEA) [71] and Ember [72] indicates that reaching the new 42.5% target might be feasible if fast and decisive action is taken to promote renewables and reduce energy consumption. The EEA report *Renewables, electrification and flexibility for a competitive EU energy system transformation by 2030* echoes these findings and outlines levers to enhance the energy transition. The surprisingly rapid deployment of technologies such as solar photovoltaic and heat pumps in recent years also provides some optimism.

- If the target is to be met, a deep transformation of the European energy system, encompassing all sectors, is needed this decade.

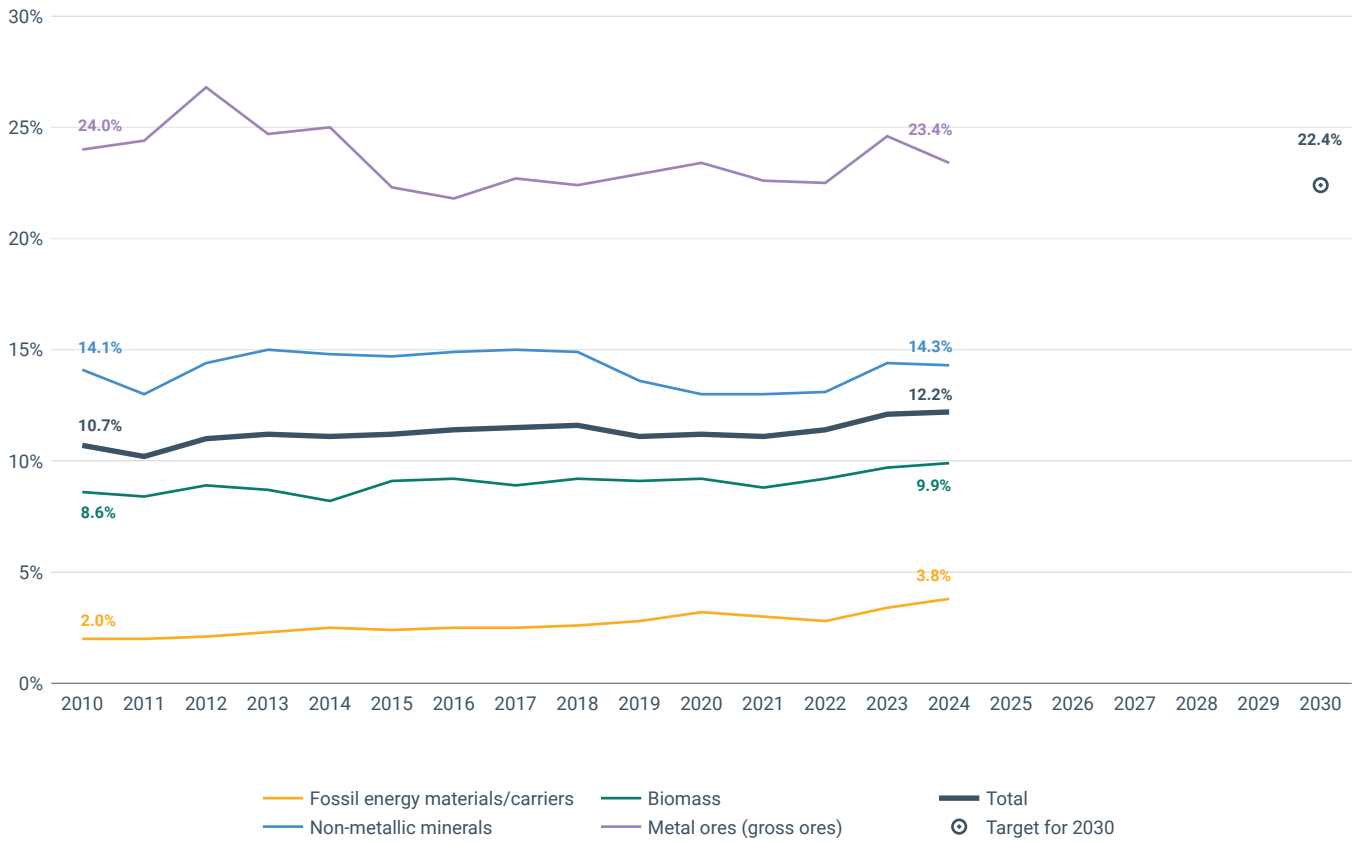
For more references and additional information, including at country level, see the full indicator version.

6.3 Circular material use

Will the rate of circular material use double by 2030 from 2020 levels?

Off track. Meeting the target requires the circular material use rate to grow annually by 1.7 percentage points, more than the total increase achieved since 2010. Progress has been very slow, and projections indicate increasing demand for materials in the EU by 2030.

Figure 6.3 **Circular material use rate in the EU and breakdown by material group**



Note: Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- The circular material use rate (CMUR measures the share of recycled material that is fed back into the economy compared with overall material use. Increasing the CMUR — whether by increasing the amount of recycled waste or decreasing the amount of primary material used (e.g. through reuse) or both — would reduce the amount of primary material extracted and the associated negative impacts on the environment and climate. It would also improve the EU's economic security by reducing its reliance on primary resources, including imported materials.

- The EU circular economy action plan [39] aims to double the CMUR by 2030 compared to 2020. More recently, this commitment was reinforced by the Clean Industrial Deal which includes a key performance indicator of 24% for the CMUR by 2030.

Indicator past trend (2010-2024): increase ↑
Latest value (2024): 12.2%

- The CMUR increased from 10.7% in 2010 to 12.2% in 2024. The positive trend up to 2022 was largely driven by increased waste recycling, while between 2022 and 2024 it resulted from a decrease in domestic material consumption, mainly due to decreased use of metals.

- Non-metallic minerals account for more than 50% of total material consumption and their CMUR has increased slightly since 2010. CMURs for biomass and fossil-based materials have also increased between 2010 and 2024. CMURs vary across material groups — 23.4% for metal ores in 2024 and only 3.8% for fossil materials. This reflects the different nature of materials: metals are technically easier and more economical to recycle, while fossil fuels are mostly burned and thus cannot be recycled.

2030 outlook

- Meeting the target of doubling the CMUR would require an increase from 12.2% in 2024 to 22.4% by 2030 ([i]), implying an increase of 1.7 percentage points per year. This exceeds the total increase achieved since 2010 and is very unlikely, given the slow CMUR increase in the previous decade and OECD projections that there will be increased demand for virgin materials in the EU by 2030 [43].

- Reaching the 2030 target would require significant additional efforts. Such efforts could include reducing material consumption through reuse, product-life-time extension, streamlining of circular business models or substantially boosting recycling. Reducing the use or increasing reuse/recycling for the bigger material groups — non-metallic minerals and metals — has a greater potential for increasing the CMUR. However, not all material groups have the same environmental impacts. Consequently, to maximise the environmental benefits, measures should also focus on reducing the EU's consumption of fossil energy materials and increasing the sustainability of biomass production [73].

- The Ecodesign for Sustainable Products Regulation promotes more durable, repairable and recyclable products and has the potential to directly improve the CMUR. However, most impacts are expected only after 2030, as product-specific requirements will start to apply from 2027 and measurable effects will depend on market uptake over subsequent years.

For more references and additional information, including at country level, see the full indicator version.

([i]) Following a downward revision of the 2020 estimates by Eurostat for the rate of circular material use, an increase to 22.4% by 2030 would now be required to meet the target of doubling the rate.

6.4 Buses and trains

Will the share of collective transport modes (buses and trains) in inland passenger transport increase in the coming years?

Likely off track. There has not been any real progress in shifting a larger share of passengers to the more sustainable transport modes provided by public transport and there is currently no comprehensive policy framework to promote such a shift.

Figure 6.4 Share of buses and trains in total inland passenger transport activity, EU

Note: Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- Promoting sustainable and more efficient transport modes such as collective passenger transport reduces greenhouse gas emissions and other environmental pressures such as air pollution and noise [(74)]. The EU Sustainable and Smart Mobility Strategy as part of the European Green Deal called for decisive action to decarbonise transport and increase passenger use of public transport such as buses and trains.

Past trend (2005-2023): stable →
Latest value (2023): 16.9%

- From 2005 to 2019, the share of collective transport as a proportion of total inland passenger transport remained relatively constant at around 17%.
- While the share fell sharply in 2020, mainly due to travel restrictions and changed mobility habits brought about by the COVID-19 pandemic and its aftermath [75], by 2023 it had nearly recovered to pre-pandemic levels, reaching 16.9%.

2030 outlook

- The EU has adopted a number of policies and initiatives, like the revised TEN-T Regulation and the EU Urban Mobility Framework. These have been further supported by the EC recommendation to Member States to support cities in preparing, monitoring and implementing their sustainable urban mobility plans. Despite this, there has been a persistent lack of progress in recent years and the EU is likely off track to deliver a modal shift towards public transport in the coming years.
- Decisive actions are needed to implement a mix of solutions to encourage the use of public transport. This would require changes in the way Europeans commute and travel and in the way European cities are planned. In addition to increased availability and reliability of public transport that serves both urban and rural communities, public transport ticket prices need to be reduced. Additionally, digital solutions that promote intermodality and integrated ticketing are needed. Active and shared transport options, like walking and cycling are essential. Investments and funding are also needed to finance safe, clean and modern infrastructure to ensure fair access to more sustainable public transport for all [76].
- Although public transport is a matter of subsidiarity and the responsibility of countries/regions/local areas, several policy and legislative initiatives at the EU level aim to promote the use of active and collective modes of transport. These include the new EU Urban Mobility Framework and the adoption of the European Declaration on Cycling.

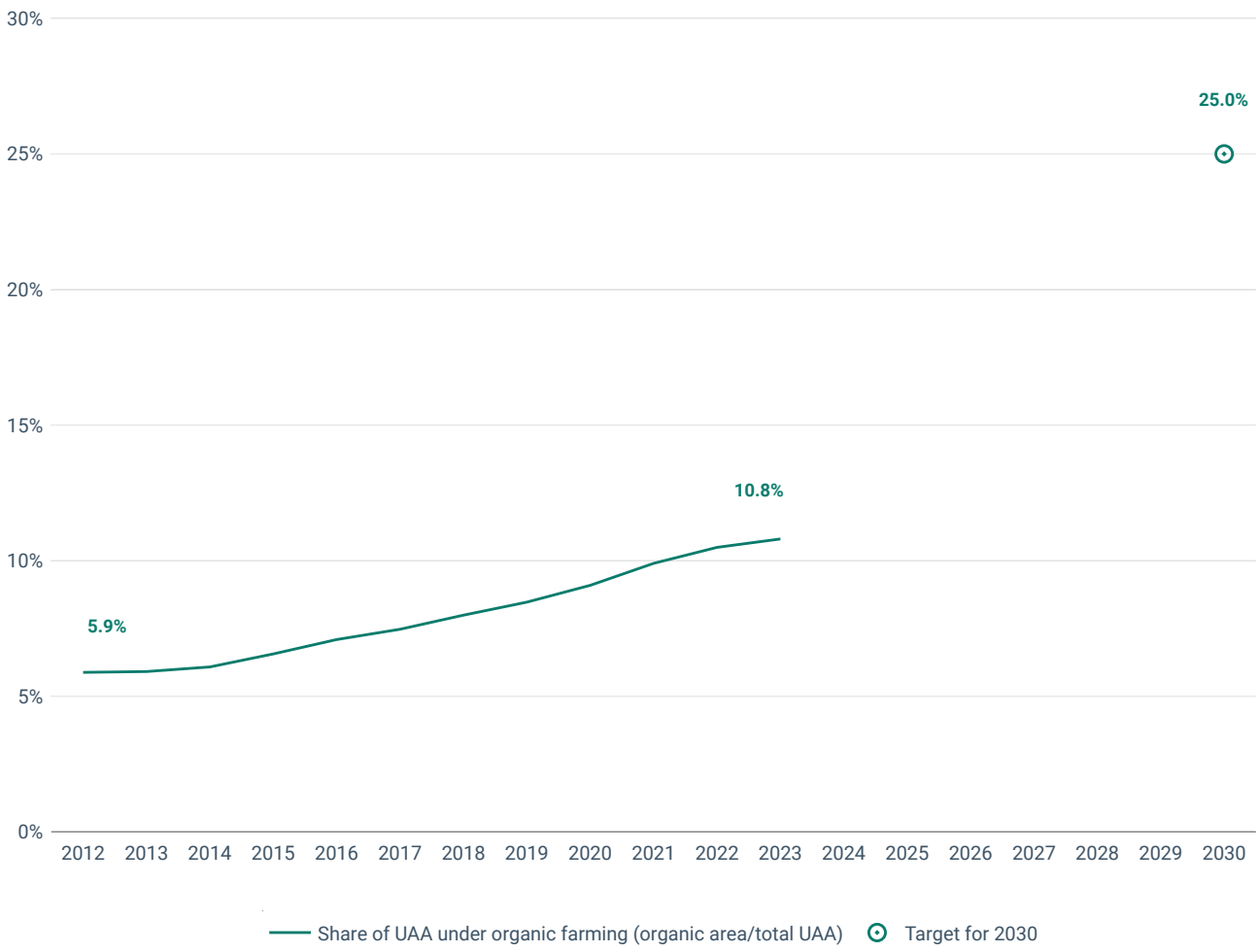
For more references and additional information, including at country level, see the full indicator version.

6.5 Organic farming

Will the share of organic farming expand to at least 25% of EU agricultural land by 2030?

Off track. Achieving this target would require the current growth pace to more than double compared to that observed in the past decade. Current policies in place and public support are expected to increase the share of organic farming but not sufficiently to meet the 2030 target.

Figure 6.5 **Share of utilised agricultural area (UAA) used for organic farming, EU**



Note: Access the interactive chart here.

Sources: Eurostat.

Relevance and policy target

- Organic farming produces food using natural substances and processes; this benefits biodiversity, soil health, water quality and animal welfare.
- The European Green Deal and its Biodiversity Strategy for 2030 aim to have at least 25% of EU agricultural land organically farmed by 2030.
- In addition, the Vision for Agriculture and Food [77] confirms the importance of continuous support for organic farming.

Indicator past trend (2012-2023): increase ↑
Latest value (2023): 10.8%

- Organic farming has been continuously increasing since 2012 and in 2023, 10.8% of the EU's utilised agricultural area was being farmed organically — equivalent to 17.4 million hectares — as a result of dedicated measures and a growing demand for organic products.

2030 outlook

- Despite the progress, the EU is off track to meet the 25% target by 2030. Reaching the target would require the annual growth rate of organic farming to more than double, rising from 5.7% to 12.7% in 2023-2030.
- Continued increase in the share of organic farming is expected by 2030, driven inter alia by increasing policy support through the common agricultural policy (2023-2027) [54], initiatives under the EU Action Plan for the Development of Organic Production [78] and under the recent Vision for Agriculture and Food.
- However, the gaps in current EU and national policies point to a share of organic farming area lower than 25% in 2030 [79][80][81][82].
- To reach the target, a fundamental transformation of food production and consumption systems needs to be supported by accelerated development and the implementation of coherent policies, with increased ambitions and focused measures (on the production and consumption side).

For more references and additional information, including at country level, see the full indicator version.

8TH EAP

Enabling conditions

7 Enabling conditions

Conditions enabling achievement of the 8th Environment Action Programme priorities

The 8th Environment Action Programme sets out six 2030 environment- and climate change-related priority objectives and an objective of living well within planetary boundaries by 2050 at the latest. To meet these objectives, many enabling conditions need to be in place to foster systemic change towards a green and socially fair transition.

The European Commission's 8th EAP monitoring framework includes five indicators and corresponding 2030 targets to capture aspects of progress related to conditions that enable the fulfilment of the 8th EAP objectives:

- an indicator on environmental taxes to monitor whether there will be an increase in EU environmental taxes in total tax revenues;
- an indicator to monitor progress towards phasing out fossil fuel subsidies, without delay;
- an indicator on environmental protection expenditure to monitor whether EU spending on preventing, reducing and eliminating pollution as well as other environmental degradation will increase;
- an indicator on green bonds to monitor if the share of green bonds in the total bonds issued will increase in the EU;
- an indicator on the eco-innovation index to monitor if eco-innovation will increase in the EU.

The indicator assessment results are discussed in detail below. In short, the outlook for meeting the 2030 targets has deteriorated for two indicators, placing them likely off track. The share of environmental taxes in total revenues from taxes and social contributions is decreasing and environmental protection expenditure has declined in the last two consecutive years.

The EU is likely off track to reduce structural fossil fuel subsidies in line with the ambition of the 8th EAP. Although this assessment is based on 2023 data (as 2024 data were not available at the time of publication), the *State of the Energy Union Report 2025* [10] confirms the validity of this conclusion. In 2024, Member States allocated around 18% more public funds to fossil fuel subsidies than in 2021 [10], despite subsidy levels falling compared with 2022 and 2023.

Developments in green bonds and eco-innovation are, however, moving towards meeting the 2030 targets. The high environmental and climate ambition of the European Green Deal and related initiatives have been a key driver of these positive developments. Nevertheless, further efforts are required and the recently adopted legislation needs to be fully implemented to deliver the intended environmental and climate outcomes.

The European Commission estimates that achieving the environmental and climate change objectives of the European Green Deal and of REPowerEU will require investments of approximately EUR 620 billion per year between 2021 and 2030 [20]. While increases in the current EU budget and the establishment of the broader

sustainable finance framework [83] continue to mobilise capital towards sustainable investment it remains uncertain whether the measures in place will be sufficient to close the investment gap by 2030. The forthcoming expiry of the Recovery and Resilience Facility, created to support the EU recovery from the COVID-19 pandemic, is likely to create a funding gap in several Member States.

Looking forward, it is essential to scale up private investment, to complement public investment and accelerate the green transition.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

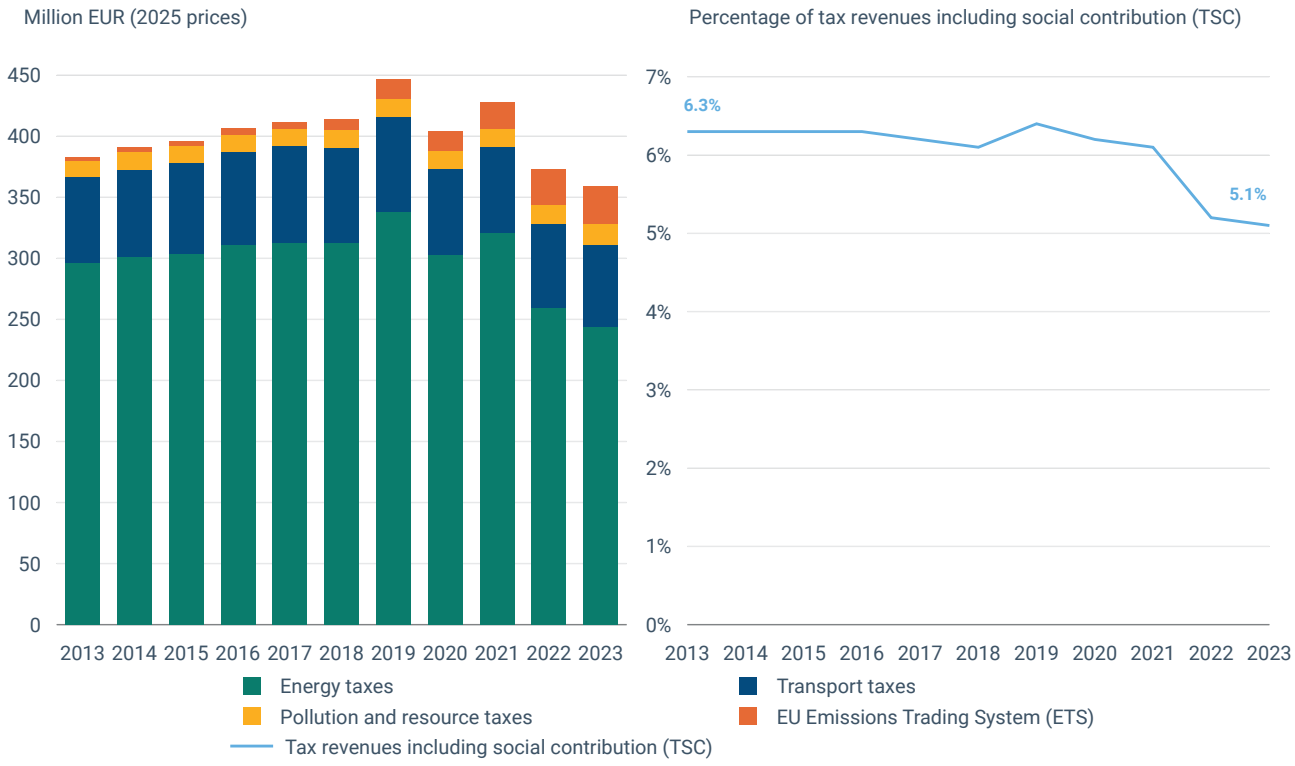
Methodology key		
Will the objective be met by 2030?		
	**On track**	There is a high degree of confidence that the objective will be met by 2030
	**Likely on track**	The objective appears likely to be met by 2030 but there is a low degree of confidence
	**Likely off track**	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
	**Off track**	There is a high degree of confidence that the objective will not be met by 2030

7.1 Environmental taxes

Will the share of environmental taxes in total revenues from taxes and social contributions increase in the coming years?

Likely off track. Despite the essential role of environmental taxation for the transition to a greener economy, the share of environmental taxes in total revenues from taxes and social contributions in the EU is decreasing. In 2023 this share was at its lowest level since 2013.

Figure 7.1 **Revenue from environmental taxes, in terms of absolute revenue and as a share (%) of total tax revenue including social contributions (TSC), EU**



Notes: Values are expressed in 2025 prices. In Eurostat's statistics, revenues from auctioning EU ETS emission permits are recorded as environmental tax receipts. However, the EU ETS is not a tax but a market-based instrument designed to reduce emissions; carbon prices are set by supply and demand rather than revenue-raising objectives.
Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- Environmental taxes provide price signals and incentives to producers and consumers to pollute less and use resources carefully. Making polluters pay is at the core of EU environmental policy [84].

- The Clean Industrial Deal [85] stresses that tax policies are vital for competitiveness, resilience and sustainability.

- The proposed revision of the Energy Taxation Directive aims to promote electrification, remove fossil fuel subsidies and align taxes with decarbonisation goals.

Indicator past trend (2010-2023): decrease ↓
Latest value (2023): 5.1%

- The share of environmental taxes as a proportion of total tax revenues dropped from 6.3% in 2010 to 5.1% in 2023. This decline can be attributed to the social and political challenges that governments face when maintaining or applying environmental taxes that increase the price of basic goods and services, such as food and energy. The social impact has been exacerbated in recent years as prices have risen sharply due to inflation. In response to these distributional impacts, EU instruments such as the Social Climate Fund have been established to support vulnerable households and mitigate the social costs of the green transition.
  In addition, revenues tend to decline over time as environmental taxes successfully deter spending on unsustainable goods.

2030 outlook

- The recently heightened ambition and augmented scope of the EU's emissions trading system suggests EU ETS revenue, included in this indicator, may increase by 2030 [86].

- Environmental taxes as a share of total taxes have persistently declined and they fell again in 2023. It is unclear if and to what extent environmental taxes will rebound or whether the expected revenue from the EU ETS will be sufficient to offset this drop in the future. In the long run, revenue from the EU ETS is also expected to reach a peak and then decline as more stringent GHG emission reduction requirements are introduced and drive down emissions. Progress in the EU's transition to a climate-neutral and green economy, while positive, will also erode the environmental tax base.

- This context makes it increasingly uncertain that there will be a rise in the share of environmental taxes in total tax revenues by 2030.

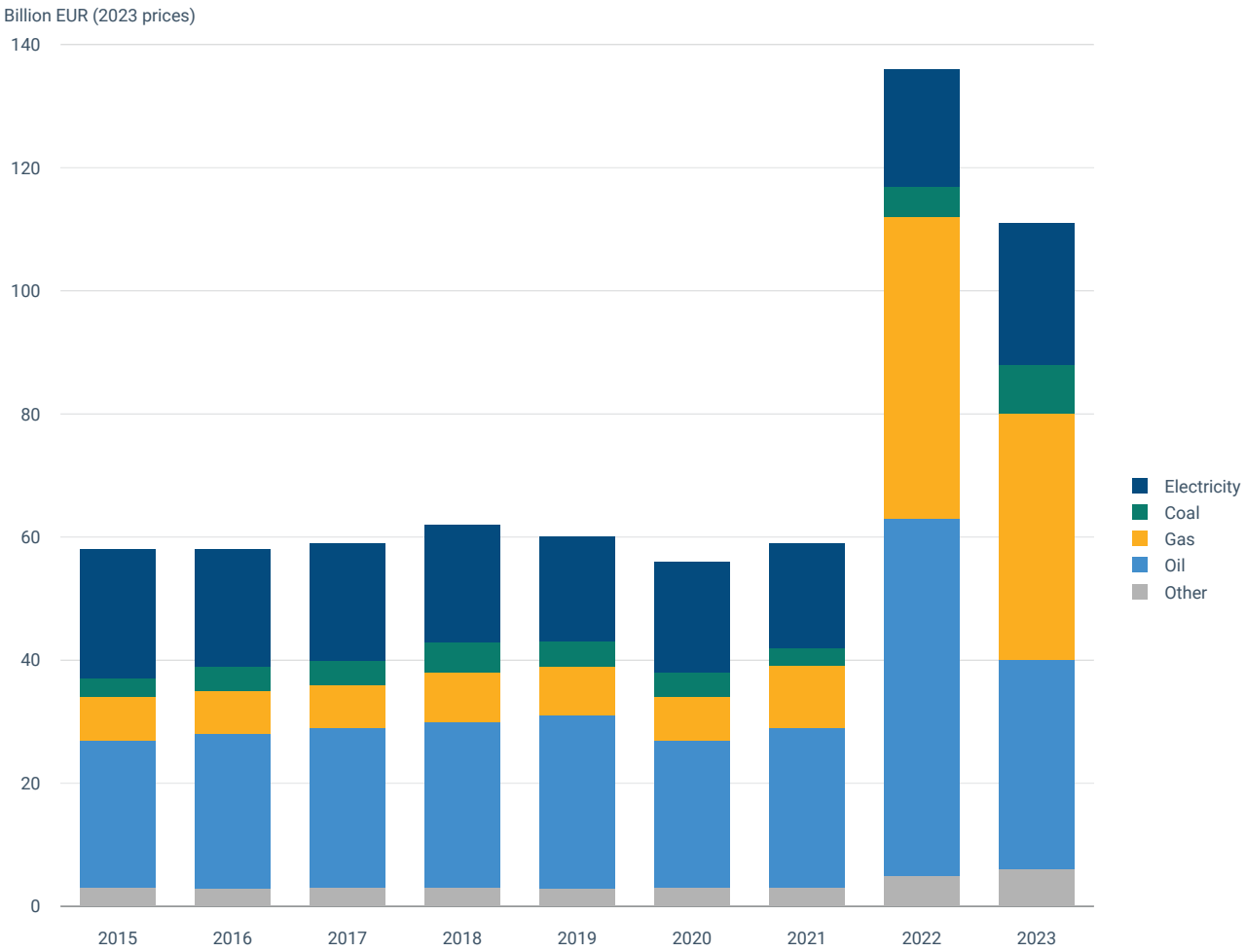
For more references and additional information, including at country level, see the full indicator version.

7.2 Fossil fuel subsidies ([1])

Will fossil fuel subsidies be reduced in the coming years with a view to phasing them out without delay?

Likely off track. A large number of fossil fuel subsidies are expected to be phased out by 2030 but many of these represent short-term crisis measures rather than longer-term structural ones. There is a lack of concrete plans to phase out the remaining structural fossil fuel subsidies in most EU countries.

Figure 7.2 Fossil fuel subsidies between 2015 and 2023 (in 2023 prices), EU



Notes: All monetary values are expressed in 2023 prices. Data for 2023 are provisional as fossil fuel subsidy figures (about 7% of total) are still under evaluation, with 2022 data used as a proxy. Access the interactive chart here.

Source: European Commission.

([1]) This indicator assessment text is identical to that presented in the 2024 edition of the report since 2024 data were not available at the time of publication.

Relevance and policy target

- Fossil fuels are non-renewable sources of energy, and their production and use contribute significantly to climate change and pollution.
- In line with international commitments, the 8th EAP calls for a phase-out of subsidies to fossil fuels such as coal, gas and oil without delay.

Indicator past trend (2015-2022, in 2023 prices):
stable (2015-2022) →, increase (2021-2023) ↑
Latest value (2023, preliminary, 2023 prices): EUR 111 billion

- Fossil fuel subsidies remained stable at around EUR 57-62 billion (2023 prices) over the 2015-2021 period, with almost half of the subsidies supporting oil and more than a quarter supporting natural gas.
- An increase in fossil fuel subsidies of almost 120% occurred between 2021 and 2022 in response to the high energy prices driven by the Russian invasion of Ukraine [87]. The strong subsidy support continued in 2023, although at a lower level (EUR 111 billion), as many of the crisis measures were prolonged despite the significant decrease in fossil energy prices.

2030 outlook

- The EU is likely off track to make much progress in phasing out structural fossil fuel subsidies by 2030.
- The sharp rise in subsidies in 2022, which largely continued into 2023, is considered temporary, as 43% of total fossil fuel subsidies in 2023 are set to end before 2025 [88].
- While a significant number of fossil fuel subsidies are due to be phased out by 2030, they are largely subsidies which were put in place as short-term crisis measures rather than long-term structural ones. There is a lack of concrete plans to phase out the significant remaining part of fossil fuel subsidies in most EU countries [87].

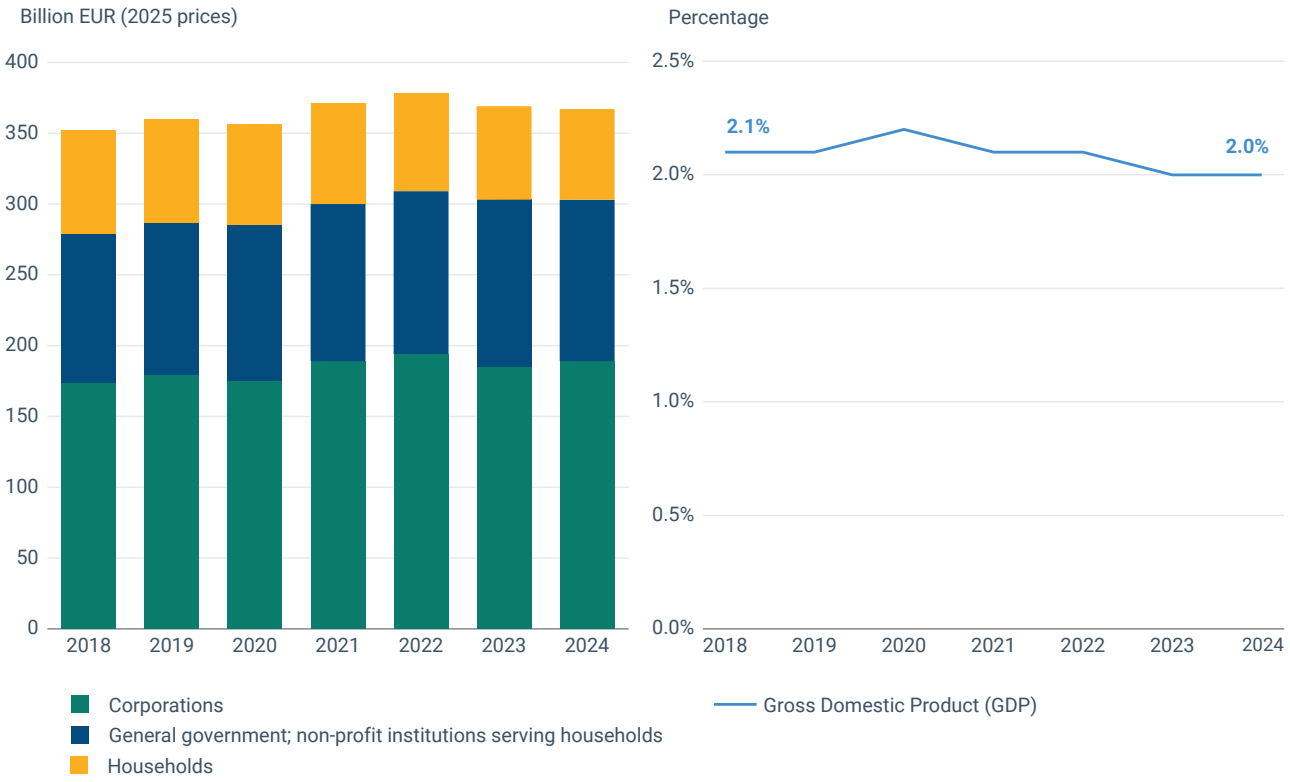
For more references and additional information, including at country level, see the full indicator version.

7.3 Environmental protection expenditure

Will it increase in the coming years?

Likely off track. In 2024 there was a small real-term decline in environmental protection expenditure for the second year in a row; this is in the context of mounting pressure on national and EU budgets to increase spending on other priorities such as defence.

Figure 7.3 Environmental protection expenditure by institutional sector, EU



Notes: Values are expressed in 2025 prices.
Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- Environmental protection expenditure captures expenditure related mainly to pollution abatement, protection of biodiversity, management of wastewater and waste, environmental research and development. Environmental protection expenditure only partly captures expenditure related to climate change and to the circular economy ([m]) [89].

([m]) This does not capture expenditure on the production of renewable energy sources, energy efficiency in general or climate adaptation. However, it now includes expenditure on clean transport (vehicles and charging systems) as directly contributing to reducing air pollution.

- The EU must increase its environment- and climate-related expenditure — and therefore also its environmental protection expenditure — in order to meet the objectives of the European Green Deal.

Indicator past trend (2018-2024, in 2025 prices): increase ↑
Latest value (2024): EUR 367 billion

- In real terms (2025 prices), environmental protection expenditure increased in the EU by 4.2% between 2018 and 2024 and totalled EUR 367 billion in 2024. Most of this has been spent on waste management and wastewater treatment activities. Additionally, most of the environmental protection expenditure was spent on operating costs and in 2024 only around 21% (EUR 77.52 billion in 2025 prices) was spent on investments [(90)].

- In 2024 there was a small real-term decline in environmental protection expenditure for the second year in a row.

- The share of environmental protection expenditure as a proportion of GDP remained relatively stable at slightly above 2% between 2018 and 2024, standing at 2.0% in 2024. This is the lowest level since 2018.

2030 outlook

- Environmental protection expenditure is on track to increase in the coming years, Environmental protection expenditure is likely off track to increase in the coming years. Environmental protection expenditure as a share of GDP has remained at 2.0% for the last two consecutive years. This is the lowest level since 2018.

- Additional resources — funding, loans, guarantees — have been made available over the years through increases in the EU budget (2021-2027), the NextGenerationEU recovery plan and sustainable finance actions [(91)(92)(93)]. However, there is currently mounting pressure on national and EU budgets to increase spending on other priorities such as defence, and this may run counter to an increase in environmental protection expenditure.

- The European Commission estimates that an additional investment of EUR 77 billion per year is necessary from 2021-2030 to achieve the environmental objectives for the areas funded by environmental protection expenditure [(94)]. At the same time, fully implementing the EU environmental legislation related to environmental targets which currently apply could lead to savings of around EUR 180 billion annually, possibly rising to EUR 325 billion per year if environment targets which will apply in the near future are factored in [(18)]. However, it is too early to know if the additional resources will trigger the necessary capital flows to fill the investment gap by 2030.

- To help close the biodiversity financing gap, the EU is advancing efforts to attract private investment through the development of high-integrity nature credits. In July 2025, the European Commission adopted the Roadmap towards Nature Credits; this sets out a stepwise approach for enabling voluntary markets that reward measurable, nature-positive outcomes.

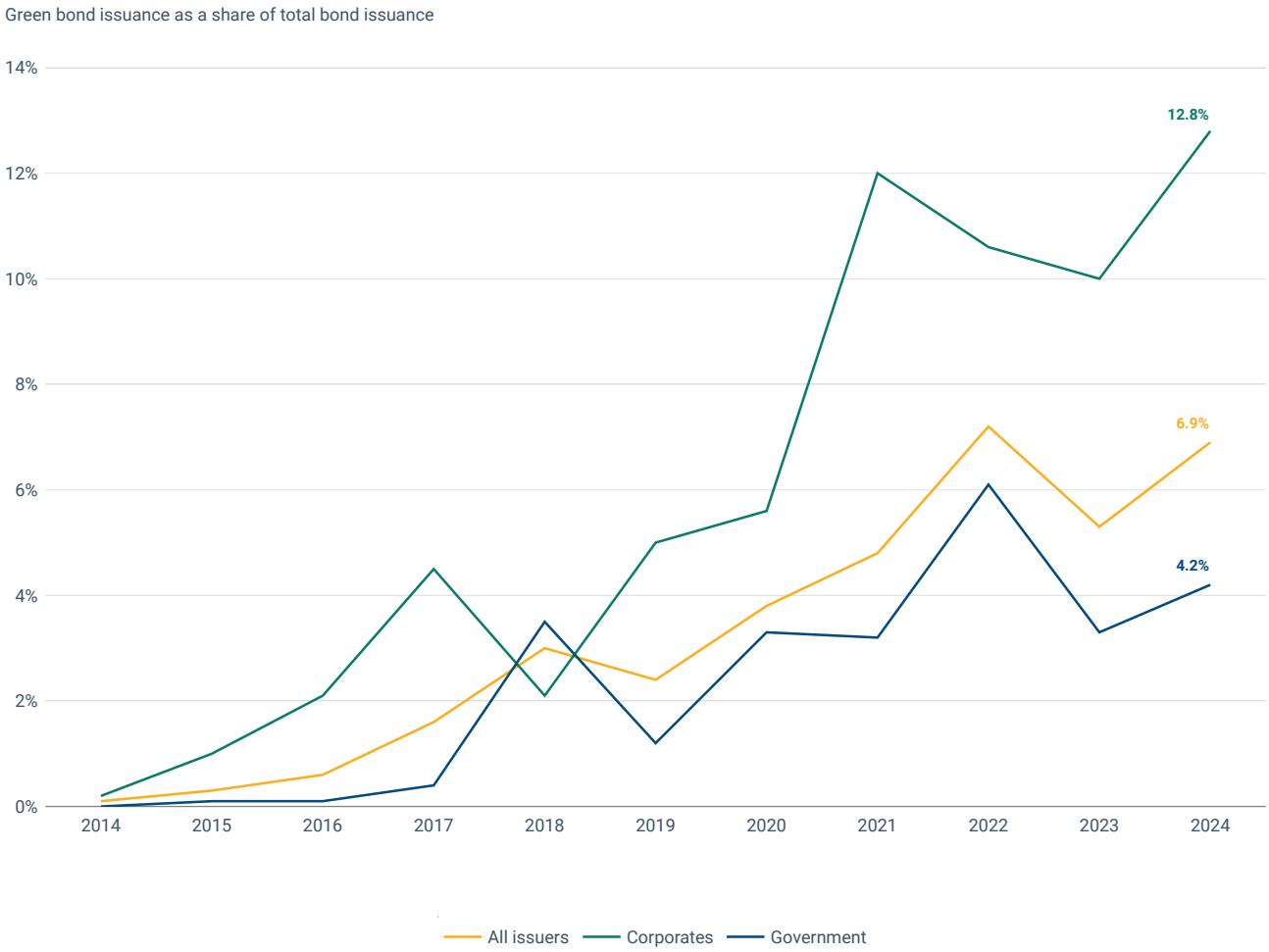
For more references and additional information, including at country level, see the full indicator version.

7.4 Green bonds

Will the share of green bonds in total issued bonds increase in the coming years?

Likely on track. The issuance of green bonds as a share of total bonds is likely to increase because of the ambitious environmental and climate goals set out in the European Green Deal.

Figure 7.4 **Green bonds as a percentage of total bonds issued by corporations (corporate bonds), by governments (sovereign bonds) and by both corporations and governments, EU**



Notes: Bonds issued by supranational and sub-national entities are not included.
Access the interactive chart here.

Source: LSEG Data & Analytics. Percentages are calculated by EEA.

Relevance and policy target

- Green bonds are used to finance green projects, assets or specific business activities that address environment and climate change issues.
- The European Green Deal underlines the need to redirect capital flows to green investments; this can be achieved by issuing green bonds, among other measures. The Competitiveness Compass emphasises the need to better mobilise investments for a more competitive, innovative and decarbonised Europe.

Indicator past trend (2014-2024): increase ↑
Latest value (2024): 6.9%

- The share of green bonds as a proportion of total bonds issued by corporations and governments increased in the EU from 0.1% in 2014 to 6.9% in 2024. The issuance of green bonds by both corporations and governments increased over this period but at different rates. Issuance of corporate green bonds grew faster than that of government bonds. It rose from 0.2% in 2014 to 12.8% in 2024, compared with 0.0% to 4.2% for government bonds.
- This long-term increase reflects an increasing demand from investors for green projects and activities to finance and a growing interest within the financial sector in offering financial instruments that support sustainability goals.

2030 outlook

- The issuance of green bonds is likely to increase, given the ambitious decarbonisation goals of the Competitiveness Compass and the European Green Deal. The EC intends to issue more green bonds to fund the NextGenerationEU recovery plan [95]. Conditions for sustainable finance are also improving. The European green bond standard, which became available to all issuers in December 2024, and the EU taxonomy for sustainable activities aim to boost sustainable investment. These developments indicate green bonds are likely to account for a growing share of total bonds in the future.

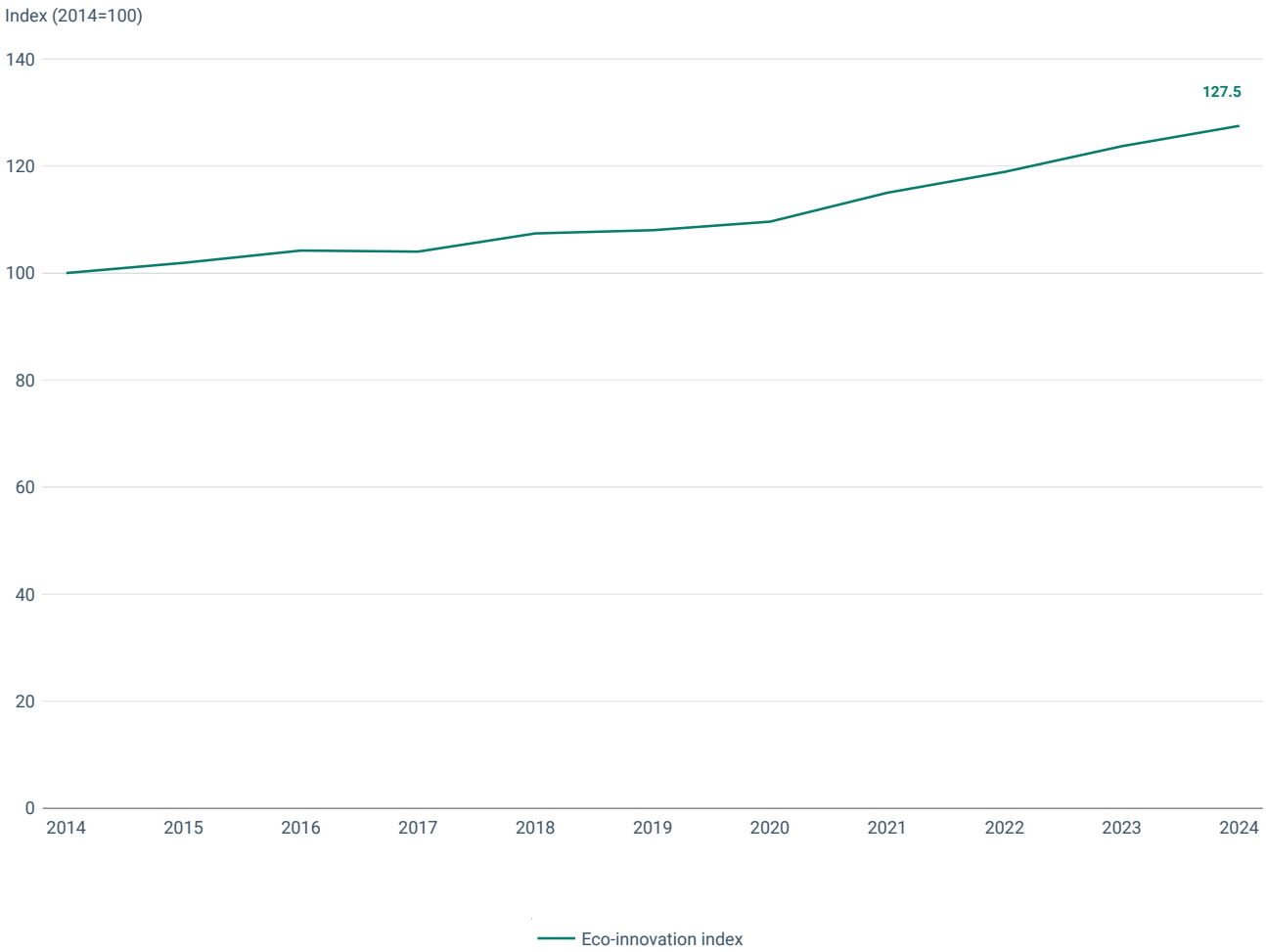
For more references and additional information, including at country level, see the full indicator version.

7.5 Eco-innovation (n)

Will eco-innovation increase in the coming years?

On track. The ambitious environmental and climate objectives of the European Green Deal and the Clean Industrial Deal and associated initiatives create favourable conditions for more eco-innovation towards 2030.

Figure 7.5 Eco-innovation index (2014=100), EU



Note: Access the interactive chart here.

Source: European Commission.

(n) This indicator assessment is identical to that presented in the 2024 edition of the report since 2025 data were not available at the time of publication. This indicator follows a multi-annual update cycle.

Relevance and policy target

- Eco-innovation is any innovation that reduces impacts on the environment, increases resilience to environmental pressures or uses natural resources more efficiently [(96)].
- Eco-innovation is essential for achieving a transition to a carbon-neutral and sustainable economy as set out in the European Green Deal.

Indicator past trend (2014-2024): increase ↑
Latest value (2024): 128 (2014=100)

- The European Commission eco-innovation index shows an increase of 28% from 2014 to 2024, mainly driven by improvements in various aspects of resource efficiency [(80)(97)].

2030 outlook

- It is very likely that there will be further increases in the eco-innovation index in the coming years.
- This is because of the continuous increase over the years and because of the high ambition of the environmental and climate objectives of the European Green Deal and Clean Industrial Deal and ensuing initiatives, which will most likely drive further progress in eco-innovation [(97)].

For more references and additional information, including at country level, see the full indicator version.

8TH EAP LONG TERM PRIORITY OBJECTIVE

Living well, within planetary boundaries

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8 Living well, within planetary boundaries

Our societies and economies depend on a healthy planet. The EU and the world have already transgressed several planetary boundaries [16][42][98]. The EU's 8th Environment Action Programme requires that by 2050 at the latest, EU citizens live well within the limits of the planet in a well-being economy.

To capture progress towards aspects of this long-term objective, the European Commission's 8th EAP monitoring framework includes six indicators and corresponding 2030 targets:

- an indicator on land take to monitor whether the EU will meet its goal of no net land take by 2050;
- an indicator on water scarcity conditions to monitor whether the EU will reduce water scarcity;
- an indicator on the consumption footprint to monitor whether the EU will significantly reduce the environmental impact of its consumption to bring it within planetary boundaries as soon as possible;
- two indicators on employment and gross value added of the environmental goods and services sector to monitor whether the share of the green economy and green employment in the economy as a whole will increase in the EU;
- an indicator on environmental inequalities to monitor whether the EU will reduce environmental inequalities and ensure a fair transition. In the absence of an available indicator that covers all environmental inequalities, an indicator on GDP-related environmental inequalities associated with exposure to air pollution (fine particulate matter) has been used as a proxy, albeit an imperfect one.

The indicator assessment results are summarised further below. In short, the EU is on track to meet the 2030 targets for a green economy and green employment. The significant ambitions of the EU environmental and climate policies and the ongoing green transition are expected to further increase the EU's green economic activity and green jobs. On the other hand, the prospects of meeting the objectives associated with the remaining indicators by 2030 are not good. The EU is off track to meet the consumption footprint target by 2030. Projections by the European Commission [99] show that, based on current consumption patterns and expected economic growth, the EU will not reduce its footprint in the coming years. The total footprint is mainly driven by food consumption patterns, housing and mobility.

The EU is likely off track to meet its land take and water scarcity targets by 2030. Projections indicate that built-up areas will have expanded in the EU by 2030 [100], hampering the prospects of achieving the goal for there to be no net land take by 2050. The pressure of climate change is expected to reduce water availability further, making it challenging to reduce ongoing water scarcity problems in the coming years. These challenges are being addressed through recent EU initiatives, including the Water Resilience Strategy [12] — which aims to strengthen water efficiency, reuse and drought preparedness — and measures under Biodiversity Strategy for 2030, the Soil Strategy for 2030, the Nature Restoration Regulation and the Directive on soil monitoring and resilience [11]. Together these aim to support more sustainable land use and progress towards no net land take by 2050.

Finally, the EU is also likely off track to meet its 2030 target to reduce environmental inequalities. Although the GDP-related environmental inequalities associated with air pollution are an imperfect proxy of environmental inequalities, the absence of progress in past indicator trends suggests that existing policies may be insufficient to address these inequalities effectively.

The methodology used to determine the prospects of meeting the 2030 targets is described in Annex 2. It is also explained in the following key:

Methodology key

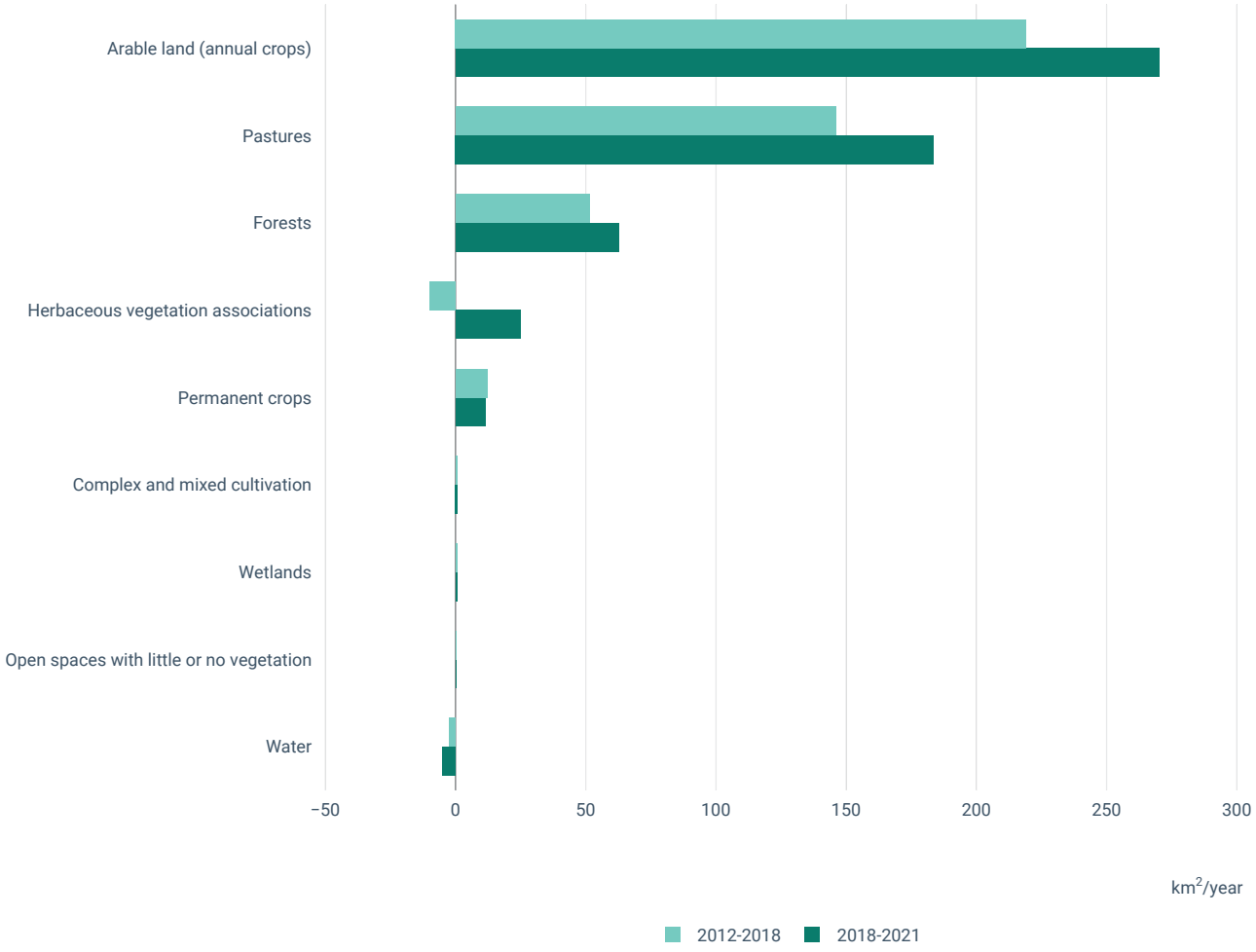
Will the objective be met by 2030?		
	On track	There is a high degree of confidence that the objective will be met by 2030
	Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
	Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
	Off track	There is a high degree of confidence that the objective will not be met by 2030

8.1 Land take

Will the EU achieve the goal of no net land take by 2050?

Likely off track. With built-up areas continuing to expand and projections pointing to further significant expansion in the coming years, the EU is likely off track to achieve its aim of no land take by 2050.

Figure 8.1 **Net land take in cities and commuting zones, EU**



Note: Access the interactive chart here.

Sources: EEA; Copernicus Land Monitoring Service.

Relevance and policy target

- Land take refers to the conversion of natural or semi-natural land to artificial land. It undermines ecosystem resilience by fragmenting landscapes, decreasing carbon sequestration and biodiversity capacity and increasing flood risk through higher surface run-off. It can also impact people's quality of life by intensifying the impacts of heatwave in urban areas and reducing the availability of natural areas for relaxation, regeneration and outdoor activities.

- The Biodiversity Strategy for 2030, the Nature Restoration Regulation and the Directive on soil monitoring and resilience [11] aim to halt ecosystem degradation and land take by protecting and restoring nature and reducing soil sealing. Climate policies also support these goals by promoting the preservation of carbon sinks and preventing carbon losses from sealed soils.

Indicator past trend (2012-2021): increase ↑
Latest value (2018-2021 which is one assessment period): 540km^2 annual average

- Between 2018 and 2021, average annual net land take in cities and commuting zones in the EU amounted to about 540km^2 per year.

- Land take primarily affects cropland, pasture and forest. Major drivers of land take include population growth and housing needs, the need for transport infrastructure, cultural preferences and economic growth [101].

2030 outlook

- The yearly rate of net land take in cities increased by about 32% between the two periods, 2012-2018 and 2018-2021.

- To reach zero net land take by 2050, the EU would need to cut land take by about 27km² each year from 2022 onwards. However, as land take increased between 2012 and 2021, Europe is currently likely off track to meet this goal. Furthermore, projections by the JRC indicate that built-up areas are likely to expand significantly in the coming years [100]. It is unclear how the main drivers of land take will change and whether there will be a sufficient increase in reconverting artificial surfaces to natural or semi-natural land in the future. Nevertheless, if recent EU policies are implemented efficiently, they are expected to curb land take and promote land recycling, regeneration and re-naturalisation across Europe.

- Discouraging diffuse urban expansion while promoting compact, multi-storey city planning — with better land-use efficiency and the re-naturalisation of land instead — would be important means to reduce land take rate and reach the 2050 goal [101].

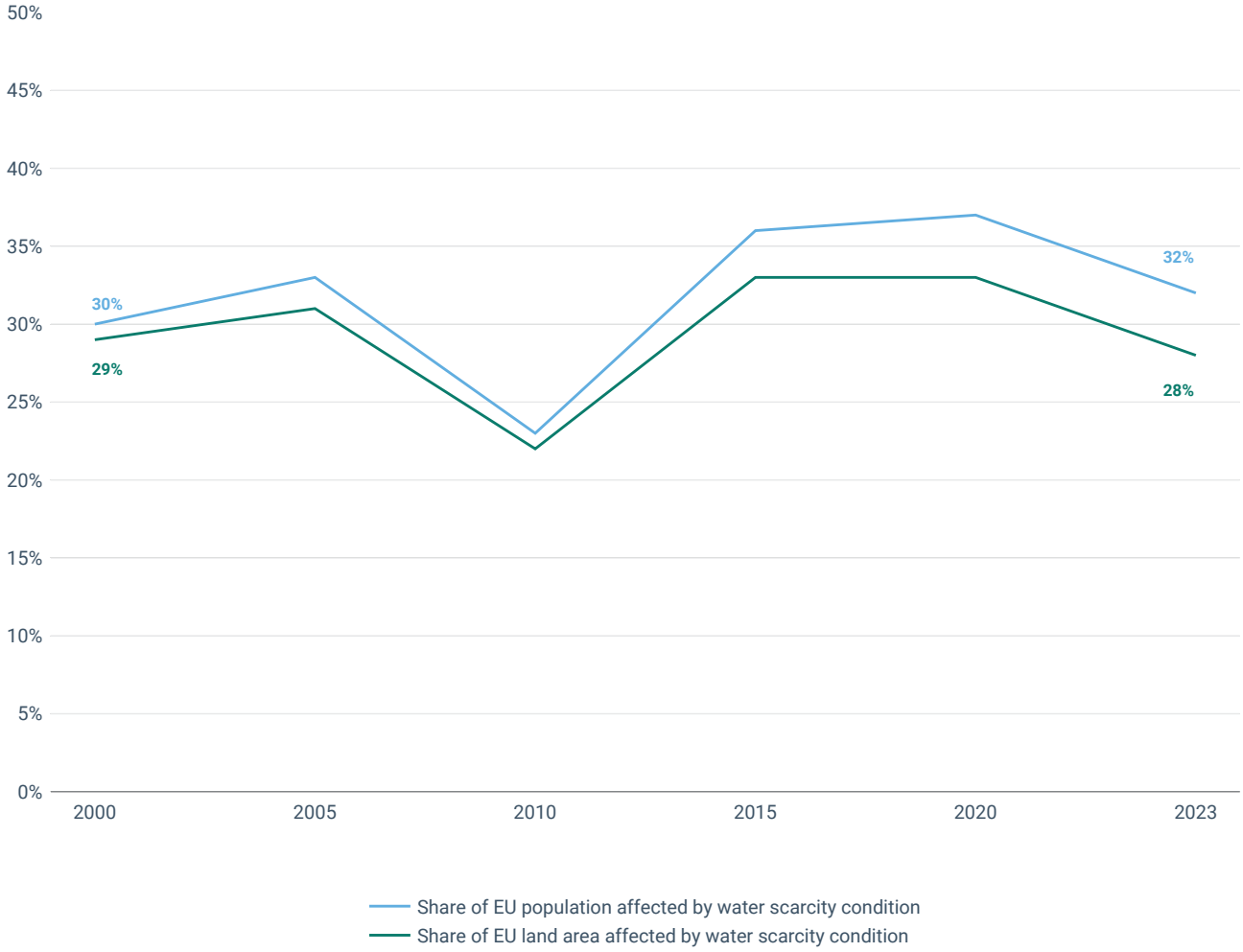
For more references and additional information, including at country level, see the full indicator version.

8.2 Water scarcity

Will the EU land area affected by water scarcity decrease in the coming years?

Likely off track. There has been no progress so far in this area and climate change may further reduce the availability of water.

Figure 8.2 **Share of land area affected by water scarcity conditions, EU**



Note: Access the interactive chart here.

Sources: EEA/Eurostat/EFAS/ERA5.

Relevance and policy target

- Freshwater resources are essential for human health, nature and the functioning of economies and societies.
- The EU Water Framework Directive requires Member States to promote the sustainable use of water and protect their available water resources.
- The EU adaptation strategy seeks to develop and roll-out adaptation solutions that, among other goals, safeguard the availability of fresh water.
- The EC has recently adopted a Water Resilience Strategy [12] to safeguard freshwater availability for citizens, nature and the economy, while strengthening adaptation to climate change impacts such as flooding and water scarcity. It also sets a non-binding target to enhance water-use efficiency by 10% by 2030.

Indicator past trend (2000-2023): stable →
Latest value (2023): 28%

- The area of EU land affected by water scarcity conditions remained relatively stable over the 2000-2023 period. In 2023, 28% of EU territory was affected in at least one season. Although total water abstraction declined by 14% between 2000 and 2023, water availability also decreased because of the impacts of climate change.
- While water scarcity is more prevalent in southern Europe, it extends to river basins across the EU, in particular in eastern and western Europe [102].

2030 outlook

- The EU is likely off track to reduce water scarcity by 2030. There has been no progress so far on this issue and climate change may reduce the availability of water further because of rising temperatures and more frequent drought events [103].
- The Water Resilience Strategy should help address water scarcity but additional efforts are needed to ensure sustainable water use.

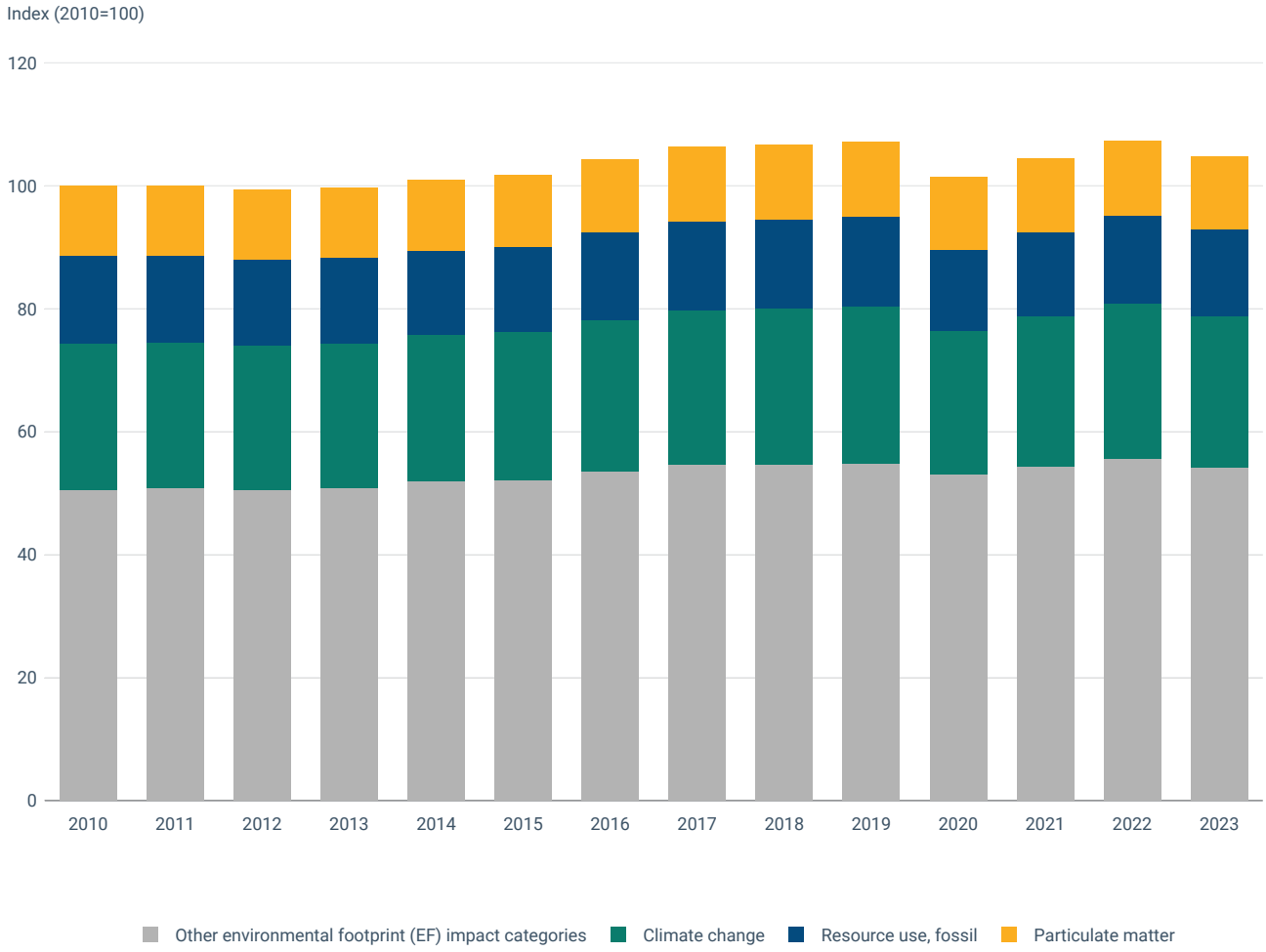
For more references and additional information, including at country level, see the full indicator version.

8.3 Consumption footprint

Will the EU significantly reduce its consumption footprint in the coming years?

Off track. The EU consumption footprint is projected to increase further by 2030 based on current consumption patterns and expected economic growth.

Figure 8.3 **EU consumption footprint broken down by impact category**



Note: Access the interactive chart here.

Source: Joint Research Center (JRC).

Relevance and policy target

- The EU consumption footprint represents the environmental and climate change-related impacts of the consumption of goods and services by EU residents, irrespective of whether they are produced within or outside the EU.
- The 8th EAP calls for a significant reduction of the EU's consumption footprint to bring it within planetary boundaries as soon as possible.

Indicator past trend (2010-2023): increase ↑
Latest value (2023): 105 (2010=100)

- From 2010 to 2023, the EU consumption footprint increased by around 5%. During this period, climate change, the use of fossil resources and the release of particulate matter were consistently the three largest contributors to the environmental and climate change-related impact of the consumption footprint. Together, they accounted for about 50% of the overall impact.
- Overall, the environmental impact of EU citizens' consumption is considered high. Scientific evidence increasingly suggests that, based on current consumption footprint levels, the EU exceeds its fair share of planetary boundaries for five key environmental impact categories, including particulate matter, climate change and resource use [(16)].

2030 outlook

- The EU is off track to meet its aim to reduce its consumption footprint significantly by 2030.
- The JRC predicts that the EU's consumption footprint will increase further by 2030 based on current consumption patterns — in terms of both quantity and types of product consumed — and expected economic growth [(15)].
- It is necessary to switch to less environmentally harmful products and services and address unsustainable consumption patterns to reduce the consumption footprint and bring the impacts of consumption within planetary boundaries.
- Increasing product circularity — by making products more durable, repairable and recyclable and adopting circular business models based on sharing or product-as-a-service schemes — could be an effective way to address our consumption footprint.

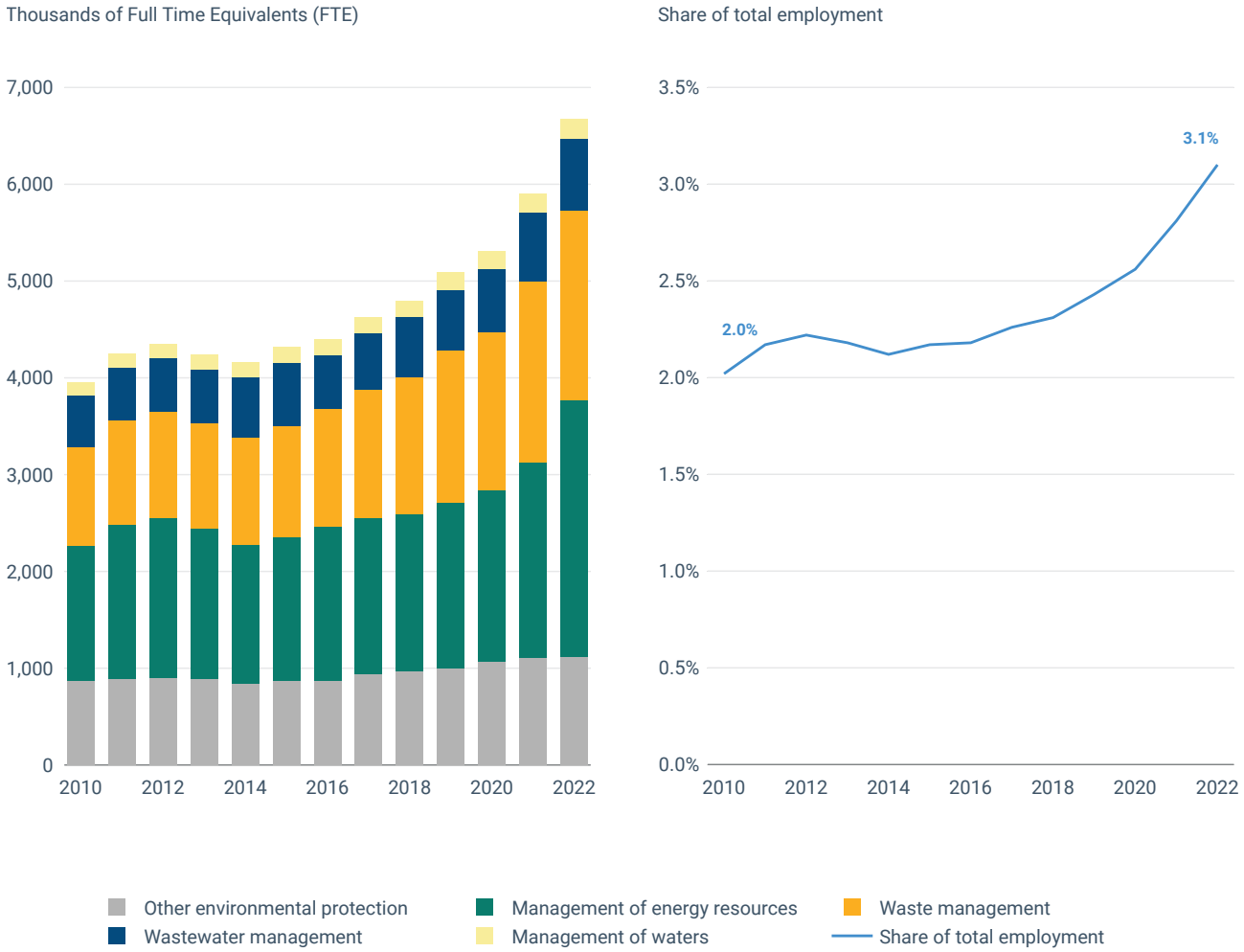
For more references and additional information, including at country level, see the full indicator version.

8.4 Green employment

Will the share of green employment in the whole economy increase in the coming years?

On track. The ongoing green transition of the EU's economy, driven by the environmental and climate objectives of the European Green Deal the Clean Industrial Deal, is likely to further increase this positive trend towards 2030.

Figure 8.4 **Employment in the environmental goods and services sector by domain, EU**



Note: Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- Green employment refers to employment created in the EU's environmental economy, also known as the green economy. This is the part of the economy that produces goods and services used in environmental protection and resource management activities.

- The European Green Deal aims for a green transition of the EU's economy and for the EU to become carbon neutral by 2050. Building on this foundation, the Clean Industrial Deal continues to advance decarbonisation while placing additional emphasis on competitiveness. The Union of Skills [(104)] has a strong focus on developing and promoting green skills, recognising that demand for them is high and that a successful green transition and circular economy are important. The transition will require more green jobs and related skills.

Indicator past trend (2010-2022): increase ↑
Latest value (2022): 3.1%

- Employment in the green economy grew more quickly than employment in the economy overall in the EU in the last decade: it represented 2.0% of total EU employment in 2010 and 3.1% in 2022, reaching 6.7 million full-time equivalent employees in 2022. This was mainly because of job creation related to renewable energy, energy efficiency and waste management.

2030 outlook

- The share of green employment in the EU economy is on track to rise in the coming years.

- The policies, measures and investments the EU is putting in place to support the green transition will create more green jobs by 2030, particularly those related to circular economy principles and a low-carbon economy [(39)(105)]. The Net Zero Industry Act aims, in part, to help develop a sizeable and skilled workforce across EU supply chains for net zero-technologies, thereby boost green employment in the EU [(106)].

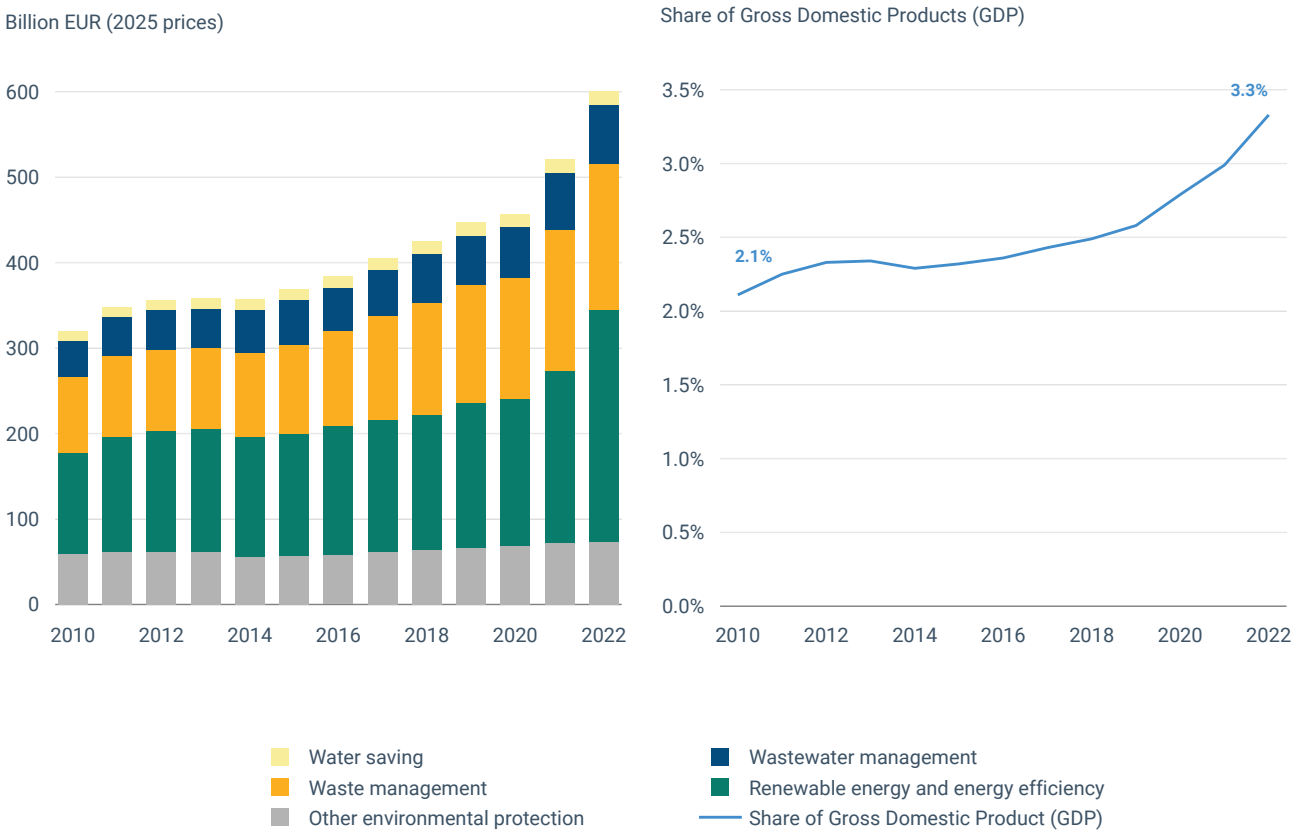
For more references and additional information, including at country level, see the full indicator version.

8.5 Green economy

Will the share of the green economy in the whole economy increase in the coming years?

On track. The ongoing green transition of the EU's economy is driven by the environmental and climate objectives of the European Green Deal and the Clean Industrial Deal.

Figure 8.5 **Gross value added of the environmental goods and services sector by domain, EU**



Notes: Values are expressed in 2025 prices.
Access the interactive chart here.

Source: Eurostat.

Relevance and policy target

- The green economy, also known as the environmental economy, is the part of the economy that produces goods and services used in environmental protection and resource management activities.

- The European Green Deal sets out aims for a green transition of the EU's economy and for the EU to become carbon neutral by 2050. Building on this foundation, the Clean Industrial Deal continues to advance decarbonisation while placing additional emphasis on competitiveness. More economic activities related to environmental protection and resource management will be needed to achieve the aims of the Clean Industrial Deal.

Indicator past trend (2010-2022): increase ↑
Latest value (2022): 3.3%

- The share of the added value from the EU green economy in the overall EU economy increased from 2.1% in 2010 to 3.3% in 2022 and reached just over EUR 600 billion (2025 prices) in 2022. This rise was mainly caused by significant increases in green economy activities related to resource management (renewable energy sources and energy efficiency) and waste management.

2030 outlook

- The contribution of the green economy to EU GDP is on track to increase in the coming years, supporting the ambitious environmental and climate policies set out in the European Green Deal and Clean Industrial Deal.

- In particular, measures related to applying circular economy principles and to moving towards a low-carbon economy (e.g. increased output from renewable energy resources and energy efficiency improvements) are expected to increase [39][106][107]. Furthermore, additional financial resources have been made available at the EU level to support the expansion of the EU green economy [92][108]. Full implementation of the Net Zero Industry Act will also boost the competitiveness of EU industry and increase economic activity within the EU [106].

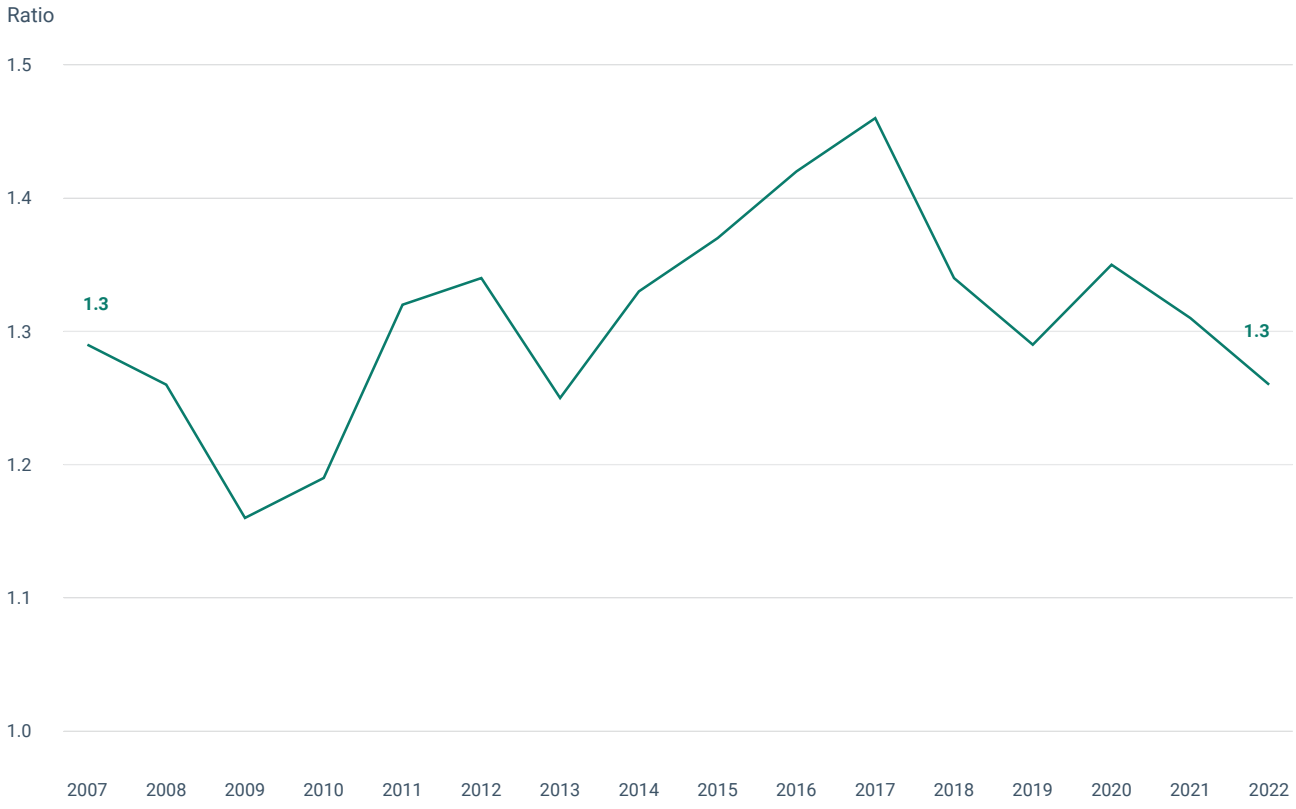
For more references and additional information, including at country level, see the full indicator version.

8.6 Environmental inequalities

Will environmental inequalities decrease in the coming years?

Likely off track. The scope of the indicator which is currently available relates to air pollution and there has been no progress in this area so far.

Figure 8.6 **Ratio of population-weighted mean $PM_{2.5}$ concentrations in the lowest per capita GDP quintile (i.e. poorest) to those in the highest per capita GDP quintile (i.e. richest), EU**



Notes: Data refer to the poorest and richest quintile of the EU NUTS3 regions, from 2007 to 2022, as measured by GDP per capita at purchasing power standards.
Access the interactive chart here.

Sources: EEA; Eurostat.

Relevance and policy target

- EU environmental policies have brought great benefits to EU citizens, for example, in terms of reduced pollution levels. However, questions remain as to whether these benefits or the ongoing impacts are distributed equitably within the EU.
- The 8th EAP specified that measures taken in the EU to protect the environment should be carried out in a socially fair and inclusive way.
- Despite improvements, air pollution still poses the greatest environmental risk to health in Europe [13] and fine particulate matter ($PM_{2.5}$) causes more attributable premature deaths in Europe than any other ambient air pollutant [13][109]. It is therefore considered useful to monitor $PM_{2.5}$ levels to explore GDP-related inequalities in the distribution of the health impacts of air pollution and environmental risks more broadly.

Indicator past trend (2007-2022): stable →
Latest value (2021): 1.26 ratio of population-weighted $PM_{2.5}$ concentrations in the lowest per capita GDP (in purchasing power standard) quintile of the EU NUTS3 regions to those in the highest GDP per capita quintile

- Despite improving trends in air pollution — measured as population-weighted $PM_{2.5}$ concentrations in both the 20% highest per capita GDP and the 20% lowest per capita GDP regions (NUTS3) of the EU over the 2007-2022 period — inequalities remain. Levels of $PM_{2.5}$ are consistently higher by around a quarter in the poorest regions.
- Exposure at NUTS3 level is an imperfect proxy for actual inequalities in air pollution exposure, as it does not capture inequalities within individual NUTS3 regions. No harmonised Europe-wide GDP data are available at a finer spatial scale than NUTS3.

2030 outlook

- The lack of NUTS3-level projections for $PM_{2.5}$ and purchasing power means it is not possible to derive a reliable outlook for this indicator. However, the lack of progress in past trends related to environmental inequalities associated with air-pollution suggests that existing policies may be insufficient to address these inequalities effectively and that the EU is likely off track to meet the 2030 target.

For more references and for additional information see the full indicator version.

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Annex 1 Key elements of the 8th Environment Action Programme decision

This annex outlines key elements of the 8th Environment Action Programme (EAP) decision in relation to the 8th EAP priority objectives, enabling conditions, monitoring framework and governance, 8th EAP mid-term review and evaluation.

8th EAP priority objectives

Article 2 of the 8th EAP lays down the 8th EAP long-term priority objective and the six thematic priority objectives as follows.

Article 2(1) outlines the **long-term priority objective** of the 8th EAP of **living well within the planetary boundaries**: 'The 8th EAP shall have the long-term priority objective that by 2050 at the latest, people live well, within the planetary boundaries in a well-being economy where nothing is wasted, growth is regenerative, climate neutrality in the Union has been achieved and inequalities have been significantly reduced. A healthy environment underpins the well-being of all people and is an environment in which biodiversity is conserved, ecosystems thrive, and nature is protected and restored, leading to increased resilience to climate change, weather- and climate-related disasters and other environmental risks. The Union sets the pace for ensuring the prosperity of present and future generations globally, guided by intergenerational responsibility.'

Article 2(2) outlines the **six thematic priority objectives** of the 8th EAP that address: a) **climate change mitigation**, b) **climate change adaptation**, c) a **regenerative circular economy**, d) **zero pollution and a toxic-free environment**, e) **biodiversity and ecosystems** and f) **environmental and climate pressures related to EU production and consumption**.

More specifically, it stipulates that: 'The 8th EAP shall have the following six interlinked thematic priority objectives for the period up to 31 December 2030:

(a) swift and predictable reduction of greenhouse gas emissions and, at the same time, enhancement of removals by natural sinks in the Union to attain the 2030 greenhouse gas emission reduction target as laid down in Regulation (EU) 2021/1119, in line with the Union's climate and environment objectives, whilst ensuring a just transition that leaves no one behind;

(b) continuous progress in enhancing and mainstreaming adaptive capacity, including on the basis of ecosystem approaches, strengthening resilience and adaptation and reducing the vulnerability of the environment, society and all sectors of the economy to climate change, while improving prevention of, and preparedness for, weather- and climate-related disasters;

(c) advancing towards a wellbeing economy that gives back to the planet more than it takes and accelerating the transition to a non-toxic circular economy, where growth is regenerative, resources are used efficiently and sustainably, and the waste hierarchy is applied;

(d) pursuing zero pollution, including in relation to harmful chemicals, in order to achieve a toxic-free environment, including for air, water and soil, as well as in relation to light and noise pollution, and protecting the health and wellbeing of people, animals and ecosystems from environment-related risks and negative impacts; Key elements of the 8th Environment Action Programme decision 110;

(e) protecting, preserving and restoring marine and terrestrial biodiversity and the biodiversity of inland waters inside and outside protected areas by, inter alia, halting and reversing biodiversity loss and improving the state of ecosystems and their functions and the services they provide, and by improving the state of the environment, in particular air, water and soil, as well as by combating desertification and soil degradation;

(f) promoting environmental aspects of sustainability and significantly reducing key environmental and climate pressures related to the Union's production and consumption, in particular in the areas of energy, industry, buildings and infrastructure, mobility, tourism, international trade and the food system.'

8th EAP enabling conditions

Article 3 of the 8th EAP identifies the enabling conditions necessary to attain the 8th EAP priority objectives. These conditions address mainly issues of environment and climate policy implementation, funding, financing and integration into other policies.

Article 3 requests that the conditions are put in place 'to ensure that social inequalities resulting from climate- and environmental-related impacts and policies are minimised'.

It requires the 'strengthening of environmentally positive incentives as well as phasing out environmentally harmful subsidies, in particular fossil fuel subsidies without delay'.

Finally, it requires 'strengthening of the environmental knowledge base' and 'developing and consolidating the knowledge base, inter alia, on the requirements for systemic change'.

Article 3 includes many more enabling conditions. The conditions above are the most relevant from the perspective of the 8th EAP monitoring framework and the indicators that were selected by the European Commission for the annual 8th EAP monitoring.

8th EAP monitoring framework and governance

Article 4 establishes a monitoring framework to measure the progress of the Union and its Member States towards the attainment of the priority objectives of the 8th EAP and a governance mechanism to ensure attainment of those priority objectives.

Article 4(1) provides the overall aim of the 8th EAP monitoring: 'The Commission, supported by the European Environment Agency (EEA) and the European Chemicals Agency (ECHA), without prejudice to their independence, shall monitor, assess and report on the progress of the Union and the Member States with regard to attaining the priority objectives set out in Article 2, on an annual basis, taking into consideration the enabling conditions laid down in Article 3 and the overall goal of achieving systemic change. The information that results from that monitoring, assessment and reporting shall be made publicly available and easily accessible.'

Articles 4(2) and 4(3) detail further the aim of the 8th EAP monitoring and its ingredients:

'The monitoring, assessment and reporting referred to in paragraph 1 shall aim to facilitate high-level strategic political communication. Following a consultation process with all relevant stakeholders, the Commission shall, by 2 May 2022, present

a monitoring framework, based on a limited number of headline indicators, which include, where available, systemic indicators that address, inter alia, Key elements of the 8th Environment Action Programme decision 111 environmental social and environmental-economic nexus. The list of headline indicators shall remain stable to ensure accountability. …' (Article 4(2)).

'The monitoring and assessment referred to in paragraph 1 … shall be based on a methodology that enables, where possible, measurement of distance to targets in relation to the priority objectives set out in Article 2 and selected headline indicators.' (Article 4(3)).

Article 4(4) outlines the annual governance of the 8th EAP monitoring: 'The European Parliament, the Council and the Commission shall take account of, and exchange views annually on, the assessment referred to in paragraph 1 as well as actions taken and possible future actions.'

Article 4(5) outlines the tasks that the EEA and the ECHA shall perform in order to support the Commission to improve the availability and relevance of data, indicators and knowledge.

Upon adoption of the 8th EAP Decision, the EEA and the European Commission agreed that the EEA, in support to the 8th EAP monitoring, will prepare annual progress reports with regard to attaining the priority objectives while taking into consideration the enabling conditions and the overall goal of achieving systemic change. The EEA will do this annually and on the basis of the 28 8th EAP headline indicators and corresponding targets, which the European Commission outlined in its 8th EAP monitoring framework communication.

8th EAP mid-term review

Article 5 of the 8th EAP Decision details the 8th EAP mid-term review process and potential follow-up.

The European Commission shall carry out the mid-term review of the 8th EAP progress by 31 March 2024. This shall be based on the 8th EAP progress assessments outlined in Article 4(1) and any other relevant findings. Where appropriate, the Commission shall propose changes to the headline indicators referred to in Article 4(2) in light of the outcome of the mid-term review.

'The Commission shall present, where appropriate, a legislative proposal to add an annex to the 8th EAP, for the period after 2025, containing a list of actions with a view to reaching' the 8th EAP thematic priority objectives, as well as a timeline for the respective actions.

8th EAP evaluation

Article 6 of the 8th EAP stipulates that 'by 31 March 2029, the Commission shall carry out an evaluation of the 8th EAP followed, if appropriate, by a legislative proposal for the next environmental action programme by 31 December 2029'.

Annex 2 EEA methodology to assess the outlook of meeting the 2030 targets of the 8th EAP monitoring communication of the European Commission

The methodology is specific to the 8th EAP headline indicators and the corresponding 2030 8th EAP targets, which were published in the 8th EAP monitoring framework communication of the European Commission. It does not assess progress towards the priority objectives as such of the 8th EAP Decision.

This methodology addresses only how to assess the outlook of meeting the 8th EAP monitoring targets by 2030 and not how to assess the past trends of the 8th EAP headline indicators.

Key principles

1. The assessment is done at the level of each of the 8th EAP headline indicators and of their corresponding 8th EAP monitoring target that should be met by 2030 – see list of indicators and targets in pages 5-8 of the 8th EAP monitoring framework communication.

2. The methodology assumes correlation between the trend of the indicator with the prospects of meeting the corresponding target.

3. The methodology can assess progress towards both quantitative and qualitative objectives. 70% of the targets in the 8th EAP monitoring framework communication are qualitative.

4. The methodology allows a choice of methods to reflect the best available evidence as well as combining methods.

Outlook assessment methodology

5. In general, the assessment of the outlook of meeting one of the 28 8th EAP targets outlined in the 8th EAP monitoring framework communication by 2030 is based on some combination of:

- **Modelled estimates of future developments (if available)**. This method takes precedence over any other method if the projections are officially reported (e.g. legally binding official national projections) and reflect the current policy landscape, and the scope and timeframe accurately match those of the indicator.

  Often these conditions are not fully met, in which case such information is not used alone but combined with other methods.

- **Indicator-based trends observed over the previous years**. Indicator past trends do not reflect the current and foreseeable economic and policy context; they only reflect the past context. This method is therefore usually used in combination with other methods. As we move closer to 2030 (i.e. in future 8th EAP monitoring reports) the more this method will weigh in since significant changes in the context will be less likely.

- **'Distance to target' assessments (if available)**. If a required path is already included in a directive, as in the old renewable energy directive (which prescribed the expected biannual increase of the share of renewable energy sources in gross energy consumption), the distance from that path at a given year determines the assessment of the prospects. It is unclear if any upcoming legislation will prescribe such pathways. More generally, if there is a quantitative target, the comparison of the annual observed growth rate of the latest 10 years (e.g. 2011-2021) and of the required annual growth rate of the remaining years (e.g. 2021-2030) to achieve the target by 2030 will inform the assessment alone or in combination with other relevant information.

- **Expert consideration of available knowledge, information and methods**. Expert consideration is used to:

    - determine the method or combination of methods, if in doubt; determine the strength of evidence;

    - use additional evidence and information, for instance from studies, impact assessments, national plans and programmes, modelling, results from other relevant monitoring mechanisms (such as zero pollution, circular economy, climate and energy, biodiversity) and interpret this in context of the assessment's scope and timeframe;

    - take into account EU policy developments and, if appropriate, the geopolitical and socio-economic context. The methodology errs on the side of caution when it comes to such considerations. For instance, only EU policy developments that reached adoption and for which there is evidence of an expected outcome by 2030 are usually taken into account.

6. Each indicator assessment is quality assured through a **consultation process**. The process is specific to each indicator and involves in all cases the following experts and networks:

- **EEA experts** – several EEA experts review the assessment.

- **Eionet** – each indicator is reviewed by the relevant Eionet group(s).

- **European Commission and EU agencies** – each indicator is reviewed by the relevant European Commission services and EU agencies.

Assessment result

7. On the basis of points 1-6 above, the EEA assesses the outlook of meeting the 28 8th EAP targets published in the 8th EAP monitoring framework communication by 2030, by assigning the outlook to one of the following four classes:

Will the objective be met by 2030?		
	On track	There is a high degree of confidence that the objective will be met by 2030
	Likely on track	The objective appears likely to be met by 2030 but there is a low degree of confidence
	Likely off track	The objective appears unlikely to be met by 2030 but there is a low degree of confidence
	Off track	There is a high degree of confidence that the objective will not be met by 2030

Assigning dark green or dark red means there is high degree of certainty over the expected outcome by 2030, i.e. a different outcome would be considered surprising. It requires robust, well-established evidence, preferably numerical, and/or consensus to substantiate the assessment outcome. Examples of such robust evidence include official projections (e.g. legally binding national projections) and results of well accepted studies that can be interpreted in context of the indicator's scope and timeframe.

Assigning light green or orange indicates that the balance of evidence points to a certain direction but with some uncertainty. The methodology errs on the side of caution — i.e. if the level of confidence in the outcome is not very high, light colours are assigned.

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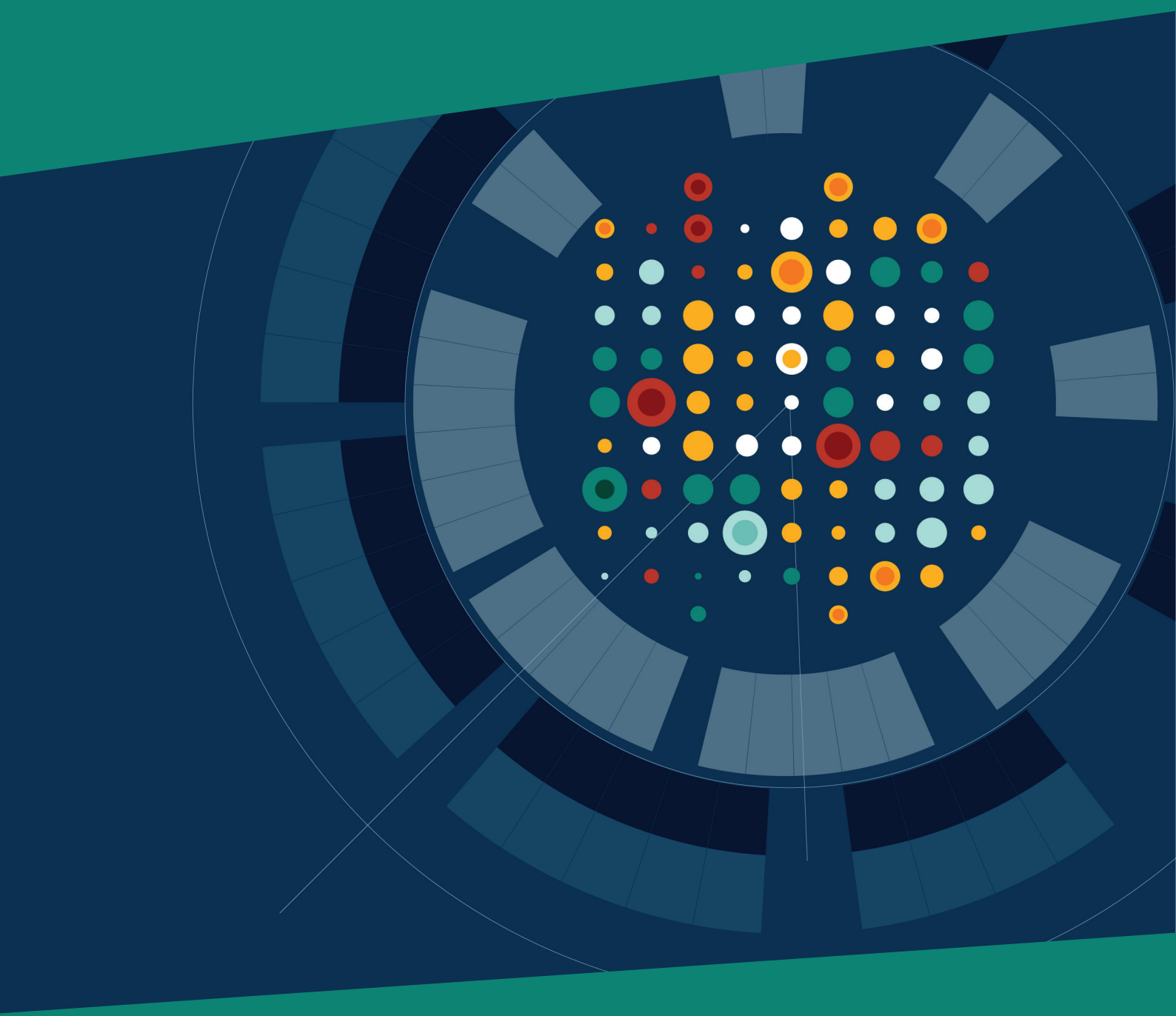

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