Sustainable development in the European Union

Monitoring report on progress towards the SDGs in an EU context

2024 edition

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Foreword by Commissioner Gentiloni

As the mandate of the von der Leyen Commission is reaching its final months, it is appropriate to look over our shoulders at what we have achieved in the area of the Sustainable Development Goals over the last five years. This European Commission has made great strides in embedding sustainability and the SDGs into our policy-making. We have mainstreamed the SDGs into a panoply of EU policies, strategies and deliverables. We have integrated them into the European Semester, our cycle of economic governance, a reflection of the significance we attach to the debate underway on how to measure wealth and well-being 'beyond GDP'. Importantly, we have also published the first-ever EU Voluntary Review on the Implementation of the 2030 Agenda, which I had the pleasure to present at the United Nations in New York last summer. All of these efforts have been underpinned by the important analytical and monitoring work of Eurostat.

This is in addition to the several transformative initiatives we have undertaken, such as the European Green Deal — with its goal of reaching climate neutrality in the EU by 2050 while leaving no one behind — the Climate Law and the European Pillar of Social Rights Action Plan. Another breakthrough achievement has been the establishment of our post-pandemic economic plan NextGenerationEU. This unprecedented investment and reform programme was designed not only to support the recovery of the European economy after the COVID crisis but to ensure that we seized the opportunities offered by the green and digital transition, in line with the SDGs. Last but not least, our reformed economic governance framework for the EU, which entered into force in April 2024, will further promote sustainable and inclusive growth in all Member States.

As we strive to lead by example and work towards achieving the SDGs both in Europe and globally, the SDG monitoring report published by Eurostat will continue to play a crucial role for identifying the most pressing sustainability challenges, understanding our current position, and critically evaluating our performance. The report is a key tool to show us both how far we have come and how much progress we still have to achieve in order to make the SDGs a reality inside and outside the EU in this decade of action. The first step in this direction is for the SDGs to remain high on the political agenda for the next EU legislature. I am confident that they will.

Paolo Gentiloni

European Commissioner for the Economy, responsible for Eurostat

Foreword of Eurostat's Director-General

This is the eighth edition of Eurostat's monitoring report on the Sustainable Development Goals (SDGs). This 2024 edition provides a comprehensive assessment of the European Union's (EU) progress towards achieving the SDGs. Our evaluation is based on a carefully curated set of approximately 100 indicators, chosen for their policy relevance to the EU and their statistical robustness. The EU SDG indicator set aligns with, but is not identical to, the UN's list of global SDG indicators. Many of these selected indicators are already employed to monitor existing policies, such as the European Pillar of Social Rights or the 8th Environment Action Programme. This alignment allows the EU SDG indicators to effectively monitor policies and phenomena that are particularly relevant in the EU context.

The report begins with a synopsis of the EU's overall progress towards achieving the SDGs. This is followed by a presentation of the policy background at both global and EU levels, and the monitoring of the SDGs at the EU level. The detailed monitoring results are presented across 17 chapters, each dedicated to a specific goal. These chapters highlight the EU's progress over recent years and identify areas requiring further effort. In addition, we analyse the short-term progress towards the SDGs using timely and high-frequency data. This approach allows us to monitor how recent impactful events have affected progress towards the goals. The report also features an analysis of the EU in the world, including a comparison of the EU with other major economies as well as an analysis of the global spillover effects as a result of EU consumption.

It is our belief that this report will serve as a valuable resource for European citizens, policymakers, researchers, and businesses. By providing informed insights, it will guide sustainable development actions and ensure that European societies are better equipped to face both current and future challenges.

Mariana Kotzeva

Director-General, Eurostat

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Data coverage and direct links to Eurostat's database

The data presented in this publication were extracted at the end of April 2024.

An online data code available under each table/figure can be used to directly access to the most recent data on Eurostat's website, at:

https://ec.europa.eu/eurostat/data/database

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Synopsis

The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), adopted by the United Nations (UN) in September 2015, is the world's roadmap for achieving sustainable development in this decade. The European Union (EU) has fully committed itself to delivering on the 2030 Agenda, and the SDGs form an intrinsic part of the European Commission's work programme and the Political Guidelines of Commission's President Ursula von der Leyen ([1]). In this context, the EU also presented its first Voluntary Review on the implementation of the 2030 Agenda at the United Nations' High-Level Political Forum in July 2023.

Monitoring is an essential component in realising the 2030 Agenda's vision, both globally and in the EU, by assessing and visualising the progress made so far towards the 17 SDGs. Since 2017, Eurostat prepares annual reports monitoring the progress towards the SDGs in the EU context. The 2024 edition is thus the eighth report in this series, analysing the EU's progress towards the goals based on the official EU SDG indicator set.

The report presents an objective assessment of whether the EU — according to the selected indicators — has progressed towards the SDGs over the past 15-year period. Additionally, assessments of the most recent five-year period of available data ('short-term') are presented to provide an indication of whether a trend has been persistent or has recently changed direction or pace. Given the time lag of the annual data, the assessments mainly refer to the periods up to 2022 or 2023. EU Statistics on Income and Living Conditions (EU-SILC) refer to people's income up to the year 2021. Thus, impacts of the COVID-19 pandemic are fully visible and more recent developments such as those caused by Russia's military aggression against Ukraine are also mostly reflected. A chapter dedicated to short-term trends uses quarterly and monthly data to look in more detail into recent developments affecting SDG progress.

How has the EU progressed towards the SDGs?

The overview arrow (overleaf) shows the pace at which the EU has progressed towards each of the 17 goals over the most recent five-year period according to the selected indicators. Due to limited data availability, a long-term assessment is not possible for all indicators. The method for assessing indicator trends and aggregating them at the goal-level is explained in Annex II.

Over the five-year period assessed, the EU has made significant progress towards reducing inequalities (SDG 10), ensuring decent work and economic growth (SDG 8) and reducing poverty (SDG 1). Good progress has also been achieved in relation to the goals on sustainable agriculture (SDG 2), innovation and infrastructure (SDG 9), sustainable consumption and production (SDG 12), life below water (SDG 14), quality education (SDG 4) and gender equality (SDG 5). The EU has also seen progress towards the goals on peace, justice and strong institutions (SDG 16), sustainable cities and communities (SDG 11), global partnerships (SDG 17) and climate action (SDG 13).

Progress towards the goal on clean water and sanitation (SDG 6) was limited, with several indicators showing positive developments but others showing no progress or even movement away. For affordable and clean energy (SDG 7), a slight movement away from the goal was observed due to the negative impact on energy affordability of Russia's war of aggression against Ukraine and the consequent energy crisis in the EU. Progress towards the goal on health and well-being (SDG 3) was disrupted by the setbacks of the COVID-19 pandemic that are now fully visible in the available data. The goal on life on land (SDG 15) is characterised by several unsustainable trends in the areas of biodiversity and land degradation, leading to a moderately unfavourable assessment of the EU's progress in this area over the short-term period assessed. The European Commission has proposed important policy initiatives to reverse the degradation of ecosystems, as part of the European Green Deal, such as the EU Biodiversity Strategy, the EU Forest Strategy and the EU Soil Strategy for 2030.

For each of the goals, the following section provides a brief overview of the main indicator trends standing behind the goal-level assessment. The goals are presented in order of aggregated indicator trend assessments, from best to worst.

Summary at goal level

Developments in **SDG 10 'Reduced inequalities'** have been very favourable over the five-year period assessed. Income inequalities within countries have improved since 2017, as shown by the narrowing income gaps between the richer and the poorer population groups. Similarly, the relative median at-risk-of-poverty gap and the poverty gap between rural and urban areas narrowed in the EU. Data on economic disparities between EU countries also paint a favourable picture, showing a continued convergence of Member States in terms of GDP per capita and household income. Furthermore, the labour market integration of migrants from outside the EU improved, as shown by the narrowing of the gap between non-EU citizens and EU home-country nationals for almost all the indicators monitored here. Together, all these positive developments contributed to making SDG 10 the goal with the strongest EU progress in this report.

SDG 8 'Decent work and economic growth' shows continued improvements in almost all the indicators monitored, even though the pace of the progress partly slowed in 2023 compared with earlier years. Despite a stagnation in 2023, both GDP per capita and investment have improved since 2018. This favourable development is also reflected in the labour market, with the EU's employment rate reaching a new record high of 75.3 % in 2023. Similarly, both the EU's long-term unemployment rate and the share of young people neither in employment nor in education and training (NEET) fell to new record lows in 2023. The EU is thus well on track to meet its respective 2030 targets for employment and NEET rates. In the area of decent work, both the incidence of fatal work accidents and the share of 'working poor' have seen favourable developments in the time period assessed. The EU's material footprint, however, has grown since 2017, suggesting that in the EU resource demand is still strongly linked with economic activity.

Overview of EU progress towards the SDGs over the past 5 years, 2024

(Data mainly refer to 2017–2022 or 2018–2023)

The EU's situation has improved for most indicators monitored in this report under **SDG 1 'No poverty'**. Most of these improvements took place up to 2019, while trends were mixed in the three following years to 2022. Trends for multidimensional poverty in the five-year period assessed show that fewer people were affected by monetary poverty, suffered from severe material and social deprivation or lived in (quasi-)jobless households. Despite these improvements, significant further efforts will be necessary to meet the EU's multidimensional target of lifting at least 15 million people out of poverty or social exclusion by 2030. In the area of basic needs, the share of people overburdened by their housing costs or facing severe housing deprivation has fallen over the five-year period assessed. However, the proportion of people reporting unmet needs for medical care has risen almost continuously since its low in 2017.

Monitoring **SDG 2 'Zero hunger'** in an EU context focuses mainly on the sustainability of agricultural production and its environmental impacts, but also on malnutrition. Trends concerning the viability and sustainability of agricultural production have been quite favourable over the past five years. The labour productivity of the EU's agricultural sector has improved and public investments in agricultural R&D have increased. In addition, organic farming has grown steadily, although stronger progress will be required to meet the target of 25 % of the EU's total farmland to be farmed organically by 2030. The use and risk of chemical pesticides has also decreased since 2016, with the EU being on track to its respective 2030 target. Ammonia emissions from agriculture and nitrate concentrations in EU groundwater bodies have fallen since 2016. However, adverse impacts of agricultural production remain visible in the EU, most notably the continued and dramatic decline of common farmland birds. No progress has been made on malnutrition, with the share of obese people in the EU stagnating.

Trends concerning **SDG 12 'Responsible consumption and production'** have been somewhat mixed over the past few years. The demand for the global extraction of materials induced by the consumption of goods and services within the EU has grown since 2017. Trends for other consumption patterns are more favourable, showing a decrease in the consumption of hazardous chemicals and an increase in the EU's energy productivity. Additionally, the average carbon dioxide (CO_2) emissions efficiency of EU car fleets has improved since 2017, even though stronger progress will be necessary to meet the 2030 target. The environmental goods and services sector has continued to outperform other economic sectors in terms of growth in gross value added since 2016. Total waste generation had been on the rise in the EU until 2018 but fell in 2020, likely as a result of lower economic activity in that year. The EU's circular material use rate has stagnated below 12 % over the past few years, meaning the EU is currently not on track to doubling this rate by 2030 relative to 2020.

SDG 9 'Industry, innovation and infrastructure' is characterised by favourable trends in most of its indicators, with the main exception of the area of sustainable transport. As regards R&D and innovation, the EU has seen continued but slow growth in its R&D expenditure (both in absolute terms and in relation to GDP), and stronger efforts will be necessary for the EU to meet its respective 2030 target of dedicating 3 % of its GDP to R&D. The indicators on patent applications to the European Patent Office, the share of R&D personnel in the labour force and the share of young people with tertiary education have improved considerably in recent years. As regards the sustainability of the EU's industrial sector transformation, the air emissions intensity of the manufacturing sector — in terms of fine particulate matter emissions relative to its gross value added (GVA) — has improved, and the GVA of the environmental goods and services sector has continued to grow. Developments are mixed for sustainable infrastructure. The share of households enjoying high-speed internet connections has grown considerably since 2017. However, both passenger and freight transport have shifted further away from environmentally friendly modes such as buses, trains or inland waterways.

The EU has also made moderate progress towards **SDG 14 'Life below water'**. Trends in marine conservation and sustainable fisheries are generally favourable. The extent of marine protected areas has grown since 2012, and the EU appears on track towards meeting the target of 30 % of marine waters being under protection by 2030. However, it needs to be acknowledged that the available data do not provide an indication of the sites' conservation status nor the effectiveness of the protection they offer to species and habitats. Model-based indicators on sustainable fisheries provide an improving picture as regards the trends of fish stock biomass and fishing pressure in EU marine waters. Trends on ocean health are, however, less positive. Due to the absorption of CO_2 into the world's oceans, the mean surface seawater acidity is continuing to increase, and in 2022 reached another unprecedented high over pre-industrial levels. The share of EU marine waters affected by eutrophication is characterised by annual fluctuations but has on average grown since 2018. On a more positive note, the share of coastal bathing sites with excellent water quality has increased slightly in the EU Member States since 2017.

Regarding **SDG 4 'Quality education'**, participation in education and training has developed favourably while education outcomes have clearly deteriorated. Concerning participation in education, the EU is well on track to meet its 2030 targets for early leavers from education and training and tertiary educational attainment. Adult learning (referring to the four weeks before the data collection) has also increased, showing particularly strong growth since 2020. However, the share of children participating in early childhood education has not grown substantially since 2016, and the EU is thus not on track to meet the respective 2030 target. Moreover, trends have been clearly unfavourable for educational outcomes. The proportion of low achieving pupils in reading, mathematics and science as measured in the OECD's PISA study increased strongly between 2018 and 2022, moving the EU further away from its target of reducing these shares to 15 % by 2030. In addition, the share of adults with at least basic digital skills stood just above 55 % in 2023 and thus remains far from the target of 80 % by 2030.

The goal-level assessment of **SDG 5 'Gender equality'** has deteriorated compared with previous monitoring report editions. In the EU, more young women than men attain secondary and tertiary education, and the respective gender gaps have increased further since 2018. The situation on the labour market has improved, as women's hourly earnings are catching up with those of men, and the gap between men and women who are outside the labour force due to caring responsibilities has narrowed since 2018. Similarly, the gender employment gap has decreased since 2018, even though stronger progress will be necessary for the EU to meet its target of halving this gap by 2030. Women continue to occupy more leadership positions, as shown by considerable growth in both the shares of women in national parliaments and in senior management positions of the largest listed companies. Despite these improvements, more efforts are needed to reach gender parity in the labour market and in leadership positions.

ssment of **SDG 16 'Peace, justice and strong institutions'** has likewise seen a backslide compared with previous monitoring report editions, in part due to changes in the indicators selected. A new indicator on trafficking in human beings shows that the number of detected victims — trafficked mostly for sexual or labour exploitation — has grown strongly in the EU since 2018. In contrast, the rate of deaths due to homicide or assault kept falling, even though progress has slowed compared with previous years, and the perceived occurrence of crime, violence and vandalism in European neighbourhoods has decreased. Regarding access to justice, government expenditure on law courts has increased, while the perceived independence of justice systems in Member States slightly deteriorated in recent years. Additionally, the EU's rating in the Corruption Perceptions Index has been stagnating, even though EU countries continue to rank among the least-corrupt globally.

The indicators used for monitoring **SDG 11 'Sustainable cities and communities'** show a somewhat mixed picture. While developments regarding the quality of life in cities and communities have been favourable, the areas of sustainable mobility and environmental impacts show several unfavourable trends. Regarding quality of life, the indicators on severe housing deprivation, perceived exposure to noise, premature deaths due to exposure to fine particulate matter as well as the occurrence of crime, violence and vandalism in the neighbourhood have all developed favourably over the past few years. In the area of sustainable mobility, the use of public passenger transport modes (buses and trains) in 2021 remained at a considerably lower level than before 2020 as a result of changed mobility habits due to COVID-19. Moreover, road traffic deaths increased in 2021 and 2022 after a lockdown-induced low in 2020, and stronger efforts will be necessary for the EU to meet its respective 2030 target. Regarding environmental impacts, soil sealing with impervious materials has continuously increased since 2006, and the growth in the EU's recycling rate of municipal waste has slowed in recent years, putting the EU off track to meeting its respective target by 2030.

Overall, **SDG 17 'Partnerships for the goals'** improved compared with previous monitoring report editions but still shows a mixed picture. In the area of global partnership, EU imports from developing countries have grown strongly by 2023 after the interruption of trade flows by the COVID-19 pandemic. Additionally, the EU's ratio of official development assistance (ODA) to gross national income (GNI) has grown strongly in 2022, in part due to support to Ukraine, putting the EU back on track to meet the 0.7 % target set for 2030. However, private EU financing to developing countries has fallen since 2017. As regards access to technology, the share of households enjoying high-speed internet connections has shown a clearly favourable trend since 2018. Regarding financial governance within the EU, even though the EU's overall debt-to-GDP ratio has fallen sharply since 2020, it remained above pre-pandemic levels in 2023. Moreover, the already low share of environmental taxes in total tax revenues declined even further and reached a new low in 2022.

The overall progress towards **SDG 13 'Climate action'** assessed in this report is better than in the 2023 edition. While the EU is facing increasing climate change impacts, it is stepping up its efforts to mitigate climate change and finance climate action. Most recent data for 2022 show that the EU has already reduced its net greenhouse gas emissions by 31 % since 1990. Stronger progress will be required though to meet the ambitious 55 % reduction target for 2030, with additional measures already introduced in the 'Fit for 55' package. However, the carbon removals achieved by the land use and forestry (LULUCF) sector that contribute to the overall net greenhouse gas emissions have declined in recent years, moving the EU away from its respective 2030 target. It is important to note that the assessment in this report is based on past greenhouse gas emissions and does not take into account the pathways and planned measures outlined in the National Energy and Climate Plans (NECPs) of the Member States. In support of the EU's climate-neutrality objective, the share of renewables in the EU's energy consumption has grown since 2017, and the average CO_2 emissions efficiency of EU car fleets has improved. Nevertheless, stronger progress will be required in both areas to meet the respective 2030 targets. Concerning climate change impacts and adaptation, the monetary losses from weather- and climate-related disasters rose sharply in recent years. On a positive note, financing of the transition towards climate-neutrality saw new funds made available via the issuance of green bonds. Additionally, climate-related expenditure for developing countries increased strongly in 2022.

Available data for **SDG 6 'Clean water and sanitation'** paint a mixed picture for the EU. On the positive side, the share of people without appropriate sanitation facilities in their households has been steadily decreasing, and connectivity to at least secondary waste water treatment has been improving slowly. However, trends regarding water quality are less favourable. While the biochemical oxygen demand in rivers and the nitrate concentrations in European groundwater bodies have decreased since 2016, phosphate concentrations in rivers have risen strongly. Additionally, the share of inland bathing sites with excellent water quality has been falling in the EU since 2017 and water scarcity is a concern, with the EU's water exploitation index showing a slightly increasing trend in recent years. Additionally, a new indicator on the impacts of drought on ecosystems shows that the EU area affected by drought has increased strongly since 2017.

The goal-level assessment of **SDG 7 'Affordable and clean energy'** in this report has slightly deteriorated compared with last year's edition, partly due to the repercussions of Russia's military aggression against Ukraine. In the area of energy consumption, the EU achieved reductions in both its primary and final energy consumption over the period from 2017 to 2022. However, further progress will be required to meet the ambitious 2030 targets adopted in September 2023. Final energy consumption in households has also decreased since 2017, while energy productivity has improved. Trends in energy supply have been more mixed. While the share of renewable energy has grown since 2017, stronger progress will be required to meet the respective 2030 target. Moreover, the EU's energy import dependency rose strongly in 2022, especially for natural gas, mainly due to the refilling of stocks that were particularly low at the end of 2021. Additionally, access to affordable energy saw a strong backslide because of energy price hikes, with the share of the population unable to keep the home adequately warm rising strongly in 2022.

The impact of the COVID-19 pandemic is now fully visible in **SDG 3 'Good health and well-being'**. While the EU's healthy life expectancy was on the rise until 2019, it declined quite strongly in the following two years and fell below pre-pandemic levels in 2021. Similarly, people's self-perceived health declined in 2021 and 2022, falling below pre-pandemic levels. Likewise, the avoidable mortality rate increased considerably in 2020 and 2021 due to COVID-19 related deaths. Road traffic deaths increased as well in 2021 and 2022 after the lockdown-induced reduction in mobility patterns, and stronger progress will be necessary for the EU to meet its 2030 target. The other causes of mortality monitored in this report — fatal work accidents and premature deaths due to exposure to fine particulate matter — have not (or to a lesser extent) been affected by the pandemic and continue to show favourable developments. The same applies to most of the health determinants monitored. The share of people suffering from noise disturbance fell slightly between 2015 and 2020, as did the share of smokers. The share of obese people remained unchanged between 2017 and 2022. Trends in access to health care have been even more unfavourable. The share of people reporting unmet needs for medical care has risen almost continuously since its low in 2017. Additionally, a new indicator shows that the consumption of antibiotics in the community and hospital sectors has fallen only slightly since 2017, meaning the EU is not on track to meet its respective 2030 target.

15 LIFE ON LAND

The assessment of **SDG 15 'Life on land'** remains unfavourable, showing a further worsening of the situation compared with previous editions. This is attributable in part to a new indicator on the area impacted by drought. While the EU's forest area has increased slightly, pollutant concentrations in European rivers have shown mixed trends, with improvements in the biological oxygen demand occurring alongside increases in phosphate concentrations. Regarding land degradation, soil sealing with impervious materials has increased continuously since 2006 and the EU area affected by drought has grown strongly since 2017. New data on terrestrial protected areas show that the designation of new areas has stagnated since 2019, meaning the EU is not on track to protecting at least 30 % of its land area by 2030. Additionally, the EU continues to face dramatic long-term declines in common bird and grassland butterfly populations. This overall assessment of SDG 15 thus confirms the results of other stocktaking reports and evaluations, which conclude that the conservation status of ecosystems and biodiversity in the EU is unfavourable, and that the negative impacts of EU life-style patterns on (global) biodiversity are considerable (2).

Notes

([1]) See the introduction on page 19 for a more detailed overview of the EU policy context related to the SDGs. The relevant EU policies for a specific SDG are presented in the 'policy context' sections at the beginning of the respective thematic chapters.

([2]) See, for example, European Environmental Agency (2023), *Monitoring report on progress towards the 8th EAP objectives — 2023 edition*; Maes, J., Teller, A., Erhard, M., Conde, S., Vallecillo Rodriguez, S., Barredo Cano, J.I., Paracchini, M., Malak, D.A., Trombetti, M., Vigiak, O., Zulian, G., Addamo, A., Grizzetti, B., Somma, F., Hagyo, A., Vogt, P., Polce, C., Jones, A., Carré, A. and Hauser, R. (2021) *EU Ecosystem Assessment*; and Díaz et al. (2019), *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on biodiversity and Ecosystem Services*.

Introduction

About this publication

Sustainable development objectives have been at the heart of European policy-making for a long time. They are firmly anchored in the European Treaties ([1]) and are a mainstream part of key projects, sectorial policies and initiatives. The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), adopted by the United Nations (UN) in September 2015, have given a new impetus to global efforts towards achieving sustainable development. The EU and its Member States are committed to this historic global framework agreement and to playing an active role in maximising progress towards the SDGs.

The von der Leyen Commission has made sustainability an overriding political priority for its mandate. All SDGs feature in one or more of the six headline ambitions for Europe announced in the Political Guidelines, making all Commission work streams, policies and strategies conducive to achieving the SDGs. Key elements of the Commission's 'whole of government' approach for delivering on the 2030 Agenda include the design of deeply transformative policies such as the 'European Green Deal' and the integration of the SDGs into the European Semester. The European Green Deal aims to transform the Union into a modern, resource-efficient and competitive economy where climate and environmental challenges are addressed and turned into opportunities, while making the transition just and inclusive for all. The Commission's overall approach towards implementing the SDGs is described in the staff working document (SWD) 'Delivering on the UN's Sustainable Development Goals — A comprehensive approach'.

Eurostat supports this approach through regular monitoring and reporting on progress towards the SDGs in an EU context. This publication is the eighth edition of Eurostat's series of monitoring reports, which provide a quantitative assessment of the EU's progress towards reaching the SDGs. This publication is based on the EU SDG indicator set, which includes indicators relevant to the EU and enables the monitoring of progress towards the goals in the context of long-term EU policies. It is aligned as far as appropriate with the UN list of global indicators, but it is not completely identical. This allows the EU SDG indicators to focus on monitoring EU policies and on phenomena particularly relevant in a European context.

The Eurostat monitoring report is a key tool for facilitating the coordination of SDG-related policies at both EU and Member State levels. As part of this process, it promotes the ongoing assessment and monitoring of progress in implementing the SDGs, and helps to highlight their cross-cutting nature and the links between them.

This 2024 edition of the EU SDG monitoring report begins with a synopsis of the EU's overall progress towards the SDGs, followed by a presentation of the policy background at the global and EU levels and the way the SDGs are monitored at EU level (see the following pages in this chapter). The detailed monitoring results are presented in 17 chapters, one for each of the 17 SDGs. This is preceded by an analysis of how the recent most impactful circumstances, such as Russia's invasion of Ukraine and the subsequent energy crisis, have influenced the EU on its way towards achieving the SDGs. The report closes by comparing the EU with other major economies against selected SDG indicators and providing an analysis of the spillover effects of EU consumption on other parts of the world. The Annexes contain a list of the policy targets monitored in this report as well as notes on methods and sources.

The 2030 Agenda for Sustainable Development

'Development which meets the needs of the current generations without compromising the ability of future generations to meet their own needs'. This is the definition of sustainable development that was first introduced in the Brundtland report by the World Commission on Environment and Development (WCED) in 1987, and it is the one most widely used nowadays. After the Brundtland report came several important milestones in the international pursuit of sustainable development: the Rio Declaration on Environment and Development (1992), the World Summit for Social Development (1995), the Programme of Action of the International Conference on Population and Development (ICPD) (1994), the Beijing Platform for Action (1995), the Millennium Declaration (from which the Millennium Development Goals were derived), the World Summit on Sustainable Development (2002), the 2005 World Summit and the UN Conference on Sustainable Development (Rio+20) in 2012. Together, they paved the way for the 2030 Agenda.

In September 2015, the UN General Assembly (UNGA) adopted the 'Transforming our world: the 2030 Agenda for Sustainable Development' document. The 2030 Agenda is the current global sustainable development agenda. At the core of the 2030 Agenda is a list of 17 SDGs (see Figure I.1) and 169 related targets to end poverty, protect the planet and ensure prosperity and peace. The Agenda also calls for a revitalised global partnership to ensure its implementation. The SDGs are unprecedented in terms of significance and scope by setting a wide range of economic, social and environmental objectives and calling for action by all countries, regardless of their level of economic development. The Agenda emphasises that strategies for ending poverty and promoting sustainable development for all must go hand in hand with actions that address a wider range of social needs and which foster peaceful, just and inclusive societies, protect the environment and help tackle climate change. Although the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for achieving the 17 goals.

Monitoring of the SDGs takes place at various levels: global, regional, national, local and thematic. The

FIGURE I.1

The UN Sustainable Development Goals

UN High-Level Political Forum (HLPF) is the UN's central platform to follow up and review the 2030 Agenda and the SDGs at the global level. To this end, the 2030 Agenda encourages UN member states to conduct voluntary national reviews of progress towards the SDGs ([2]). Regular reviews by the HLPF are voluntary, state-led and undertaken by both developed and developing countries. In July 2023, the European Commission presented the first EU voluntary review, reflecting on the collective effort of the EU and its Member States regarding implementation of the SDGs. This was the first time when a voluntary review was presented not by a country but by a supranational union, such as the EU.

In order to follow up and review the goals and targets, a set of global indicators was designed by an Inter-Agency and Expert Group (IAEG-SDGs) under the supervision of the UN Statistical Commission ([3]). In July 2017, the UNGA adopted a global SDG indicator list, including 232 indicators. A comprehensive review of the indicator framework in early 2020 resulted in the approval of 36 major changes to the global SDG indicator list including additions and deletions. Therefore, the revised global SDG indicator framework from 2020 now consists of 231 indicators. Another such review is planned for 2025.

Every year, the UN releases a Report of the Secretary-General on 'Progress towards the Sustainable Development Goals', followed by an SDG report for the broader public. The latter provides an overview of progress on each of the 17 SDGs based on selected indicators from the global indicator framework. The 2023 UN annual report was a special edition that provided a mid-term review of progress made globally since 2015 and put forward major recommendations to rescue the goals that are not on track.

The global indicator framework used to monitor the implementation of the 2030 Agenda is complemented by indicators at the level of UN world regions and at national level. For example, indicator sets have been developed for the Asia-Pacific region, for Africa and for Latin America and the Caribbean. At the European level, the UN Economic Commission for Europe (UNECE) selected 80 indicators from the global list based on relevance for the region and data availability for a newly developed UNECE SDG Dashboard. The UNECE also published a first edition of a Roadmap on Statistics for Sustainable

Development Goals in July 2017 and a second edition in February 2022. The latest roadmap aims to provide guidance to members of national statistical systems and other stakeholders on how to best navigate the complex task of measuring the achievement of the 2030 Agenda's goals and targets. The roadmap covers different aspects such as national coordination, reporting on global SDG indicators, tracking progress at various levels, quality assurance, the ambition to 'leave no one behind' communication, Voluntary National Reviews and capacity development. The EU SDG indicator set is in line with the UNECE roadmaps.

Sustainable development in the European Union

FIGURE I.2

The European Commission Priorities

FIGURE I.3

The Commission's 'whole-of-government approach' to implementing the Sustainable Development Goals

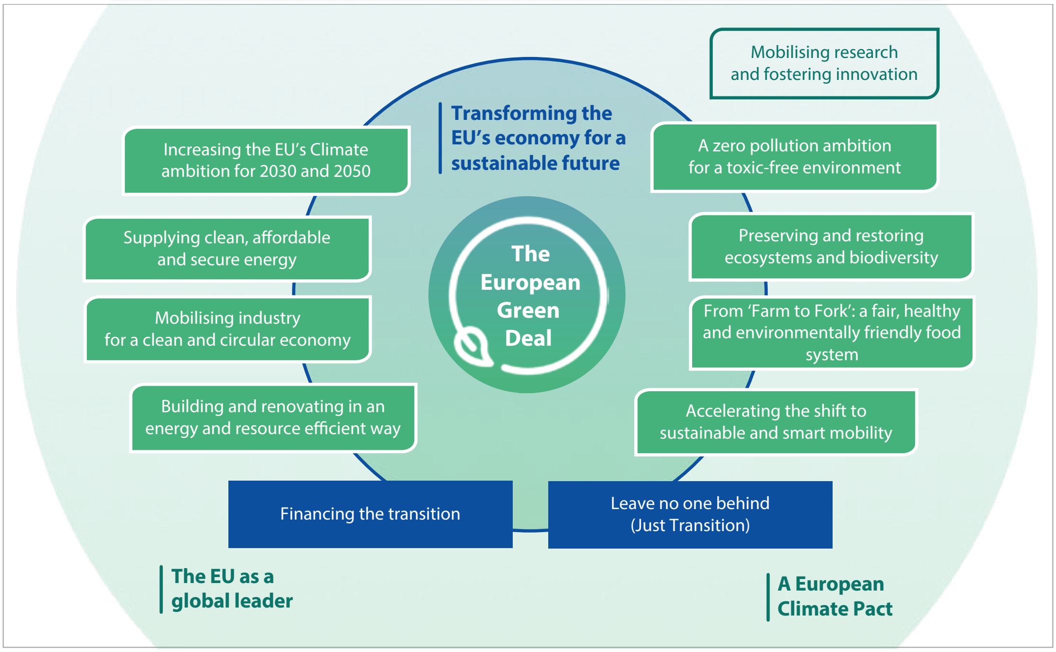
Sustainable development is not only a core principle for the European Union but also an overriding political priority for the von der Leyen Commission, which is reflected in the six headline ambitions for Europe announced in the Political Guidelines (see Figure I.2) and the investment priority areas of the Global Gateway strategy. Each Commissioner is responsible for ensuring that the policies under his or her oversight embed the Sustainable Development Goals, while the college of Commissioners is jointly responsible for implementing the 2030 Agenda. The President set out a 'whole-of-government approach' towards implementing the 2030 Agenda (see Figure I.3). In June 2023, the Council of the European Union reaffirmed that the 2030 Agenda and the SDGs remained the collective roadmap of the EU and its Member States for a sustainable future.

Several major policy documents have shaped the EU's approach to implementing the SDGs. A communication from 2016 'Next steps for a sustainable European future: European action for sustainability' announced the integration of the SDGs into the European policy framework. As a consequence, the EU has been monitoring the implementation of the SDGs since 2017 via annual SDG monitoring reports. In addition, a reflection paper 'Towards a Sustainable Europe by 2030' from 2019 highlighted the complex challenges the EU is facing and identified the competitive advantages that implementing the SDGs would offer the EU. Since late 2019, the von der Leyen Commission has presented many transformative policies aimed at delivering on the many aspects of sustainability in the EU and beyond. The EU's approach for implementing the 2030 Agenda is briefly summarised below and described in detail in a staff working document (SWD) 'Delivering on the UN's Sustainable Development Goals — A comprehensive approach'. For a complete overview of the European Commission's activities related to SDG implementation, see the Commission's website on the EU's holistic approach to sustainable development.

The European Green Deal, adopted in December 2019, is the EU's growth strategy and aims to transform the Union into a climate-neutral society while leaving no one behind (see Figure I.4). It aims to create a modern, resource-efficient, competitive and fair economy where there are no net emissions of greenhouse gases by 2050 and where economic

FIGURE I.4

The European Green Deal



growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital and to protect the health and well-being of citizens from environment-related risks and impacts. It is also an integral part of the Commission's strategy to implement the 2030 Agenda and the SDGs.

In March 2020, a new Circular Economy Action Plan was adopted by the European Commission, introducing measures along the entire life cycle of products. The new Plan focuses on design and production for a circular economy, with the aim of ensuring that the resources used are kept in the EU economy for as long as possible.

The EU Bioeconomy Strategy provides a cross-cutting framework to enable transformative innovations regarding the use of biological resources, and to ensure that the supply of biomass for food and bio-based products fully respects the planet's finite boundaries. A sustainable circular bioeconomy contributes to the European Green Deal objectives, including the mitigating of climate change through substituting renewable products and energy for fossil fuels and other carbon-intensive materials, and by contributing to carbon storage in products and ecosystems.

In May 2020, another important initiative that lies at the heart of the European Green Deal was adopted — the Farm to Fork Strategy. This strategy aims to make food systems in the EU fair, healthy and environmentally friendly by ensuring sustainable food production, processing, distribution and consumption, and by minimising food loss.

The EU Biodiversity strategy for 2030, also adopted in May 2020 as a part of the Green Deal, aims to put Europe's biodiversity on a path to recovery by 2030, and contains specific actions and commitments, such as establishing a large EU-wide network of protected areas on land and at sea, launching an EU nature-restoration plan and introducing measures to tackle the global biodiversity challenge.

The 2030 Climate Target Plan from September 2020 envisions reductions in greenhouse gas emissions to at least 55 % below their 1990 level by 2030 and sets

FIGURE I.5

Global Gateway and its key areas of partnership

Europe on a responsible path to becoming climate-neutral by 2050. This ambition was legally enshrined in July 2021 with the adoption of the European Climate Law. Under the heading of 'Delivering the European Green Deal', the Commission put forward several legislative proposals, actions and targets for making Europe the first climate-neutral continent. These relate to the necessary transformation of our economies and societies, sustainable transport, clean energy, renovation of buildings, enhancing natural carbon sinks, and boosting global climate action. The Council Recommendation on ensuring a fair transition towards climate neutrality aims to ensure that the Union's transition towards a climate-neutral and environmentally sustainable economy by 2050 is fair and leaves nobody behind. It sets out specific guidance to help Member States devise and implement policy packages to address the employment and social aspects for promoting a fair transition across all policies, notably climate, energy and environmental policies, as well as for making optimal use of public and private funding.

The Sustainable and Smart Mobility Strategy, adopted in December 2020, lays the foundation for how the EU transport system can achieve its green and digital transformation and become more resilient to future crises.

The Chemical Strategy for Sustainability, published in October 2020, is part of the EU's zero-pollution ambition. The Zero Pollution Action Plan released in May 2021 calls for air, water and soil pollution to be reduced to levels no longer considered harmful to health and natural ecosystems, respecting the boundaries with which the planet can cope, thereby creating a toxic-free environment.

The European Pillar of Social Rights Action Plan outlines concrete actions to further implement the 20 principles of the European Pillar of Social Rights as a joint effort by the Members States and the EU, with the active involvement of social partners and civil society. The revised Social Scoreboard, which is also linked to the SDGs, was presented as part of the Action Plan to monitor progress towards the implementation of the Social Pillar principles within the European Semester. The Action Plan also proposes employment, skills and poverty reduction headline targets for the EU to be achieved by 2030.

The new 2030 headline targets are consistent with the UN Sustainable Development Goals and set the common ambition for a strong Social Europe.

Meanwhile, the 2021 update of EU's new Industrial Strategy supports the twin transition to a green and digital economy. It seeks to ensure that the European industry leads the way in delivering the EU's goals for a green, inclusive and resilient future. The strategy aims to boost support for the renewable energy and climate transition, while reinforcing the EU's strategic autonomy. In early 2023, the Commission moreover launched a Green Deal Industrial Plan to enhance the competitiveness of the EU's net-zero industry and support the transition to climate neutrality. The plan aims to provide a more supportive environment for scaling up the manufacturing capacity of the net-zero technologies and products that are required to meet the EU's climate targets. The Communication 'Long-term competitiveness of the EU: looking beyond 2030' complements the Green Deal Industrial Plan with a long-term and comprehensive approach to the competitiveness of the EU.

Building on the European Green Deal, the 8th Environment Action Programme (EAP), adopted in March 2022, anchors the Member States' commitment to environmental and climate action until 2030, guided by a long-term vision to 2050 of well-being for all, while staying within the planetary boundaries. The 8th EAP has six priority objectives related to climate neutrality, climate adaptation, circular economy, zero pollution, protecting and restoring biodiversity, and reducing environmental and climate pressures related to production and consumption. In addition, the programme sets out an enabling framework and a monitoring framework to measure progress towards the required systemic change. In March 2024, the Commission adopted the 8th EAP mid-term review, which takes stock of progress towards the objectives considering the enabling framework.

Over the past few years, the EU has adopted policies on sectors related to the SDGs. The European Consensus on Development, adopted in 2017, translates the 2030 Agenda into the EU's shared vision and action framework for development cooperation. Global Gateway is the EU's strategy to support its partner countries in boosting smart, clean and secure links in digital, energy and transport sectors, and to strengthen health, education and research systems. It fully aligns with the 2030 Agenda as well as the Paris Agreement and brings together the EU, its Member States and their financial and development institutions as Team Europe.

The Team Europe approach was initially launched in early 2020, as a package to support partner countries in the fight against the COVID-19 pandemic and its consequences, and to ensure a coordinated and comprehensive response between the EU and its Member States. The approach has quickly become the backbone of Global Europe (the main financial tool for EU international cooperation from 2021 to 2027) and its programming. It notably includes the conception of Team Europe Initiatives, which are the main mode of delivery of the Team Europe approach.

Furthermore, EU cohesion policy, including the European Regional Development Fund (ERDF), the European Social Fund+ (ESF+), the Cohesion Fund and the Just Transition Fund (JTF), is also strongly aligned with the SDGs. It contributes to strengthening economic, social and territorial cohesion in the EU and correcting imbalances between countries and regions. It delivers on the Union's political priorities, especially the green and digital transition.

The EU research and innovation programme Horizon Europe aims to support researchers and innovators to drive the systemic changes needed to ensure a green, healthy and resilient Europe.

In line with the Political Guidelines, the SDGs have also been progressively integrated into the European Semester. For example, each European Semester country report includes an annex discussing the country's status, compared with the EU average, and progress in each SDG. The publication of the Annual Sustainable Growth Survey (ASGS) 2024 in November 2023 launched the 2024 European Semester cycle. This ASGS put forward an ambitious agenda to further strengthen a coordinated EU policy response to enhance the EU's competitiveness through a green and digital transition, while ensuring social fairness and territorial cohesion.

The national Recovery and Resilience Plans (RRPs) are structured around six thematic pillars to which they contribute, as mentioned in the Regulation on the Recovery and Resilience Facility: green transition; digital transformation; economic cohesion, productivity and competitiveness; social and territorial cohesion; health, economic, social and institutional resilience; policies for the next generation. In doing so, they also cover the four dimensions of competitive sustainability outlined in the 2024 ASGS: (1) macroeconomic stability, (2) environmental sustainability, (3) productivity, and (4) fairness. Each of these dimensions relate to a set of SDGs and therefore the reforms and investments in the RRPs are also expected to contribute to progress towards them. In the context of Europe's climate ambitions and of the digital transformation, all RRPs need to focus strongly on both reforms and investments supporting the green and digital transitions. Each plan must provide a minimum of 37 % of the allocated funds to climate action and 20 % to digital spending. The plans approved have gone even beyond this and, on average, dedicate around 40 % of resources to climate-related measures and more than 26 % to the digital transition.

Monitoring sustainable development in the EU

The European Commission is committed to monitoring progress towards the SDGs in the EU context. Since the adoption of the first EU SDG indicator set in May 2017, Eurostat has led the further development of the indicator framework in close cooperation with other Commission services, the European Environment Agency and Member State organisations in the European Statistical System (ESS), involving also Council Committees and Working Parties as well as the civil society.

The EU SDG indicator set is structured along the 17 SDGs and covers the social, economic, environmental and institutional dimensions of sustainability as

TABLE I.1

Explanation of symbols for indicating progress towards SD objectives and targets

Symbol	With quantitative target	Without quantitative target
	Trends for indicators marked with this 'target' symbol are calculated against an official and quantified EU policy target. In this case the arrow symbols should be interpreted according to the left-hand column below. Trends for all other indicators should be interpreted according to the right-hand column below.	
↑	Significant progress towards the EU target	Significant progress towards SD objectives
↗	Moderate progress towards the EU target	Moderate progress towards SD objectives
→	[Category not applicable]	No progress towards nor movement away from SD objectives
↘	Insufficient progress towards the EU target	Moderate movement away from SD objectives
↓	Movement away from the EU target	Significant movement away from SD objectives
:	Calculation of trend not possible (for example, time series too short)	

represented by the 2030 Agenda. Each SDG is covered by six main indicators. They have been selected to reflect the SDGs' broad objectives and ambitions. Out of the 102 indicators, 34 are 'multi-purpose', meaning they are used to monitor more than one goal. This allows the link between different goals to be highlighted and enhances the narrative of this monitoring report. Sixty-eight of the current EU SDG indicators are aligned with the UN SDG indicators.

The UN indicators are selected for global-level reporting for countries at all levels of development and are therefore not always relevant in an EU context. The EU SDG indicators have been selected to take into account their policy relevance from an EU perspective, availability, country coverage, data freshness and quality. They have strong links with EU policy initiatives, which means preference is given to indicators which are also part of a high-level scoreboard of EU policies such as the Social Scoreboard for the European Pillar of Social Rights Action Plan or the Monitoring Framework for the 8th EAP. The EU SDG indicator set is open to annual reviews to consider new policy developments and include new indicators as methodologies, technologies and data sources evolve over time. The reviews involve many Commission services, European agencies such as the European Environment Agency (EEA), Member State institutions in the European Statistical System (ESS), European Council committees and working parties as well as civil society.

Based on the most recent EU SDG indicator set, the SDG monitoring reports also provide an assessment vis-à-vis SDG-related EU objectives and targets, visualised by arrow symbols. The assessment method considers whether an indicator has moved towards or away from the sustainable development objective, as well as the speed of this movement. Two different approaches are used for this assessment, depending on whether an explicit quantified and measurable target exists for the EU (or not). These two approaches are explained in detail in Annex I (see page 341). The assessment is usually done for the past 15- and 5-year periods of available data, providing an indication of whether a trend has been persistent or has shown a turnaround at a certain point in time. Table I.1 shows the symbols used for the progress assessment and explains their meaning for the two approaches (indicators with and without quantitative targets).

The trend assessments presented in the EU SDG monitoring reports are based on the indicators selected for the EU SDG indicator set and the applied methodology. Depending on the scope of the report and the applied methodology, the assessment scope and outcomes can differ from other reports of the European Commission or the EEA for example when these assessments also take into account planned measures or projections instead of past trends only.

Notes

([1]) Articles 3 (5) ad 21 (2) of the Treaty on European Union (TEU).

([2]) 'Conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven' (paragraph 79) of 'Transforming our world: the 2030 Agenda for Sustainable Development'. The UN Department of Economic and Social Affairs (DESA) has established an online platform to compile inputs from countries participating in the national voluntary reviews of the annual session of the HLPF. See https://hlpf.un.org.

([3]) The United Nations Statistical Commission, established in 1947, is the highest body of the global statistical system. It brings together the Chief Statisticians from member states from around the world. It is the highest decision-making body for international statistical activities, especially the setting of statistical standards, the development of concepts and methods and their implementation at the national and international level.

Analysis of EU short-term progress towards the SDGs

Sustainable development warrants a strong foundation for socioeconomic stability supported by peace and security. Since 2020, the world has been marred by multiple events with the potential to affect the progress towards the goals set by the 2030 Agenda for Sustainable Development. These include the COVID-19 pandemic, Russia's war of aggression against Ukraine and the related price hikes, especially for energy. In addition to these relatively short-term adversities, global climate change has been intensifying, with 2023 being the hottest year on record. In light of these turmoils, the role of the EU and its policies in extending support to Ukraine, transitioning to a healthy planet and a new digital era, securing economic prosperity and strengthening the role of the EU on the global stage is seen as crucial by its citizens to maintaining peace, security, economic growth and cooperation within its Member States ([1]). The analysis in this chapter illustrates short-term trends related to the EU's progress towards the SDGs, using additional breakdowns and more granulated time series of the EU SDG indicators, as well as other short-term statistics, to illustrate the impact of the most recent events on the lives of Europeans.

The increase in consumer prices across the EU has slowed in recent months

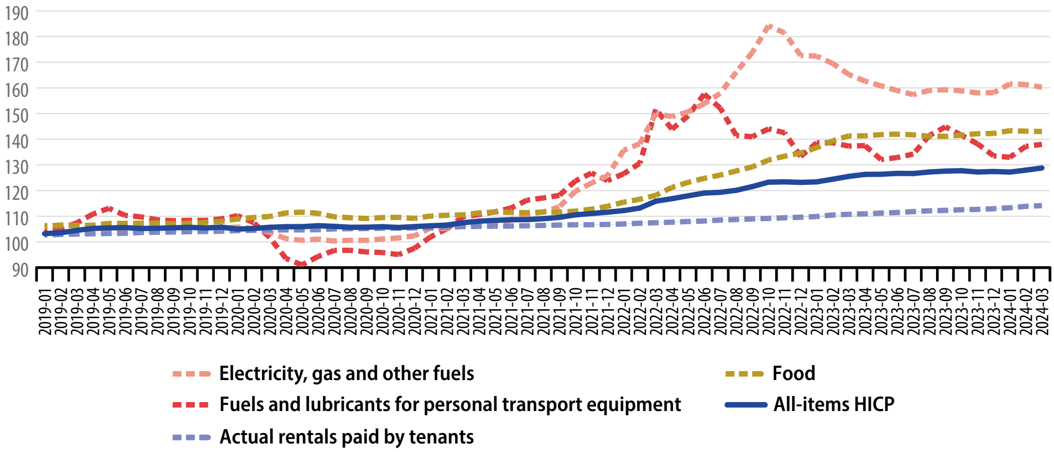
The Russian invasion of Ukraine in February 2022 hit at a time when Europe was just recovering from the economic disruptions caused by the COVID-19 pandemic. Following the measures put in place to combat the pandemic in 2020, Russia's military aggression against Ukraine has exerted a notable economic and societal influence on the EU (SDG 1, SDG 2, SDG 8, SDG 10 and SDG 12), impacting households across the region.

One of the most significant impacts can be seen in the rising prices for goods and services in the EU since the start of 2021 (see Figure II.1). Despite a period of relative price stability observed in the final quarter of 2023 and the first three months of 2024, the overall price index for commodities surged by 21 % between January 2021 and March 2024. This dynamic was largely determined by the increase in prices for electricity, gas and other fuels, which rose at the onset of the war and stabilised thereafter following a sequence of emergency Council regulations. Nevertheless, prices remained considerably higher than in early 2021. The price index for electricity, gas and other fuels increased unprecedentedly by 52 % between January 2021 and March 2024, peaking at a 75 % increase in October 2022. Food prices followed with a steady increase of 30 % since January 2021, seeing a particularly sharp rise between February 2022 and March 2023. Actual rental payments made by tenants exhibited a slow but steady upward trend, with an increase of 8 % since January 2021 ([2]).

FIGURE II.1

Harmonised index of consumer prices (HICP), EU, 2019–2024

(index 2015 = 100)



Source: Eurostat (online data code: prc_hicp_midx)

The impact of the rise in prices on the standard of living have been felt by the public. According to quarterly data on living conditions collected in nine Member States ([3]), more than 50 % of the population (in age group 16 to 64) surveyed in Bulgaria, Slovakia, Italy, Ireland and Slovenia could make ends meet only with some to great level of difficulty in the last quarter of 2022. Bulgaria observed the highest share (75.3 %) whereas Finland observed the lowest (34.9 %). Moreover, in all surveyed countries more than 40 % of the population reported that their income had remained more or less stable within the last 12 months preceding the survey, which entails a significant loss of purchasing power due to rising prices. In the last quarter of 2022, among the countries surveyed, the share of the population that experienced an increase in income ranged between 7.6 % in Italy and 27.5 % in Ireland, whereas the share of those who reported a decrease in income ranged from 6.7 % in Bulgaria to 35 % in Austria. Nevertheless, overall life satisfaction remained relatively stable over all quarters of 2022 across all countries surveyed.

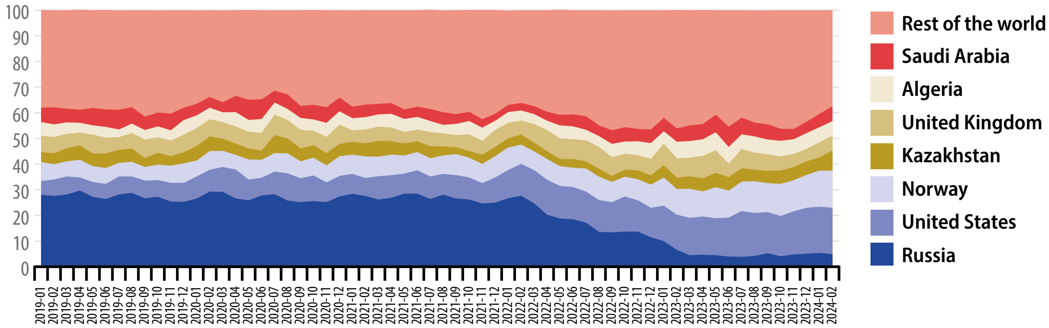
The EU is on the path to diversify its energy sources

Russia's invasion of Ukraine at the beginning of 2022 and the consequent sanctions have impacted the international trade in goods, most noticeably causing disruptions in the trade of oil, natural gas and coal (SDG 7). Throughout 2019, 2020 and 2021 and until the first quarter of 2022, Russia had been the EU's largest single source of energy imports, accounting for between 26 % and 28 % of total EU energy imports from its extra-EU partners (see Figure II.2). Owing to the sanctions and several policy actions, most notably REPowerEU and emergency Council regulations to warrant security of energy supply, this share declined substantially starting from the second quarter of 2022. By the beginning of 2024 (January and February), the share of energy imports from Russia had fallen to 5.1 % of total extra-EU imports. In turn, energy imports from other countries, in particular from the United States and Norway, increased to compensate for the decline in imports from Russia. In January and February 2024, the largest shares of extra-EU energy imports came from the United States (18.0 %), Norway (14.3 %), Kazakhstan (6.5 %), Algeria and the United Kingdom (5.8 % each) as well as Saudi Arabia (5.5 %) ([4]).

FIGURE II.2

EU imports of energy products, by partner, 2019–2024

(% of extra-EU imports)



Source: Eurostat (online data code: ext_st_eu27_2020sitc)

Despite the increasing importance of renewable energy sources, crude oil and petroleum products continue to be fundamental to maintaining economic stability in the EU. As a result, ensuring energy security in the EU necessitates holding emergency oil stocks to be relied on in times of need, especially given the ongoing geopolitical instability. The stocks reached a historical low in June 2022 at 101.1 million tonnes, recording a 10.3 % decrease relative to June 2021. Since then, the EU has increased its stocks by 7.2 %, amounting to 108.2 million tonnes as of May 2023 ([5]).

The EU granted temporary protection to those displaced by the Russian invasion of Ukraine

In addition to its effects on the economy and trade in energy, the Russian military aggression against Ukraine has left in its wake an influx of displaced people from the territories affected by invasion (SDG 10) who have sought refuge in the EU. To address this displacement, the Council Decision of March 2022 activated the Council Directive 2001/55/EC known as the Temporary Protection Directive ([6]), an EU emergency scheme used in exceptional circumstances of a mass influx to (a) provide immediate and collective protection to displaced persons and (b) reduce pressure on the national asylum systems of EU countries. On 28 September 2023, the European Council agreed to extend the temporary protection for people fleeing from Russia's war of aggression against Ukraine from 4 March 2024 to 4 March 2025 ([7]).

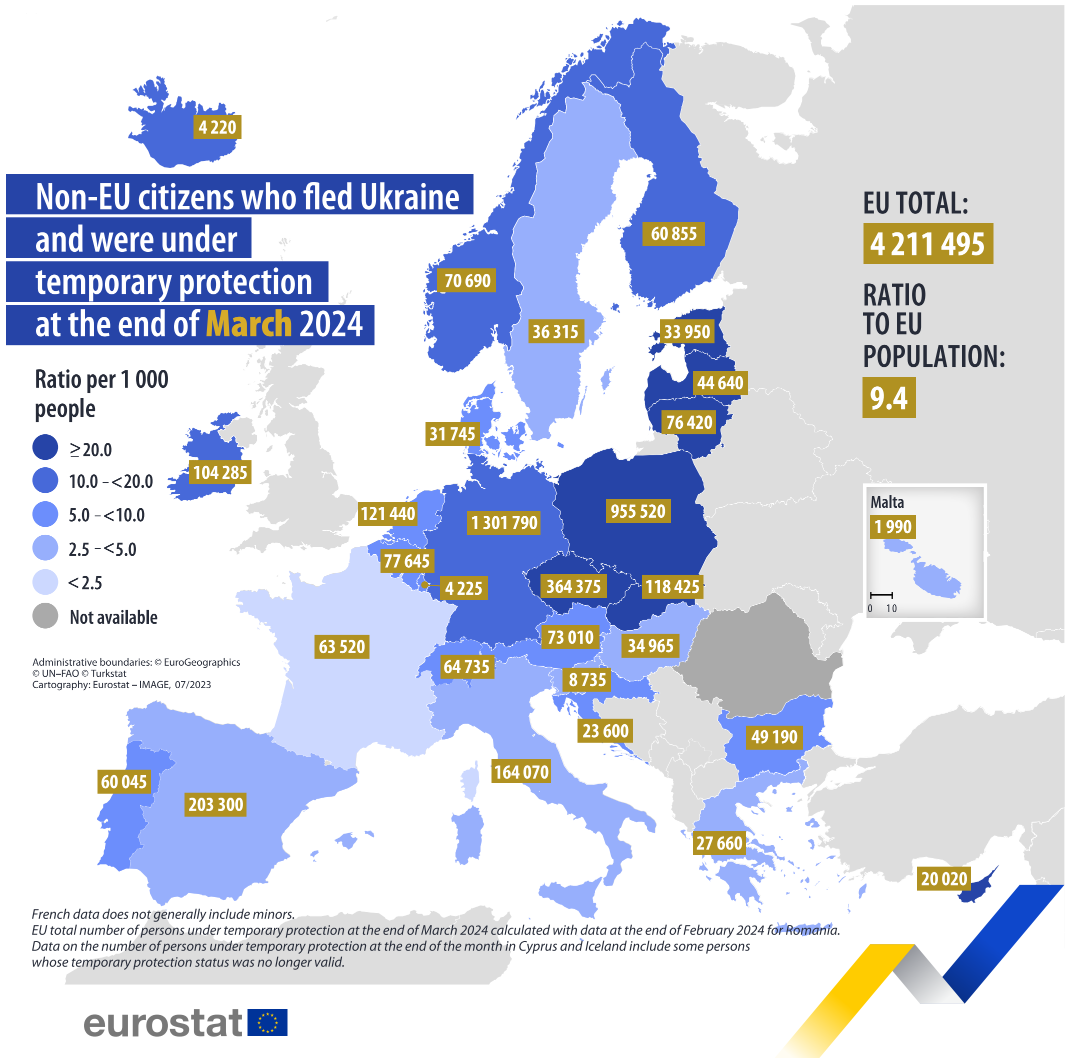
At the end of March 2024, about 4.2 million displaced people from Ukraine were beneficiaries of this temporary protection by the EU. Germany, Poland and Czechia hosted the highest absolute number of beneficiaries, providing temporary protection for more than 60 % of all beneficiaries in the EU. Czechia, Lithuania, Poland, Estonia and Latvia provided the highest temporary protection relative to their populations. In 2023, the number of non-EU citizens with temporary protections in the EU grew by almost half a million. As of March 2024, a large proportion of temporary protection seekers were adult women (mainly aged 35 to 64 years), representing 45.8 % of the total beneficiaries. The second largest group were children, amounting to 32.8 % of the beneficiaries. Of the countries for which data are available, Austria, Belgium and Lithuania granted the most temporary protections to unaccompanied minors in the EU. Most of the people who fled Ukraine and were under temporary protection in the EU at the end of February 2024 were Ukrainian (98.2 %). Other non-EU citizens receiving temporary protection were mainly from Russia (0.30 %), Nigeria (0.13 %) and Azerbaijan (0.11 %) ([8]).

While Ukrainian citizens fleeing the war zone have benefitted from the temporary protection scheme, other refugees are registered as asylum

MAP II.1

Non-EU citizens who fled Ukraine and benefitted from temporary protection at the end of March 2024

(total number and number per 1 000 inhabitants)



Source: Eurostat (online data codes: migr_asytpsm and demo_gind) applicants [9]. The number of asylum applicants from Russia has grown, recording 1 195 first-time applicants in January 2024. In the same month, the EU received 1 475 applications from Ukraine. Furthermore, the influx of refugees from the Middle East has intensified after the Hamas-Israeli war. In November 2023, the EU received 1 700 first-time applicants from Palestine and 140 from Israel. In January 2024, 1 170 applicants from Palestine and 95 from Israel were registered. Overall, the highest numbers of asylum applications continue to come from Syria, with 13 445 first time applicants in January 2024, followed by 7 185 applicants from Afghanistan and 6 380 applicants from Türkiye [10].

The EU continues to reduce its greenhouse gas emissions in the face of intensifying climate change

As the effects of climate change become more evident, the EU is striving to cut greenhouse gas (GHG) emissions towards its ambition of climate neutrality. Recent developments in mean temperature and weather extremes underline the importance of these actions. Earth's average temperature reached a new record high in 2023 [11] and the frequency and intensity of heatwaves has accelerated by human-caused climate change. Measurements of mean near-surface temperature show that Europe is warming even faster than the global average, and that several regions in Europe are projected to become hotspots for multiple climate risks in the absence of urgent actions [12]. Without adequate mitigation and adaptation, the death-toll due to extreme heat in the EU could increase 30-fold until the end of the century [13]. In light of these projections, the EU has adopted the European climate law, which obliges EU countries to collectively cut greenhouse gas emissions by at least 55 % by 2030 and reach climate neutrality by 2050.

Quarterly data from Eurostat's air emissions accounts [14] show that the EU's overall greenhouse gas emissions have declined since the beginning of 2022 (see Figure II.3), indicating that the EU has managed to continue the long-term reduction of its GHG emissions. Alongside a slight 0.2 % increase in GDP [15], the EU's greenhouse gas emissions are estimated to have decreased by 4.0 % in the fourth quarter of 2023 compared with the same quarter of 2022. In the fourth quarter of 2023, the economic sectors with the highest share of greenhouse gas emissions were households (22.9 %), manufacturing (19.9 %) and electricity and gas supply (17.7 %). Between the fourth quarters of 2022 and 2023, greenhouse gas emissions fell strongest in electricity and gas supply, by 17.2 %, and in the manufacturing sector, by 3.1 % [16].

Outlook of EU surveys on public perception and priorities

With the onset of the COVID-19 crisis and through the sequel of social, economic and environmental shocks that hit the EU thereafter, an unprecedented package of coordinated EU responses has been put forward and intensively deployed. In June 2021, the Commission inaugurated NextGenerationEU, an EUR 800 billion temporary instrument to support economic recovery and build a greener, more digital and resilient future. At its heart is the Recovery and Resilience Facility which raises funds to enable Member States to make their economies and societies more sustainable and resilient in the face of challenges such as the global energy market disruption caused by Russia's invasion of Ukraine.

The main concerns of Europeans in the end of 2023 were the war in Ukraine, immigration, the international situation, inflation and the cost of living, climate change, and the economic situation. Nevertheless, about 44 % of the respondents expect the economic situation in the EU in the coming 12 months to remain the same and 61 % of EU citizens surveyed remain optimistic about the future of the EU [17].

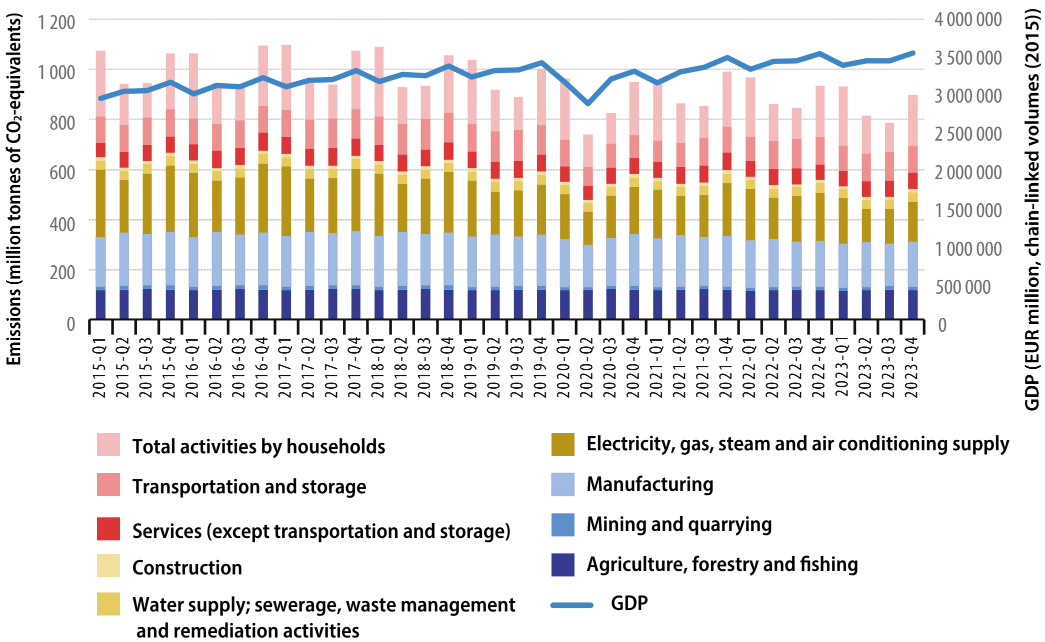
In the face of these complex shocks to the EU's economies and societies, the perception of people towards the EU, its policy actions and the impact it has on their lives becomes even more relevant. In light of the measures the EU put in place to alleviate the impacts of ongoing crises, 70 % of EU citizens believe that actions taken by the EU have an impact on their everyday lives. Most EU citizens would like the European Parliament to play a more important role in defending democracy, human rights and freedom of speech, with 36 % of respondents prioritising the fight against poverty and social exclusion, 34 % public health and 29 % climate change and creation of new jobs. Almost three quarters (73 %) of the EU citizens anticipate a decline in standard of living over the next year, while 37 % already experience difficulties paying bills either sometimes or most of the times ([18]). These findings are also confirmed by the Economic Sentiment Indicator on the current economic situation and expectations about the future: after peaking in October 2021 at 118.7, the index declined by 25.4 points and reached its lowest level in October 2022 at 93.3. Thereafter, it remained relatively stable in the EU, reaching 96.2 in March 2024 ([19]).

Over the year of 2023, the set of policies put in place by the EU and its Member States have helped to overcome several impacts of the recent events. During this period, the EU showed some signs of stabilisation over all three dimensions of sustainability — economic, environmental and social — as exemplified in the steadying of prices and the diversification of energy sources. These trends suggest the EU is slowly recovering from the distress caused by the pandemic and the onset of the Russian invasion of Ukraine, even though the reverberations of these events are still being felt by the EU's citizens. At the same time, the EU has also reduced its greenhouse gas emissions in light of the intensified effects of global climate change.

FIGURE II.3

Greenhouse gas emissions by the economy and GDP, EU, 2015–2023

(million tonnes of CO_2-equivalents and EUR million, chain-linked volumes (2015))



Note: Estimated data for greenhouse gas emissions.

Source: Eurostat (online data codes: env_ac_aigg_q and namq_10_gdp)

Notes

(1) European Parliament (2023), *EP Autumn 2023 Survey: Six months before the 2024 European Elections*; European Commission (2024), *The EU in 2023 — General report on the activities of the European Union*, Publications Office of the European Union.

(2) Source: Eurostat (online data code: prc_hicp_midx).

(3) Eurostat (2023), *Living conditions — quarterly statistics*.

(4) Source: Eurostat (online data code: ext_st_eu27_2020sitc); and Eurostat (2024), *EU international trade in goods — latest developments*.

(5) Eurostat (2023), *Emergency oil stocks statistics*.

(6) European Parliament *briefing on the Temporary Protection Directive* summarises the legal basis and the scope of the Temporary Protection Directive and its implementation for people fleeing Ukraine.

(7) European Council (2023), *Infographic — EU temporary protection for displaced persons*.

(8) Source: Eurostat (online code: migr_asytpsm) and Eurostat (2024), *Temporary protection for persons fleeing Ukraine — monthly statistics*.

(9) Asylum application refers to a standard system whereby non-EU nationals can seek international protection in one of the Member States. Temporary Protection refers to an exceptional measure put in place to provide immediate and temporary protection in the event of a mass influx, so as to reduce the burden on the existing asylum systems.

(10) Source: Eurostat (online code: migr_asyappctzm).

(11) NASA (2024), *NASA Analysis Confirms 2023 as Warmest Year on Record*.

(12) European Environment Agency (2023), *Global and European temperatures*; and European Environment Agency (2024), *European climate risk assessment: Executive Summary*, EEA Report 01/2024, Publications Office of the European Union, Luxembourg.

(13) European Union (2020), *Global warming and human impacts of heat and cold extremes in the EU*, Publications Office of the European Union, Luxembourg.

(14) See Eurostat's dedicated section on *emissions of greenhouse gases and air pollutants* for an explanation of the different measurement perspectives on air emissions (comprising accounts, inventories and footprints); also see the *methodological note on Eurostat's estimates of quarterly greenhouse gas emissions accounts*. For a more detailed analysis of the quarterly GHG emissions data, see Eurostat (2024), *Quarterly greenhouse gas emissions in the EU*.

(15) Source: Eurostat (online data code: namq_10_gdp).

(16) Source: Eurostat (online data code: env_ac_aigg_q).

(17) European Commission (2023), *Standard Eurobarometer 100 — Autumn 2023*.

(18) European Commission (2023), *EP Autumn 2023 Survey: Six months before the 2024 European Elections*.

(19) Eurostat (2024), *Eurostatistics — data for short-term economic analysis*; and Eurostat (online data code: ei_bssi_m_r2).

End poverty in all its forms everywhere

SDG 1 calls for the eradication of poverty in all its manifestations. It envisions shared prosperity, a basic standard of living and social protection benefits for people everywhere, including the poorest and most vulnerable.

Poverty harms people's lives and hampers social cohesion and economic growth. Monitoring SDG 1 in an EU context involves tracking aspects related to multidimensional poverty and basic needs. Over the assessed five-year period, the EU has made progress towards reducing the different aspects of poverty monitored here, but the overall pace has slowed compared with previous years. The composite indicator for multidimensional poverty shows that the number of people at risk of poverty or social exclusion has remained broadly stable since 2019. This is also due to the significant EU and national level measures to mitigate the negative social impacts of the COVID-19 pandemic and the ensuing cost of living crisis. The individual components of multidimensional poverty improved between 2017 and 2022, namely monetary poverty, social- and material deprivation, and low work intensity. However, significant further efforts will be required to meet the target set for multidimensional poverty to lift at least 15 million people out of poverty or social exclusion by 2030, compared with the 2019 level, along with the complementary ambition that at least 5 million of these should be children. Regarding basic needs, fewer people are now overburdened by housing costs or living in an overcrowded household. However, more people have been reporting an unmet need for medical care in 2022 than five years earlier.

Indicators measuring progress towards SDG 1, EU

Indicator	Period	Annual growth rate	Assessment	More info
Multidimensional poverty				
Persons at risk of poverty or social exclusion	Time series too short for long-term assessment		:	page 47
	2017–2022	Observed: – 0.6 %	↘	
		Required: – 1.5 %		
Persons at risk of monetary poverty after social transfers	2010–2022	0.1 %	→	page 50
	2017–2022	– 0.4 %	↗	
Severe material and social deprivation rate	Time series too short for long-term assessment		:	page 51
	2017–2022	– 2.7 %	↑	
Persons living in households with very low work intensity	Time series too short for long-term assessment		:	page 52
	2017–2022	– 2.0 %	↑	
In work at-risk-of-poverty rate	2010–2022	0.0 %	→	page 53
	2017–2022	– 2.2 %	↑	
Relative median at-risk-of-poverty gap (*)	2010–2022	0.0 %	→	SDG 10, page 201
	2017–2022	– 1.3 %	↑	
Basic needs				
Housing cost overburden rate	2010–2022	– 1.2 %	↑	page 54
	2017–2022	– 2.9 %	↑	
Self-reported unmet need for medical care (*)	2010–2022	– 3.8 %	↑	SDG 3, page 89
	2017–2022	6.6 %	↓	
Severe housing deprivation rate (*)	2010–2020	– 3.4 %	↑	SDG 11, page 219
	2015–2020	– 4.1 %	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

Policy context

Multidimensional poverty

The European Pillar of Social Rights (EPSR) promotes upward convergence towards better living and working conditions in Europe. The EPSR Action Plan set a target to reduce the number of people at risk of poverty or social exclusion by at least 15 million by 2030, compared with 2019 levels, of which at least 5 million should be children.

The reinforced Youth Guarantee strengthens prevention and activation of young people from vulnerable groups and will help reduce their poverty or social exclusion.

The European Child Guarantee helps to ensure that in Europe every child in need has effective and free access to quality early childhood education and care, education and school-based activities, at least one healthy meal each school day, healthcare, and effective access to adequate housing and healthy nutrition.

The Directive on adequate minimum wages in the European Union from 2022 aims to establish a framework to improve the adequacy of minimum wages and to enhance the access of workers to minimum wage protection. It thus contributes to improving living and working conditions and decreasing in-work poverty.

The Council Recommendation on minimum income ensuring active inclusion from 2023 aims to combat poverty and social exclusion and to pursue high levels of employment by promoting adequate income support, effective access to enabling and essential services, and by fostering labour market integration of those who can work.

The Council Recommendation on ensuring a fair transition towards climate neutrality from 2022 provides policy guidance for addressing relevant employment and social aspects in the context of the green transition.

The Commission Communication from 2022 on better assessing the distributional impact of Member States' policies calls for Member States to make the impact of planned measures and investments on the income of various groups more transparent.

The Strategy for the Rights of Persons with Disabilities 2021–2030 aims to reduce the risk of poverty for persons with disabilities through measures, for example in the fields of employment, health, accessibility and education.

The European Social Fund Plus (ESF+) is a key financial instrument for implementing the European Pillar of Social Rights. It supports, among other groups, the most deprived people and marginalised communities, addresses child poverty and supports the social integration of people at risk of poverty.

Basic needs

The affordable housing initiative is part of the Commission's renovation wave strategy for Europe, which aims to promote greener buildings, create jobs and improve lives. The initiative should ensure that social and affordable housing facilities also benefit from the renovation wave.

Overview and key trends

Multidimensional poverty

SDG 1 does not only call for the eradication of extreme poverty but also for poverty in all its dimensions to be halved by 2030. This global goal has a universal approach to reducing poverty. The EU also employs a multidimensional measure of poverty and in its European Pillar of Social Rights Action Plan has set the target to reduce the number of people at risk of poverty or social exclusion by at least 15 million by 2030 compared with the situation in 2019. A complementary ambition states that of these 15 million people, at least 5 million should be children.

The EU's at-risk-of-poverty-or-social-exclusion (AROPE) indicator is based on three components: monetary poverty (at-risk-of-poverty rate, AROP), severe material and social deprivation, and very low work intensity. Through this multidimensional approach, the indicator shows which share of the population is at risk of exclusion and marginalisation from economic and social activities [1].

Significant further efforts will be needed to meet the 2030 target to reduce the number of people at risk of poverty or social exclusion

In 2022, 95.3 million people, equalling 21.6 % of the EU population, were at risk of poverty or social exclusion. While this represents a 2.9 % decrease since 2017, when 98.1 million people (or 22.4 % of the population) had been at risk, the number has remained broadly stable since 2019. As a consequence, despite cushioning the negative social impacts of the COVID-19 and the inflation crises, significant further efforts will be needed to meet the EU target of lifting at least 15 million people out of poverty or social exclusion by 2030. It is worth noting that the trends related to monetary poverty — and thus in the overall risk of poverty or social exclusion indicator — might be affected by methodological changes in data collection from 2020 onwards in a few Member States [2].

95.3
million people in the EU were at risk of poverty or social exclusion in 2022

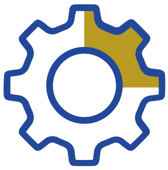
The number of children (persons aged less than 18 years) who are at risk of poverty or social exclusion amounted to 20.0 million in 2022, corresponding to 24.7 % of the population of this age group. This is a 2.1 % decrease compared with five years earlier, when 20.4 million children (25.1 %) were at risk of poverty or social exclusion across the EU. Nevertheless, the EU is currently not on track to meet the complementary ambition of lifting at least 5 million children out of poverty or social exclusion by 2030.

Monetary poverty is the main form of poverty or social exclusion in the EU

Monetary poverty was the most prevalent component of poverty or social exclusion in the EU in 2022, affecting 72.7 million people or 16.5 % of the population [3]. This means that after social transfers (other than pensions) these people had an equivalised disposable income of less than 60 % of the national median equivalised disposable income. The equivalised disposable income is a household's total income — after tax and other deductions — that is available for spending or saving, divided by a specific scale which takes into account the household's composition and size (all household members have the equivalised disposable income). 28.9 million people (6.7 % of the EU population) were affected by severe material

72.7
million people people in the EU were at risk of monetary poverty in 2022

and social deprivation in 2022, which meant they were unable to afford seven or more items out of a list of 13 elements of material goods, services or social activities considered by most people to be desirable or necessary for an adequate life (see page 51 for the full list). In the same year, very low work intensity, referring to people living in (quasi)jobless households where the adults worked equal to or less than 20 % of their total work-time potential during the past year, affected 27.3 million people aged less than 65 years (equalling 8.3 % of the population from this age group).



27.3
million people in the EU were living in (quasi-)jobless households in 2022

The three components of the at-risk-of-poverty-or-social-exclusion indicator — monetary poverty, very low work intensity, and severe material and social deprivation — are related but distinct concepts that can overlap. This means that some people might be affected by two or even all three dimensions at the same time. According to its definition, monetary poverty is a relative measure and strongly depends on the median income level in a given country. This means that even during times of increasing median income, the relative poverty rate may remain stable or even increase, depending on changes in income distribution across the population. Rates of people living in households with very low work intensity (jobless or quasi-jobless households) and severe material and social deprivation (indicating a lack of resources to cover certain material and social needs) are likely to decrease during economic recoveries when people are generally better off financially and the labour market situation has improved. Of all the 95.3 million people at risk of poverty or social exclusion in the EU in 2022, 27.9 million were affected by more than one dimension of poverty, and 5.6 million were affected by all three forms.

28.9
million people in the EU were affected by severe material and social deprivation in 2022

To reduce poverty, governments provide a wide range of measures, such as income support though various benefits (for example, unemployment benefits, sickness and invalidity benefits, and minimum income benefits), tax policies and provision of enabling, social and employment services. The impact of the transfers on poverty reduction can be assessed by comparing the at-risk-of-poverty rate before and after social transfers, excluding pensions. In the EU, social transfers (other than pensions) reduced the share of people at risk of poverty in 2022 from 25.4 % ([4]) to 16.5 %, which corresponds to a reduction by 35.0 % ([5]).

Considerable differences in poverty rates exist within the EU

The multidimensional risk-of-poverty-or-social-exclusion rate differs considerably between Member States. In 2022, national rates for this indicator ranged from 11.8 % in Czechia to 34.4 % in Romania. While Czechia ranked among the best-performing countries for all three components, other countries show striking differences in their situation in terms of monetary poverty, severe material and social deprivation, and very low work intensity. This illustrates that good performance on one indicator does not necessarily go hand in hand with a similar performance on another one. Romania, for example, had one of the highest shares of monetary poverty after social transfers and the highest share of severely materially and socially deprived people in 2022, while at the same time its share of (quasi) jobless households was one of the lowest across the EU. Finland is another example with striking differences between the three components. It had the second lowest rate of people affected by severe material and social deprivation and was among the countries with the lowest risk of monetary poverty after social transfers, but it had the third highest share of (quasi)jobless households. These examples show that the drivers behind Member States' at-risk-of-poverty-or-social-exclusion rates can vary, depending on the national context.

Children and young people are particularly affected by poverty and social exclusion

Children and young people are generally more affected by the risk of poverty or social exclusion than other age groups. People aged 15 to 24 were the most likely to be at risk in 2022, with 26.5 % of this age group living in households that were at risk of poverty or social exclusion ([6]). This figure is 4.9 percentage points higher than the rate for the total EU population (21.6 %). Children aged less than 18 were also more affected than the overall EU population, with 24.7 % living in households at risk of poverty or social exclusion. The poverty or social exclusion levels for children fell between 2017 and 2022. However, and in line with the overall trend, significant further efforts will be required to meet the 2030 target of reducing the number of children at risk of poverty or social exclusion by at least 5 million compared with 2019.

Children aged less than 18 show a similar pattern for the three poverty dimensions as the total population, with monetary poverty being the most prevalent form, followed by material and social deprivation and quasi-joblessness. In 2022, 19.3 % of children aged less than 18 were living in households affected by monetary poverty after social transfers, 8.4 % were living in households affected by severe material and social deprivation, and 7.6 % were living in (quasi-) jobless households ([7]).

Children's risk of experiencing poverty or social exclusion is largely determined by their parents' situation. Two major factors are education and household composition: parents with a lower level of education usually earn less. In 2022, 61.9 % of children aged 0 to 17 whose parents had at most lower secondary education were at risk of poverty or social exclusion. Very young children aged 0 to 5 were the most affected, with a rate of 66.2 %. Children with more highly educated parents fared significantly better. 29.6 % of children aged 0 to 17 and 29.7 % of children aged 0 to 5 whose parents had a mid-level education were at risk of poverty or social exclusion. The rates were 10.2 % for children aged 0 to 17 and 10.7 % for children aged 0 to 5 with highly educated parents ([8]). Similarly, households of (mostly female) single parents with one or more dependent children had a much higher at-risk rate (43.5 % in 2022) than any other household type ([9]).

People who are unemployed, come from a migrant background, or have a low level of education or a disability are more prone to poverty

Identifying situations that can make people more vulnerable to being at risk of poverty and social exclusion is important for designing sound policies that prevent and fight poverty. Figure 1.4 shows which subgroups of people were most at risk of poverty or social exclusion in 2022. In addition to the case of children and young people discussed previously, other characteristics — such as unemployment, a migrant background, low education levels or disabilities — were also key risk factors. Not surprisingly, the group with the highest at-risk-of-poverty-or-social-exclusion rate were unemployed people aged 18 years and over, of which two-thirds (65.2 %) were in this situation. Almost half (46.2 %) of non-EU citizens living in the EU were at risk of poverty and social exclusion, far more than EU home-country nationals (19.3 %). The situation was similar when looking at country of birth, with 39.9 % of adults born in non-EU countries being in that situation, compared with only 18.8 % of those born in the reporting EU countries. Moreover, more than one-third of people with severe disabilities (35.9 %) or low education levels (34.5 %) were at risk of poverty or social exclusion. People living in rural areas (22.1 %) were slightly more affected than those in urban areas (21.7 %). Women (22.7 %) were more affected than men (20.8 %) ([10]).

Due to recent improvements, the poverty gap has fallen back to the level reported in 2010

The poverty gap measures how far below the poverty line people's incomes fall. It is calculated as the difference between the median income of those at risk of poverty and the poverty threshold, which is set at 60 % of the national median equivalised disposable income after accounting for social benefits). In 2022, the median income of those below the poverty threshold was 23.1 % lower than the threshold itself. This represents a 1.6 percentage point improvement compared with 2017. However, the long-term trend is characterised by stagnation, because the poverty gap in 2022 was the same as the 2010 level. Rates varied considerably across the EU in 2022. Finland had the lowest poverty gap with 14.8 % and Romania the highest with 32.0 %, followed by Spain with 27.8 %.

23.1 %
median distance from the poverty threshold for those at risk of poverty in 2022

In-work poverty has fallen considerably during the past few years, reaching the same level as in 2010

Having a paid job does not necessarily prevent people from being at risk of poverty. In 2022, the share of people at risk of monetary poverty among the employed — the so-called working poor (in-work poverty) — stood at 8.5 %, which is the same as the 2010 level. Nevertheless, the 2022 figure represents a 1.0 percentage point improvement in the in-work poverty rate compared with 2017, when 9.5 % of employed people were affected. Rates varied considerably across the EU in 2022, with the lowest share of in-work-poverty recorded in Finland (2.5 %) and the highest in Romania (14.5 %) and Luxembourg (12.9 %).

8.5 %
of employed people in the EU were at risk of monetary poverty in 2022

The likelihood of a person becoming 'working poor' varies according to their type of employment contract, education level and nationality. Low-skilled workers, people who work part-time or on temporary contracts, as well as people born outside the EU or who do not have EU citizenship are generally the most affected ([11]).

Basic needs

Being at risk of poverty can have a severe impact on a person's ability to meet their basic needs such as being able to afford adequate housing or receive necessary medical treatment.

Fewer people are overburdened by their housing costs or face severe housing deprivation

The European Pillar of Social Rights, in principle 19, stipulates that access to social housing or housing assistance of good quality shall be provided for those in need. Meeting basic human needs is central to social sustainability and housing is a key dimension. The costs for housing often account for the largest component of many households' expenditure and determine what is left of a household's budget for satisfying other essential needs and expenses, such as food, energy, medical treatment or education. People suffering from poverty are far more often restricted to sub-optimal housing than the overall population.

Housing affordability can be analysed through the housing cost overburden rate, which is defined as the share of the population living in households where the total housing costs (net of housing allowances) represent more than 40 % of the total disposable household income. The EU's housing cost overburden rate has been on a downward path since 2010, when 10.0 % of the population were affected, falling to 8.7 % in 2022. Low-income households are particularly prone to being overburdened by their housing costs. In 2022, 33.1 % of people with an income below the poverty threshold spent 40 % or more of their household disposable income on housing, compared with only 3.9 % of the not at-risk-of-poverty population (referring to people with an income above the poverty threshold).

8.7 %
of the EU population were overburdened by their housing costs in 2022

The severe housing deprivation rate is an indicator of inadequate housing, referring to people living in an overcrowded household ([12]) that also faces housing deprivation defined by poor amenities such as a leaking roof, lacking sanitation facilities (bath, shower, indoor flushing toilet) or a dwelling considered to be too dark. In 2020, 4.3 % of the EU population faced severe housing deprivation, a 1.0 percentage point improvement compared with 2015. Among people living in monetary poverty, 10.2 % were affected by this situation in 2020, compared with only 3.2 % of the richer population ([13]).

4.3 %
of the EU population faced severe housing deprivation in 2020

An analysis by degree of urbanisation reveals that city dwellers in particular are more likely to be overburdened by their housing costs. In 2020, 9.9 % of people living in cities spent 40 % or more of their household disposable income on housing, compared with only 7.0 % for towns and suburbs and 5.8 % for rural areas. Severe housing deprivation was similar in rural areas (4.9 %) and in cities (4.8 %) in 2020; in towns and suburbs the rate was 3.4 % in that year ([14]).

People most commonly report costs as the reason for unmet needs for medical care

Access to health care services is important for ensuring a high quality of life. In turn, this may contribute to increased productivity and reduced costs associated with social protection systems. Barriers to accessing health services include costs, distance and waiting time. In 2022, 2.2 % of the EU population aged 16 and above reported unmet needs for medical care. While this is an improvement of 1.3 percentage points compared with 2010, it also represents a 0.6 percentage point deterioration compared with 2017, when only 1.6 % of people had reported unmet needs for medical care. Thus, the short-term trend is negative. Cost was the main reason given for limited access to health care services, indicated by 1.1 % of the EU population in 2022. People with lower incomes face a much higher share of unmet needs for medical care. While only 0.3 % of the richest 20 % of the population reported unmet care needs due to financial constraints, 2.4 % of people in the poorest quintile reported that this was the case. Regarding differences between age groups, the prevalence of unmet needs for medical care was lowest among people aged 16 to 29 years, at 1.3 %, and it was highest for people aged 75 years or over, at 3.2 % ([15]).

2.2 %
of the EU population reported unmet needs for medical care in 2022

Main indicators

Persons at risk of poverty or social exclusion

While a household's income is a key determinant of its standard of living, other aspects can prevent people from fully participating in society such as an impeded access to labour markets or material and social deprivation. To reflect these different dimensions of poverty or social exclusion, the indicator 'at risk of poverty or social exclusion' measures the number of people affected by at least one of the following three forms of poverty or social exclusion: monetary poverty (at-risk-of-poverty rate), severe material and social deprivation and very low work intensity (see pages 50–52) for a detailed description of these components). Data on the three components are derived from the EU Statistics on Income and Living Conditions (EU-SILC).

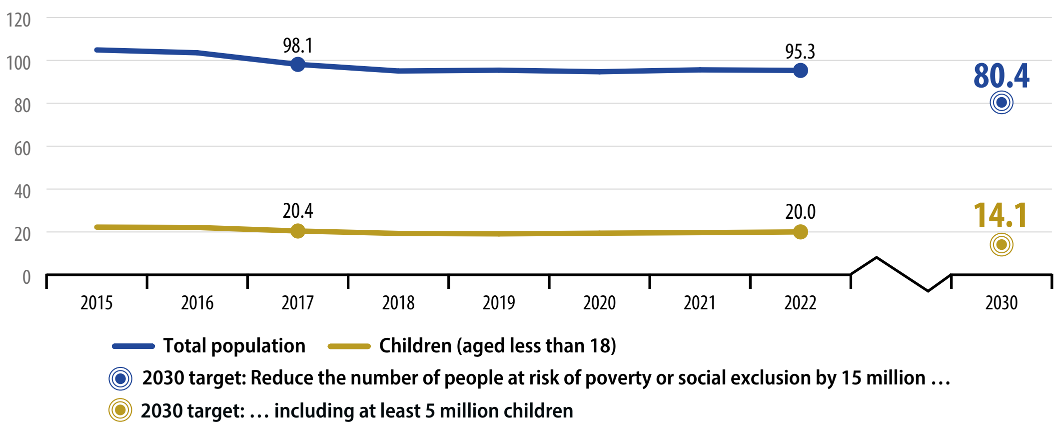
LONG TERM Time series too short

SHORT TERM 2017–2022

FIGURE 1.1

Persons at risk of poverty or social exclusion, EU, 2015–2022

(million persons)

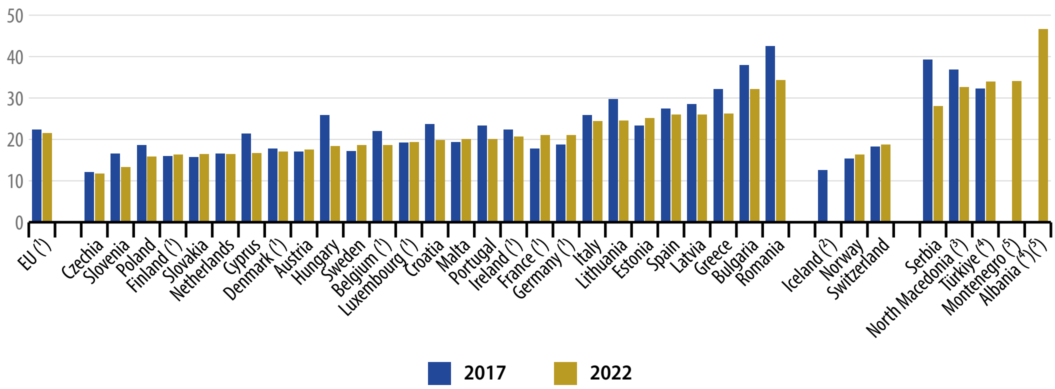


Note: Break in time series in 2019; 2019 data are estimated.
Source: Eurostat (online data code: sdg_01_10)

FIGURE 1.2

Persons at risk of poverty or social exclusion, by country, 2017 and 2022

(% of population)

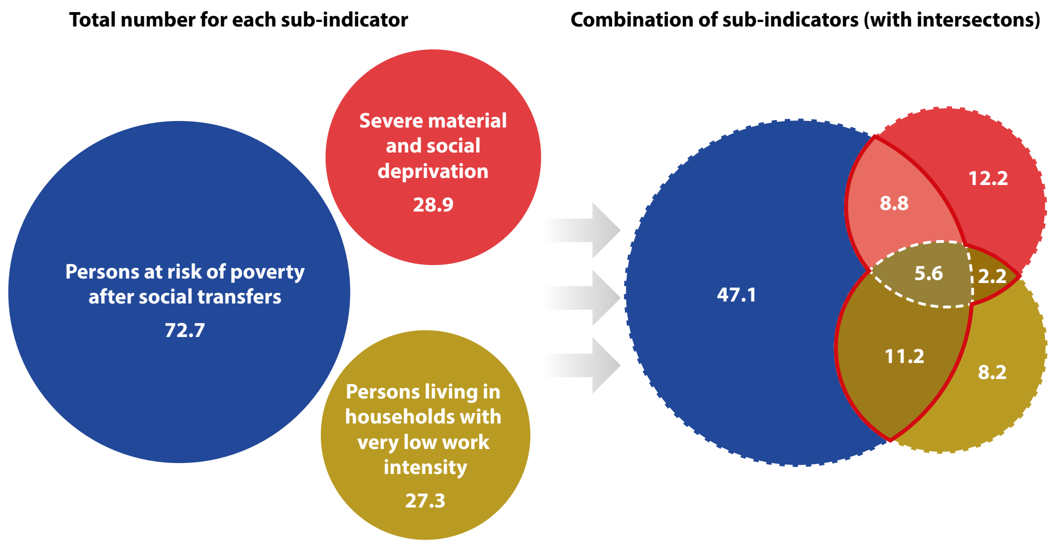


(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2020 data (instead of 2022).
(4) 2021 data (instead of 2022).
(5) No data for 2017.
Source: Eurostat (online data code: sdg_01_10)

FIGURE 1.3

Aggregation of components of 'Persons at risk of poverty or social exclusion', EU, 2022

(million persons)

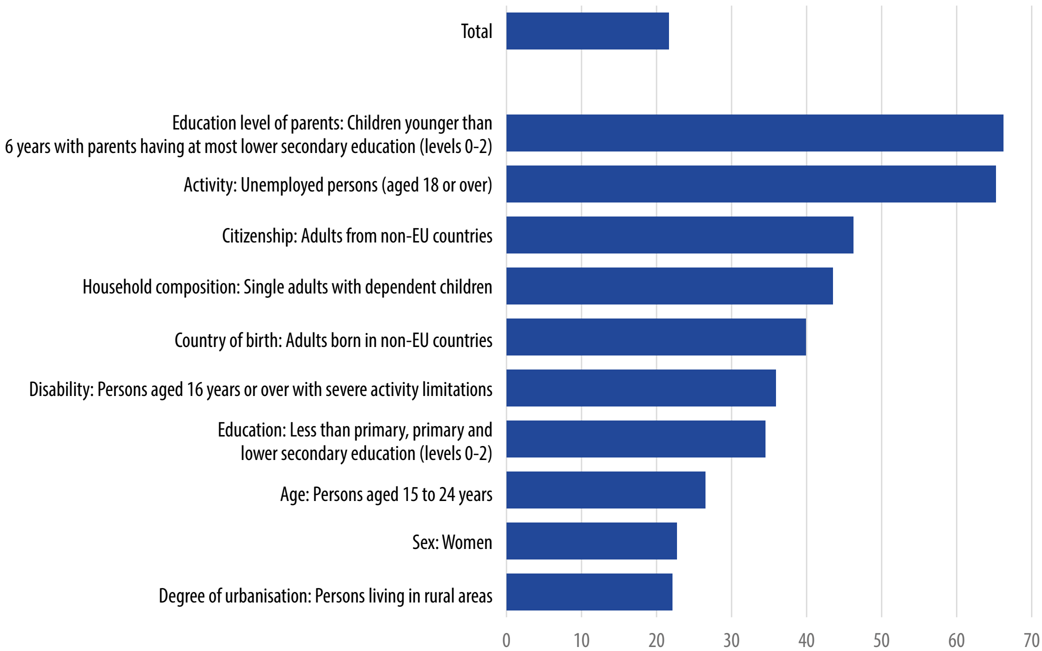


Source: Eurostat (online data code: ilc_pees01n)

FIGURE 1.4

Persons most at risk of poverty or social exclusion, by sub-group, EU, 2022

(% of population)



Source: Eurostat (online data codes: ilc_peps01n, ilc_peps02n, ilc_peps03n, ilc_peps04n, ilc_peps05n, ilc_peps06n, ilc_peps13n, ilc_peps60n and hlth_dpe010)

Persons at risk of monetary poverty after social transfers

LONG TERM 2010–2022

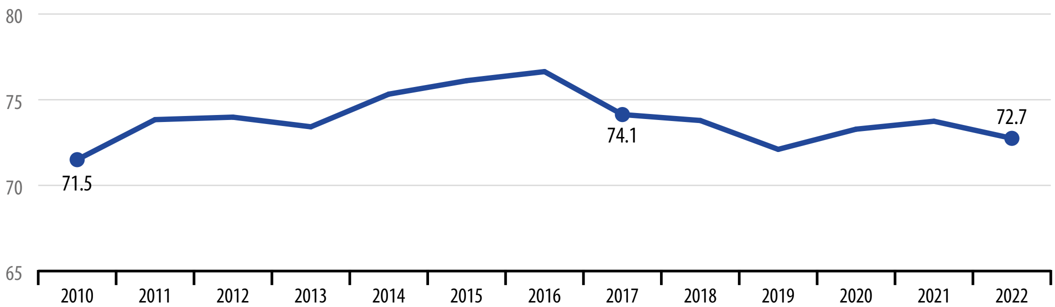
SHORT TERM 2017–2022

This indicator measures the number of people with an equivalised disposable income below the at-risk-of-poverty threshold. This is set at 60 % of the national median equivalised disposable income after social transfers ([16]). The data stem from the EU Statistics on Income and Living Conditions (EU-SILC).

FIGURE 1.5

Persons at risk of monetary poverty after social transfers, EU, 2010–2022

(million persons)



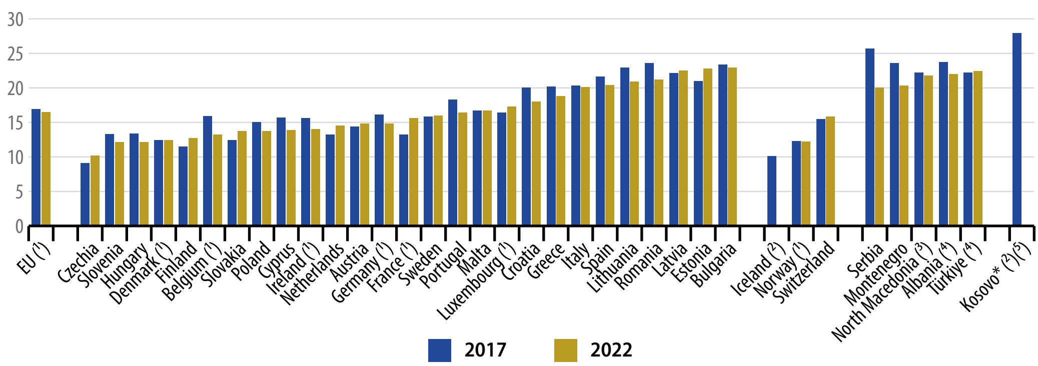
Note: 2010–2012 data are estimated; break in time series in 2020. Income data from the SILC survey refers to the year prior to the one when data was collected.

Source: Eurostat (online data code: sdg_01_20)

FIGURE 1.6

Persons at risk of monetary poverty after social transfers, by country, 2017 and 2022

(% of population)



(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2020 data (instead of 2022).
(4) 2021 data (instead of 2022).
(5) 2018 data (instead of 2017).
(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.
Income data from the SILC survey refers to the year prior to the one when data was collected.

Source: Eurostat (online data code: sdg_01_20)

Severe material and social deprivation rate

This indicator shows an involuntary lack of necessary and desirable items to lead an adequate life. It is defined as the proportion of the population who cannot afford at least 7 of the following 13 deprivation items: (1) pay rent, utility bills, hire purchase instalments or other loan payments, (2) keep their home adequately warm, (3) face unexpected expenses, (4) eat meat, chicken, fish or vegetarian equivalent every second day, (5) a week of holiday away from home, (6) have access to a car/van for personal use, (7) replace worn-out furniture, (8) replace worn-out clothes with some new ones, (9) have two pairs of properly fitting shoes, (10) spend a small amount of money each week on themselves ('pocket money'), (11) have regular leisure activities, (12) get together with friends/family for a drink/meal at least once a month, and (13) have an internet connection. Items 1 to 7 relate to the household level, while the remaining items 8 to 13 relate to the level of the individual. Data for this indicator stem from the EU Statistics on Income and Living Conditions (EU-SILC).

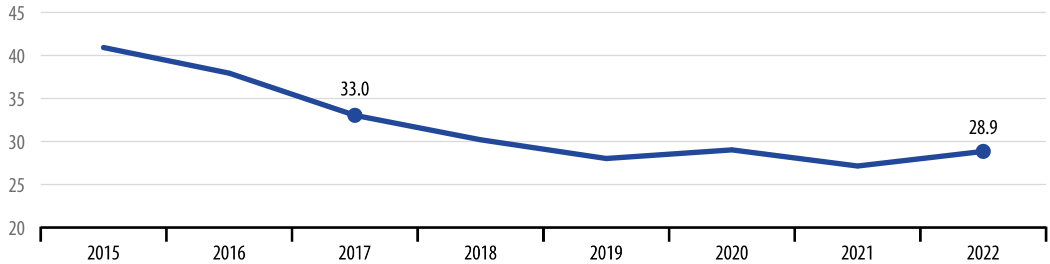
X LONG TERM Time series too short

SHORT TERM 2017–2022

FIGURE 1.7

Severe material and social deprivation, EU, 2015–2022

(million persons)

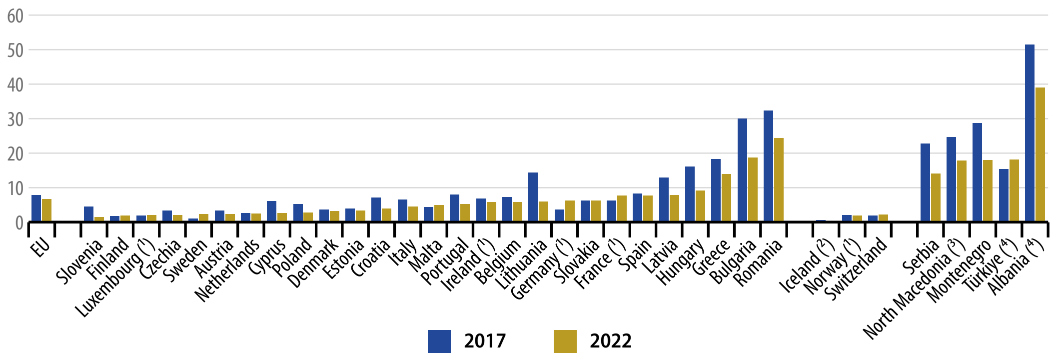


Source: Eurostat (online data code: sdg_01_31)

FIGURE 1.8

Severe material and social deprivation rate, by country, 2017 and 2022

(% of population)



([1]) Break(s) in time series between the two years shown.
([2]) No data for 2022.
([3]) 2020 data (instead of 2022).
([4]) 2021 data (instead of 2022).

Source: Eurostat (online data code: sdg_01_31)

Persons living in households with very low work intensity

X LONG TERM Time series too short

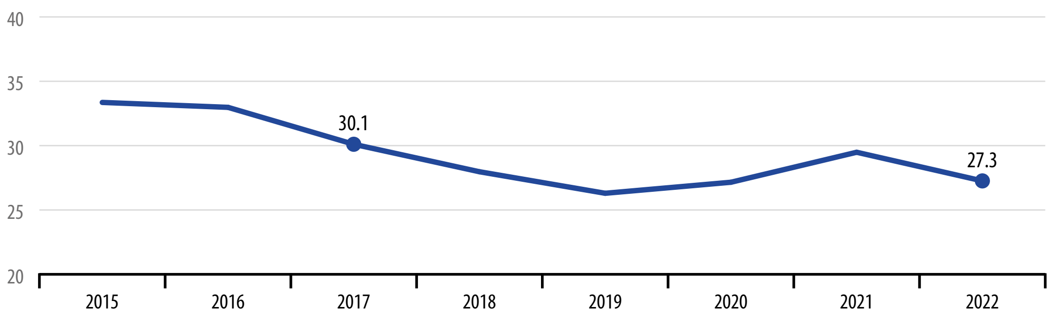
SHORT TERM 2017–2022

This indicator describes the share of people aged less than 65 living in households where the working age adults aged 18 to 64 worked equal to or less than 20 % of their total combined potential work-time during the previous year. It excludes students aged 18 to 24 and people who are retired according to their self-defined current economic status or who receive any pension (except survivors pension), as well as people aged 60 to 64 who are inactive and live in a household where the main income comes from pensions (except survivors' pension). The EU Statistics on Income and Living Conditions (EU-SILC) is the data source for this indicator.

FIGURE 1.9

Persons living in households with very low work intensity, EU, 2015–2022

(million persons aged less than 65)

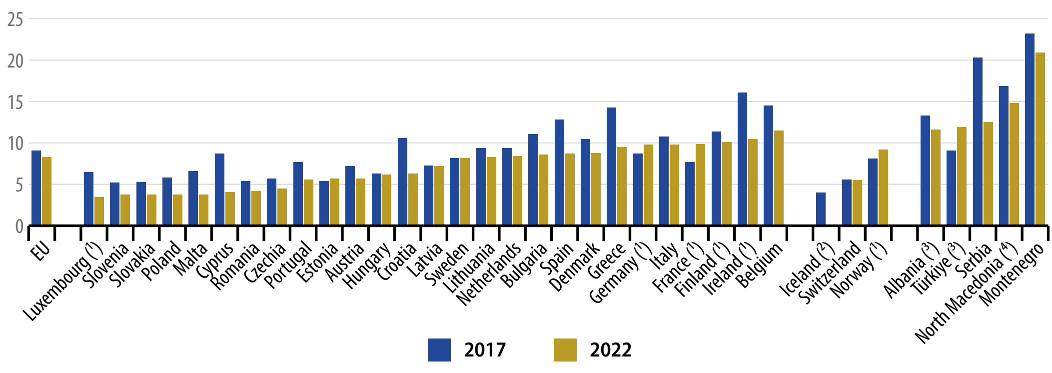


Source: Eurostat (online data code: sdg_01_40)

FIGURE 1.10

Persons living in households with very low work intensity, by country, 2017 and 2022

(% of population aged less than 65)



(1) Break(s) in time series between the two years shown
(2) No data for 2022.
(3) 2021 data (instead of 2022)..
(4) 2020 data (instead of 2022).

Source: Eurostat (online data code: sdg_01_40)

In work at-risk-of-poverty rate

This indicator refers to the share of people aged 18 years or over who declare to be at work (employed or self-employed) and who are at risk of monetary poverty (see definition on page 50). People are considered 'employed' if they held a job for more than half of the reference year. Data for this indicator are taken from the EU Statistics on Income and Living Conditions (EU-SILC).

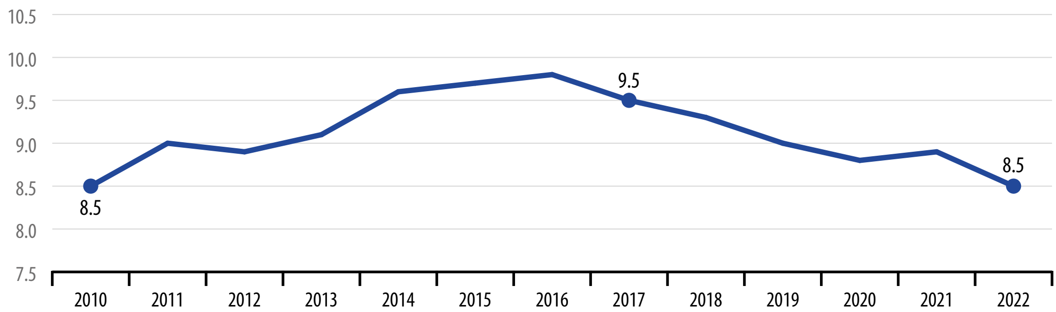
LONG TERM Time series too short

SHORT TERM 2017–2022

FIGURE 1.11

In work at-risk-of-poverty rate, EU, 2010–2022

(% of population aged 18 or over)

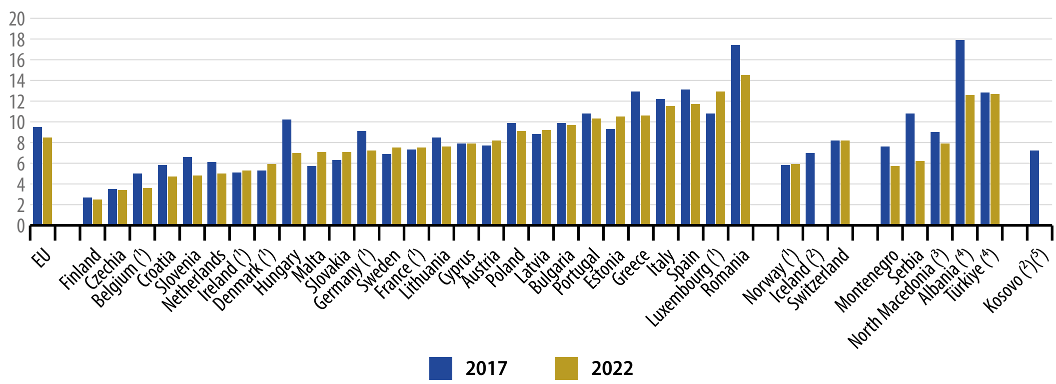


Note: 2010–2019 data are estimated.
Source: Eurostat (online data code: sdg_01_41)

FIGURE 1.12

In work at-risk-of-poverty rate, by country, 2017 and 2022

(% of population aged 18 or over)



(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2020 data (instead of 2022).
(4) 2021 data (instead of 2022).
(5) 2018 data (instead of 2017).
Source: Eurostat (online data code: sdg_01_41)

Housing cost overburden rate

LONG TERM 2010–2022

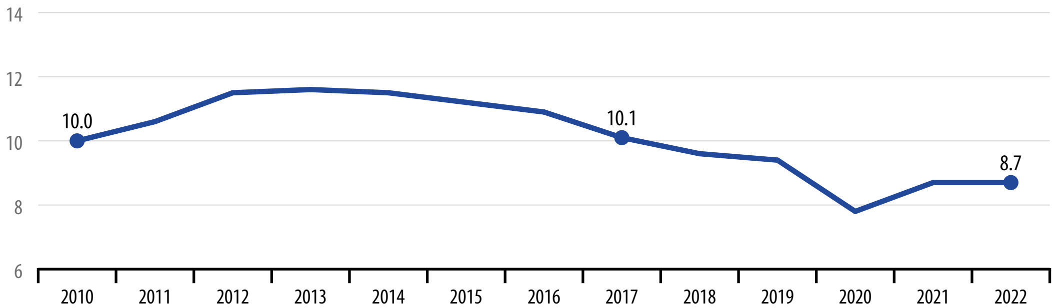
SHORT TERM 2017–2022

The indicator reflects the share of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40 % of the disposable income. This indicator is derived from the EU Statistics on Income and Living Conditions (EU-SILC).

FIGURE 1.13

Housing cost overburden rate, EU, 2010–2022

(% of population)



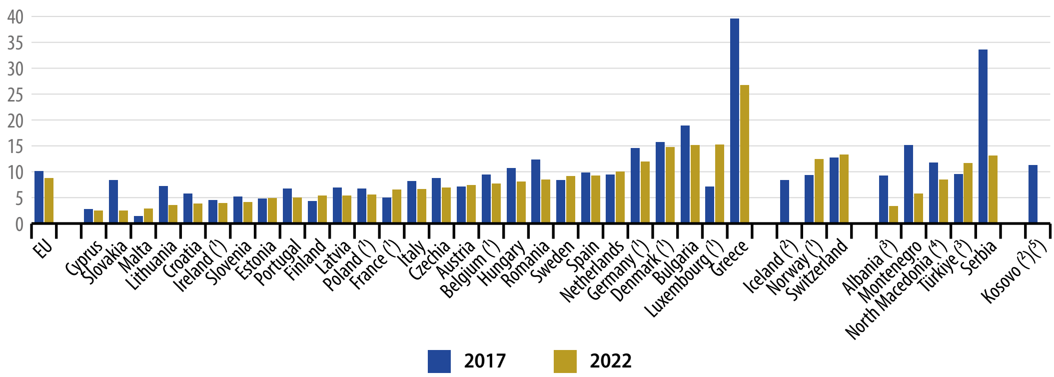
Note: 2014–2019 data are estimated.

Source: Eurostat (online data code: sdg_01_50)

FIGURE 1.14

Housing cost overburden rate, by country, 2017 and 2022

(% of population)



(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2021 data (instead of 2022).
(4) 2020 data (instead of 2022).
(5) 2018 data (instead of 2017).

Source: Eurostat (online data code: sdg_01_50)

Notes

([1]) In 2021, the AROPE indicator was modified and the new EU 2030 target was based on the revised definition. The 'severe material deprivation' indicator was replaced with the 'severe material and social deprivation' indicator also considering social aspects such as leisure activities and social relationships in addition to the material aspects of deprivation. In addition, the definition of 'very low work intensity' — referring to people living in (quasi-)jobless households — was adjusted, including extending the monitored age group from 0–59 to 0–64 years. As a consequence, the two components and thus the whole AROPE indicator presented in this report have indicator values from 2015 only and are not comparable with the data in reports before 2022.

([2]) In 2020, the German EU-SILC survey, on which the AROPE indicator is based, was integrated into the newly designed German microcensus, leading to a substantial break in the time series between 2019 and 2020, with income variables being the most affected by the break. For more information see the related information note. In addition to the ilc_peps01n table used for AROPE and its intersections, the break-free estimates of AROPE from 2019 (available in the dataset ilc_pecs01) can be used for the purpose of assessing the overall progress towards the 2030 poverty and social exclusion target. In addition to Germany, further countries such as France also reported methodological changes in 2020, which also affected the EU total.

([3]) Variables related to income (only) in the indicators at-risk-of-poverty rate and the people living in households with very low work intensity indicator, refer to the income reference period (N-1), which in EU-SILC corresponds to the previous year of the survey. Please note that both indicators involve other variables not related to the survey year (N). The indicator 'severe materially or socially deprived' does not involve any income-related variables. The EU-SILC indicators provide insights on the economic well-being and other living conditions on EU residents based on data collected during a specific year, denoted as N. This data encompasses both the characteristics of households for that year (N) and the income from the preceding year, N-1. The income for year N-1 is an estimate for income of year N within EU-SILC.

([4]) Source: Eurostat (online data code: ilc_li10).

([5]) Source: Eurostat (online data code: tespm050).

([6]) Source: Eurostat (online data code: ilc_peps01n).

([7]) Source: Eurostat (online data codes: tepsr_spi110, tepsr_spi120 and tepsr_spi130).

([8]) Source: Eurostat (online data code: ilc_peps60n).

([9]) Source: Eurostat (online data code: ilc_peps03n).

([10]) Source: Eurostat (online data codes: online data codes: ilc_peps02n, ilc_peps05n, ilc_peps06n, hlth_dpe010, ilc_peps04n, ilc_peps13n and ilc_peps01n). Further information on vulnerable groups particularly at risk of poverty or social exclusion can be found on Eurostat's Statistics Explained pages related to 'Poverty and social exclusion'.

([11]) European Commission (2023), *Proposal for a Joint Employment Report 2024*, Directorate-General for Employment, Social Affairs and Inclusion, Brussels.

([12]) A household is considered overcrowded if it does not have at least one room for the entire household as well as a room for a couple, for each single person above 18, for a pair of teenagers (12 to 17 years of age) of the same sex, for each teenager of different sex and for a pair of children (under 12 years of age).

([13]) Source: Eurostat (online data code: ilc_mdho06a).

([14]) Source: Eurostat (online data codes: ilc_lvho07d and ilc_mdho06d).

([15]) Source: Eurostat (online data code: hlth_silc_08).

([16]) The equivalised disposable income is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale.

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

SDG 2 seeks to end hunger and malnutrition, and ensure access to safe, nutritious and sufficient food. Realising this goal will largely depend on promoting sustainable production systems and increasing investment in rural infrastructure and agricultural research and development.

Achieving healthy diets and ensuring agricultural systems remain productive and sustainable are essential for achieving a healthy food system that is good for people and the planet. Monitoring SDG 2 in an EU context includes tracking developments in obesity, the sustainability of agricultural production and the environmental impacts of agricultural activities on land, water and the atmosphere. Over the past five years, progress towards SDG 2 has been modest. There have been strong improvements in sustainable agricultural production practices monitored in this report, including labour productivity, public investments in farming, and reducing the use and risk of pesticides. The area under organic farming has also grown in the EU, but stronger progress will be required to meet the respective target by 2030. The prevalence of obesity, while stable over the five-year period assessed, remains a serious public health problem. Progress on reducing some environmental impacts has been mixed, showing both positive and negative trends. Intensive agriculture remains a major driver of biodiversity decline in the EU.

Indicators measuring progress towards SDG 2, EU

Indicator	Period	Annual growth rate	Assessment	More info
Malnutrition				
Obesity rate	Time series too short for long-term assessment		:	page 65
	2017–2022	– 0.1 %		
Sustainable agricultural production				
Agricultural real factor income per annual work unit	2008–2023	3.5 %		page 66
	2018–2023	3.8 %		
Government support to agricultural R&D	2007–2022	1.8 %		page 67
	2017–2022	5.3 %		
Area under organic farming	Time series too short for long-term assessment		:	page 68
	2016–2021	Observed: 6.9 % Required: 9.4 %		
Use and risk of chemical pesticides	2011–2021	Observed: – 5.4 % Required: – 4.4 %		page 69
	2016–2021	Observed: – 7.9 % Required: – 4.9 %		
Environmental impacts of agricultural production				
Ammonia emissions from agriculture	2006–2021	– 0.8 %		page 70
	2016–2021	– 1.4 %		
Nitrate in groundwater (*)	2006–2021	– 0.1 % (1)		SDG 6, page 136
	2016–2021	– 1.0 % (1)		
Area at risk of severe soil erosion by water (*)	2000–2016	– 0.9 %		SDG 15, page 289
	2010–2016	– 0.1 %		
Common farmland bird index (*)	2007–2022	– 1.7 % (2)		SDG 15, page 293
	2017–2022	– 1.9 % (2)		

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator. (1) Data refer to an EU aggregate based on 18 Member States. (2) Data refer to an EU aggregate whose composition changes over time depending on when countries joined the Pan-European Common Birds Monitoring Scheme.

Policy context

Malnutrition

The EU undertakes a number of public health initiatives related to nutrition (see this overview of EU policy initiatives in the areas of nutrition and physical activity).

Europe's Beating Cancer Plan also highlights the importance of addressing obesity and diabetes from an early age.

Sustainable agricultural production

A sustainable, well-functioning and robust food system is essential to ensuring food security. The EU undertakes measures to safeguard food security and to respond effectively to crises that affect or could affect food security.

The EU's Common Agricultural Policy (CAP) provides income support, market measures and rural development measures to safeguard farmers' income and increase agricultural productivity while protecting rural landscapes, tackling climate change and fostering sustainable management of natural resources.

The EU Farm to Fork Strategy for sustainable food systems sets the 2030 targets of achieving a 25 % share of the EU's total farmland for organic farming and a significant increase in organic aquaculture, a 50 % reduction in the use and risk of chemical pesticides, a 50 % reduction in the use of more hazardous pesticides and a 50 % reduction in nutrient losses. It also sets the target of reducing overall EU sales of antimicrobials for farmed animals and in aquaculture by 50 % by 2030.

The Biodiversity Strategy for 2030 aims to bring back at least 10 % of agricultural area under high-diversity landscape features in order to provide space for wild animals, plants, pollinators and natural pest regulators.

Environmental impacts of agricultural production

The National Emission-reduction Commitments Directive (NEC Directive) sets national emission-reduction commitments for Member States and the EU for five important air pollutants, including ammonia.

The Nitrates Directive protects water quality by preventing agricultural nitrates from polluting ground and surface waters and by promoting good farming practices.

The new EU soil strategy for 2030 sets out a framework and concrete measures to protect and restore soils and ensure their sustainable use.

The Zero pollution action plan provides a compass to mainstream pollution prevention in all relevant EU policies, to step up implementation of the relevant EU legislation and to identify possible gaps.

The EU has funded research and improved soil monitoring through projects such as LUCAS, a survey on land cover, land use and agri-environmental indicators run by Eurostat, and Copernicus, the EU's Earth Observation and Monitoring Programme.

The EU's First 'zero pollution' monitoring and outlook shows that the EU is making progress in some areas (in particular where European legislation is well implemented), though pollution levels are still too high and significantly affect health and biodiversity, with more effort needed to reach the 2030 targets.

Overview and key trends

Malnutrition

A healthy diet means an adequate, well-balanced diet that meets the body's dietary needs. Combined with regular physical activity and the avoidance of excessive alcohol consumption and tobacco use, a healthy diet is a cornerstone of good health. While ending hunger and all forms of malnutrition are key objectives of the 2030 Agenda, in Europe obesity is a more serious nutrition-related health issue.

More than half of the EU population is overweight and every seventh person is obese

14.8 %
of the EU's adult population were obese in 2022

Obesity and pre-obesity are malnutrition problems related to changing consumption and activity habits and contexts that favour such unhealthy habits. Combining a balanced nutritional diet with an adequately active lifestyle is a challenge for many people. While the causes of obesity vary from person to person, the problem is generally attributed to unhealthy diets that are high in energy, fat, trans fat and saturated fat, salt and sugar, and low in fruit and vegetables, whole grains, legumes and nuts, and too high in red and processed meat. Low physical activity and sociological and hereditary factors are also important causes. The contexts, such as the food environment, in which lifestyle choices are made, are important determinants of health behaviours and obesity.

Obesity is a significant health issue in the EU, affecting almost 15 % of the adult population in 2022. It is also a contributing factor in other diet-related non-communicable diseases, such as cancer, cardiovascular diseases and diabetes. Obesity also disproportionately affects people with lower levels of education and generally tends to increase with age until late in life ([1]). Childhood obesity also remains an important public health problem in Europe, despite childhood obesity rates levelling off in some European countries ([2]).

When considered together with pre-obesity, the situation looks even more severe, with more than half of the adult EU population being overweight in 2022. Patterns in the pre-obesity rate follow patterns in the obesity rate, though pre-obesity affected more than twice as many Europeans as obesity (36.5 % of the adult population) in 2022.

Between 2017 and 2022, the share of overweight (obese and pre-obese) people fell slightly, from 51.8 % to 51.3 %. This is largely due to a reduction in the share of pre-obese people, from 36.9 % in 2017 to 36.5 % in 2022, while the share of obese people remained stable at just below 15 %, affecting 14.8 % of EU adults in 2022.

At the Member State level, the obesity rate rose in 19 countries between 2017 and 2022. The rate was highest in Malta, with 26.1 % in 2022, and lowest in Italy and Romania, with 7.1 % and 10.3 %, respectively.

The obesity rate generally increases with age, peaking in the age group 65 to 74 years (19.7 % obese in 2022) and decreasing again for people aged 75 and older. Obesity and pre-obesity rates also appear to decrease with higher educational levels, with obesity rates ranging from 10.5 % in 2022 for adults with tertiary education to 17.9 % for adults with lower secondary education or lower. The obesity rate was also lower among younger people aged 16 to 24, with 4.5 % ([3]).

Sustainable agricultural production

Sustainable agricultural production is a key element in making food systems fair, healthy and environmentally friendly. A concerted effort is needed to foster a food-production system that is based on sustainable agricultural practices and produces an adequate supply of food. Four indicators are used to monitor the strong interlinkages that agricultural production has with the social, economic and environmental dimensions of sustainability. These are: agricultural income and labour productivity, investment in agricultural research and innovation, organic farming and pesticide use.

Labour productivity in EU agriculture has increased, as has investment in the future of farming

To ensure its long-term viability, Europe's agricultural sector needs to achieve economic sustainability. Labour productivity is an important component of this and can be partially measured using the indicator 'agricultural real factor income per annual work unit (AWU)'.

34.2 %
growth in EU agricultural factor income per annual work unit between 2015 and 2023

Following a dip during the economic crisis in the late 2000s, agricultural real factor income per AWU has been rising in the EU. By 2023 it was 34.2 % higher than it had been in 2015. This is mainly due to strong growth between 2016 and 2017 and again between 2020 and 2022, driven partly by increased output values (prices and/or yields) and partly by a reduced labour input ([4]). After two years of above-average growth, the indicator in 2023 had slipped back to 6.6 % below its 2022 peak.

3.6
billion EUR in government support was spent on agricultural R&D in 2022

Agricultural real factor income per AWU varies considerably between Member States and farm types. It tends to be higher in countries with more mechanised, input-intensive production systems than in countries using more traditional, labour-intensive methods ([5]).

Investment in agricultural research and innovation is crucial for decoupling agricultural productivity from environmental impacts. Such investments also help to keep EU farmers competitive and adaptable to challenges such as climate change and feeding a rising population. Overall in the EU, national government support to agricultural research and development has risen in the short term, growing by 29.8 % since 2017 to reach EUR 3.6 billion in 2022.

Organic farming is on the rise across the EU, but the pace needs to quicken to reach the 2030 target

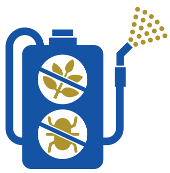
Organic farming is one example of a sustainable agricultural management system. It seeks to limit environmental impacts by using agricultural practices that encourage responsible use of energy and natural resources, maintain or enhance biodiversity, preserve regional ecological balances, increase soil fertility and water quality, encourage high animal welfare standards, and enhance the capacity to adapt to climate change.

9.9 %
of the EU's utilised agricultural area was estimated to be farmed organically in 2021

In the EU, the share of organic farming in total agricultural area grew by 2.8 percentage points between 2016 and 2021, to an estimated 9.9 %. Despite this, the take-up of organic farming will need to accelerate significantly to achieve the 25 % target by 2030. Across the EU, Austria leads with more than 25 % (2020 data) of its agricultural area farmed organically, followed by Estonia and Sweden with levels slightly above 20 %, and Portugal, Italy, Czechia and Latvia, each with levels between 15 % and 20 % (2021 data). In all other Member States, organic farming was practised on less than 15 % of agricultural land in 2021.

The EU is on track to meet its reduction target for the use and risk of chemical pesticides and the sales of antimicrobials for animals

The Farm to Fork Strategy also aims to reduce the EU food system's dependency on pesticides and antimicrobials, which will contribute to its biodiversity and zero pollution objectives. According to a trend analysis by the European Commission, the use and risk of chemical pesticides decreased by 33 % between the baseline period of 2015–2017 and 2021 and the use of more hazardous pesticides fell by 21 % over the same time span. Over both the long- and short-term periods assessed in this report (2011 to 2021 and 2016 to 2021, respectively), the use and risk of chemical pesticides fell more strongly than required to meet the 50 % reduction target, meaning the EU is currently on track to meet this target by 2030. Nevertheless, the presence of pesticides in soil and water continues to be a concern. In its 2023 briefing on the issue, the European Environment Agency concluded that despite progress on reducing pesticide use, pesticide pollution remains a significant risk to human health and the environment.



Between 2016 and 2021, the use and risk of chemical pesticides fell by

33.7 %

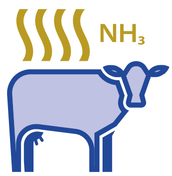
To protect human and animal health, the Farm to Fork Strategy also aims to reduce EU sales of antimicrobials for farmed animals and aquaculture by 50 % by 2030. The use and misuse of antimicrobials in agriculture contributes to the problem of microbes such as bacteria and fungi becoming resistant to antimicrobials, which reduces the effectiveness of such treatments. As of 2022, the EU has achieved a 28.3 % reduction in EU sales of antimicrobials for farmed animals and in aquaculture compared with the 2018 baseline ([6]).

Environmental impacts of agricultural production

Agriculture provides environmental benefits such as maintaining specific farmland ecosystems and diverse landscapes, and providing carbon sinks. However, increases in agricultural productivity and a move towards intensive agriculture practices have contributed to the degradation of environmental conditions and climate change. The environmental impacts of agriculture include nutrient-related pollution, soil erosion and loss of biodiversity.

Excessive nutrient inputs are threatening the environment and water quality

Ammonia emissions and nitrates in groundwater are linked to excessive inputs of nitrogen from agricultural sources such as mineral fertiliser and livestock manure. Manure from livestock is rich in nutrients such as nitrogen (ammonia and nitrates) and phosphorus, and is used as a fertiliser alongside chemical fertilisers. If properly treated, its application improves soil structure and enhances soil organic matter content, which increases carbon sequestration. But when mineral fertilisers or manure are not properly handled and spread, excess nutrients that are not taken up by plants are released into the environment (as ammonia in air and as nitrates and phosphorus in water). When released into the atmosphere, ammonia pollutes the air and can land on soil and water, where it can harm sensitive vegetation systems, biodiversity and water quality through eutrophication and acidification.



3.0

million tonnes of ammonia were emitted from agriculture in the EU in 2021

Since the 1990s, Europe has seen a significant decrease in ammonia emissions from agriculture due to reductions in livestock density and nitrogen fertiliser use as well as changes in agricultural practices. In recent years, however, developments have been less clear, with ammonia emissions increasing between 2013 and 2017, before falling to a new low of 3.0 million tonnes by 2021. It must be noted that the national and EU totals may mask considerable variations in fertiliser application and livestock densities at regional and local levels. Overall, however, ammonia emissions from agriculture remain the main nutrient pollutant of concern regarding negative effects on biodiversity ([7]).

20.5 milligrams of nitrates were in each litre of groundwater in the EU in 2021

The concentration of nitrate (NO_3) in EU groundwater has shown a long-term stagnation at around 21 milligrams per litre (mg/L). However, there has been a recent downward trend since 2016, with concentrations reaching 20.5 mg/L in 2021. This is 1.3 % lower than in 2006 and 5.1 % lower than the 2016 peak. Nevertheless, hot spots exist where nitrate concentrations are above 50 mg/L, which is the limit set for drinkable water. Several of the countries struggling the most with high nitrate levels in groundwater are also among those with the highest ammonia emissions per hectare of utilised agricultural area in Europe, such as Malta, Belgium and Germany (see Figures 2.12 and 6.8).

The agricultural sector is also responsible for significant quantities of greenhouse gas (GHG) emissions ([8]), accounting for almost 11 % of total GHG emissions in the EU in 2022. Agricultural emissions are generally linked to the management of agricultural soils, livestock, rice production and biomass burning. While the EU's total GHG emissions have decreased by 12.3 % since 2017 (see the chapter on SDG 13 'Climate action' on page 253), emissions from the agricultural sector have fallen much slower, by 5.3 % over the same period. By 2022 they had reached 366 million tonnes of CO_2 equivalent, which is 24.3 % lower than the 1990 level of 483 million tonnes ([9]).

Soil erosion remains a major threat, but signs of improvement exist across the EU

5.3 % of EU land was estimated to be at risk of severe soil erosion by water in 2016

Healthy soils are essential for sustainable and productive agricultural systems. Because soils take years to form, they can be considered a non-renewable resource for food production. One of the biggest threats to soil health in Europe is soil erosion, which can be caused by both wind and water. Though erosion is a natural process, inappropriate land management and other human activities can cause it to accelerate to such an extent that soil can be irreversibly lost. The area at risk of severe soil erosion by water (leading to the loss of more than 10 tonnes of soil per hectare per year) is a model-based indicator based on spatial data of rainfall erosivity, soil erodibility, topography, land cover and management practices.

In the EU, 196 853 square kilometres (km^2) of land was at risk of severe soil loss from water erosion in 2016 — an area equal to about 1.5 times Greece's total land area. The risk of severe soil erosion has been decreasing in the EU, in part due to mandatory cross-compliance measures in the EU Common Agricultural Policy (CAP). The share of non-artificial erodible area ([10]) estimated to be at risk of severe soil erosion by water decreased from 6.1 % to 5.3 % between 2000 and 2016.

Higher agricultural productivity can lead to biodiversity losses

Some agricultural landscapes provide valuable and unique habitats for a host of species, both common and threatened. However, biodiversity has suffered under growing pressure from the race to increase productivity and where ecosystem services, which are provided by features that support biodiversity, have not been given economic value or adequate regulatory protection. Species related to agroecosystems are likely to have fared worse without the agri-environmental measures contained in EU policies — primarily the Common Agriculture Policy — but measures have not yet been effective enough to halt overall biodiversity loss in agricultural habitats ([11]).

Farmland bird species depend on agricultural habitats. Because they are relatively visible, they are a good indicator species for monitoring biodiversity. The common farmland bird index measures the relative abundance and diversity of 39 farmland bird species compared with the 2000 base year. Between 2007 and 2022, the EU saw a dramatic decline of 23.1 % for common farmland birds, continuing a trend visible since 1990. Between 1990 and 2022, common farmland birds declined by 39.9 %. Intensive agricultural practices and the use of pesticides have contributed to the loss of wildlife habitats as well as falling populations of insects. Insects are an important food source for many farmland birds and provide important ecosystem services such as pollination.

Between 2007 and 2022, common farmland birds in the EU declined by

23.1 %

Main indicators

Obesity rate

This indicator is derived from the body mass index (BMI), which is defined as the weight in kilograms divided by the square of the height in metres. People aged 18 years or over are considered obese if their BMI is equal to or greater than 30. The category 'pre-obese' refers to people with a BMI between 25 and less than 30. The category 'overweight' (BMI equal or greater than 25) combines the two categories pre-obese and obese. The data presented in this section stem from the European Health Interview Survey (EHIS) and the EU Statistics on Income and Living Conditions (EU-SILC).

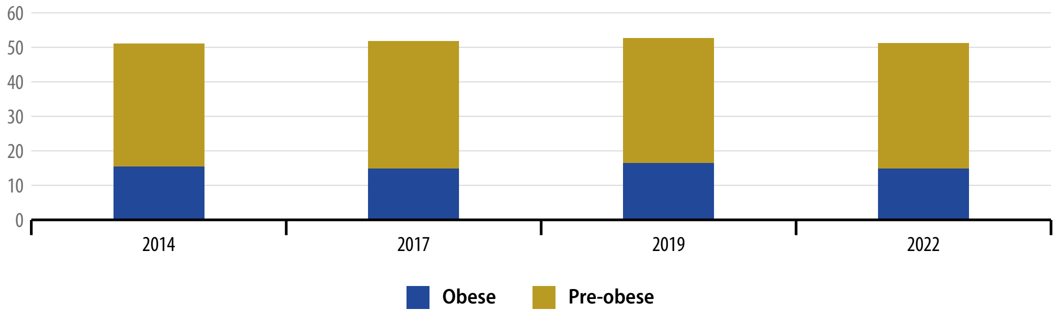
LONG TERM
Time series too short

SHORT TERM
2017–2022

FIGURE 2.1

Obesity rate, by body mass index (BMI), EU, 2017–2022

(% of population aged 18 or over)

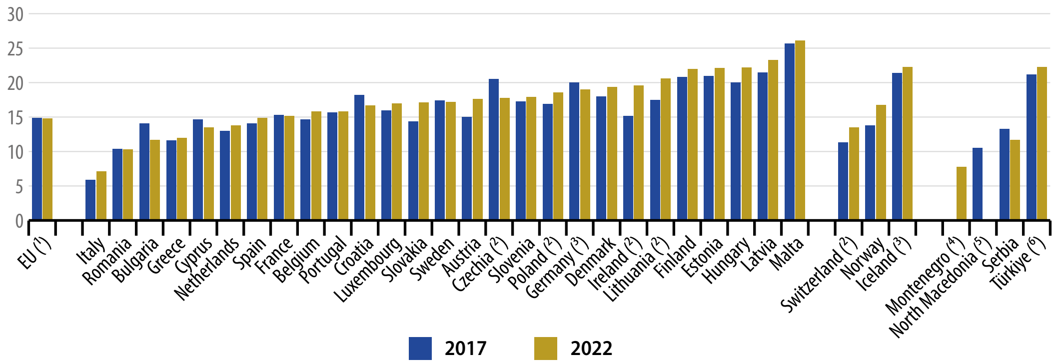


Note: 2022 data are estimated. *Source*: Eurostat (online data codes: sdg_02_10)

FIGURE 2.2

Obesity rate, by country, 2017 and 2022

(% of population aged 18 or over)



(1) 2022 data are estimated.
(2) 2017 and/or 2022 data have low reliability.
(3) 2019 data (instead of 2022).
(4) No data for 2017.
(5) No data for 2022.
(6) 2014 and 2019 data.

Source: Eurostat (online data code: sdg_02_10)

Agricultural real factor income per annual work unit

LONG TERM
2011–2021

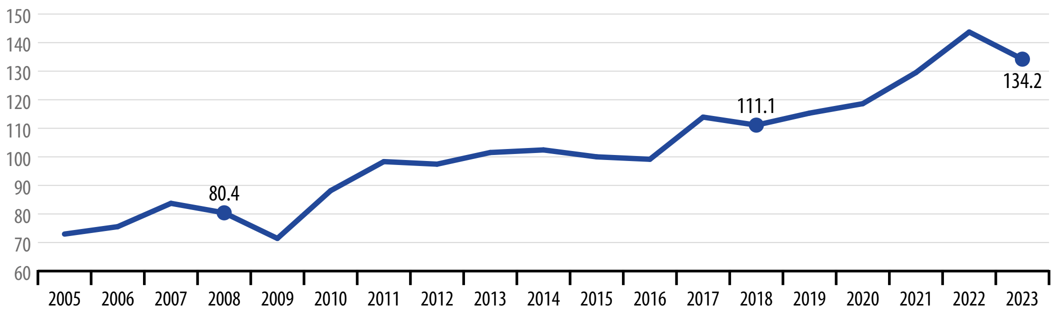
SHORT TERM
2016–2021

Agricultural real factor income measures the income generated by farming, which is used to remunerate borrowed or rented factors of production (capital, wages and land rents) as well as own production factors (own labour, capital and land). Annual work units (AWUs) are defined as full-time equivalent employment (corresponding to the number of full-time equivalent jobs), which is calculated by dividing total hours worked by the average annual number of hours worked in full-time jobs within the economic territory. This can be interpreted as a measure of labour productivity in agriculture. The data stem from the Economic Accounts for Agriculture (EAA), which provide detailed information on agricultural sector income.

FIGURE 2.3

Agricultural real factor income per annual work unit (AWU), EU, 2005–2023

(chain-linked volumes, index 2015=100)

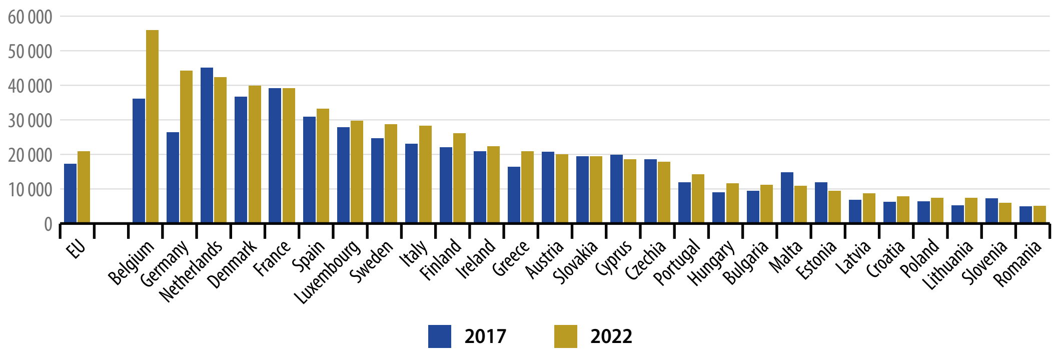


Source: Eurostat (online data code: sdg_02_20)

FIGURE 2.4

Agricultural real factor income per annual work unit (AWU), by country, 2018 and 2023

(EUR, chain-linked volumes (2015))



Note: Caution should be exercised when comparing absolute levels of agricultural factor income per annual work unit (AWU) because they are influenced by different national rules related to the full-time working hours comprising an AWU.
Source: Eurostat (online data code: sdg_02_20)

Government support to agricultural R&D

This indicator refers to government budget allocations for R&D (GBARD). GBARD data measure government support to research and development (R&D) activities or, in other words, the level of priority that governments place on the public funding of R&D. GBARD data are built up using the guidelines laid out in the standard practice for surveys of research and experimental development, the OECD's Frascati Manual from 2015 and the European Business Statistics Methodological Manual for R&D statistics of 2023.

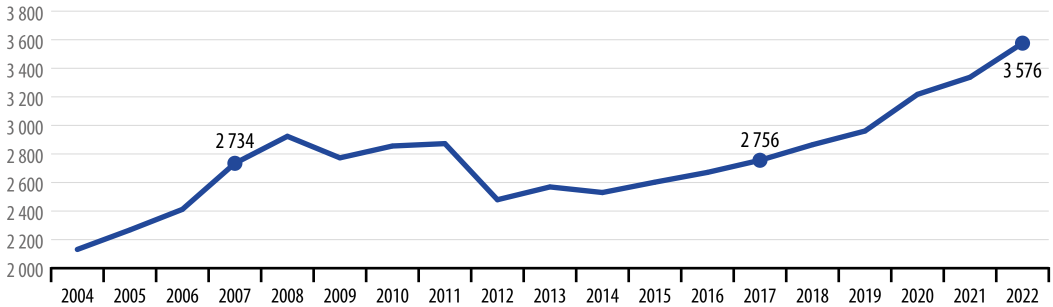
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 2.5

Government support to agricultural research and development, EU, 2004–2022

(million EUR)

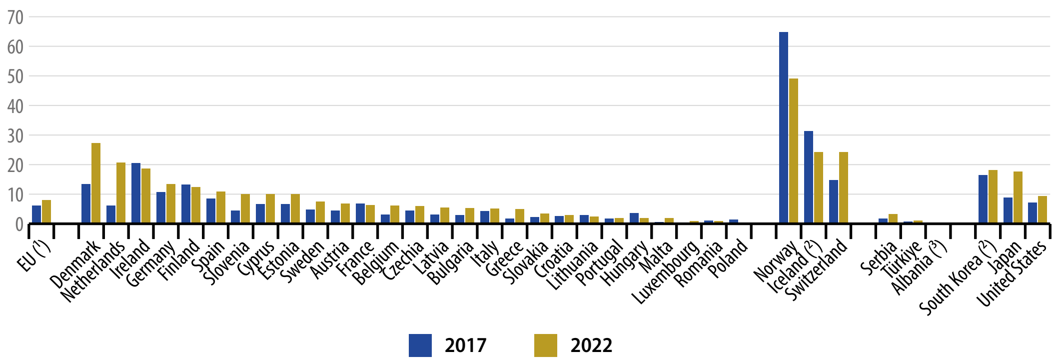


Note: Estimated data.
Source: Eurostat (online data code: sdg_02_30)

FIGURE 2.6

Government support to agricultural research and development, by country, 2017 and 2022

(EUR per capita)



([1]) Estimated data. ([2]) 2021 data (instead of 2022). ([3]) No data for 2017.
Source: Eurostat (online data code: sdg_02_30)

Area under organic farming

LONG TERM Time series too short

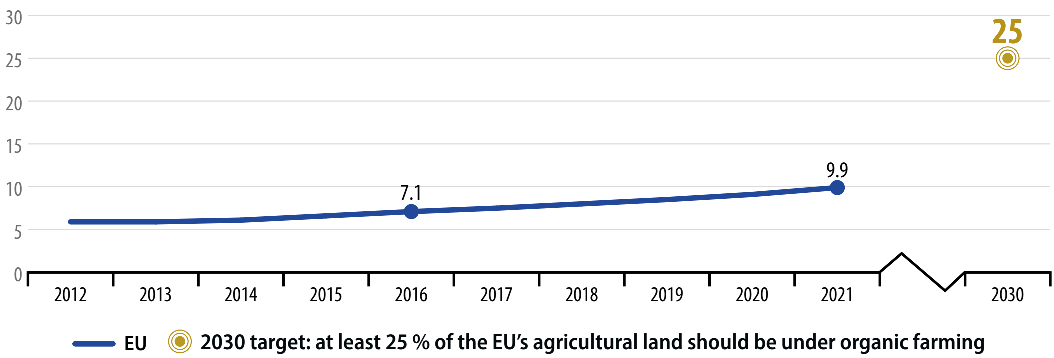
SHORT TERM 2016–2021

This indicator is defined as the share of total utilised agricultural area (UAA) occupied by organic farming (existing organically farmed areas and areas undergoing conversion). Organic farming is a production method that puts the highest emphasis on environmental and wildlife protection and, with regard to livestock production, on animal welfare considerations. It avoids or largely reduces the use of synthetic chemical inputs such as fertilisers, pesticides, additives and medical products.

FIGURE 2.7

Area under organic farming, EU, 2012–2021

(% of utilised agricultural area)

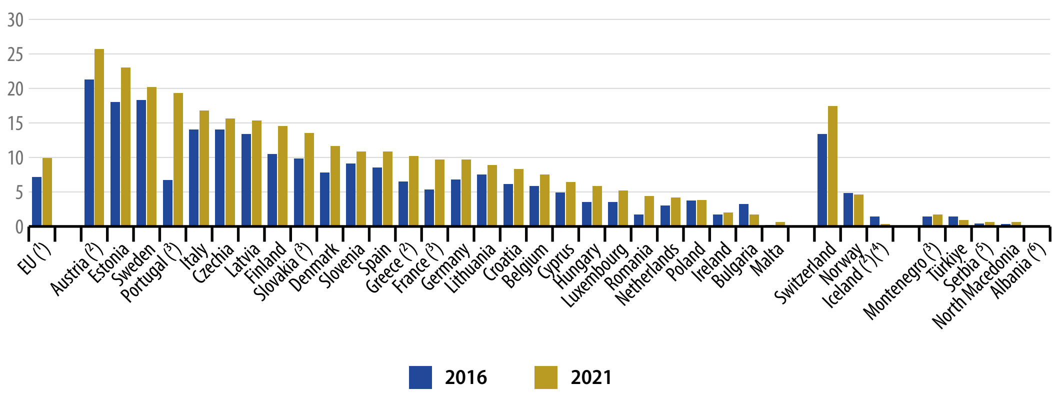


Note: 2018–2021 data are estimated, 2021 estimate made for the purpose of this publication.
Source: Eurostat (online data code: sdg_02_40)

FIGURE 2.8

Area under organic farming, by country, 2016 and 2021

(% of utilised agricultural area)



(1) 2021 data: estimate made for the purpose of this publication.
(2) 2020 data (instead of 2021).
(3) 2021 data are provisional or estimated.
(4) 2015 data (instead of 2016).
(5) 2019 data (instead of 2021).
(6) No data for 2016.

Source: Eurostat (online data code: sdg_02_40)

Use and risk of chemical pesticides

The indicator monitors the trends in the use and risk of chemical pesticides in the EU and its Member States. The use of pesticides entails risks and impacts on human health and the environment. The indicator is based on the quantities of active chemical substances contained in the pesticides which are placed on the market (sold), and therefore used, in each Member State, and the hazard properties of these active substances. The data are presented as an index relative to the average results for the period 2015 to 2017.

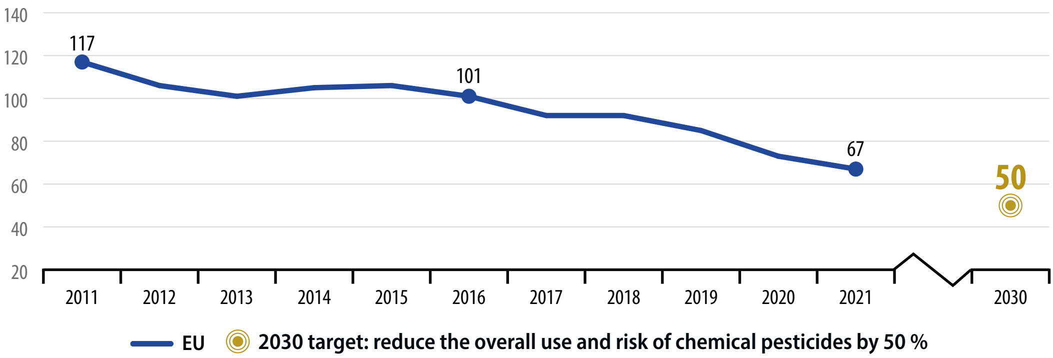
LONG TERM
2011–2021

SHORT TERM
2016–2021

FIGURE 2.9

Use and risk of chemical pesticides, EU, 2011–2021

(index 2015–2017 = 100)

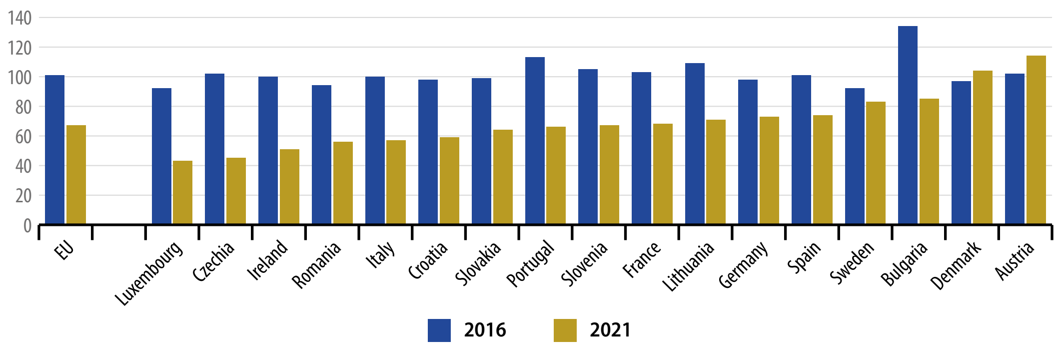


Source: DG Health and Food Safety (Eurostat online data code: sdg_02_53)

FIGURE 2.10

Use and risk of chemical pesticides, by country, 2016 and 2021

(index 2015–2017 = 100)



Note: Data for all 27 Member States are included in the EU aggregate, but only 17 Member States have agreed to disclose country level data.
Source: DG Health and Food Safety (Eurostat online data code: sdg_02_53)

Ammonia emissions from agriculture

LONG TERM 2006–2021

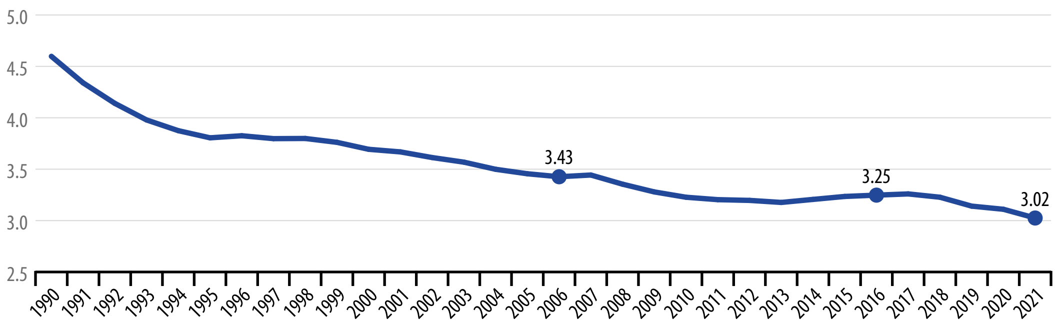
SHORT TERM 2016–2021

This indicator measures ammonia (NH_3) emissions as a result of agricultural production. These emissions result from manure management, applications of inorganic nitrogen fertilisers and animal manure applied to soil, as well as urine and dung deposited by grazing animals. Data for this indicator come from the EU inventory on air pollution compiled by the European Environment Agency (EEA) under the Convention on Long-range Transboundary Air Pollution (LRTAP) and are fully consistent with national air pollution inventories compiled by EU Member States. Data on the utilised agricultural area (UAA) stem from Eurostat's annual crop statistics. The definition of this indicator is based on the CAP indicator C45 Emissions from agriculture.

FIGURE 2.11

Ammonia emissions from agriculture, EU, 1990–2021

(million tonnes)

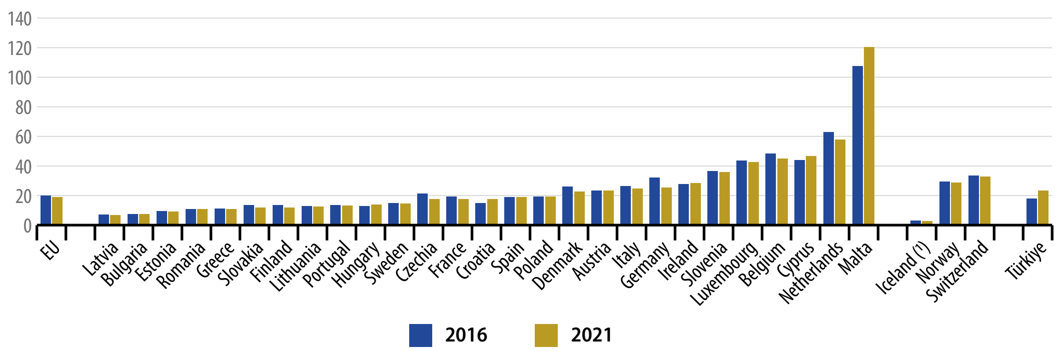


Source: EEA (Eurostat online data code: sdg_02_60)

FIGURE 2.12

Ammonia emissions from agriculture, by country, 2016 and 2021

(kg per ha of utilised agricultural area)



(¹) 2017 data (instead of 2016).

Source: EEA, Eurostat (online data code: sdg_02_60)

Notes

(1) Eurostat (online data code: hlth_ehis_bm1e).

(2) World Health Organisation (2021), *WHO European Childhood Obesity Surveillance Initiative (COSI) Report on the fourth round of data collection 2015–2017*, WHO Regional Office for Europe, Copenhagen.

(3) Source: Eurostat (online data code: ilc_hch10).

(4) Source: Eurostat (online data codes: aact_eaa05 and aact_ali02).

(5) Input-intensive agriculture increases agricultural productivity through consumable inputs, such as chemical fertilisers and pesticides, and capital inputs, such as highly mechanised approaches. Mechanised inputs frequently substitute labour inputs as factors of production.

(6) European Medicines Agency (2023), *Sales of veterinary antimicrobial agents in 31 European countries in 2022 — Trends from 2010 to 2022 — Thirteenth ESVAC report*, Publications Office of the European Union, Luxembourg.

(7) See section 3.2 in the report: European Commission (2022), *First 'zero pollution' monitoring and outlook*, COM(2022) 674 final.

(8) The main GHG emissions from agricultural practices are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).

(9) Eurostat (online data code: env_air_gge).

(10) Generally, artificial, sandy, rocky and icy surfaces as well as wetlands and water bodies are not included in the land area used in calculating the soil-erosion indicator (see online metadata: sdg_15_50).

(11) European Commission (2016), *Fitness Check of the EU Nature Legislation (Birds and Habitats Directives)*, SWD(2016) 472 final.

Ensure healthy lives and promote well-being for all at all ages

SDG 3 aims to ensure health and promote well-being for all at all ages by improving reproductive, maternal and child health; ending epidemics of major communicable diseases; and reducing non-communicable and mental diseases. It also calls for reducing behavioural and environmental health risk factors.

Health can be defined as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' ([1]). Good health is not only of value to the individual as a major determinant of quality of life, well-being and social participation, it is also a basic precondition for general economic growth. Monitoring SDG 3 in an EU context focuses on the topics of healthy lives, determinants of health, causes of death and health care. Over the five-year period assessed, the EU experienced setbacks in around half of the indicators analysed here, leading to an overall slightly negative assessment of the goal as a whole. Some of the negative trends observed are related to the effects of the COVID-19 pandemic, which are only now becoming visible in the data. The most prominent of these trends include declines in healthy life expectancy, in self-perceived health and in unmet needs for medical care as well as an increase in the number of people dying from avoidable (preventable) causes. Developments have been more favourable in other indicators on health determinants and causes of death, even though the EU is currently not on track to meet some of its respective 2030 targets.

Indicators measuring progress towards SDG 3, EU

Indicator	Period	Annual growth rate	Assessment	More info
Healthy lives				
Healthy life years at birth	2008–2021	0.3 %	↗	page 85
	2016–2021	– 0.1 %	→	
People with good or very good self-perceived health	2010–2022	0.1 %	→	page 86
	2017–2022	– 0.4 %	↘	
Health determinants				
Smoking prevalence	2006–2020	– 1.5 %	↑	page 87
	2014–2020	– 1.3 %	↑	
Obesity rate (*)	Time series too short for long-term assessment		:	SDG 2, page 65
	2017–2022	– 0.1 %	→	
Population living in households suffering from noise (*)	2010–2020	– 1.6 %	↑	SDG 11, page 220
	2015–2020	– 0.8 %	↗	
Causes of death				
Standardised avoidable mortality	2011–2021	0.4 %	↘	page 88
	2016–2021	2.8 %	↓	
Fatal accidents at work (*)	2010–2021	– 2.4 %	↑	SDG 8, page 171
	2016–2021	– 0.9 %	↗	
Road traffic deaths (*)	2007–2022	Observed: – 4.3 % Required: – 5.3 %	↗	SDG 11, page 222
	2017–2022	Observed: – 2.5 % Required: – 5.4 %	↘	
Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$) (*)	2005–2021	Observed: – 3.3 % Required: – 3.1 %	↑	SDG 11, page 223
	2016–2021	Observed: – 2.1 % Required: – 2.6 %	↗	

Indicator	Period	Annual growth rate	Assessment	More info
Health care				
Self-reported unmet need for medical care	2010–2022	– 3.8 %		page 89
	2017–2022	6.6 %		
Total consumption of antibiotics in the community and hospital sectors	Time series too short for long-term assessment		:	page 90
	2017–2022	Observed: – 1.0 % Required: – 1.9 %		

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

Policy context

Healthy lives

The EU4Health programme is the main financial instrument to fund the Union's health initiatives. Part of the European Health Union, aims to reduce health inequality, improve public health and boost the EU's capacity to respond to future health crises. It works in complementarity with the Horizon Europe Programme.

The HealthyLifestyle4All campaign aims to link sport and active lifestyles with health, food and other policies.

Health determinants and causes of death

The 'Healthier Together' EU non-communicable diseases initiative supports countries in reducing the burden of non-communicable diseases. It helps to address environmental, commercial and lifestyle-related risk factors in a more effective and efficient way.

The European Commission supports Member States in combatting communicable and other diseases through the EU4Health programme and Horizon Europe.

Europe's Beating Cancer Plan addresses cancer through prevention, early detection, diagnosis and treatment, and improving the quality of life of cancer patients and survivors.

Several EU Directives aim to protect citizens from the hazardous effects of smoking, including the Tobacco Products Directive, the Tobacco Advertising Directive and the Tobacco Taxation Directive.

The Zero Pollution Action Plan sets the target to reduce premature deaths from air pollution by 55 % by 2030 compared with 2005. It also includes the target to reduce the share of people chronically disturbed by transport noise by 30 % by 2030.

The EU road safety policy framework 2021–2030 and Sustainable and Smart Mobility Strategy aim to reduce deaths and serious injuries on the road by 50 % by 2030.

Health care

Access to health care is one of the 20 principles of the European Pillar of Social Rights and its Action Plan. Directive 2011/24/EU on patient rights in cross-border health care gives EU citizens the right to access care in the EU and to be reimbursed.

The European Care Strategy and accompanying Council Recommendation on access to high-quality affordable long-term care set out an EU agenda for ensuring quality, affordable and accessible care services across the EU.

The Pharmaceutical Strategy for Europe (2020) seeks to ensure access to affordable medicines for patients and to counteract the negative effects of pharmaceuticals on the environment and address possible environmental risks.

The Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach (2023) sets several targets, including the target of reducing the consumption of antibiotics in humans by 20 % by 2030. The Farm to Fork Strategy sets a target to reduce the sales of antimicrobials for farmed animals and in aquaculture by 50 % by 2030 compared with 2018.

Overview and key trends

Healthy lives

The worldwide surge in life expectancy over the past century is a result of various factors, including reduced infant mortality, rising living standards, improved lifestyles and better education, as well as advances in health care and medicine.

While life expectancy has increased in EU countries over the past few decades, the pace of progress has slowed in recent years in many of those countries. The COVID-19 pandemic resulted in a decline in life expectancy in most EU countries in 2020 and 2021, followed by a moderate recovery in 2022 (2). However, while life expectancy gives an objective assessment of how long people can expect to live, it does not show whether people live their lives in good health. Thus, two indicators are now included in the analysis. The first one, healthy life years at birth, shows the number of years a person can expect to live in a healthy state. The second one measures the share of people with good or very good perceived health, capturing an individual's subjective view of their well-being.

The COVID-19 pandemic has reduced the healthy life expectancy and self-perceived health of the EU population

In 2021, a child born in the EU could on average expect to live 63.6 years without any severe or moderate health problems. This is 1.0 years lower than at the pre-pandemic peak of 64.6 years in 2019. While healthy life expectancy had increased between 2016 and 2019, it fell in 2020 and 2021 due to the impact of the COVID-19 pandemic. Overall, the 2021 value is 0.4 years lower than the 64.0 years recorded in 2016.

A child born in 2021 could on average expect to live
63.6
years in a healthy condition

However, the overall EU figure masks considerable differences within and between Member States, with healthy life expectancy varying by 14.9 years between countries in 2021. This difference is narrower than in 2020, when it amounted to 19.3 years.

The impact of the pandemic is also reflected in the data for self-perceived health. While the proportion of EU citizens rating their own health as good or very good increased between 2017 and 2020, it fell again in 2021 and 2022, reaching 67.8 % in 2022. This is 1.2 percentage points lower than in 2017. Similar to healthy life expectancy, this share varied strongly across Member States, ranging from 48.1 % in Lithuania to 80.1 % in Ireland. Furthermore, differences also exist between rural and urban areas. In 2022, the percentage of people who perceived their health to be good or very good was highest in cities (69.6 %), slightly below the average in towns and suburbs (67.5 %) and lowest in rural areas (65.4 %) (3). Moreover, the share of people with a disability — capturing a long-standing limitation to perform usual activities — who perceived their health as being good or very good was significantly lower than the EU average. Only 26.8 % of people with a moderate disability and even only 7.3 % of people with severe disability perceived their health as being good or very good in 2022, while 84.7 % of people without a disability did so (4).

67.8 %
of the EU population perceived themselves to be in good or very good health in 2022

Women have a higher healthy life expectancy than men, but are less likely to assess their health as being good

Between 2016 and 2021, the number of healthy life years that women could expect at birth decreased by 0.2 years, from 64.4 years to 64.2 years. During the same period, the healthy life years men could expect at birth fell by 0.5 years — from 63.6 in 2016 to 63.1 years. Thus, women were not only associated with a higher absolute number of healthy life years, their healthy life expectancy also fell more slowly than it did for men. The gap between the two examined sexes consequently rose from 0.8 years in 2016 to 1.1 years in 2021. In the same year, in about three out of four Member States, women could expect a higher number of healthy life years at birth than men.

Despite their higher healthy life expectancy at birth, women were less likely than men to rate their health as good or very good: 65.4 % of women and 70.3 % of men perceived their health as being good or very good in 2022 — a gap of 4.9 percentage points.

Excess mortality fell and life expectancy improved in the EU in 2022

The COVID-19 pandemic considerably affected death rates in EU Member States throughout 2020 and 2021 ([5]). The population above the age of 60 years, as well as people from socially disadvantaged groups, were especially affected ([6]). Overall, between January 2020 and February 2023, about 1.74 million excess deaths were recorded in the EU and European Free Trade Association (EFTA) countries compared with the average number of deaths registered during the period 2016 to 2019. In February 2023, for the first time since February 2020 (pre-COVID-19 pandemic period), there were no excess deaths and the indicator fell below the baseline to – 1.1 %. In March and April 2023, excess mortality rose slightly to 1.3 % and 4.2 % respectively. In May 2023, when the World Health Organization declared an end to the COVID-19 public-health emergency, the excess mortality in the EU was 3.6 % ([7]).

The decrease in life expectancy across the EU caused by the COVID-19 pandemic appears to have halted in 2022. While life expectancy at birth fell in 2020 and 2021 compared with the previous year, it increased by 0.6 years in 2022. Nevertheless, at 80.7 years in 2022, it remained 0.6 years below the pre-pandemic value of 81.3 years reported in 2019 ([8]).

Health determinants

Many factors affect the health of individuals and populations. These include socioeconomic factors, the state of the environment, city design, access to and use of health services, and individual characteristics and behaviour ([9]). Lifestyle-related risk factors, such as an unhealthy diet, physical inactivity, smoking and excessive alcohol consumption, directly affect citizens' quality of life and life expectancy. These factors also have a negative impact on the health and social systems of EU Member States, government budgets, and economic productivity and growth. The health determinants discussed in the following sections are obesity rate, smoking prevalence and noise pollution. In addition, further factors such as mobility and consumption patterns may also influence the health determinants described on the following pages.

More than half of the adult EU population was overweight in 2022

14.8 %
of the adult population in the EU were obese in 2022

Obesity is a serious public health problem because it significantly increases the risk of chronic diseases, such as cardiovascular disease, type-2 diabetes, hypertension and certain types of cancer. For some individuals, obesity may also be linked to a wide range of psychological problems. From a societal perspective, obesity has substantial direct and indirect costs that put a considerable strain on health and social security systems. Furthermore, being obese or overweight from an early age can lead to more health problems in the long term ([10]).

In 2022, 14.8 % of the EU population aged 18 or above were obese (with a body mass index equal to or greater than 30) and another 36.5 % were pre-obese (with a body mass index between 25 and 30) ([11]). In total, more than half of the EU population aged 18 or above were obese or pre-obese (and therefore overweight). Between 2017 and 2022, the share of both obese and pre-obese people decreased slightly by 0.1 and 0.4 percentage points, respectively. The total share of overweight people thus decreased slightly over this period, from 51.8 % in 2017 to 51.3 % in 2022.

The obesity rate generally increases with age, peaking at age group 65 to 74 years (19.7 % obese in 2022) and decreasing again for people aged 75 and older. Young people aged 25 to 34 showed the lowest obesity rates, at 9.7 % in 2022. Moreover, obesity and pre-obesity rates decrease with higher educational levels, with 2022 obesity rates ranging from 10.5 % for people with tertiary education to 17.9 % for people with lower secondary education or lower ([12]). In 2022, there was furthermore a considerable difference between Member States, with values ranging from 7.1 % in Italy to 26.1 % in Malta for obese people aged 18 and over.

Smoking prevalence among people aged 15 and over has decreased since 2006

25 %
of the EU population aged 15 and over were smokers in 2020

Tobacco consumption is considered the single most preventable cause of illness and death worldwide. The World Health Organisation's (WHO) European Region — which also includes some non-European countries such as Israel, and some in Central Asia ([13]) — has one of the highest mortality rates attributable to tobacco use ([14]). Tobacco use is currently the leading cause of 16 % of all deaths among adults aged 30 years and over in Europe, which is above the global average of 12 %. Many of these premature deaths result from multiple types of cancer and cardiovascular and respiratory diseases linked to tobacco use ([15]).

Smoking prevalence among the population aged 15 or over fell between 2006 and 2020, from 31 % to 25 %. In 2020, more men (28 %) than women (22 %) reported that they smoke. However, the decline in smoking prevalence is less evident for women than for men, which can partially explain the narrowing gap in life expectancy between the sexes ([16]). The age group with the highest prevalence of smokers were those aged 25 to 54 (close to 30 %) followed by younger respondents aged 15 to 24 (20 %) and older people aged 55 years and above (18 %). Lastly, the share of smokers who indicated that they have trouble paying bills most of the time is higher than the share of smokers who said they (almost) never have trouble paying bills ([17]).

The number of people affected by noise from neighbours and the street has decreased slightly in the EU

17.6 %
of the EU population were affected by noise from neighbours or the street in 2020

Noise exposure reduces life satisfaction and perceived well-being. In addition, transport noise has been identified as the second most significant environmental cause of ill health in western Europe after air pollution ([18]). The most harmful health problems — such as those affecting the cardiometabolic system — arise because of interrelated issues including decreased sleep quality and stress reactions in the human body. These issues can also lead to premature death ([19]). In Europe, environmental noise is estimated to contribute to 12 000 premature deaths per year ([20]). Road traffic is the dominant source of environmental noise, but railways, airports and industry also remain important sources of localised noise pollution ([21]). The WHO Environmental Noise Guidelines for the European Region provide recommendations for protecting human health from exposure to environmental noise that originates from various sources.

In this publication, the perception of noise pollution is measured by the share of the population living in households who report they suffer from noise from neighbours or the street. Since this measure is derived from subjective questions, a fall in the value of this indicator does not necessarily indicate a similar reduction in actual noise-pollution health effects which are instead calculated based on large-scale assessments and precise formulas derived by the WHO [22]. Over the past decade, the share of the EU population feeling affected by noise from neighbours or the street fell from 20.6 % in 2010 to 17.6 % in 2020. The perception of noise pollution is also unevenly distributed between Member States. In 2020, the proportion of people reporting noise disturbance from neighbours or the street ranged from 8.0 % in Estonia to 30.8 % in Malta.

Causes of death

Causes of death are among the oldest medical statistics available and play a key role in the general assessment of health in the EU. The data can be used to determine which preventive and medical curative measures or investment in research might increase a population's life expectancy. The indicators selected for this sub-theme look at avoidable mortality, air pollution and fatal accidents on roads and at work.

The COVID-19 pandemic seems to have led to more avoidable deaths

294.1
per 100 000 people died prematurely in the EU due to avoidable causes of death in 2021

Avoidable mortality refers to preventable and treatable causes of death, including injuries and drug-related diseases, as well as respiratory and infectious diseases, and some types of cancer. While avoidable mortality had been decreasing until 2019, the COVID-19 pandemic appears to have reversed the trend. Between 2016 and 2021, preventable mortality rose by 23.6%, from 162.5 per 100 000 persons in 2016 to 200.8 per 100 000 in 2021. This result may be a consequence of the COVID-19 pandemic: health systems operated close to their capacity limits in many EU countries, which might have prevented health care professionals from providing patients with the health care they needed on time, or even at all. On the other hand, treatable mortality increased only marginally by 0.1 %, from 93.2 per 100 000 persons to 93.3 in 100 000, over the same period.

In total, avoidable mortality increased by 15.1 % in the EU, from 255.6 per 100 000 persons in 2016 to 294.1 per 100 000 persons in 2021. While the developments were nevertheless positive in many Member States, the gap of 517.3 persons per 100 000 in 2021 between the highest (694.8 in Romania) and the lowest (177.5 in Sweden) values shows there remains a great deal of variability within the EU.

The number of premature deaths due to exposure to air pollution by fine particulate matter in the EU has fallen

253 305
people died prematurely in the EU in 2021 due to exposure to $PM_{2.5}$

According to the WHO, air pollution is the number-one environmental cause of death in Europe [23]. It can lead to or aggravate many chronic and acute respiratory and cardiovascular diseases. Air pollution has been one of the EU's main environmental policy concerns since the late 1970s. Air pollutants are emitted both naturally and as a result of human activities, with important sources being solid fuel combustion for domestic heating, industrial activities, road transport and agriculture. Urban populations are particularly exposed because of the daily flow of commuters, and the high concentration of industry and human activities causing the emission of fine particulate matter in EU cities. In addition, the most vulnerable citizens remain disproportionately affected by air pollution [24]. For example, groups with lower socioeconomic status tend to be disproportionately affected by air pollution because they often live closest to its source. Children are another disproportionally affected group because they have higher respiratory rates than adults, which increases their exposure to air pollution. Also, children's developing immune systems and organs make them more vulnerable to air pollution [25]. Air pollution also has a significant negative impact on the economy, by reducing both productivity and life expectancy, as well as by increasing health costs [26].

Fine particulate matter ($PM_{2.5}$) is one of the most harmful components of air pollution for human health, causing 253 305 premature deaths in Europe in 2021. Between 2005 and 2021, premature deaths due to exposure to $PM_{2.5}$ decreased by 41 %. This development suggests the EU is on track to meeting its target of reducing the negative impact of air pollution on health by 55 % by 2030 compared with 2005, as set out in the Zero Pollution Action Plan (see 'Zero pollution' monitoring and outlook). According to an analysis by the European Environment Agency (EEA), if the trend seen in the past ten years were to continue, the decline in premature mortality attributable to $PM_{2.5}$ would reach 68 % by 2030 relative to 2005 levels.

Fatal work and road accidents have decreased, but further progress is necessary to meet the 2030 target of halving deaths from road crashes

Accidents were one of the most common causes of death within the EU in 2021, leading to more than 165 000 deaths or 3.1 % of all deaths [27]. These accidents may happen at different places such as at home, leisure venues or work, as well as while travelling. Improving the working environment to protect employee health and safety is an important objective set out by the EU and its Member States in the Treaty on the Functioning of the European Union. Halving the number of deaths from road-traffic crashes is not only a global target, but also a goal of EU policies. The EU road safety policy framework 2021–2030 sets a target of reducing deaths and serious injuries by 50 % by 2030 compared with 2019.

4.6 per 100 000 persons were killed in road crashes in the EU in 2022

In 2022, 20 653 people were killed in road traffic crashes, equalling 4.6 per 100 000 people. This represents a 11.7 % reduction compared with 2017, due in part to lower traffic volumes during the COVID-19 pandemic. However, the number of road fatalities has grown by 9.7 % since its 2020 low, and the EU is consequently not on track to meet the target of halving the number of people killed in road traffic crashes by 2030 compared with 2019 levels. Nevertheless, the EU rate of 4.6 fatalities per 100 000 people compares favourably with the global average of around 15 per 100 000 [28]. Preliminary results for 2023 indicate that fatalities remained below the pre-pandemic level: in 2023 road deaths fell slightly by 1 % compared with 2022 and remained 10 % lower than before the pandemic in 2019 [29]. For further details see the chapter on SDG 11 'Sustainable cities and communities' on page 211.

Fatal accidents, leading to a person's death within one year, may also occur at work. The EU made progress on this indicator between 2016 and 2021, reducing the number of fatal accidents at work per 100 000 employed persons from 1.84 to 1.76. There is a considerable difference between the sexes: the incidence rate for women (0.26) was negligible compared with the rate for men (3.08). This difference can be explained by the higher share of men working in professions associated with a higher risk of work accidents. Non-fatal accidents can also cause considerable harm, for example by leading to a permanent disability that may force people to leave the labour market or change their job. Non-fatal accidents happened considerably more often than fatal accidents, with an incidence rate of 1 516 per 100 000 employed persons in 2021 [30].

1.76 per 100 000 persons employed had fatal accidents at work in the EU in 2021

Health care

Access to health care — the timely access to affordable, preventive and curative health care — is high on the political agenda of most EU countries. It is defined as a right in the Charter of Fundamental Rights and is one of the 20 principles of the European Pillar of Social Rights. Limited access for some population groups, especially vulnerable populations, people with disabilities, transgender and intersex people, may result in poorer health outcomes and greater health inequalities. Reducing health inequalities is not only important for equity reasons, but also because it contributes to higher economic and social cohesion (31).

Unmet needs for medical care have increased since 2017

In 2022, 2.2 % of the EU population reported an unmet need for medical care because of financial reasons, long waiting lists or travel distance. This represents a 0.6 percentage point increase since 2017, when the share was 1.6 %. Differences between Member States' reported unmet needs for medical care remained substantial, amounting to 9 percentage points in 2022. While in Cyprus 0.1 % of the population reported an unmet need for medical care in 2022 for the reasons monitored, around 9 % of the population did so in Greece and Estonia.

Financial constraints are the most common reason why people report unmet needs for medical examination. On average, for 1.1 % of the total EU population in 2022, 'too expensive' was the most prominent reason for reporting unmet medical examination. Furthermore, financial constraints were the most common self-reported reason for unmet needs in rural areas (1.3 %), which was slightly more than for people in towns or suburbs and in cities (1.1 % each). A further 0.9 % across all degrees of urbanisation reported 'waiting lists' as a reason for unmet needs for medical examination. This reason for unmet medical needs was more often declared in cities (1.1 %) than in rural areas (0.9 %) and in towns and suburbs (0.8 %). Another 0.1 % described 'too far to travel' as the main reason for an unmet need for medical examination. This was more often the case in rural areas (0.2 %) than in cities, or in towns and suburbs (both 0.1 %). However, not all Member States listed cost as the main reason for unmet needs — in many countries waiting lists were cited by most people (32).

2.2 % of the EU population reported unmet need for medical care in 2022

Moreover, people with disabilities find it more difficult to access health care. In 2022, 6.3 % of people with severe activity limitations and 4.2 % of people with some activity limitations reported unmet needs for medical care due to the monitored reasons (financial, waiting list or distance), compared with only 1.2 % of people without disabilities (33). This discrepancy indicates that access to health care remains a challenge not only in certain parts of the EU but also for certain population groups.

Most European countries have achieved universal coverage for a core set of services, which usually include consultations with doctors, tests, examinations and hospital care. Yet in some countries, coverage of these services may not be universal or patients may have to bear the costs of accessing them. Furthermore, across the EU, around a seventh of all health spending was borne directly by households in 2020. Out-of-pocket payments as a share of total current health expenditure decreased slightly from 15.9 % in 2014 to 14.5 % in 2021. However, a considerable gap of 25.1 percentage points between countries remained in 2021 (34). Such out-of-pocket payments can pose a serious problem for low-income households, in particular if combined with reduced financial resources for the health care system caused, for example, by an economic crisis (35). Moreover, across Member States, between 1.0 % and 19.2 % of households experienced catastrophic spending on health, meaning out-of-pocket spending on health care exceeded 40 % of a household's disposable income (36). Poor households and those who have to pay for long-term treatment such as medicines for chronic illness are at high risk of experiencing financial hardship as a result of having to pay out of their own pockets.

Specific population groups may not have the same access to health services as the general population

In many EU countries minorities do not have the same access to health services as the general population. One of those minorities is the Roma people. According to a study based on survey data from 2021 the share of Roma people who experienced discrimination in terms of access to health services increased between 2016 and 2021 in most of the 13 EU and non-EU countries examined by the Fundamental Rights Agency. The same survey provides evidence that women were more often discriminated against than men. Furthermore, the youngest and the oldest respondents reported lower levels of discrimination compared with middle-aged respondents: the age group 16 to 24 experienced discrimination in 10 % of cases, while respondents aged 65 and above reported discrimination in 13 % of cases. At the same time, 16 % of respondents aged 25 to 64 reported they had experienced discrimination. In terms of health outcomes, the study also found that Roma people have a markedly lower life expectancy (by 11.0 years for women and 9.1 years for men) than the general population in the EU.

People of African descent are more likely to report having unmet medical needs in most EU Member States, according to a study of the Fundamental Rights Agency based on survey data collected in 15 EU Member States in 2022. Overall, around every 10th respondent (9 %) reported that they had an unmet need for a medical examination or treatment in the year before the survey. This is nearly two times the rate of the general population in the EU (5 %). Further, every 10th respondent of African descent (9 %) felt racially discriminated against in the 12 months before the survey when accessing health care services. Considerable differences among Member States were observed. The highest 12-month prevalence of racial discrimination in access to health care was reported by respondents in Austria (28 %), Germany (27 %) and Finland (18 %). The lowest rates reported were from France, Poland and Portugal (5 % each).

The 2nd LGBTI Survey, conducted by the Fundamental Rights Agency in 2019, found that 16 % of LGBTI people felt discriminated against when in contact with health care or social services staff. Notably, 52 % of respondents who assessed their general health as 'very bad' and 36 % of those who assessed it as 'bad' felt discriminated against in health care settings. Perceived discrimination was lower among those who assessed their health as 'very good' or 'good' (11 % and 14 %, respectively).

The total consumption of antibiotics in the EU has fallen, although there are substantial differences between Member States

Antimicrobial resistance (AMR) is a serious cross-border threat to health in the EU ([37]). From 2016 to 2020, AMR led to more than 35 000 deaths in the EU/EEA each year ([38]). Policies that tackle AMR with a 'One-Health' approach can save lives and health care costs. Antimicrobial consumption (AMC) is one of the main drivers of the development of AMR. This is aggravated by the inappropriate use of antimicrobials in humans, animals and plants. Reduction of AMC by using antimicrobials prudently and only where needed reduces selective pressures on the pathogens that contribute to the development of multi-drug resistance.

Between 2017 and 2022, consumption of antimicrobials in the EU fell by

4.9%

In humans, AMC is expressed as the number of defined daily doses (DDD) per 1 000 inhabitants per day, providing an estimate of the proportion of the population treated daily with antimicrobials. The 2022 EU population-weighted mean total AMC in the community and hospital sectors of antibacterials for systemic use (ATC group J01) was 19.4 DDD per 1 000 inhabitants per day. A statistically significant decrease was observed for the EU population-weighted mean consumption between 2013 and 2022 ([39]). In the short term, the EU population-weighted mean total consumption of antibacterials for systemic use has decreased by 4.9 % since 2017, indicating only slow progress towards the EU target of reducing the total consumption of antibiotics in humans by 20 % by 2030 relative to 2019 ([40]). Additionally, significant differences between Member States can be observed. In 2022, country-specific means ranged from 9.1 DDD per 1 000 inhabitants per day in the Netherlands to 33.5 in Cyprus.

Antimicrobial-resistant bacteria derived from food-producing animals can spread to humans by ingestion of or from handling food contaminated with zoonotic bacteria. Over time, this makes the antimicrobials less effective, resulting in treatment failure ([41]). Thus, in addition to reducing human consumption of antimicrobials in the community and hospital sectors, the EU has set a target, in its Farm to Fork Strategy, to reduce overall EU sales of antimicrobials for farmed animals and in aquaculture by 50 % by 2030 relative to 2018. According to a 2023 report from the European Medicines Agency (EMA), EU Member States have already attained more than half of the targeted reduction. In 2022, sales of veterinary antimicrobial agents amounted to 84.8 milligrams per population correction unit (mg/PCU), which is a 28.3 % decrease compared with the 2018 baseline of 118.3 mg/PCU. Nevertheless, despite this achievement, the EMA report notes that Member States will have to continue taking action in order to further reduce their overall aggregated sales of antimicrobials and reach the 2030 goal of 59.2 mg/PCU. Maintaining an annual decrease in sales of about 5 % over the remaining years would keep Member States on track to reach the 2030 target.

Main indicators

Healthy life years at birth

This indicator measures the number of years at birth that a person can expect to live in a healthy condition. Healthy life years is a health expectancy indicator which combines information on mortality and morbidity (prevalence of the population suffering from a disease or medical condition).

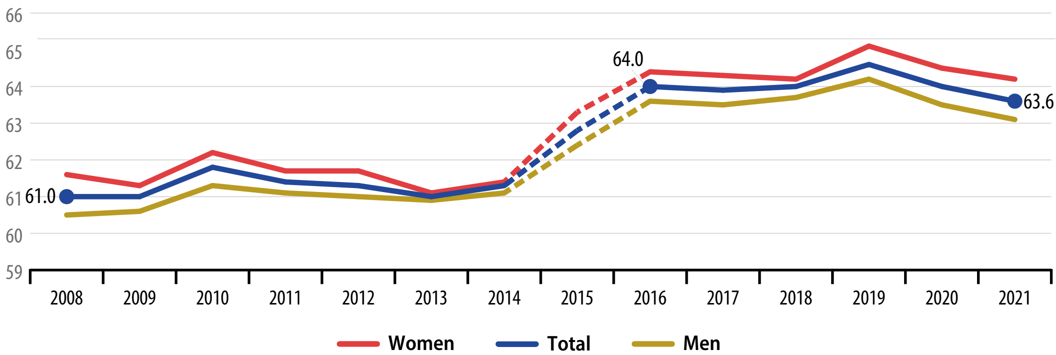
LONG TERM
2008–2021

SHORT TERM
2016–2021

FIGURE 3.1

Healthy life years at birth, by sex, EU, 2008–2021

(years)

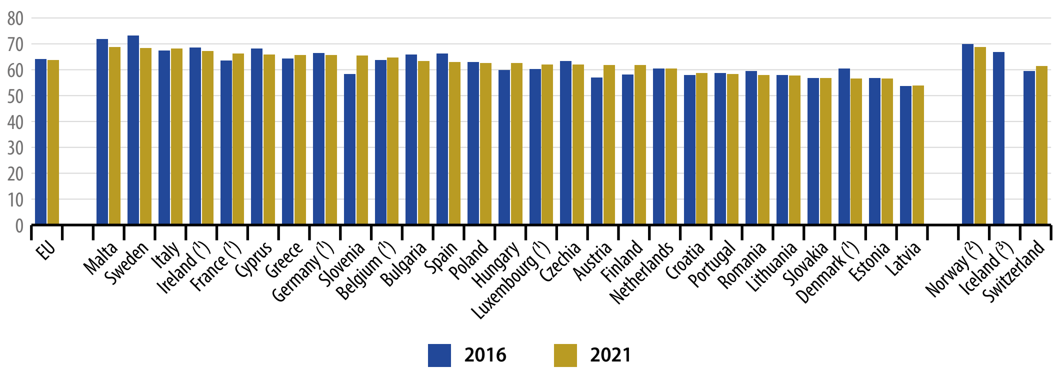


Note: Breaks in time series in 2015 and 2016.
Source: Eurostat (online data code: sdg_03_11)

FIGURE 3.2

Healthy life years at birth, by country, 2016 and 2021

(years)



(¹) Break(s) in time series between the two years shown.
(²) 2020 data (instead of 2021).
(³) No data for 2021.
Source: Eurostat (online data code: sdg_03_11).

People with good or very good self-perceived health

LONG TERM 2010–2022

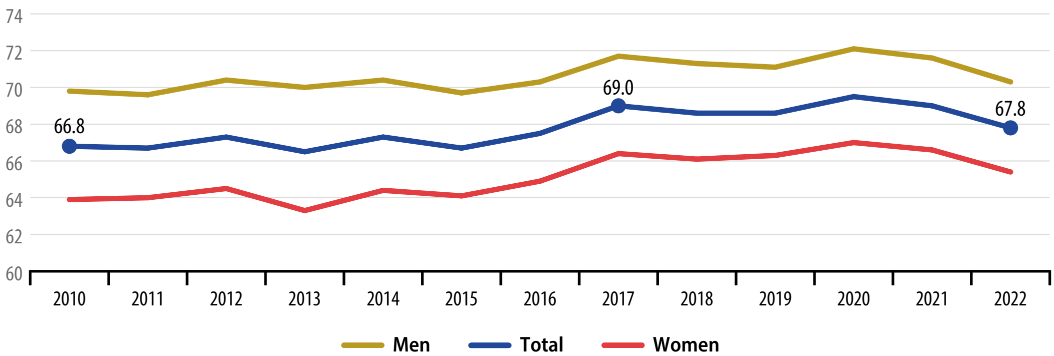
SHORT TERM 2017–2022

This indicator is a subjective measure of how people judge their health in general on a scale from 'very good' to 'very bad'. The data stem from the EU Statistics on Income and Living Conditions (EU-SILC). Indicators of perceived general health have been found to be a good predictor of people's future health care use and mortality.

FIGURE 3.3

Share of people with good or very good perceived health, by sex, EU, 2010–2022

(% of population aged 16 or over)



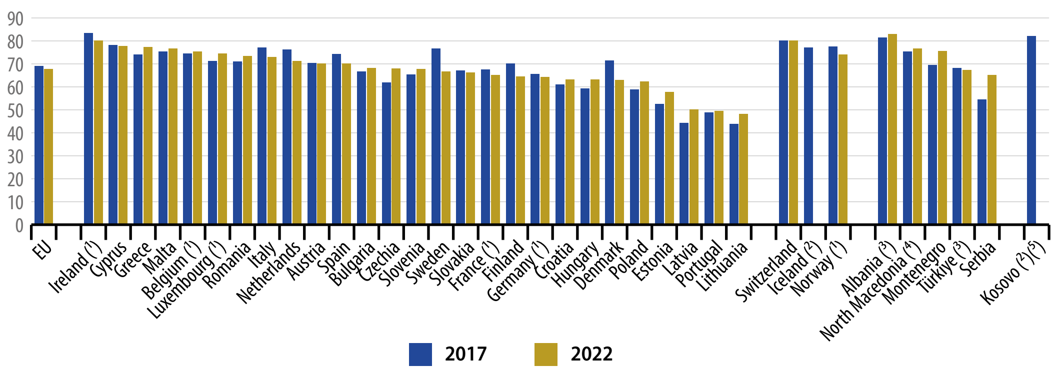
Note: Data for 2010–2016 and 2020 are estimated.

Source: Eurostat (online data code: sdg_03_20)

FIGURE 3.4

Share of people with good or very good perceived health, by country, 2017 and 2022

(% of population aged 16 or over)



(¹) Break(s) in time series between the two years shown.
(²) No data for 2022.
(³) 2021 data (instead of 2022).
(⁴) 2020 data (instead of 2022).
(⁵) 2018 data (instead of 2017).

Source: Eurostat (online data code: sdg_03_20)

Smoking prevalence

This indicator measures the percentage of the population aged 15 years and over who report they currently smoke boxed cigarettes, cigars, cigarillos or a pipe. It does not include the use of other tobacco and related products such as electronic cigarettes and snuff. The data are collected through a Eurobarometer survey and are based on self-reported use during face-to-face interviews in people's homes.

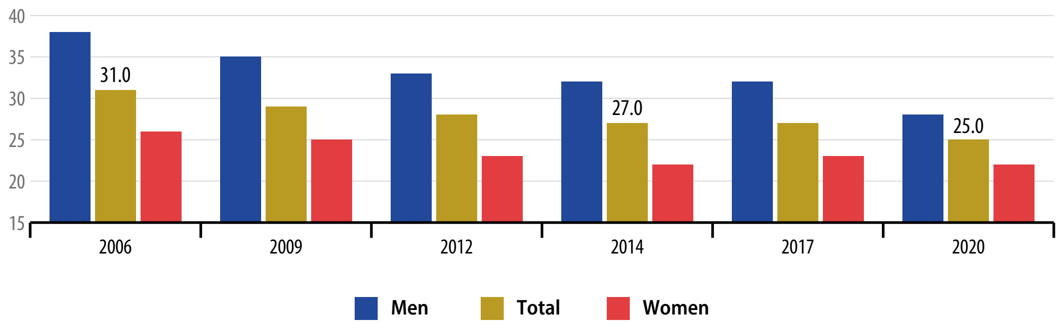
LONG TERM
2006–2020

SHORT TERM
2014–2020

FIGURE 3.5

Smoking prevalence, by sex, EU, 2006–2020

(% of population aged 15 or over)

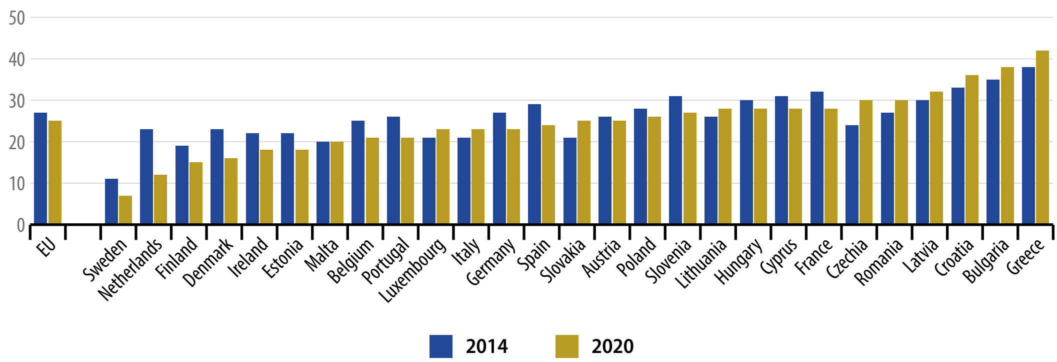


Note: Estimated data; 2012 data excluding Croatia.
Source: European Commission services (Eurostat online data code: sdg_03_30)

FIGURE 3.6

Smoking prevalence, by country, 2014 and 2020

(% of population aged 15 or over)



Source: European Commission services (Eurostat online data code: sdg_03_30)

Standardised avoidable mortality

LONG TERM
2011-2021

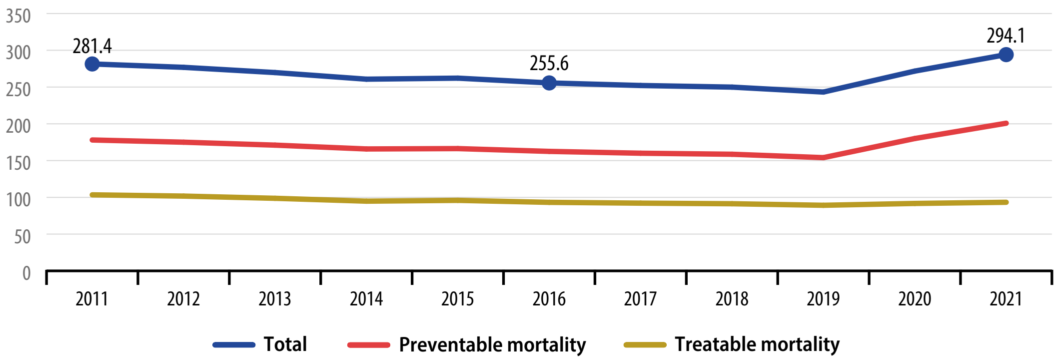
SHORT TERM
2016–2021

Avoidable mortality covers both preventable and treatable causes of mortality. Preventable mortality refers to mortality that can mainly be avoided through effective public health and primary prevention interventions (carried out before the onset of diseases/injuries to reduce incidence). Treatable mortality can mainly be avoided through timely and effective health care interventions, including secondary prevention and treatment (after the onset of diseases to reduce case-fatality). The total avoidable mortality rate includes a number of infectious diseases, several types of cancers, endocrine and metabolic diseases, as well as some diseases of the nervous, circulatory, respiratory, digestive and genitourinary systems, some diseases related to pregnancy, childbirth and the perinatal period, a number of congenital malformations, adverse effects of medical and surgical care, a list of injuries and alcohol and drug-related disorders.

FIGURE 3.7

Standardised avoidable mortality, EU, 2011–2021

(number per 100 000 persons aged less than 75 years)

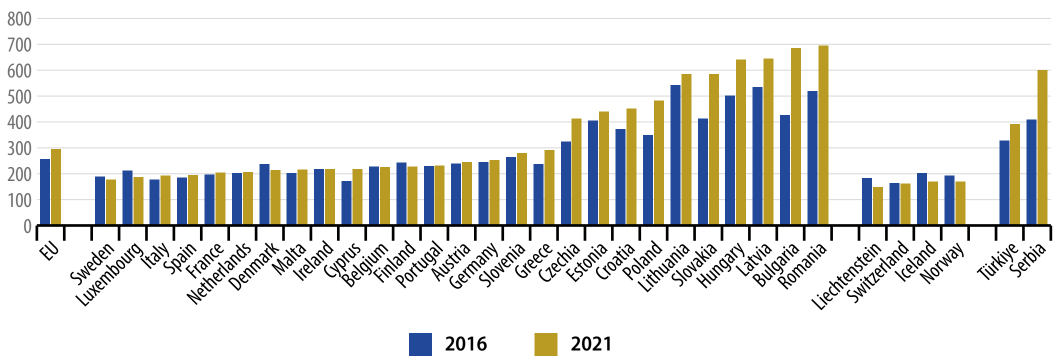


Source: Eurostat (online data code: sdg_03_42)

FIGURE 3.8

Standardised avoidable mortality, by country, 2016 and 2021

(number per 100 000 persons aged less than 75 years)



Source: Eurostat (online data code: sdg_03_42)

Self-reported unmet need for medical care

In the context of SDG monitoring, this indicator measures the share of the population aged 16 and over reporting unmet needs for medical care due to one of the following reasons: 'financial reasons', 'waiting list' and 'too far to travel'. Self-reported unmet needs concern a person's own assessment of whether they needed medical examination or treatment (dental care excluded) but did not have it or did not seek it. The data stem from the EU Statistics on Income and Living Conditions (EU-SILC). Since social norms and expectations may affect responses to questions about unmet care needs, caution is required when comparing differences in the reporting of unmet medical examination across countries. In addition, the different organisation of health care services is another factor to consider when analysing the data. Finally, there are also some variations in the survey questions across countries and across time ([42]).

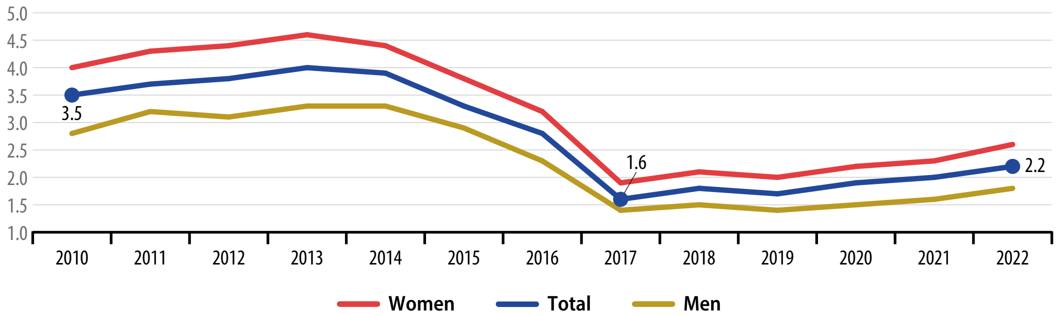
LONG TERM
2010–2022

SHORT TERM
2017–2022

FIGURE 3.9

Self-reported unmet need for medical care, by sex, EU, 2010–2022

(% of population aged 16 and over)

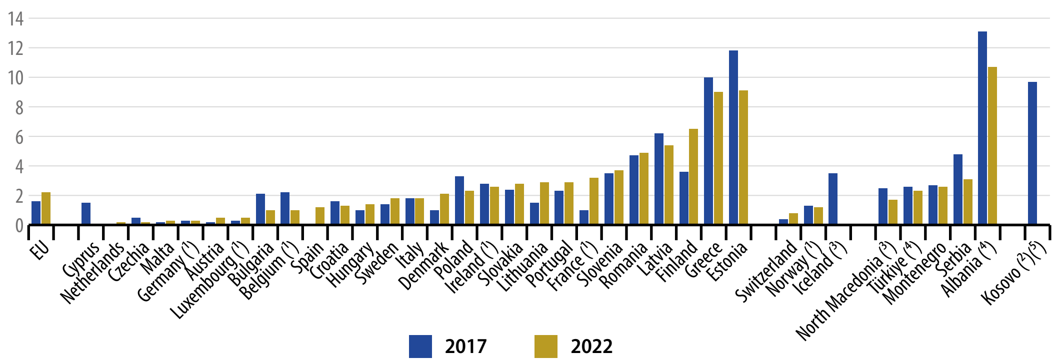


Note: Data for 2010–2020 are estimated.
Source: Eurostat (online data code: sdg_03_60)

FIGURE 3.10

Self-reported unmet need for medical care, by country, 2017 and 2022

(% of population aged 16 and over)



(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2020 data (instead of 2022).
(4) 2021 data (instead of 2022).
(5) 2018 data (instead of 2017).
Source: Eurostat (online data code: sdg_03_60)

Total consumption of antibiotics in the community and hospital sectors

LONG TERM Time series too short

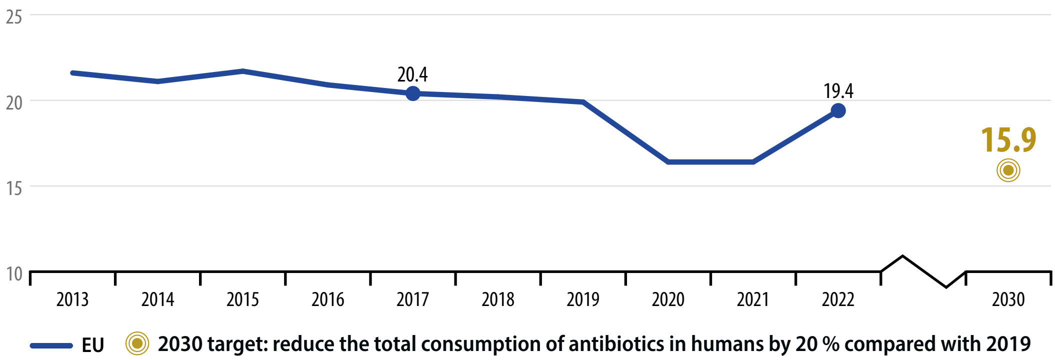
SHORT TERM 2017–2022

This indicator measures the total antimicrobial consumption (AMC) in the community and hospital sectors. AMC is expressed as the number of defined daily doses (DDD) per 1 000 inhabitants per day. The data refer to the Anatomical Therapeutic Chemical (ATC) classification code J01 'Antibacterials for systemic use'. The data for the EU aggregate are presented as population-weighted mean and include imputations and adjustments ([43]).

FIGURE 3.11

Total consumption of antibiotics in the community and hospital sectors, EU, 2013–2022

(DDD per 1000 inhabitants per day)

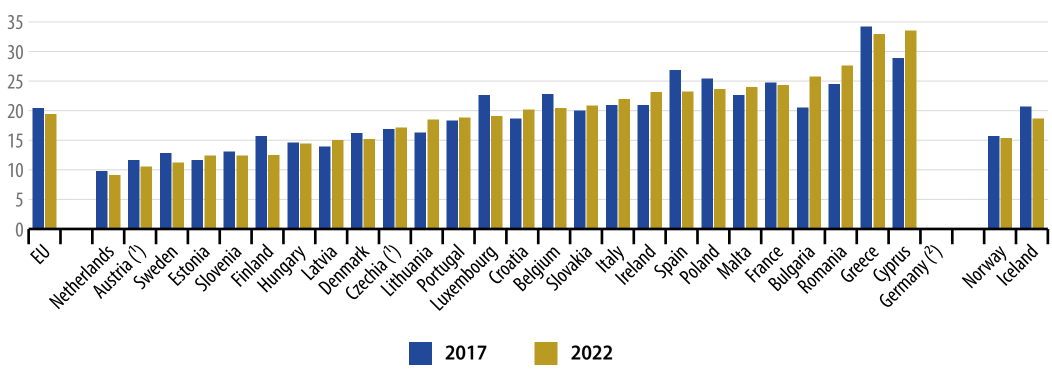


Source: ESAC-Net, ECDC (Eurostat online data code: sdg_03_70)

FIGURE 3.12

Total consumption of antibiotics in the community and hospital sectors, by country, 2017 and 2022

(DDD per 1000 inhabitants per day)



([1]) 2019 data (instead of 2017). ([2]) No data.

Source: ESAC-Net, ECDC (Eurostat online data code: sdg_03_70)

Notes

(1) World Health Organization (1946), *Constitution of the World Health Organization.*

(2) Source: Eurostat (online data code: demo_mlexpec).

(3) Source: Eurostat (online data code: hlth_silc_18).

(4) Source: Eurostat (online data code: hlth_dh010).

(5) Eurostat (2023), *Statistics Explained: Mortality and life expectancy statistics.*

(6) OECD/EU (2020), *Health at a Glance. Europe 2020 — State of Health in the EU Cycle*, OECD Publishing, Paris, p. 12.

(7) Source: Eurostat (online data code: demo_mexrt).

(8) Source: Eurostat (online data code: demo_mlexpec).

(9) World Health Organization (2024), *Social determinants of health.*

(10) World Health Organization (2021): Obesity: *New analysis from WHO/Europe identifies surprising trends in rates of overweight and obesity across the Region.*

(11) The indicator measures the share of obese people based on their body mass index (BMI). BMI is defined as the weight in kilograms divided by the square of the height in metres. People aged 18 years or over are considered obese with a BMI equal to or greater than 30. Other categories are: underweight (BMI less than 18.5), normal weight (BMI between 18.5 and less than 25), and pre-obese (BMI between 25 and less than 30). The category overweight (BMI equal or greater than 25) combines the two categories pre-obese and obese.

(12) Source: Eurostat (online data code: ilc_hch10).

(13) The WHO European Region also includes some non-European countries such as Israel, Uzbekistan, Turkmenistan or Tajikistan; see https://www.who.int/countries for the full list of countries.

(14) World Health Organization (2012), *WHO global report: mortality attributable to tobacco*.

(15) World Health Organization (2024), *WHO report on the global tobacco epidemic, 2023: Protect people from tobacco smoke*.

(16) OECD/EU (2014), *Health at a Glance: Europe 2014*, OECD Publishing, Paris, pp. 16–17.

(17) European Commission (2021), *Attitudes of Europeans towards tobacco and electronic cigarettes*, Special Eurobarometer 506.

(18) European Environment Agency (2018), *Environmental noise.*

(19) European Environment Agency (2021), *Managing exposure to noise in Europe*.

(20) European Environment Agency (2020), *Healthy environment, healthy lives: how the environment influences health and well-being in Europe*, Publications Office of the European Union, Luxembourg.

(21) European Environment Agency (2021), *Managing exposure to noise in Europe*.

(22) Also see: European Environment Agency (2019), *Environmental noise.*

(23) European Environment Agency (2023), *Europe's air quality status 2023.*

(24) European Environment Agency (2018), *Unequal exposure and unequal impacts: social vulnerability to air pollution, noise and extreme temperatures in Europe*, Publications Office of the European Union, Luxembourg.

(25) Ibid.

(26) European Environment Agency (2022), *Air quality in Europe 2022*.

(27) Source: Eurostat (online data code: hlth_cd_aro).

(28) WHO (2023), *Global status report on road safety 2023*, Geneva.

(29) European Commission (2024), *2023 figures show stalling progress in reducing road fatalities in too many countries*.

(30) Source: Eurostat (online data code: hsw_mi08).

(31) European Council (2014), *Council conclusions on the economic crisis and healthcare*, 2014/C 217/02.

(32) Source: Eurostat (online data code: hlth_silc_21).

(33) Source: Eurostat (online data code: hlth_dh030).

(34) Source: Eurostat (online data code: hlth_sha11_hf).

(35) Expert Panel on effective ways of investing in health (EXPH) (2016), *Access to health services in the European Union*, final opinion approved at the 14th plenary meeting of 3 May 2016 after public consultation, p. 18.

(36) OECD/EU (2020), *Health at a Glance. Europe 2020 — State of Health in the EU Cycle*, OECD Publishing, Paris, p. 207. Data refer to different years for the Member States, ranging from 2011 to 2018.

(37) European Parliament and the Council of the European Union (2022), *Regulation 2022/2371 on serious cross-border threats to health and repealing Decision No 1082/2013/EU*.

([38]) European Centre for Disease Prevention and Control (ECDC) (2022), *Assessing the health burden of infections with antibiotic-resistant bacteria in the EU/EEA, 2016–2020*, ECDC, Stockholm, pp. 4–7.

([39]) European Centre for Disease Prevention and Control (ECDC) (2022), *Antimicrobial consumption in the EU/EEA (ESAC-Net). Annual Epidemiological Report for 2022*.

([40]) Council of the European Union (2023), *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach*, 2023/C 220/01.

([41]) European Food Safety Authority (EFSA) and European Centre for Disease Prevention and Control (ECDC) (2023), *The European Union Summary Report on Antimicrobial Resistance inzoonotic and indicator bacteria from humans, animals and food in 2020/2021.* EFSA Journal 2023;21(3):7867.

([42]) OECD/EU (2018), *Health at a Glance: Europe 2018 — State of Health in the EU Cycle, OECD Publishing, Paris*, p. 170.

([43]) European Centre for Disease Prevention and Control (2023), *Antimicrobial consumption in the EU/EEA (ESAC-Net) — Annual Epidemiological Report 2022*, ECDC, Stockholm.

4 QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

SDG 4 seeks to ensure access for all to quality education through all stages of life, as well as to increase the number of young people and adults who have the relevant skills for employment, decent jobs and entrepreneurship.

Education and training are key drivers of sustainable growth and democratic societies because they help to improve employability, productivity, innovation, competitiveness, health, equality, safety and civil involvement. In the broader sense, education is a pre-condition for achieving many SDGs. Monitoring SDG 4 in an EU context focuses on basic education, tertiary education, adult learning and digital skills. Over the assessed five-year period, the EU has made significant progress on increasing participation in basic and tertiary education as well as in adult learning and to a lesser extent in early childhood education. In contrast, trends in educational outcomes have been less favourable. The percentage of underachievers in the PISA test has further deteriorated, and the share of adults with at least basic digital skills remains far from its target.

Indicators measuring progress towards SDG 4, EU

Indicator	Period	Annual growth rate	Assessment	More info
Basic education				
Low achieving 15-year-olds in reading, mathematics or science	2009–2022	Observed: 2.0 % (1) Required: – 2.0 % (1)	↓	page 100
	2018–2022	Observed: 6.5 % (1) Required: – 3.5 % (1)	↓	
Participation in early childhood education	Time series too short for long-term assessment		:	page 101
	2016–2021	Observed: 0.0 % Required: 0.3 %	↘	
Early leavers from education and training	2008–2023	Observed: – 2.7 % Required: – 2.1 %	↑	page 102
	2018–2023	Observed: – 2.0 % Required: – 1.3 %	↑	
Tertiary education				
Tertiary educational attainment	2008–2023	Observed: 2.5 % Required: 1.9 %	↑	page 103
	2018–2023	Observed: 2.2 % Required: 1.3 %	↑	
Adult learning				
Adult participation in learning in the past four weeks	2008–2023	3.1 %	↑	page 105
	2018–2023	3.5 %	↑	
Digital skills				
Share of adults having at least basic digital skills	Time series too short for long-term assessment		:	page 106

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(1) Trend refers to worst performance among the three subjects (Mathematics).

Policy context

The European Education Area (EEA) is the EU's policy and investment framework in the area of education that helps Member States and the wider education community work together to build more resilient and inclusive education and training systems.

Basic education and tertiary education

Four out of the seven EEA strategic framework targets to achieve by 2030 are used to monitor progress in basic and tertiary education in the EU: at least 96 % of children between the age of three and the starting age for compulsory primary education should participate in early childhood education and care; less than 9 % of pupils should leave education and training early; less than 15 % of 15-year-olds should be low-achievers in reading, mathematics and science; and at least 45 % of 25–34-year-olds should have a tertiary education qualification.

The Council recommendation on high-quality early childhood education and care systems emphasises the multiple benefits of early childhood education both for individuals and for society as a whole. The European Child Guarantee aims to ensure that every child under 18 has access to education, while the Council Recommendation on Pathways to School Success intends to lift the performance in basic skills and reducing early school leaving. Additionally, the reinforced Youth Guarantee aims to ensure that all young people under the age of 30 receive an offer of quality employment, continued education, apprenticeship and traineeship. The European Social Fund Plus (ESF+) fosters education through funds allocation and the Erasmus+ programme focuses on quality and inclusive education with a commitment of more than EUR 26 billion for 2021 to 2027.

Adult learning and digital skills

The new European Skills Agenda aims to help individuals and businesses develop more and better skills and to put them to use. A Council Resolution on a new European agenda for adult learning 2021–2030 from 2021 highlights the need to significantly increase adult participation in formal, non-formal and informal learning. The EEA requires that by 2025 at least 47 % of adults aged 25 to 64 will have participated in learning during the past 12 months, while the EU leaders have endorsed a headline target proposed by the European Pillar of Social Rights Action Plan that by 2030 at least 60 % of all adults should be participating in training every year.

The EEA also sets the target to have less than 15 % of low-achievers in computer and information literacy among eighth-graders by 2030. The Digital Education Action Plan (2021–2027) supports the sustainable and effective adaptation of the education and training systems of Member States to the digital age. The plan contributes to achieving the goals of the European Pillar of Social Rights Action Plan and the '2030 Digital Compass: the European way for the Digital Decade', which both have a goal for at least 80 % of people aged 16–74 to have basic or above-basic digital skills.

Furthermore, the Digital Europe Programme (DIGITAL) is the first EU financial instrument designed to bring digital technology to businesses and citizens. It focuses on building the strategic digital capacities of the EU and on facilitating the wide deployment of digital technologies. In addition, also the Recovery and Resilience Facility supports reforms and investments in general, vocational, higher and adult education as well as digital skills.

Overview and key trends

Basic education

Basic education covers the earliest stages in a child's educational pathway, ranging from early childhood education and care to primary and secondary education. An inclusive and quality education for all, which eliminates school segregation, is an essential element of sustainable development. SDG 4 thus aims to ensure that by 2030 all girls and boys have access to quality early childhood development, care and pre-primary education in order to be ready for primary education. In addition, SDG 4 intends to ensure that all boys and girls complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes. Furthermore, SDG 4 focuses on ensuring that all youths have the literacy, numeracy and relevant skills needed for employment, decent jobs and entrepreneurship.

Participation in early childhood education and care deteriorated in 2021 and is not on track to meet the 2030 target

Early childhood education and care is usually the first step on a child's educational pathway. According to the 2019 Council Recommendation on an EU Quality Framework for Early Childhood Education and Care, access to quality early childhood education and care for all children contributes to their development, for example through improved cognitive skills, educational success and, by extension, future employment prospects. Also, as highlighted in the 2022 Council Recommendation on early childhood education and care, insufficient provision of early childhood education and care is a significant constraint on female labour market participation.

The 2021 Council Recommendation on a European child guarantee also emphasises the importance of equal access to quality and inclusive early childhood education and care for breaking the transmission of social exclusion and securing equal opportunities for children in a disadvantaged situation. Tackling disadvantage from early years is a cost-effective investment as it contributes to the inclusion of children, their school success and integration into the labour market and social life when they are adults. These positive effects are on average stronger among children from socioeconomically disadvantaged backgrounds, suggesting that early childhood education and care is a key factor in reducing inequality of opportunity. At the same time, children from these backgrounds are less likely to participate in early childhood education and care, particularly children under three years of age who are at risk of poverty or social exclusion, whose parents do not hold tertiary qualifications, and who live in large families (1).

92.5 %
of young children in the EU participated in early childhood education and care in 2021

Participation in early childhood education is defined as the share of the population aged between three years and the starting age of compulsory primary education who take part in early education. Participation in early childhood education has risen slowly in the EU since 2014, reaching 93.4 % in 2020. In 2021, the rate fell back to 92.5 %, which is only slightly above the level observed five years earlier (92.4 % in 2016). The EU is thus not on track towards meeting the target of 96 % by 2030.

Fewer young people in the EU drop out of education and training

According to the Council Recommendation on Pathways to School Success, school education can play a crucial role in promoting inclusive, fairer and more prosperous societies and economies. It thus aims to ensure better educational outcomes for all learners, by lifting the performance in basic skills and reducing early school leaving. Consequently, the EEA strategic framework has set a target to reduce the share of early leavers from education and training (ELET) to below 9 % by 2030.

Since 2002, the ELET rate has fallen continuously in the EU, albeit more slowly in recent years. In 2023 the share had reached 9.5 %, putting the EU well on track to meet the 2030 target. The reasons for early school leaving are complex and include both individual and socio-economic factors, as well as factors related to the education system itself ([2]). An analysis by degree of urbanisation reveals that young people living in towns and suburbs (10.6 %) and rural areas (9.9 %) were more likely to leave school early than young people living in cities (8.6 %) in 2023 ([3]). For further analyses of ELET trends by sex and citizenship, see the chapters on SDG 5 'Gender equality' page 109 and on SDG 10 'Reduced inequalities' on page 189.

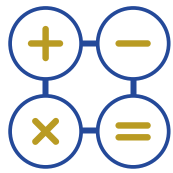
9.5 %
of people aged 18 to 24 had left education and training early in the EU in 2023

Monitoring of the 9 % target is complemented by a supplementary indicator on the completion of at least upper secondary education, which is generally considered the minimum requirement for gaining satisfactory employment in today's economy and is important for full participation in society. The indicator, which measures the share of people aged 20 to 24 with at least an upper secondary qualification, shows that 84.1 % had completed this level of education in 2023 ([4]).

Educational outcomes have continued to deteriorate, most significantly in maths

Besides educational attainment in general, achieving a certain level of proficiency in basic skills is a key objective of all educational systems. Basic skills, such as reading a simple text or performing simple calculations, provide the foundations for learning, gaining specialised skills and personal development. Low achievers in the OECD's Programme for International Student Assessment (PISA) are those pupils who fail to reach the minimum proficiency level necessary to participate successfully in society. These pupils face having fewer opportunities in future, at both the personal and the professional level ([5]). The personal socio-economic background is one of the key drivers behind educational underperformance and points to serious problems in terms of equality: the risk of underperformance for young people with a disadvantaged socioeconomic background is almost six times higher than for those with an advantaged socioeconomic background ([6]).

In 2022, more than one in every four 15-year-old pupils showed insufficient abilities in one or more of these basic skills. Test results in that year showed that 29.5 % of pupils were low achievers in mathematics, followed by 26.2 % in reading and 24.2 % in science. Compared with 2018, these results are a significant step backward in all three domains, but most significantly in mathematics, with a decline of 6.6 percentage points. The results indicate that the EU is lagging seriously behind in all three domains when it comes to reaching the 2030 EU-level target of reducing the share of low-achieving 15-year-olds in basic skills to less than 15 %.



29.5 %
of 15-year-old pupils in the EU showed insufficient maths skills in 2022

Tertiary education

Continuing education after the basic level is important in a knowledge-based economy because people with higher qualifications are more likely to be employed and less likely to face poverty. Therefore, investing efficiently and effectively in education and training systems that deliver high-quality and up-to-date services lays the foundation for a country's prosperity. Moreover, employment rates are generally higher for highly educated people, who also enjoy better wages and working conditions. Conversely, low levels of tertiary educational attainment can hinder competitiveness, innovation and productivity and undermine growth potential.

The share of people with tertiary education has increased significantly since 2002

The EEA strategic framework aims to raise the share of the population aged 25 to 34 that have completed a higher education qualification (levels 5–8 in the 2011 International standard classification of education, ISCED) to at least 45 % by 2030. As a result of a 20.0 percentage point increase since 2002, the EU reached a tertiary education attainment rate of 43.1 % in 2023 and is well on track to meeting its 2030 target. The degree of urbanisation seems to be related to tertiary attainment levels. While in 2023 more than half (53.3 %) of the population aged 25 to 34 living in cities had attained tertiary education, the rate was significantly lower for towns and suburbs (36.7 %) and rural areas (31.7 %) ([7]).

43.1 %
of the EU population aged 25 to 34 had attained tertiary education in 2023

The share of 25- to 34-year-olds with tertiary education has been growing steadily since 2002 in all Member States. This partly reflects their investment in higher education to meet the demand for a more skilled labour force. Moreover, some countries shifted to shorter degree programmes following the implementation of the Bologna process reforms. For further analyses of the trends in tertiary education by sex, see the chapter on SDG 5 'Gender equality' on page 109 and on SDG 9 'Industry, Innovation and Infrastructure' on page 177.

Adult learning

Keeping skills up to date to support the ongoing quest for a high-quality labour force is one of the goals of adult learning. Adult education covers the longest period in a person's learning lifetime. It helps to improve and develop skills, adapt to technological developments, advance a person's career or aid their return to the labour market (upskilling and reskilling). Moreover, it is crucial for maintaining good health, remaining active in the community and being fully included in all aspects of society.

Adult participation in learning is growing

Adult participation in learning monitors the share of people aged 25 to 64 who stated they received formal or non-formal education and training in the four weeks preceding the survey. This share has grown almost steadily since 2002, when it stood at 5.3 %, reaching 12.7 % in 2023. A temporary drop was observed in 2020, which might be related to the COVID-19 pandemic and the adjustments to related contingency measures, such as lay-offs and teleworking. Similarly, for adults not in employment, enrolment in education and training programmes reduced temporarily during the beginning of the pandemic due to extended lockdown periods. Since 2020, however, the share of adults participating in learning has grown strongly, gaining 3.6 percentage points until 2023.

12.7 %
of 25- to 64-year-old adults participated in learning in the EU in 2023

Women are more likely to participate in adult learning than men. In 2023, the share of 25- to 64-year-old women in adult learning was 2.4 percentage points higher than that for men (13.9 % compared with 11.5 %, respectively). The rate for women was not only higher than for men, it had also been improving faster, gaining 8.4 percentage points between 2002 and 2023, compared with 6.5 percentage points for men. The participation rate in adult learning also differs in terms of degree of urbanisation. In 2023, adults living in cities were more likely to participate in learning (15.7 %) than those living in towns and suburbs (11.3 %) or rural areas (9.7 %) ([8]).

While the above-mentioned indicator is based on the question of whether adults participated in learning during the four weeks preceding the survey, the target defined in the EEA strategic framework and the European Pillar of Social Rights Action Plan refers to the share of adults participating in learning during the past 12 months. Data for this target definition are currently collected every six years through the Adult Education Survey (AES). The most recent data are from 2022 and show that the share of adults participating in learning during the past 12 months stood at 39.5 %, which is 7.5 percentage points below the EU target of 47 % for 2025 and 20.5 percentage points below the 2030 target of 60 %. Participation rates were particularly low for low-educated adults (ISCED 2011 levels 0–2), at 18.4 %. In contrast to this group, 58.9 % of adults with tertiary education (ISCED 2011 levels 5–8) participated in learning in 2022 (9).

Digital skills

Digitalisation is having a massive impact on the labour market and the type of skills needed in the economy and society. Thus, digital skills are of critical value for working, learning and social interaction. During the COVID-19 pandemic, the digital skills gap became more pronounced while new inequalities emerged: many people still do not possess basic level of digital skills, are in workplaces or schools that are lagging behind in digitalisation or have limited access to digital tools and infrastructures.

The share of people with at least basic digital skills remains far from the 2030 target

The European Pillar of Social Rights Action Plan has set a complementary target for the EU to raise the share of people aged 16 to 74 who have at least basic digital skills to 80 % in 2030. This target is monitored using the composite indicator for digital skills, based on selected activities performed by individuals on the internet in specific areas: information and data literacy, communication and collaboration, digital content creation, safety and problem solving. The level of 'at least basic digital skills' refers to the two highest out of six levels derived from the survey on the use of information and communication technologies (ICT) in households and by individuals. It is assumed that individuals who can perform certain activities have the desired digital skills, therefore the indicator can be considered as a proxy for the digital competences and skills of individuals.

In 2023, the share of people aged 16 to 74 with at least basic digital skills stood at 55.6 %. While this share is 1.7 percentage points higher than in 2021, when it was 53.9 %, it remained at a level considerably below the 80 % target for 2030. In contrast to most other education indicators presented in this chapter, overall fewer women (54.5 % in 2023) had at least basic digital skills than men (56.7 %). However, the gap between women and men varies strongly across different age groups. In the age group under 45 years, more women than men had at least basic digital skills. The situation starts to reverse in the age group above 45 years, where men are more likely to have at least basic digital skills than women.

55.6 %
of 16- to 74-year-old people in the EU had at least basic digital skills in 2023

In general, age and formal education also affect a person's level of digital skills. While 70.0 % of 16- to 24-year-olds had basic or above-basic digital skills in 2023, this was only the case for 64.0 % of 25- to 54-year-olds. Older people struggle in particular with the use of digital media, with only 37.1 % of people aged 55 to 74 having at least basic digital skills in 2023. Additionally, 79.8 % of people with high formal education had such digital skills in 2023, while this was only the case for 33.6 % of people with no or low formal education (10).

Digital competences constitute an essential skill for participating in a technology-driven world. In the EEA strategic framework, the EU sets a target for the share of low-achieving eighth-graders in computer and information literacy to be less than 15 % by 2030. One of the key findings of the International Computer and Information Literacy Study (ICILS) carried out in 2018 shows that young people do not develop sophisticated digital skills just by growing up using digital devices: in 8 out of 13 Member States participating in the study, more than one-third of pupils achieved scores below level 2 on the ICILS CIL scale. This level can be defined as the threshold for underachievement in digital competence (11).

Main indicators

Low achieving 15-year-olds in reading, mathematics or science

LONG TERM
2009–2022

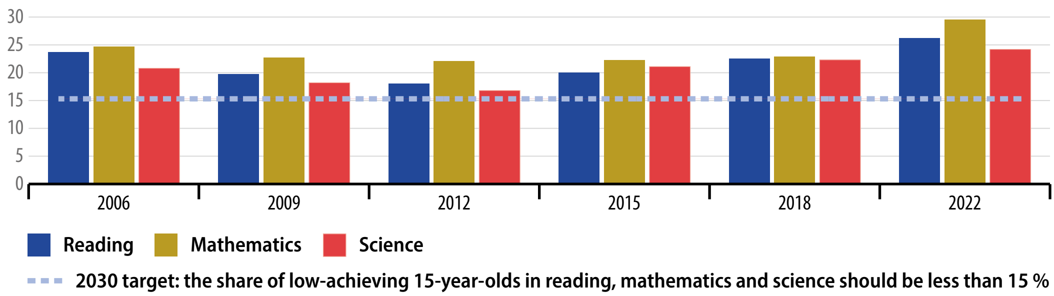
SHORT TERM
2018–2022

This indicator measures the share of 15-year-old students failing to reach level 2 ('basic skills level') on the Programme for International Student Assessment (PISA) scale for the three core school subjects of reading, mathematics and science. The data stem from the PISA study, a triennial international survey that aims to evaluate education systems by testing the skills and knowledge of 15-year-old students.

FIGURE 4.1

Low achieving 15-year-olds in reading, mathematics or science, EU, 2006–2022

(% of 15-year-old students)

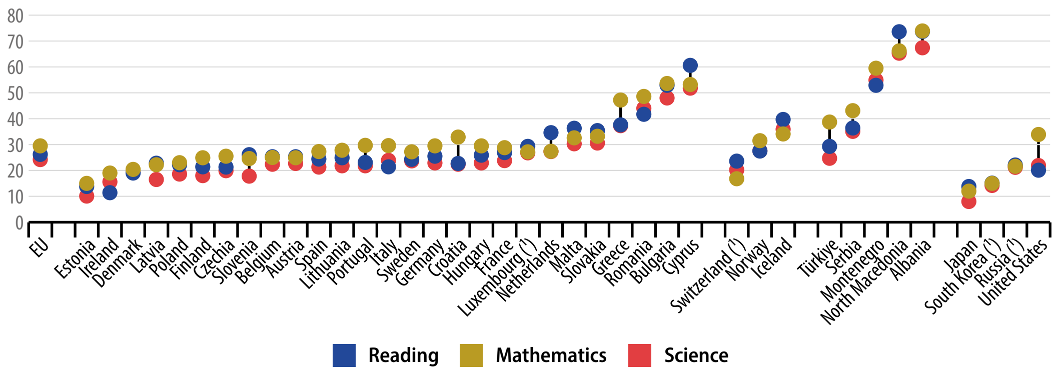


Note: Breaks in time series in 2009 and 2018 for reading.
Source: OECD (Eurostat online data code: sdg_04_40)

FIGURE 4.2

Low achieving 15-year-olds in reading, mathematics or science, by country, 2022

(% of 15-year-old students)



(¹) 2018 data.
Source: OECD (Eurostat online data code: sdg_04_40)

Participation in early childhood education

This indicator measures the share of children between the age of three and the starting age of compulsory primary education who participated in early childhood education. Data presented here stem from the joint UIS (UNESCO Institute of Statistics)/ OECD/Eurostat (UOE) questionnaires on education statistics, which constitute the core database on education.

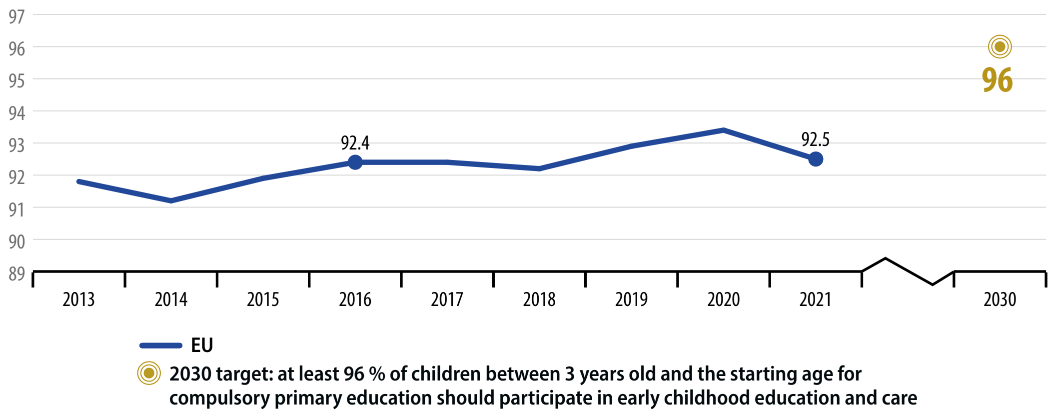
LONG TERM
Time series too short

SHORT TERM
2016–2021

FIGURE 4.3

Participation in early childhood education, EU, 2013–2021

(% of children aged 3 and over)

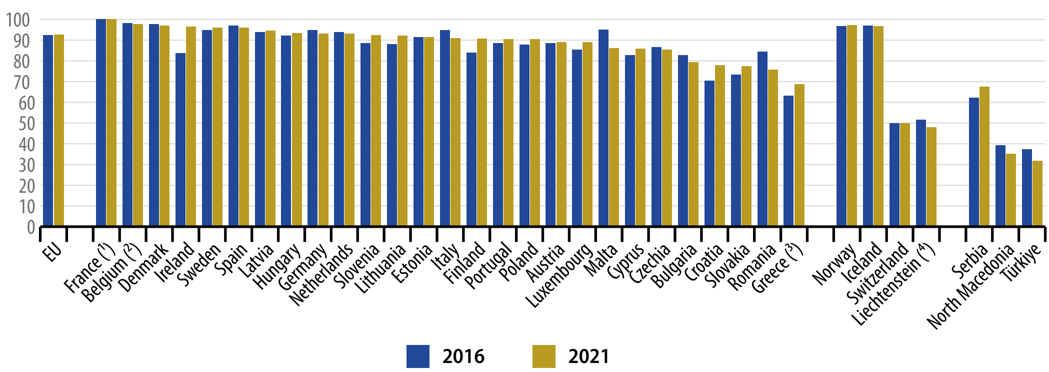


Source: Eurostat (online data code: sdg_04_31)

FIGURE 4.4

Participation in early childhood education, by country, 2016 and 2021

(% of children aged 3 and over)



(¹) 2021 data are estimated or provisional.
(²) Break(s) in time series between the two years shown.
(³) 2019 data (instead of 2021).
(⁴) 2017 data (instead of 2016).

Source: Eurostat (online data code: sdg_04_31)

Early leavers from education and training

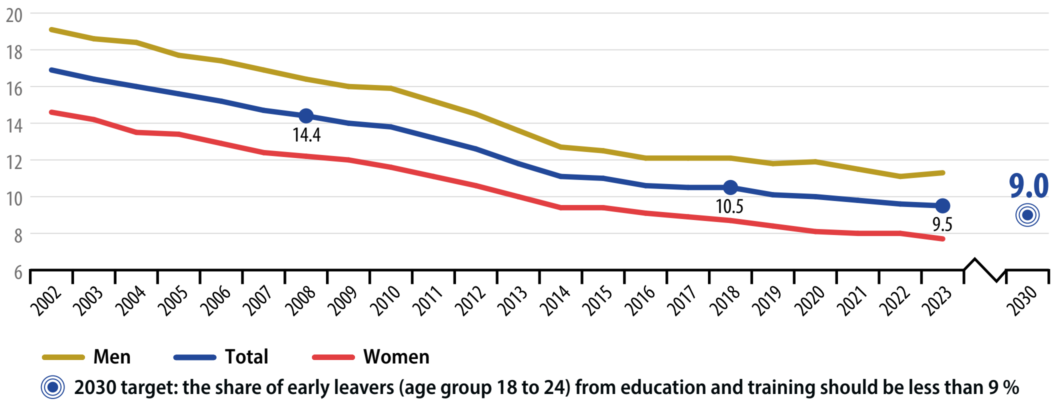
LONG TERM 2008–2023
SHORT TERM 2018–2023
* Total ** Gender gap

The indicator measures the share of the population aged 18 to 24 with at most lower secondary education who were not involved in any education or training during the four weeks preceding the survey. The data stem from the EU Labour Force Survey (EU-LFS).

FIGURE 4.5

Early leavers from education and training, by sex, EU, 2002–2023

(% of population aged 18 to 24)

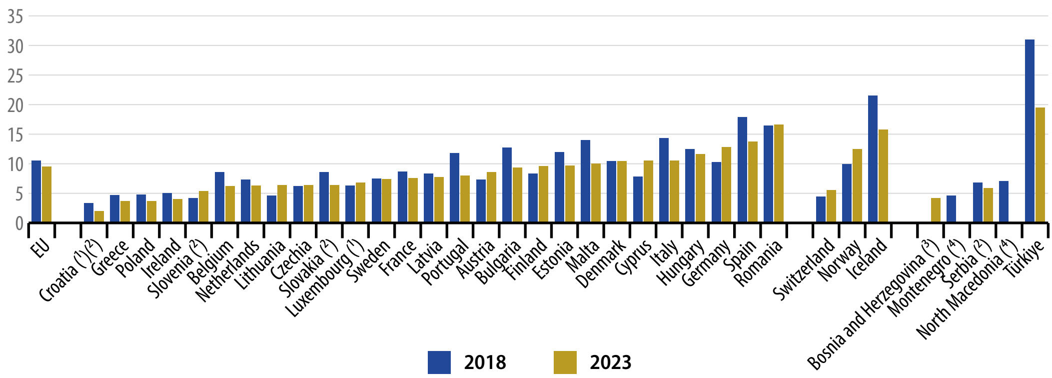


Note: Breaks in time series in 2003, 2006, 2014 and 2021.
Source: Eurostat (online data code: sdg_04_10)

FIGURE 4.6

Early leavers from education and training, by country, 2018 and 2023

(% of population aged 18 to 24)



Note: Break in time series in 2021 for all countries.
(¹) 2023 data have lower reliability.
(²) Further break(s) in time series after 2021.
(³) No data for 2018.
(⁴) No data for 2023.
Source: Eurostat (online data code: sdg_04_10)

Tertiary educational attainment

This indicator measures the share of the population aged 25 to 34 who have successfully completed tertiary studies (for example, at university or a higher technical institution). Tertiary educational attainment refers to ISCED (International Standard Classification of Education) 2011 levels 5–8 for data from 2014 onwards and to ISCED 1997 levels 5–6 for data up to 2013. The indicator is based on the EU Labour Force Survey (EU-LFS).

LONG TERM
2008–2023

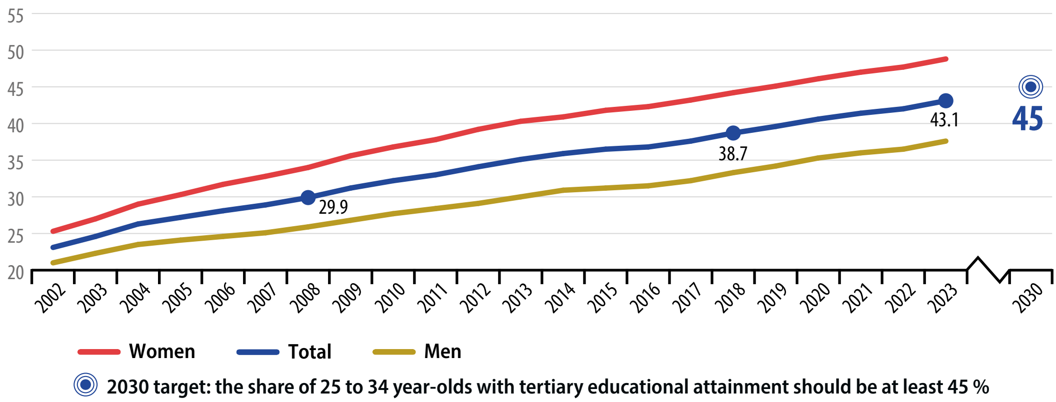
SHORT TERM
2018–2023

* Total ** Gender gap

FIGURE 4.7

Tertiary educational attainment, by sex, EU, 2002–2023

(% of population aged 25 to 34)

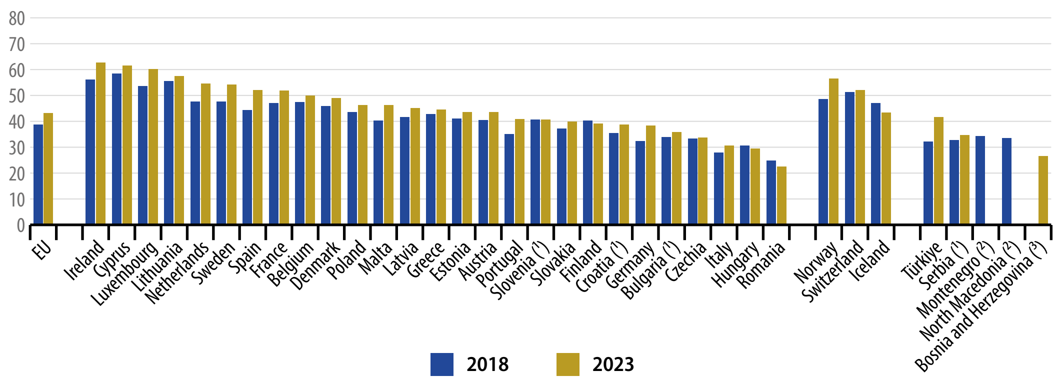


Note: Breaks in time series in 2014 and 2021.
Source: Eurostat (online data code: sdg_04_20)

FIGURE 4.8

Tertiary educational attainment, by country, 2018 and 2023

(% of population aged 25 to 34)

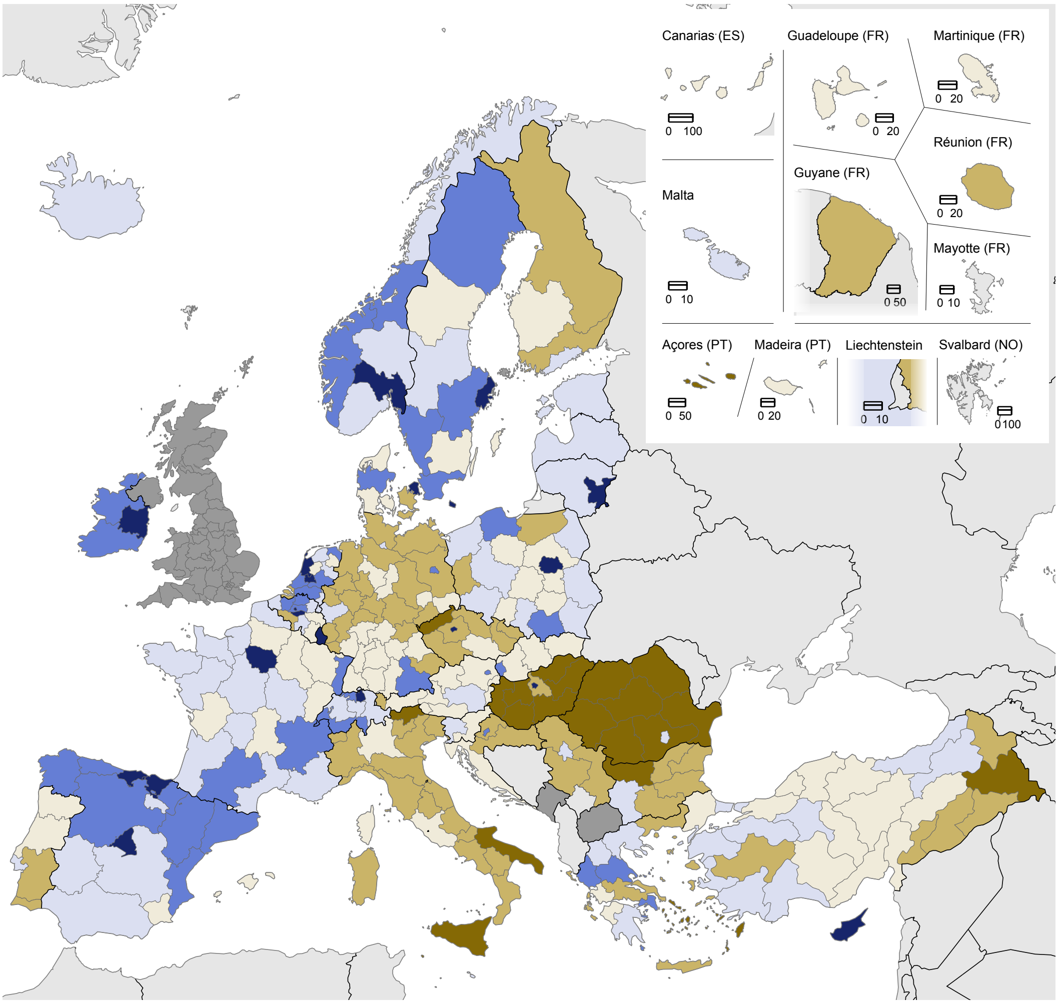


Note: Break in time series in 2021 for all countries.
(¹) Further break(s) in time series after 2021. (²) No data for 2018. (³) No data for 2023.
Source: Eurostat (online data code: sdg_04_20)

MAP 4.1

Tertiary educational attainment, by NUTS 2 region, 2023

(% of population aged 25 to 34)



EU = 43.1
- ≥ 60
- 50 – < 60
- 43.1 – < 50
- 35 – < 43.1
- 25 – < 35
- < 25
- Data not available

Administrative boundaries: © EuroGeographics © UN–FAO © Turkstat. Cartography: Eurostat – IMAGE, 05/2024
Source: Eurostat (online data code: edat_lfse_04)

Source: Eurostat (online data code: edat_lfse_04)

Adult participation in learning in the past four weeks

Adult participation in learning refers to people aged 25 to 64 who stated they received formal or non-formal education and training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding those who did not answer the question 'participation in education and training'. Adult learning covers formal and non-formal learning activities — both general and vocational — undertaken by those aged 25–64 ([12]). Data stem from the EU Labour Force Survey (EU-LFS).

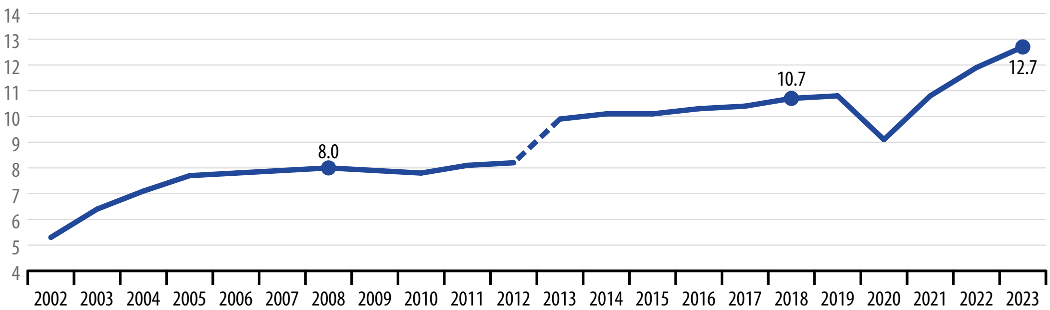
LONG TERM
2008–2023

SHORT TERM
2018–2023

FIGURE 4.9

Adult participation in learning in the past four weeks, EU, 2002–2023

(% of population aged 25 to 64)

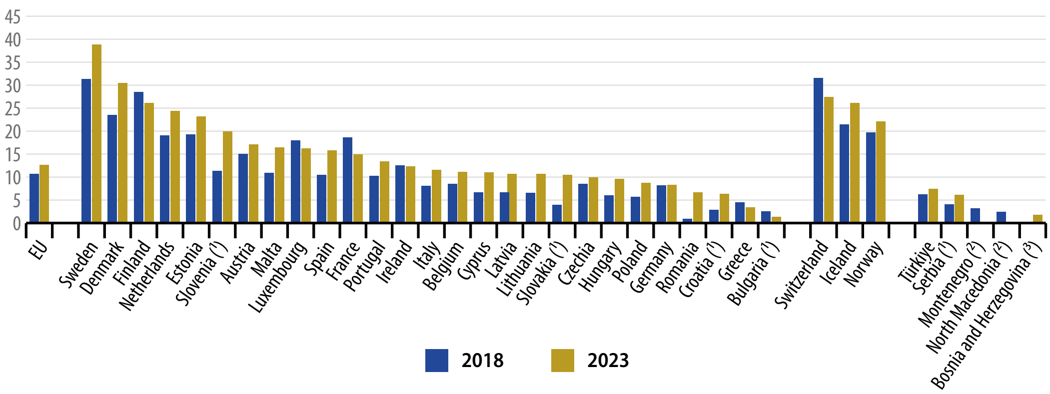


Note: Breaks in time series in 2003, 2006, 2013 and 2021. An extensive revision of the questionnaire of the French LFS (in use from 1 January 2013 onwards) explains the level shift break for France, which had an impact on the EU aggregate.
Source: Eurostat (online data code: sdg_04_60)

FIGURE 4.10

Adult participation in learning in the past four weeks, by country, 2018 and 2023

(% of population aged 25 to 64)



Note: Break in time series in 2021 for all countries.
([1]) Further break(s) in time series after 2021. ([2]) No data for 2023. ([3]) No data for 2018.
Source: Eurostat (online data code: sdg_04_60)

Share of adults having at least basic digital skills

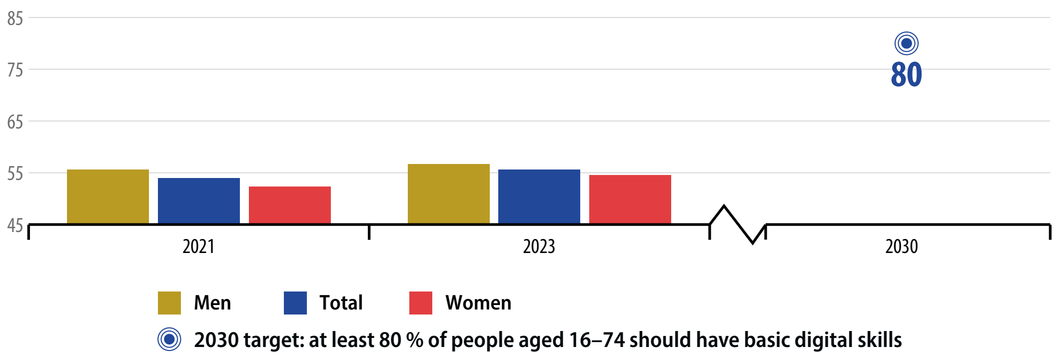
X Time series too short for assessment

This indicator measures the share of people aged 16 to 74 who have at least basic digital skills. It is a composite indicator based on selected activities performed by individuals on the internet in specific areas: information and data literacy, communication and collaboration, digital content creation, safety and problem solving. The indicator assesses digital skills classified into six levels, of which the two highest constitute the basic or above basic level of digital skills. The indicator is based on data from the EU survey on the use of ICT in households and by individuals.

FIGURE 4.11

Share of adults having at least basic digital skills, by sex, EU, 2021–2023

(% of individuals aged 16 to 74)

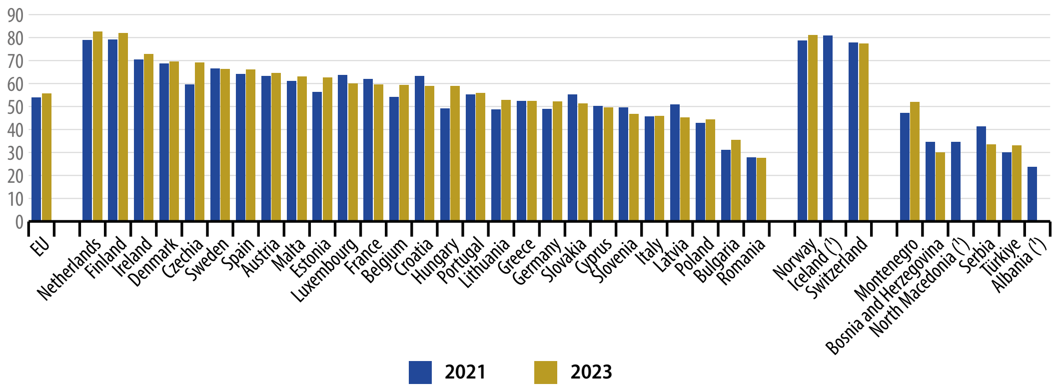


Source: Eurostat (online data code: sdg_04_70)

FIGURE 4.12

Share of adults having at least basic digital skills, by country, 2021 and 2023

(% of individuals aged 16 to 74)



([1]) No data for 2023.

Source: Eurostat (online data code: sdg_04_70)

Notes

(1) For more information see: European Commission (2022), *Employment and Social Developments in Europe*, Publications Office of the European Union, Luxembourg, p. 118.

(2) There are many reasons why some young people give up education and training prematurely: personal or family problems, learning difficulties, or a fragile socio-economic situation. The way the education system is set up, school climate and teacher-pupil relations are also important factors. Since there are often complex, interconnected reasons for children not completing secondary schooling, policies to reduce early school leaving must address a range of issues and combine education and social policy, youth work and health-related aspects. For more information, see: European Commission, European Education Area, Early school leaving.

(3) Source: Eurostat (online data code: edat_lfse_30).

(4) Source: Eurostat (online data code: yth_educ_030).

(5) European Commission (2019), *PISA 2018 and the EU. Striving for social fairness through education*, Publications Office of the European Union, Luxembourg, p. 7.

(6) Data confirm that one of the key drivers behind educational underperformance is a person's socio-economic background. For more information, especially on the new EU-level indicator for equity in education, see: European Commission (2022), *Progress towards the achievement of the European Education Area*, Publications Office of the European Union, Luxembourg, pp. 24–25.

(7) Source: Eurostat (online data code: edat_lfs_9913).

(8) Source: Eurostat (online data code: trng_lfs_14).

(9) Source: Eurostat (Adult Education Survey, special calculation excluding guided on-the-job training as available in the public excel file).

(10) Source: Eurostat (online data code: isoc_sk_dskl_i21).

(11) For more information see: European Commission (2022), *Education and Training Monitor 2022*, Publications Office of the European Union, Luxembourg.

(12) The general definition of adult learning covers formal, non-formal and informal training but the indicator adult participation in learning only covers formal and non-formal education and training. For more information, see: Eurostat, Participation in education and training.

Achieve gender equality and empower all women and girls

SDG 5 aims to achieve gender equality by ending all forms of discrimination, violence and any harmful practices against women and girls. It also calls for the full participation of women and equal opportunities for leadership at all levels of decision-making.

Ending all forms of discrimination against women and girls and empowering women are crucial to accelerating sustainable development in the EU. Thus, monitoring SDG 5 in an EU context focuses on the topics of gender-based violence, access to quality education, participation in employment, equal payment and a balanced representation in leadership positions. Over the assessed five-year period, the EU has made strong progress in most of these areas. The gender gaps for certain labour market-related indicators have narrowed, even though stronger progress will be needed to reach the 2030 target of halving the gender employment gap. Moreover, the share of women occupying leadership positions has improved in the EU, though a clear gap between women and men remains. The situation is reversed in the area of participation in education, where men continue to fall further behind women in terms of early school leaving and tertiary educational attainment levels.

Indicators measuring progress towards SDG 5, EU

Indicator	Period	Annual growth rate	Assessment	More info
Gender-based violence				
Physical and sexual violence to women	Assessment not possible due to lack of EU-level time series		:	page 117
Education				
Gender gap for early leavers from education and training (*)	2008–2023	– 1.0 %	↑	SDG 4, page 102
	2018–2023	1.1 % (1)	↓	
Gender gap for tertiary educational attainment (*)	2008–2023	2.2 % (1)	↓	SDG 4, page 103
	2018–2023	0.5 % (1)	↘	
Employment				
Gender employment gap	2009–2023	Observed: – 1.9 % Required: – 4.1 %	↘	page 118
	2018–2023	Observed: – 2.0 % Required: – 5.7 %	↘	
Gender pay gap in unadjusted form	2010–2022	– 1.8 %	↑	page 119
	2017–2022	– 2.7 %	↑	
Gender gap for being outside the labour force due to caring responsibilities	2009–2023	– 2.9 %	↑	page 120
	2018–2023	– 6.2 %	↑	
Leadership positions				
Seats held by women in national parliaments	2008–2023	2.2 %	↑	page 122
	2018–2023	1.4 %	↑	
Positions held by women in senior management	2008–2023	Observed: 8.0 % Required: 7.7 %	↑	page 123
	2018–2023	Observed: 5.1 % Required: 5.3 %	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

(1) Gender gap is widening to the disadvantage of men.

Policy context

The EU Gender Equality Strategy 2020–2025 sets out objectives and actions to make significant progress towards a gender-equal Europe. The goal is that women and men, as well as girls and boys, in all their diversity are free to pursue their path in life, have equal opportunities to thrive and can equally participate in and lead European society.

Under EU Cohesion Policy, Member States have to ensure that equality between men and women, gender mainstreaming and the integration of a gender perspective are taken into account and promoted throughout the preparation, implementation, monitoring, reporting and evaluation of programmes.

Under the European Social Fund Plus (ESF+), Member States have the obligation to programme targeted actions to promote gender equality, equal opportunities and non-discrimination.

Gender-based violence

The EU's accession to the Council of Europe Convention on preventing and combating violence against women and domestic violence (the Istanbul Convention) in 2023 is a milestone in the EU's commitment to stepping up actions against gender-based violence. Furthermore, in February 2024, a political agreement was reached on the Directive on combating violence against women and domestic violence. The EU Strategy on victims' rights (2020–2025) guarantees that all victims of crime can fully rely on their rights, no matter where in the EU the crime took place.

Education

The Strategic framework for European cooperation in education and training (2021–2030) prioritises improving quality, equity, inclusion and success for all in education and sets a monitoring framework via policy targets to be achieved by 2030.

Employment

A Directive on pay transparency is aimed at ensuring women and men in the EU get equal pay for the same work or work of equal value.

The European Pillar of Social Rights Action Plan sets the headline target of raising the overall employment rate to at least 78 % by 2030. This includes the complementary target of halving the gender employment gap by 2030 compared with 2019 levels.

The Work-life Balance Directive aims to help women and men reconcile work and caring responsibilities and promote gender equality. The 2022 Council Recommendation on early childhood education and care: the Barcelona targets for 2030 underlines the need to lift the constraints on female labour-market participation from the care responsibilities for very young children.

Leadership positions

Achieving gender balance in decision-making and in politics is a priority area for the European Commission and another key objective of the EU Strategy of Gender Equality 2020–2025. The Women on Boards' Directive seeks to improve the gender balance in corporate decision-making positions in the EU's largest listed companies. The Directive sets a target for the under-represented sex to make up 40 % of non-executive board members or 33 % of all directors by June 2026.

Overview and key trends

Gender-based violence

Gender-based violence is a brutal form of discrimination and a violation of fundamental human rights. It is both a cause and a consequence of inequalities between women and men. Physical and sexual violence against women affects their health and well-being. Moreover, it can hamper women's access to employment and harm their financial independence and the economy overall.

One in three women in Europe have experienced physical and/or sexual violence since the age of 15

In 2012, a survey from the European Union Agency for Fundamental Rights (FRA) revealed that 8 % of women in the EU had experienced physical and/or sexual violence by a partner or non-partner in the 12 months prior to the interview. Younger women were more likely to report having been subjected to violence — 12 % of women aged 18 to 29 had experienced physical or sexual violence in the 12 months prior to the interview, whereas 5 % of women aged 50 to 59 had been affected. Over a longer time period, every third woman (33 %) in the EU reported having experienced physical or sexual violence since the age of 15 in the FRA survey from 2012 ([1]).

8 %

of women in the EU in 2012 had experienced physical or sexual violence during the past 12 months

In 2022, Eurostat published the first results of a new EU survey on gender-based violence against women. Data are so far available for 18 Member States, showing that the share of women who have experienced physical or sexual violence during their adulthood varies strongly between countries. Bulgaria reported the lowest share, at 12 %, while the highest shares were reported by Finland, Denmark and the Netherlands, at 57.1 %, 47.5 % and 41.2 %, respectively ([2]). These high shares might be explained by the fact that in these countries women are more ready to disclose violent experiences, especially violence from a non-partner. The analyses of non-partner violence by type show that the higher prevalence in these three countries is due to a higher prevalence of degrading or humiliating sexual acts other than rape ([3]). Women with disabilities are even more likely to be a victim of physical and/or sexual violence, depending on the level of disability (the higher the level of disability, the higher the rate of physical and/or sexual violence) ([4]).

Data from official crime statistics on intentional homicide and sexual offences show that women are much more likely to be a victim of such crimes than men. In 2022, 64 out of 100 000 women were victims of sexual assault, and 38 out of 100 000 women were victims of rape. The rates were significantly lower for men, with 11 per 100 000 men for sexual assault and 4 out of 100 000 men for rape ([5]). Moreover, women are about twice as likely as men to be a victim of intentional homicide by family and relatives or their intimate partner. In 2022, 0.4 out of 100 000 women were victims of such homicide, compared with only 0.2 per 100 000 men ([6]). In Western Europe this type of homicide notably increased during the pandemic ([7]).

The prevalence of violence varies greatly across the EU. However, caution is needed when comparing countries' official crime statistics. Their comparability can be affected, for example, by different legal and criminal justice systems or criminal law and legal definitions such as those concerning offenders, victims or prosecutable age. Also, aspects such as the organisation and efficiency of the police, prosecution and courts or recording and reporting systems contribute to cross-country differences ([8]). The limitations of comparability also include the stigma associated with disclosing cases of violence against women in certain settings and to certain people, including to interviewers. In addition, Member States that rank highest in terms of gender equality also tend to report a greater prevalence of violence against women. This may indicate a greater awareness and willingness of women in these countries to report violence to the police or to an interviewer (9).

Education

Education is a driving force for social change and a condition for the achievement of fundamental human rights. Also, equipping people with the right skills allows them to find quality jobs and improve their chances in life and thus combat the risks of social exclusion. Economic independence also makes it easier to leave a difficult situation, such as a violent home. In education and training, it is important to eliminate gender stereotypes and promote gender balance in traditionally 'male' or 'female' fields. In general, equal access to quality education and training is thus an important foundation for gender equality and an essential element of sustainable development.

The rate of early leavers from education and training among men in the EU was

3.6

percentage points higher than among women in 2023

Young women outperform men in education

Women overall tend to perform better than men when it comes to early leaving from education and training in the EU. In 2023, 11.3 % of men and 7.7 % of women aged 18 to 24 had left education and training early, meaning with at most lower secondary education. This resulted in a gender gap of 3.6 percentage points in 2023, which is 0.2 percentage points larger than in 2018. It needs to be noted that the short-term trend since 2018 has been characterised by fluctuations in the gap between 3.1 and 3.8 percentage points, mainly due to increases in men's early leaving rates in certain years. Nevertheless, the long-term trend shows a narrowing of this gap compared with 2008, when it had amounted to 4.2 percentage points.

A major expansion in higher education systems has taken place in the EU since the early 2000's, when the Bologna process put in motion a series of reforms to make European higher education more compatible, comparable, competitive and attractive for students. As a result, the share of the population aged 25 to 34 who completed tertiary education increased steadily between 2002 and 2023. The increase was particularly strong for women, whose tertiary educational attainment rate rose from 25.3 % in 2002 to 48.8 % in 2023. For men, the increase was slower, from 21.0 % to 37.6 %. This caused the gender gap to surge almost continuously from 4.3 percentage points to 11.2 percentage points between 2002 and 2023.

The tertiary educational attainment rate of women in the EU was

11.2

percentage points higher than for men in 2023

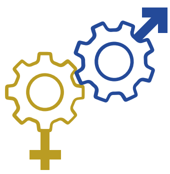
Employment

Ensuring high employment rates for both men and women is one of the EU's key targets. Reducing the wide gender employment gap, which measures the difference between the employment rates of men and women aged 20 to 64, is important for equality and a sustainable economy. The European Pillar of Social Rights Action Plan consequently includes the target of at least halving the gender employment gap by 2030 compared with 2019.

Women tend to be more highly educated than men in most EU countries. Despite this, women on average are still paid less, as evidenced by the persistent gender pay gap. One reason is that women in the EU are over-represented in low-paid sectors and under-represented in well-paid sectors. Moreover, women often adapt their working patterns to caring responsibilities, which results in lower earnings over the course of their lives and therefore aggravates their risk of poverty and social exclusion, especially in old age, as employment and pay gaps largely influence the gender pension gap ([10]).

Women are still less likely to be employed than men, and the EU is not on track to halving its gender employment gap by 2030

In the EU, the employment rate for women grew from 60.6 % in 2009 to 70.2 % in 2023. For men, the rate started from a higher value and increased more slowly, from 74.0 % in 2009 to 80.4 % in 2023 (see the chapter on SDG 8 'Decent work and economic growth' on page 157 for more detailed analyses on employment rates). As a result, the gender employment gap narrowed by 3.2 percentage points between 2009 and 2023. Most of this decrease took place in the period leading up to 2014, with the gap remaining at just over 11 percentage points until 2020 and further decreasing during the next three years. Although the drop to 10.2 percentage points in 2023 represents a new record low, it also means that the proportion of working-age men in employment still considerably exceeds that of women. Moreover, the gap is not narrowing quickly enough for the EU to be on track to meet its 2030 target of at least halving the gender employment gap compared with 2019. Meeting this target would require the difference between men's and women's employment rates to be reduced to 5.6 percentage points or lower.



The gender employment gap (in favour of men) was

10.2

percentage points in the EU in 2023

An analysis by degree of urbanisation shows a variation in the gender employment gap between cities, towns and suburbs, and rural areas. In 2023, the gap was smallest in cities, at 8.5 percentage points, while it amounted to 11.3 percentage points in rural areas and 11.6 percentage points in towns and suburbs ([11]).

The gender employment gap is considerably higher for people with children, at 17.0 percentage points for those aged 25 to 54 years. Notably, in this age group, men with children have a higher employment rate (91.9 % in 2023) than men without children (83.7 %). For women, the trend is the opposite, with women with children more likely to have a lower employment rate (74.9 %) than women without children (79.7 %) ([12]).

There is also a clear difference between employed women and men aged 20 to 64 when looking at the rate of part-time working. In 2023, 27.9 % of employed women in this age group worked part-time, while the percentage for men was only 7.7 %. This difference resulted in a gender gap of 20.2 percentage points for part-time employment. Caring responsibilities for children or for adults with disabilities were a main reason for this gap. In 2023, 27.2 % of women working part-time reported caring responsibilities as the main reason for doing so, compared with only 6.8 % for men ([13]). The gender gap for employed persons with temporary contracts was much less pronounced, at 2.5 percentage points in 2023 (11.9 % of employed women and 9.4 % of employed men) ([14]).

During the confinement periods due to the COVID-19 pandemic, women experienced a steeper fall in working hours than men while facing an increased care burden. This further underlined the importance of enhancing access to early childhood education and care and to long-term care services to increase the labour market participation of women ([15]).

The gender pay gap has decreased in recent years but remains considerable

Women do not only have lower employment rates than men, they also tend to earn less. Between 2017 and 2022, the gender pay gap narrowed by 1.9 percentage points in the EU. However, in 2022, women's gross hourly earnings in the EU were still on average 12.7 % below those of men.

There are various reasons for the existence and size of the gender pay gap. A part of the difference in earnings between men and women may be explained by the 'sectoral gender segregation', meaning that women tend to be concentrated in the low-paying economic sectors such as education and health, whereas men tend to work more in better paid sectors such as finance and IT sectors. Similarly, the 'occupational gender segregation' may also explain part of the difference in earnings between men and women because men are more likely to be promoted to supervisory and management positions than women often due to discrimination or self-restraints. The term 'glass ceiling' is usually used as a metaphor to describe an invisible barrier that keeps women from rising beyond a certain level in an enterprise's hierarchy ([16]). Moreover, the inequalities that women face in gaining access to work, career progression and rewards, along with the consequences of career breaks or part-time work due to caring responsibilities, labour market segregation, the parenthood penalty and stereotypes about the roles of men and women are inevitably linked to the persistent gender pay gap.

Men earned 12.7% more than women in the EU in 2022

More women than men are outside the labour force due to caring responsibilities

Women still tend to take on a larger share of caring responsibilities for children and other family members. In 2023, 0.9 % of women willing to work were outside the labour force due to caring responsibilities, which was nine times higher than the 0.1 % rate for men. This resulted in a gender gap of 0.8 percentage points. Overall, 0.5 % of the total population (aged 20 to 64) that wanted to work were outside the labour force due to caring responsibilities for adults with disability or children. This can be attributed to the lack of available, accessible and quality formal care services, especially for children ([17]).

The gender gap (in favour of men) for persons outside the labour force due to caring responsibilities in the EU in 2023 was 0.8%

Between 2018 and 2023, the share of total population outside the labour force due to caring responsibilities fell from 0.7 % to 0.5 %. For women, this share fell by 0.3 percentage points, while for men it has stagnated at 0.1 % over the past five years. As a result, the gender gap has narrowed by 0.3 percentage points since 2018.

Leadership positions

Traditional gender roles, a lack of support to allow women and men to balance care responsibilities with work, and political and corporate cultures are some of the reasons why women are underrepresented in decision-making processes. Promoting equality between women and men in this area is one of the EU's priorities for achieving gender equality.

After a slight decline in 2022, the increase in the share of seats held by women in national parliaments continued in 2023

The share of seats in national parliaments in the EU held by women increased steadily between 2003 and 2021 from 21.1 % to 33.1 %. After a slight decline in 2022, the share reached 33.2 % in 2023, the highest level ever recorded so far. While differences between Member States vary greatly, from 46.6 % seats held by women in Sweden to 14.1 % in Hungary, there was no single EU country in 2023 where women held the most seats.

33.2% of seats in national parliaments in the EU were held by women in 2023

Contributing to this under-representation is the fact that women seldom become leaders of major political parties, which are instrumental in forming future political leaders. Another factor is that gender norms and expectations reduce the pool of female candidates for selection as electoral representatives.

The share of female members of government (senior and junior ministers) in the EU was still lower than for men at 35.2 % in 2023, although this was a 12.6 percentage point increase from 22.6 % in 2003. The number of female heads of government in EU countries has also shown an increase. In 2023, there were on average six female heads of government compared with none in 2003. Over the whole period from 2003 to 2023, the highest share of female heads of government was observed in 2022 and 2023 with 22.2 %, meaning there were never more than six women holding this executive position at the same time ([18]).

In 2023, more than a third of board members of the largest listed companies were women and the EU is on track to meet its 2026 target of 40 %

Women held 33.8 % of board positions in the largest listed companies in 2023. This level of representation was achieved after a steady 25.6 percentage point increase since 2003 and indicates that the EU is on track to meet its target for at least 40 % of non-executive director positions in listed companies to be held by members of the underrepresented sex by 2026. However, the numbers also mean the clear majority of board members of the largest listed companies are still men. The share of female board members varies strongly across the EU, from 46.1 % in France to 8.2 % in Cyprus. In 2023, four countries — France, Italy, Denmark and the Netherlands — already exceeded the 40 % target.

33.8 %
of board positions in the largest listed companies in the EU were held by women in 2023

Main indicators

Physical and sexual violence to women

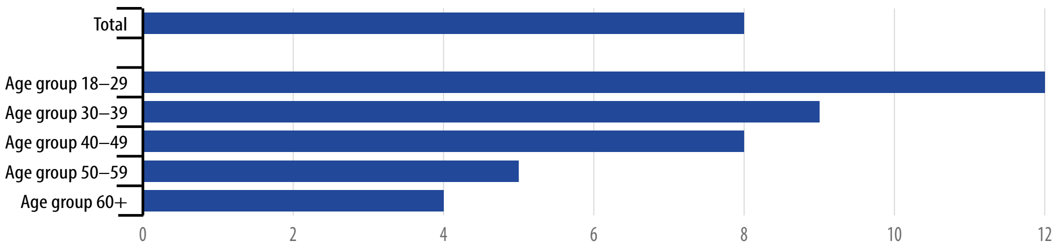
This indicator is based on the results of a survey by the European Union Agency for Fundamental Rights (FRA). Women were asked whether they had experienced physical and/or sexual violence within the 12 months prior to the interview.

X Assessment of progress not possible due to lack of EU-level time series

FIGURE 5.1

Physical and sexual violence to women experienced within 12 months prior to the interview, EU, 2012

(% of women)

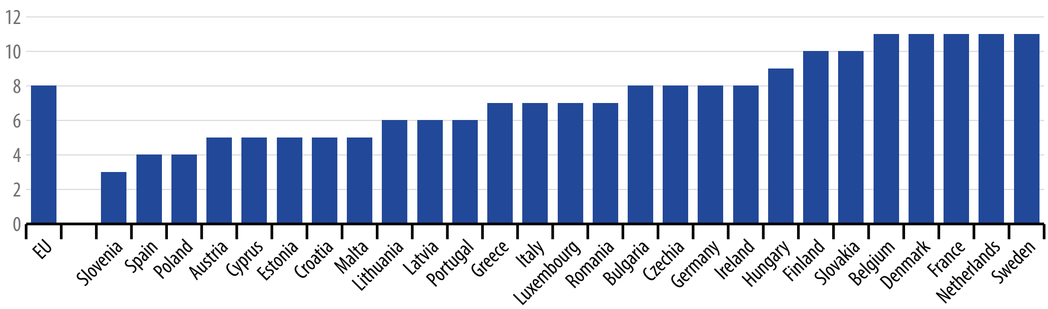


Source: European Union Agency for Fundamental Rights (FRA) (Eurostat online data code: sdg_05_10)

FIGURE 5.2

Physical and sexual violence to women experienced within 12 months prior to the interview, by country, 2012

(% of women)



Source: European Union Agency for Fundamental Rights (FRA) (Eurostat online data code: sdg_05_10)

Gender employment gap

LONG TERM
2009–2023

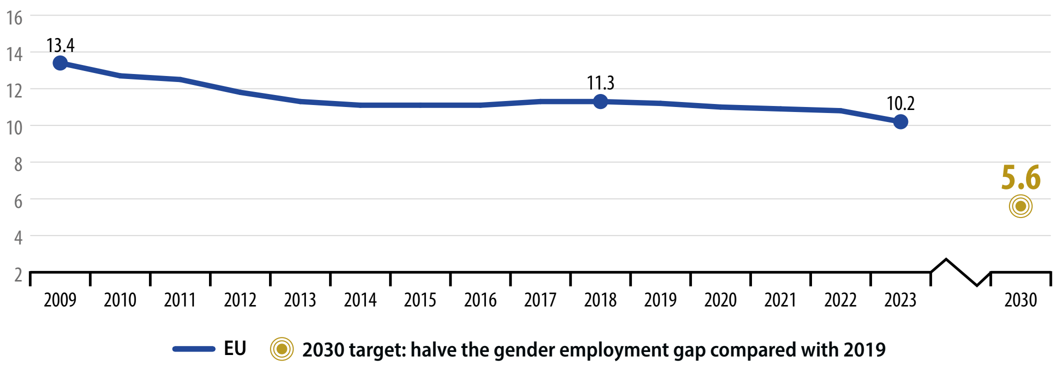
SHORT TERM
2018–2023

The gender employment gap is defined as the difference between the employment rates of men and women aged 20 to 64. The employment rate is calculated by dividing the number of people aged 20 to 64 in employment by the total population of the same age group. The indicator is based on the EU Labour Force Survey (EU-LFS).

FIGURE 5.3

Gender employment gap, EU, 2009–2023

(percentage points)

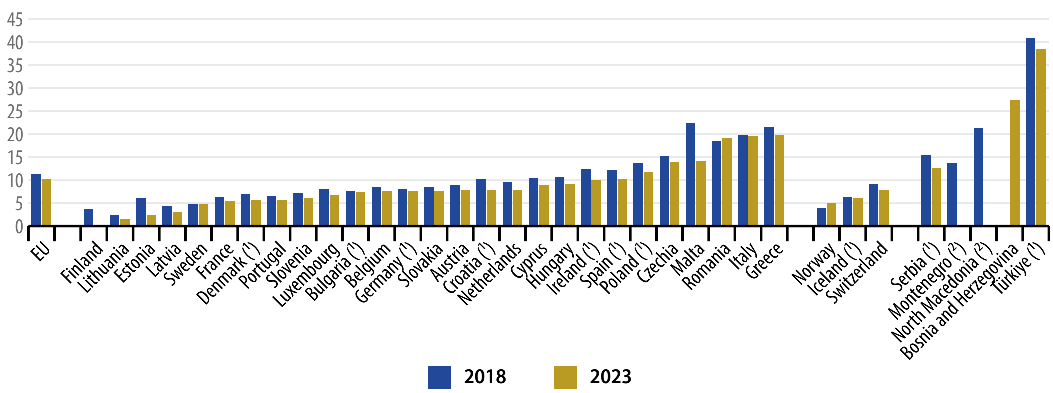


Source: Eurostat (online data code: sdg_05_30)

FIGURE 5.4

Gender employment gap, by country, 2018 and 2023

(percentage points)



([1]) Break(s) in time series between the two years shown.
([2]) No data for 2023.
([3]) No data for 2018.
Source: Eurostat (online data code: sdg_05_30)

Gender pay gap in unadjusted form

The gender pay gap in unadjusted form represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The indicator has been defined as unadjusted because it gives an overall picture of gender inequalities in terms of pay and measures a concept which is broader than the concept of equal pay for equal work. The gender pay gap is based on the methodology of the structure of earnings survey (SES), which is carried out every four years.

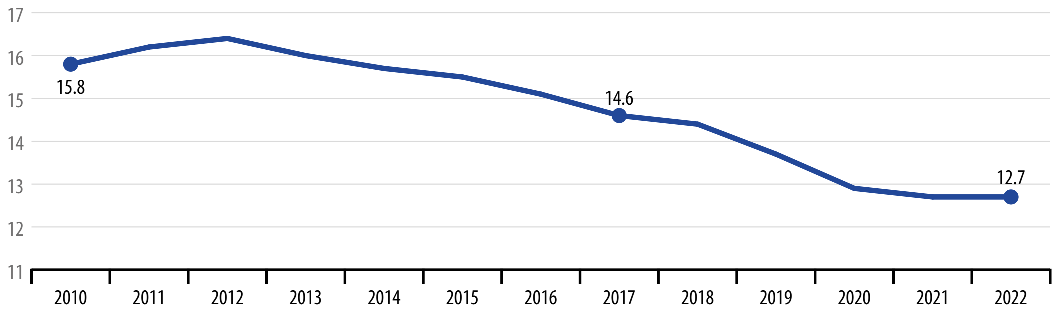
LONG TERM
2010-2022

SHORT TERM
2017–2022

FIGURE 5.5

Gender pay gap in unadjusted form, EU, 2010–2022

(% of average gross hourly earnings of men)

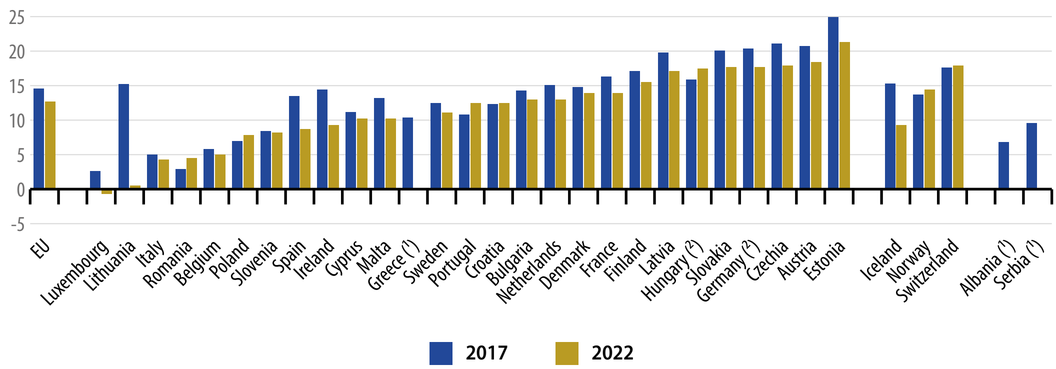


Note: Data for 2019–2022 are provisional.
Source: Eurostat (online data code: sdg_05_20)

FIGURE 5.6

Gender pay gap in unadjusted form, by country, 2017 and 2022

(% of average gross hourly earnings of men)



Note: 2022 data are provisional or estimated for most countries.
(1) 2018 data (instead of 2017); no data for 2022.
(2) Break(s) in time series between the two years shown.
Source: Eurostat (online data code: sdg_05_20)

Gender gap for being outside the labour force due to caring responsibilities

LONG TERM
2009–2023

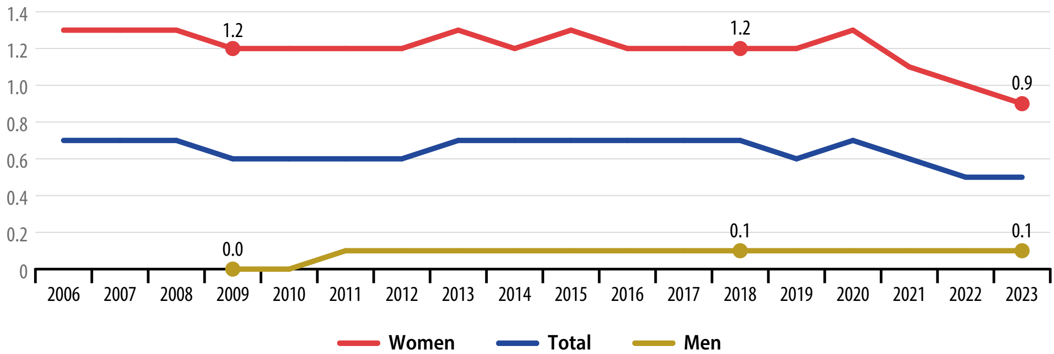
SHORT TERM
2018–2023

The population outside the labour force comprises individuals who are not employed and are either not actively seeking work or not available to work (even if they have found a job that will start in the future). Therefore, they are neither employed nor unemployed. This definition used in the EU Labour Force Survey (EU-LFS) is based on the resolutions of the International Conference of Labour Statisticians (ICLS) organised by the International Labour Organization. The reason for being outside the labour force covered by this indicator includes 'care of adults with disabilities or children'. Only people who express willingness to work, despite being outside the labour force, are considered.

FIGURE 5.7

Persons outside the labour force due to caring responsibilities, by sex, EU, 2006–2023

(% of population aged 20 to 64)

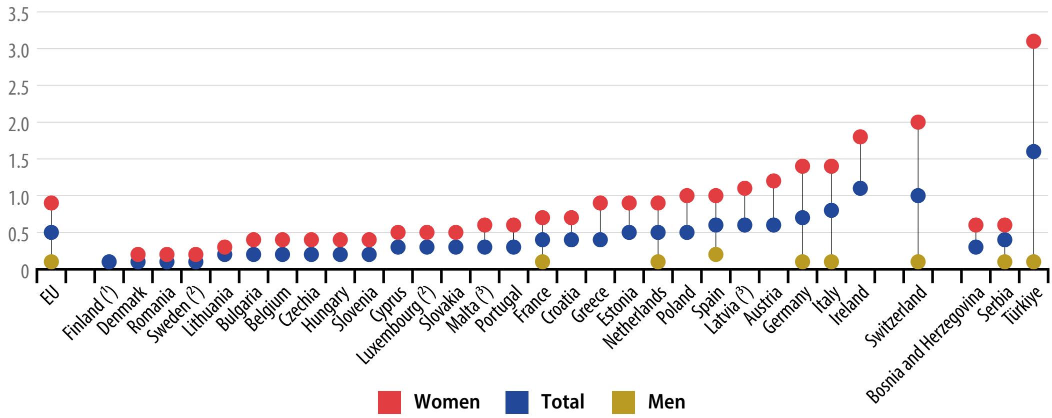


Note: Break in time series in 2021.
Source: Eurostat (online data code: sdg_05_40)

FIGURE 5.8

Persons outside the labour force due to caring responsibilities, by sex, by country, 2023

(% of population aged 20 to 64)



Note: No data for men for many countries due to reliability restrictions posed by the small sample size.
([1]) No data for women.
([2]) 2022 data.
([3]) 2021 data.
Source: Eurostat (online data code: sdg_05_40)

Seats held by women in national parliaments

LONG TERM
2008–2023

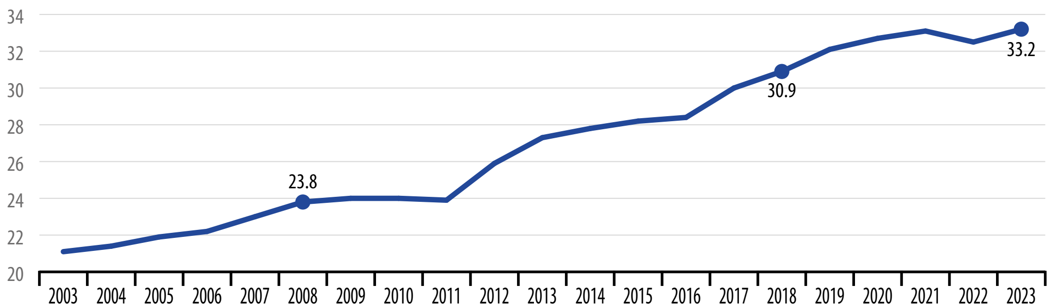
SHORT TERM
2018–2023

This indicator refers to the proportion of women in national parliaments in both chambers (lower house and upper house, where relevant). The data stem from the Gender Statistics Database of the European Institute for Gender Equality.

FIGURE 5.9

Seats held by women in national parliaments, EU, 2003–2023

(% of seats)

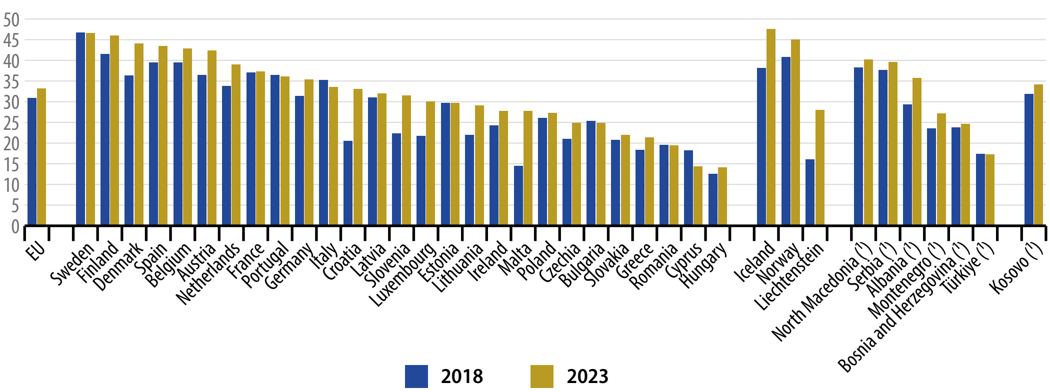


Source: European Institute for Gender Equality (EIGE) (Eurostat online data code: sdg_05_50)

FIGURE 5.10

Seats held by women in national parliaments, by country, 2018 and 2023

(% of seats)



(¹) 2021 data (instead of 2023).

Source: European Institute for Gender Equality (EIGE) (Eurostat online data code: sdg_05_50)

Positions held by women in senior management

This indicator measures the share of female board members in the largest publicly listed companies. The data presented in this section stem from the Gender Statistics Database of the European Institute for Gender Equality.

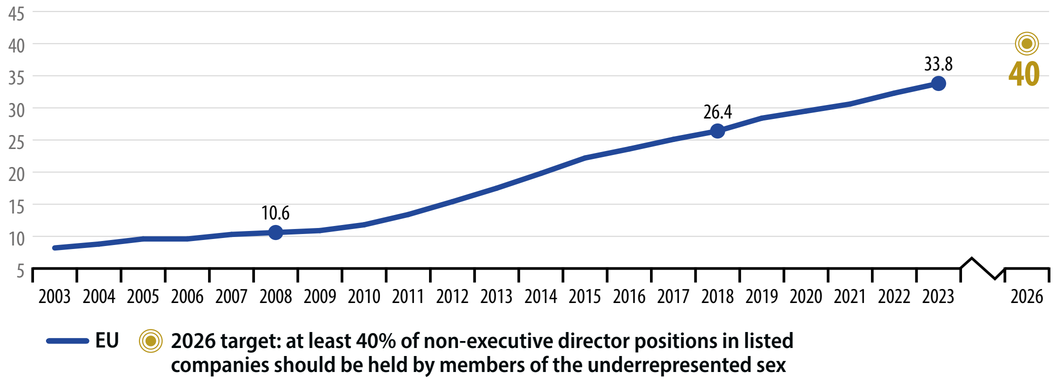
LONG TERM
2008–2023

SHORT TERM
2018–2023

FIGURE 5.11

Positions held by women in senior management, EU, 2003–2023

(% of board members)

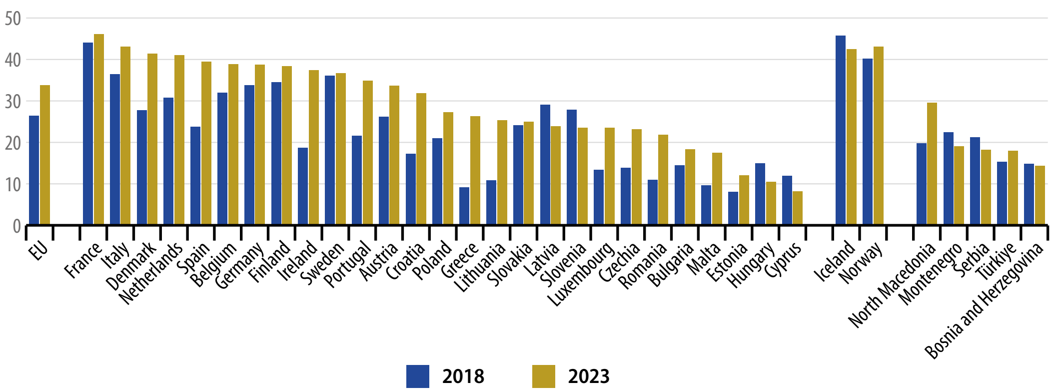


Source: European Institute for Gender Equality (EIGE) (Eurostat online data code: sdg_05_60)

FIGURE 5.12

Positions held by women in senior management, by country, 2018 and 2023

(% of board members)



Source: European Institute for Gender Equality (EIGE) (Eurostat online data code: sdg_05_60)

Notes

(1) European Union Agency for Fundamental Rights (2014), *Violence against women: an EU-wide survey, Main results*, Publications Office of the European Union, Luxembourg, p. 17.

(2) Source: Eurostat (online data code: gbv_any_type).

(3) Source: Eurostat (online data code: gbv_npv_type).

(4) Source: Eurostat (online data code: gbv_any_lim).

(5) Source: Eurostat (online data code: crim_hom_soff).

(6) Source: Eurostat (online data code: crim_hom_vrel).

(7) United Nations Office on Drugs and Crime (2022), *Gender-related killings of women and girls (femicide/feminicide)*.

(8) For more information see Eurostat metadata on Crime and criminal justice (crim).

(9) European Union Agency for Fundamental Rights (2014), *Violence against women: an EU-wide survey, Main results*, Publications Office of the European Union, Luxembourg, pp. 25–26, 32.

(10) European Commission (2023), *Joint Employment Report 2023*, Publications Office of the European Union, Luxembourg.

(11) Source: Eurostat (online data code : tepsr_lm230).

(12) Source: Eurostat (online data code: lfst_hheredty).

(13) Source: Eurostat (online data code: lfsa_epgar).

(14) Source: Eurostat (online data code: lfsi_pt_a).

(15) European Commission (2023), *Joint Employment Report 2024*, Publication Office of the European Union, Luxembourg.

(16) Eurostat (2021), *Gender pay gaps in the European Union — a statistical analysis*, Publications Office of the European Union, Luxembourg.

(17) Due to a change in the definition of the indicator, the data presented in this 2024 edition are not comparable with those presented previously. The data presented in this 2024 report only refer to 'care of adults with disability or children', while the data presented in previous editions also included 'other family or personal reasons'.

(18) European Institute for Gender Equality, Gender Statistics Database (National governments: presidents and prime ministers).

Ensure availability and sustainable management of water and sanitation for all

SDG 6 calls for ensuring universal access to safe and affordable drinking water, sanitation and hygiene, and ending open defecation. It also aims to improve water quality and water-use efficiency and to encourage sustainable abstractions and supply of freshwater.

Access to water is a basic human need. Provision of drinking water and sanitation services is a matter of public and environmental health in the EU. Clean water in sufficient quantity is also of paramount importance for agriculture, industry and the environment and plays a crucial role in providing climate-related ecosystem services. Monitoring SDG 6 within an EU context focuses on sanitation, water quality and water scarcity. While the EU has made further progress on access to sanitation, trends for water quality have been mixed over the assessed five-year period, with concentrations of some surface and groundwater pollutants rising. Developments regarding water scarcity have been rather unfavourable, showing a stagnation in water exploitation with seasonal variations in recent years that can be attributed to more frequent and severe drought events.

Indicators measuring progress towards SDG 6, EU

Indicator	Period	Annual growth rate	Assessment	More info
Sanitation				
People living in households without basic sanitary facilities (such as bath, shower, indoor flushing toilet)	2010–2020	– 6.4 %	↑	page 133
	2015–2020	– 7.4 %	↑	
Population connected to at least secondary waste water treatment	2006–2021	0.7 %	↗	page 134
	2016–2021	0.3 %	↗	
Water quality				
Biochemical oxygen demand in rivers	2006–2021	– 0.7 % (1)	↗	page 135
	2016–2021	– 1.6 % (1)	↑	
Nitrate in groundwater	2006–2021	– 0.1 % (1)	→	page 136
	2016–2021	– 1.0 % (1)	↑	
Phosphate in rivers	2006–2021	– 1.3 % (2)	↑	page 137
	2016–2021	3.9 % (2)	↓	
Inland water bathing sites with excellent water quality (*)	2011–2022	1.1 %	↑	SDG 14, page 263
	2017–2022	– 0.7 %	↘	
Water scarcity				
Water exploitation index (WEI+)	2004–2019	– 1.3 % (3)	↑	page 138
	2014–2019	0.1 % (3)	→	
Drought impact on ecosystems (*)	2009–2022	3.0 % (4)	↓	SDG 15, page 279
	2017–2022	13.0 % (4)	↓	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

(1) Data refer to an EU aggregate based on 18 Member States.
(2) Data refer to an EU aggregate based on 16 Member States .
(3) Assessment based on a four-year moving average.
(4) Assessment based on a 10-year moving average.

Policy context

Sanitation

The Urban Waste Water Treatment Directive regulates the collection, treatment and discharge of domestic and industrial urban waste waters. Its 2024 revision sets updated rules for secondary and tertiary treatment of waste waters as well as for the reuse of treated urban waste water, among others.

The European Pillar of Social Rights lists water and sanitation among the essential services that everyone should have access to. In 2023, the Commission released a first EU Report on Access to Essential Services that provides a state of play concerning access to the essential services including access to water and sanitation.

Water quality

Protection of water resources, water ecosystems, and drinking and bathing water is a cornerstone of EU water policy, as mentioned in the 8th Environment Action Programme and reflected in the respective EEA Monitoring Report.

The Water Framework Directive is the main European legislation aiming to protect and restore water bodies, to prevent and/or limit deterioration by excessive abstractions or pollution and to achieve good status of Europe's surface waters and groundwaters.

The Towards Zero Pollution for Air, Water and Soil action plan released in May 2021 sets out key actions to speed up water pollution reduction. As part of the Zero Pollution package, the Commission adopted a proposal to revise the lists of surface and groundwater pollutants which entails changes in parts of the Water Framework Directive and its daughter directives, the Environmental Quality Standards Directive and the Groundwater Directive.

The Nitrates Directive includes measures to prevent nitrates from agriculture polluting ground and surface waters by improving the nitrogen balance. The Farm to Fork Strategy addresses these challenges by setting objectives to reduce nutrient loss from fertilisers (especially nitrogen and phosphorus) by at least 50 % by 2030.

The recast Drinking Water Directive entered into force in January 2023. It requires Member States to improve or maintain access to drinking water for all. It also addresses improvement of the efficiency of the water supply infrastructure. Member States will have to assess their leakage rates and reduce it if the rate is higher than a set threshold value.

The Bathing Water Directive requires Member States to monitor and assess bathing water for at least two parameters of (faecal) bacteria. The Directive is currently being evaluated by the European Commission.

Water scarcity

The EU strategy on adaptation to climate change aims to reduce water use and encourage water efficiency and savings, while at the same time guaranteeing a stable and secure drinking water supply.

In addition, a new Regulation on minimum requirements for water reuse for agricultural irrigation applies since June 2023.

Overview and key trends

Sanitation

Provision of drinking water and the adequate treatment of sewage are matters of public and environmental health. As a vital resource, water is considered a public good in the EU. Water utilities are subject to strict regulation regarding the quality and efficiency of services. The indicators chosen to monitor sanitation are the share of the population having neither a bath, nor a shower, nor indoor flushing toilet in their household and the share of the population connected to at least secondary waste water treatment.

Most EU citizens have access to basic sanitation and are connected to secondary waste water treatment

Overall, connection rates and the quality of water services in the EU were already high more than 10 years ago and have continued to improve. The share of the population without a bath, shower or indoor flushing toilet in their household fell from 2.2 % in 2015 to 1.5 % in 2020. Data also show that the share of the EU population connected to secondary waste water treatment has increased continuously since 2000, reaching 80.9 % in 2021.

1.5 %
of the EU population lacked sanitary facilities at home in 2020

Conventional primary waste water treatment mainly removes suspended solids and only reduces organic water pollution by 20–30 %. Secondary treatment processes, which are typically applied after primary treatment, remove about 70 % of organic pollution. Growth in the share of people connected to secondary treatment indicates that the Urban Waste Water Treatment Directive, which was first implemented in the 1990s, has helped to reduce pollution and improve water quality in Europe's rivers, lakes and coastal waters. Implementation of the revised Directive will bring additional improvements not only for water quality but also for access to sanitation.

Different levels of access to water services and sanitation persist between Member States

Almost every household in the EU had basic sanitary facilities in 2020, and most countries reported that less than 1 % of their population were still living in households without a bath, shower or a flushing toilet. However, in some countries, this share remains comparatively high. In particular, Romania reported figures far above all other Member States, with 21.2 % of the population not having access to basic sanitary facilities in 2020. Relatively high shares were also reported by Lithuania, Bulgaria and Latvia with values between 6.4 % and 7.0 % in the same year. These figures highlight the strong link between access to basic sanitary facilities and poverty, which can be seen across the EU. In 2020, 5.1 % of poor people in the EU lacked access to a bath, shower or toilet in their households, compared with only 0.8 % of those living above the poverty threshold.

Connection to secondary waste water treatment is another important facility for enhancing access to sanitation. Connection rates have increased slowly but continuously across the EU, with 80.9 % of the EU population connected in 2021. This is a major increase compared with 2006, when the connection rate was 72.6 %. Between 2016 and 2021, connection rates increased in almost all reporting Member States. The lowest-scoring countries were in south-east Europe. It is important to note that connection rates are not expected to

80.9 %
of the EU population were connected to at least secondary waste water treatment in 2021

reach 100 % in most cases because connection costs can be disproportionately high in some areas, in particular for rural areas with a low population density. So far, the Urban Waste Water Treatment Directive only obliges bigger agglomerations to introduce secondary treatment, while requiring smaller agglomerations to apply an appropriate treatment (when waste water is collected) or other alternative solutions to reach the same level of protection for water bodies. However, the 2024 revision of the Directive makes secondary treatment obligatory for smaller agglomerations too.

Water quality

Diffuse pollution by agriculture, accidental spillage of harmful substances, and discharge of untreated or insufficiently treated domestic and industrial waste water, as well as atmospheric deposition of pollutants such as mercury, can pose a threat to human and environmental health. These pressures, along with changes to the structure and flow of water bodies, pose a barrier to sustainable development. Water quality monitoring distinguishes between different kinds of chemical pollution such as organic pollution by nutrients, pesticides and pathogens. In this report, water quality is monitored through four indicators looking at nutrients in freshwater and at bathing water quality ([1]).

Improved waste water treatment has reduced organic pollution in European rivers

Heavy organic pollution, caused by municipal waste water and effluents from industry or livestock, can lead to the deoxygenation of water, killing fish and invertebrates. Thanks to improved waste water collection and treatment, as well as mature treatment, organic pollution in European rivers has been declining, though the trend has slowed in recent years. A proxy for organic water pollution is the amount of oxygen needed for microbes to digest organic pollution under standard conditions, expressed as biochemical oxygen demand (BOD). BOD values of rivers in Europe range from less than 1 milligram per litre (mg/L) (very clean) to more than 15 mg/L (heavily polluted).

Available data for 18 Member States (see page 135) show an overall decline in BOD in EU rivers, from 3.1 mg/L in 2006 to 2.8 mg/L in 2021. The trend, however, has not been continuous. While BOD levels were showing a downward trend up to 2011, they had climbed back to 3.1 mg/L by 2015 before falling again. Recently, there has been a small increase from 2.7 mg/L in 2019 to 2.8 mg/L in 2021. Overall, BOD levels in EU rivers have fallen by 9.5 % since 2006 and by 8.0 % since 2016. Between 2016 and 2021, 12 out of 18 reporting Member States saw reductions in BOD in their rivers. The overall decrease in BOD values is mainly linked to a general improvement in waste water collection and treatment throughout Europe.

Between 2016 and 2021, the biochemical oxygen demand in EU rivers fell by

8.0 %

Eutrophication is still a major issue for Europe's aquatic environment

An assessment of European waters published by the European Environment Agency (EEA) in 2018 concludes that although nutrient pollution has fallen since the 1990s, it is still the main reason why 28 % of EU surface water bodies have not achieved good water quality. In some regions, pollution of rivers with nitrate/ammonia (N) and phosphorous (P) is still causing severe eutrophication in coastal waters (also see the chapter on SDG 14 'Life below water' on page 271). Eutrophication can lead to algal blooms and oxygen depletion of surface waters, which in turn can harm fish, invertebrates and whole ecosystems. In 2022, such a substantial toxic algal bloom caused the

Between 2016 and 2021, the concentration of nitrates in EU groundwater decreased by

5.1 %

deaths of around 360 tonnes of fish in the Oder river, leading to a major ecological disaster ([2]).

The main sources of nutrient inputs are the use of fertilisers and animal waste in agriculture, as well as poorly treated waste water from industry ([3]). Nitrates (NO_3), among other chemicals, can infiltrate and contaminate groundwater bodies. They are the most common cause of poor chemical status of groundwater in the EU — 18 % of groundwater bodies by area across 24 Member States are in poor status because of nitrates ([4]). This is particularly problematic because groundwater is an important source of drinking water in Europe.

Data on nitrate concentrations in EU groundwater are available for 18 Member States (see page 136). Despite legislative efforts to tackle nutrient pollution, the average nitrate concentration in EU groundwaters remained relatively stable from 2000 to 2021 ([5]). There is a long-term stagnation of NO_3 concentrations at around 21 milligrams per litre (mg/L), with a recent downward trend since 2016, reaching 20.5 mg/L in 2021. This concentration is 1.3 % lower than in 2006 and 5.1 % lower than at the peak in 2016. Nevertheless, between 2016 and 2019, 14.1 % of groundwater stations showed NO_3 concentrations above the threshold considered unfit for drinking, which is set at 50 mg/L by the Nitrates Directive ([6]). This represents almost one percentage point more than in the previous period from 2012 and 2015, where 13.3 % of groundwater stations were above the threshold ([7]). Even through results from a high-ambition model scenario indicate a significant potential for nutrient load reductions in the EU, it is unclear whether the current trend is adequate to fulfil EU obligations or achieve the target of reducing nutrient losses to the environment by 50 % by 2030 ([8]).

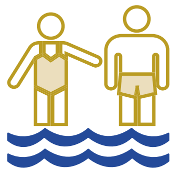
Between 2016 and 2021, the concentration of phosphates in EU rivers increased by

21.3 %

Data on phosphate (PO_4) concentrations in EU rivers are available for 16 Member States (see page 137). They show a marked improvement between 2007 and 2011, after which, however, the trend levelled off and even started increasing again. Thus, while the phosphate concentration of 0.074 mg/L recorded in 2021 is considerably below the values reported in the early 2000s of around 0.092 mg/L, it is 21.3 % higher than in 2016. The overall positive long-term trend is to some extent the result of measures implemented under the Urban Waste Water Treatment Directive, especially the introduction of phosphate-free detergents ([9]). The recent turnaround may be related to the slower decrease in phosphorus emissions from the agricultural sector as well as increasing phosphorus fertiliser consumption at EU level ([10]). Of all the reporting Member States, rivers in Finland and Sweden on average had the lowest concentrations of phosphate between 2016 and 2021. This is likely to be a result of their low population densities and high levels of waste water collection and treatment. In contrast, relatively high concentrations were found in some Member States with high population densities and/or intensive agriculture. The higher short-term values observed, particularly in Lithuania, Spain, Bulgaria and Belgium, may lead to freshwater eutrophication ([11]).

After a downward trend, the share of inland bathing waters with excellent water quality has increased again in recent years

Contamination of water by faecal bacteria continues to pose a risk to human health. This is especially the case when it is found at bathing water sites, where it can cause illness among swimmers. Overall, the share of inland water bathing sites with excellent water quality in the EU increased between 2011 and 2017, followed by a decline until 2020 and slight improvements in 2021 and 2022, respectively. The downward trend had been caused by a stagnation in the absolute number of bathing sites with excellent water quality, while the total number of bathing sites included in the



79.3 %

of inland water bathing sites in the EU showed excellent bathing water quality in 2022

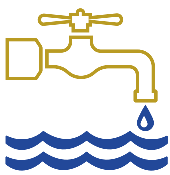
assessment rose. In 2022, 79.3 % of inland water bathing sites showed excellent bathing water quality, compared with 82.2 % five years earlier and 78.2 % in 2021. The major sources of bathing water pollution are sewage and water draining from farmland. Such pollution increases during heavy rains and floods which wash sewage overflow and polluted drainage water into rivers and seas.

Water scarcity

SDG 6 also focuses on the sustainable use of freshwater resources and on reducing water stress. The regionalised water exploitation index (WEI+) aims to illustrate the pressure on renewable freshwater resources due to water demand, which is largely affected by population trends and socioeconomic developments; and climate conditions, which control the availability of renewable freshwater resources. The EU area impacted by drought is another indicator used, as severe and frequent droughts can exacerbate water scarcity conditions.

Water stress is low in most EU countries, but shows strong seasonal and local variability

Water stress occurs when water demand exceeds the available water resources at a specific place and time. Water scarcity is generally considered to occur when the ratio of water abstraction to long-term average available water resources exceeds 20 %, while ratios above 40 % indicate severe water scarcity, meaning the use of freshwater resources is unsustainable ([12]). The four-year smoothed average shows that the EU's WEI+ has decreased by 0.9 index points over the past 15 years, from 5.0 % in 2004 to 4.1 % in 2019. However, it has been stagnating at this level since 2014. A look at the annual figures shows that the change in the EU's WEI+ has not been constant but has varied both annually and between Member States. The recent stagnation can be partly attributed to more frequent and severe droughts, which have affected water availability in an increasingly larger area in the EU ([13]).



Between 2014 and 2019, the EU's water exploitation index (WEI+) stagnated at

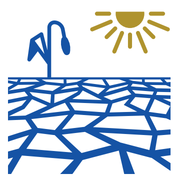
4.1 %

In 2019, Cyprus experienced severe water stress with a mean annual WEI+ of 113 %. Malta also showed water stress with a mean annual WEI+ of around 30 %. However, annual national values can mask regional and seasonal water stress, which is in fact common in many European regions. In 2019, almost a third (29 %) of the EU territory, excluding Italy, was affected by water scarcity conditions in at least one quarter of the year, with WEI+ values of above 20 % ([14]).

Water scarcity is more common in southern Europe, where about 30 % of the population lives in areas with permanent water stress and up to 70 % of the population in areas with seasonal water stress during summer ([15]) caused mainly by abstractions from agriculture, public water supply and tourism ([16]) and exacerbated by climate change ([17]). However, water scarcity also affects river basins in other parts of the EU, particularly in western Europe, where it is caused primarily by high population densities in urban areas, combined with high levels of abstraction for public water supply, energy and industry ([18]).

The area impacted by drought increased considerably in 2022

Severe and frequent droughts can increase the risks of water scarcity with detrimental effects on water supply for households, agriculture, energy and industry, as well on ecosystems and biodiversity. Droughts pose challenges to achieve the objectives of the EU's Water Framework Directive and other water-related policies due to their effects on both water quality and quantity. It is therefore important that the EU takes action to reduce the severity of impacts and strengthen the resilience of ecosystems and water supply to



15.7 %

of the EU area was affected by drought in 2022

climate change-induced droughts. Monitoring meteorological drought impacts, in addition to hydrological water scarcity, supports these policy actions. As such, meteorological drought impacts caused by insufficient precipitation during the growing season may serve as an early warning signal for potential water scarcity, even though a direct relationship cannot be established with the current indicators.

The drought impact indicator monitors anomalies in vegetation productivity in areas with a soil moisture deficit during the growing season (also see chapter on SDG 15 'Life on land' on page 288). In 2022, Europe experienced its third warmest year on record ([19]) and its hottest summer, resulting in the largest total area impacted by drought, with more than 630 000 km^2 or 15.7 % of the EU area being affected. This is almost four times the area of the long-term average of 167 000 km^2 over the period 2000 to 2022 ([20]). Between 2000 and 2022, the number of drought-impacted areas in the EU showed an upward trend due to low precipitation, high evaporation and heatwaves, which are exacerbated by climate change ([21]) and contributing to worsening ecosystem conditions ([22]). Over the period from 2017 to 2022, the 10-year moving average of drought impact on ecosystems in the EU increased by 84.0 %. A look at the underlying annual data shows strong fluctuations, with the area affected by drought almost tripling in some years. There are also large variations between countries. In 2022, Luxembourg, Belgium and Slovenia showed ecosystems that were affected by drought on more than half of their country area.

Main indicators

People living in households without basic sanitary facilities (such as bath, shower, indoor flushing toilet)

This indicator reflects the share of total population having neither a bath, nor a shower, nor an indoor flushing toilet in their household. Data presented in this section stem from the EU Statistics on Income and Living Conditions (EU-SILC).

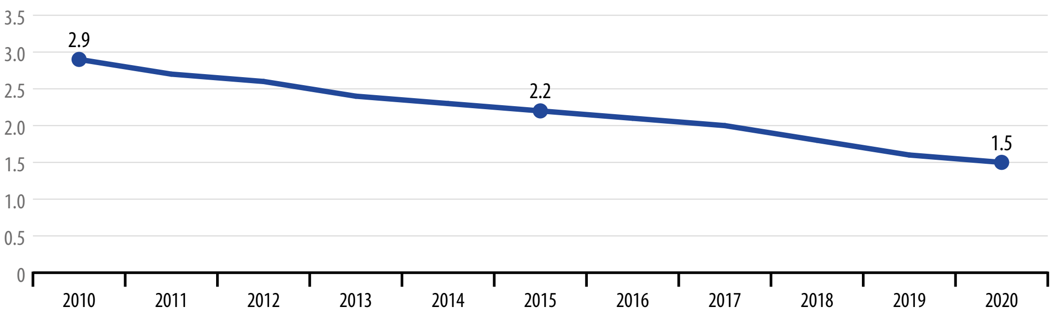
LONG TERM
2010–2020

SHORT TERM
2015–2020

FIGURE 6.1

Population having neither a bath, nor a shower, nor indoor flushing toilet in their household, EU, 2010–2020

(% of population)

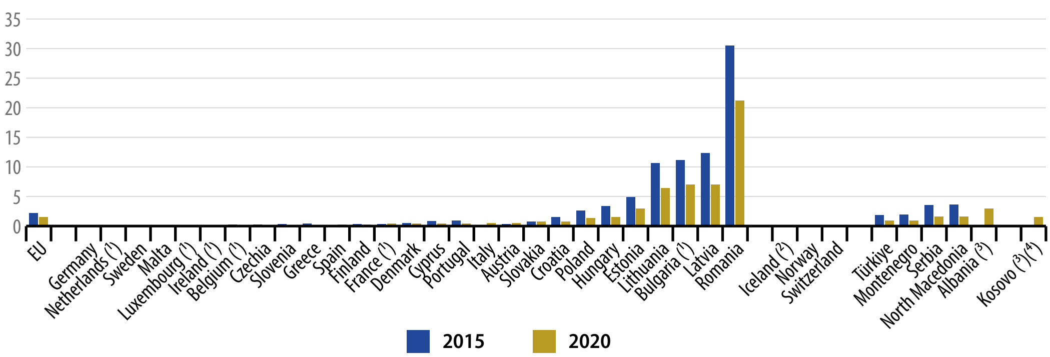


Note: Data for 2010–2019 are estimated. The frequency of the data collection has been changed from annually to every three years, meaning no data were collected for 2021 and 2022.
Source: Eurostat (online data code: sdg_06_10)

FIGURE 6.2

Population having neither a bath, nor a shower, nor indoor flushing toilet in their household, by country, 2015 and 2020

(% of population)



(¹) Break(s) in time series between the two years shown.
(²) 2019 data (instead of 2020).
(³) No data for 2015.
(⁴) 2018 data (instead of 2020).
Source: Eurostat (online data code: sdg_06_10)

Population connected to at least secondary waste water treatment

LONG TERM 2006–2021

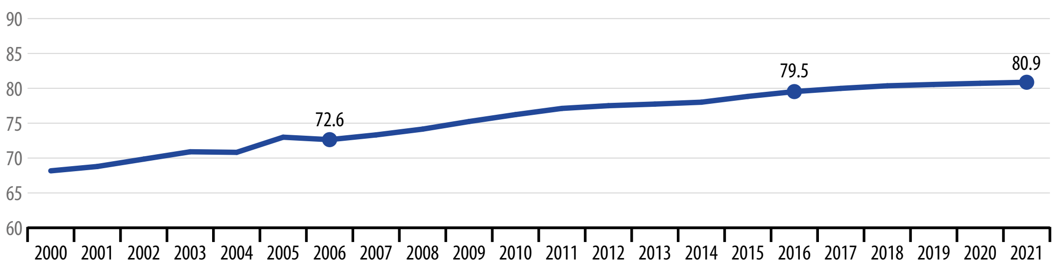
SHORT TERM 2016–2021

This indicator measures the percentage of the population connected to waste water treatment systems with at least secondary treatment. Thereby, waste water from urban or other sources is treated by a process generally involving biological treatment with a secondary settlement or other process that removes organic material and reduces its biochemical oxygen demand (BOD) by at least 70 % and chemical oxygen demand (COD) by at least 75 %. Data presented in this section stem from the Water Statistics of the European Statistical System (ESS).

FIGURE 6.3

Population connected to at least secondary waste water treatment, EU, 2000–2021

(% of population)



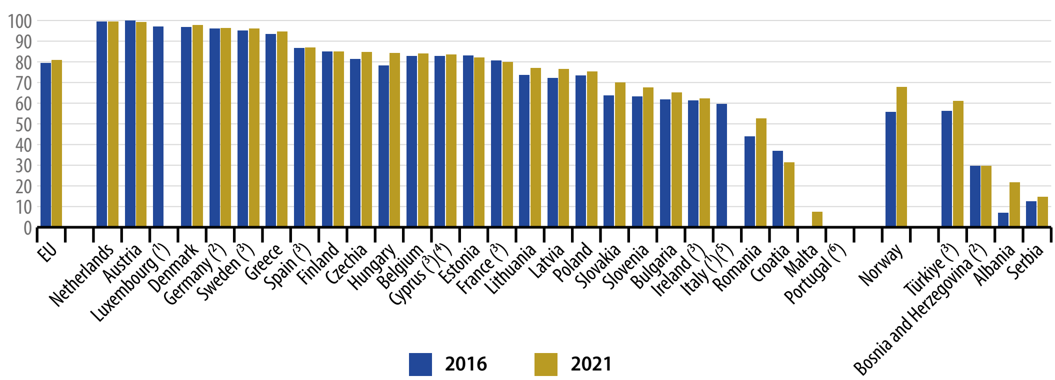
Note: Eurostat estimates.

Source: Eurostat (online data code: sdg_06_20)

FIGURE 6.4

Population connected to at least secondary waste water treatment, by country, 2016 and 2021

(% of population)



([1]) No data for 2021.
([2]) 2019 data (instead of 2021).
([3]) 2020 data (instead of 2021).
([4]) 2018 data (instead of 2016).
([5]) 2015 data (instead of 2016).
([6]) No data..

Source: Eurostat (online data code: sdg_06_20)

Biochemical oxygen demand in rivers

This indicator measures the mean annual five-day biochemical oxygen demand (BOD5) in rivers, weighted by the number of measuring stations. BOD5 is a measure of the amount of oxygen that aerobic microorganisms need to decompose organic substances in a water sample over a five-day period in the dark at 20 °C. High BOD5 values are usually a sign of organic pollution, which affects water quality and the aquatic environment. Organic pollution caused by discharges from waste water treatment plants, industrial effluents and agricultural run-off increase BOD. The cleanest rivers have a five-day BOD of less than 1 milligram per litre (mg/L). Moderately polluted rivers show values ranging from 2 to 8 mg/L. Data presented in this section stem from the EEA Waterbase database on the status and quality of Europe's rivers.

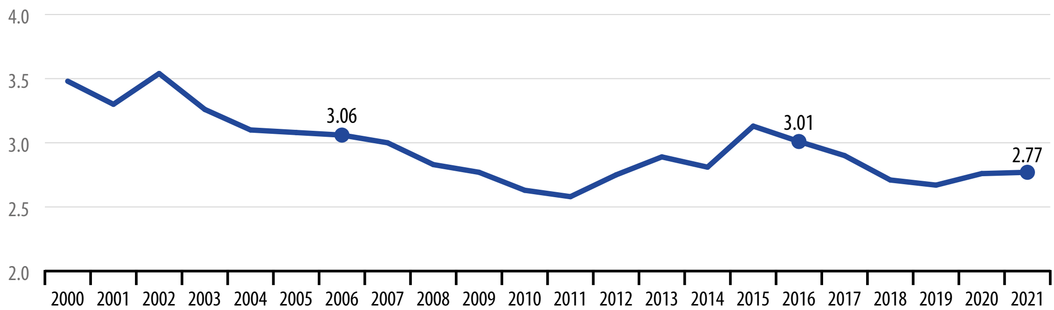
LONG TERM
2006–2021

SHORT TERM
2016-2021

FIGURE 6.5

Biochemical oxygen demand in rivers, EU, 2000–2021

(mg O_2 per litre)

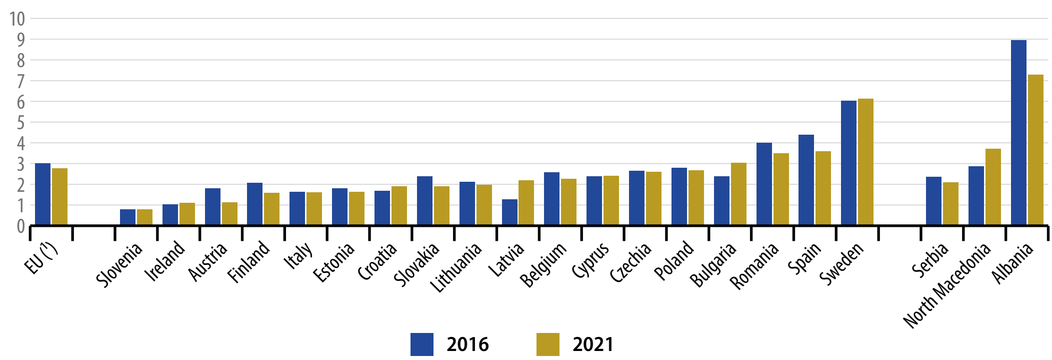


Note: 'EU' refers to an aggregate based on 18 Member States.
Source: EEA (Eurostat online data code: sdg_06_30)

FIGURE 6.6

Biochemical oxygen demand in rivers, by country, 2016 and 2021

(mg O_2 per litre)



([1]) 'EU' refers to an aggregate based on 18 Member States.
Source: EEA (Eurostat online data code: sdg_06_30)

Nitrate in groundwater

LONG TERM 2006–2021

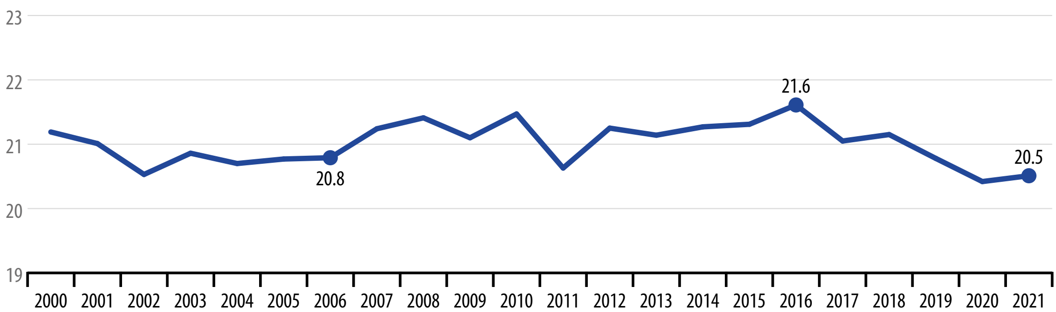
SHORT TERM 2016–2021

This indicator refers to concentrations of nitrate (NO_3) in groundwater measured as milligrams per litre (mg NO_3/L). Data are taken from well samples and aggregated to annual average concentrations for groundwater bodies in Europe. Only complete series after inter/extrapolation are included. The indicator is relatively robust in presenting the overall trend in water quality, however, the distribution of measuring stations over groundwater bodies might mask exceedances of nitrate levels in certain polluted areas. The data stem from the EEA Waterbase database on the status and quality of Europe's rivers.

FIGURE 6.7

Nitrate in groundwater, EU, 2000–2021

(mg NO_3 per litre)

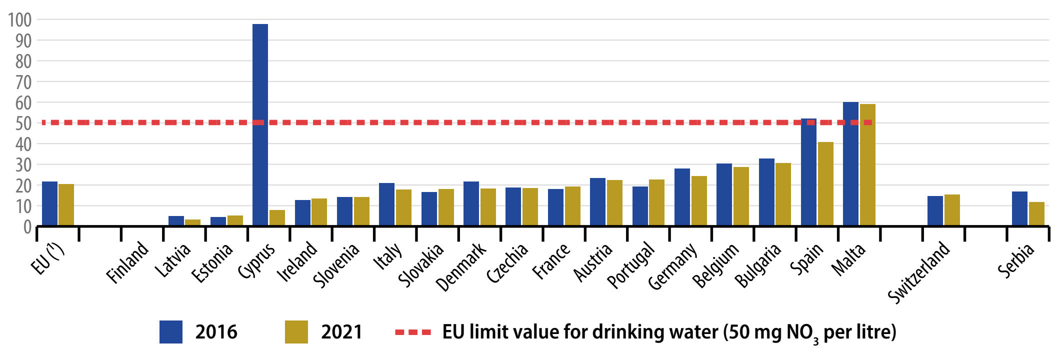


Note: 'EU' refers to an aggregate based on 18 Member States.
Source: EEA (Eurostat online data code: sdg_06_40)

FIGURE 6.8

Nitrate in groundwater, by country, 2016 and 2021

(mg NO_3 per litre)



([1]) 'EU' refers to an aggregate based on 18 Member States.
Source: EEA (Eurostat online data code: sdg_06_40)

Phosphate in rivers

This indicator measures the concentration of phosphate (PO_4) per litre in the dissolved phase from water samples from river stations and aggregated to annual average values. At high concentrations phosphate can cause water quality problems, such as eutrophication, by triggering the growth of aquatic plants including algae. The data stem from the EEA Waterbase database on the status and quality of Europe's rivers.

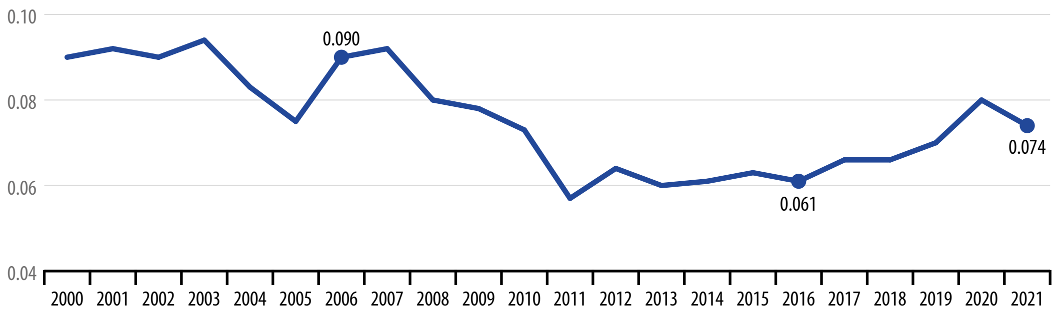
LONG TERM
2006–2021

SHORT TERM
2016–2021

FIGURE 6.9

Phosphate in rivers, EU, 2000–2021

(mg PO_4 per litre)

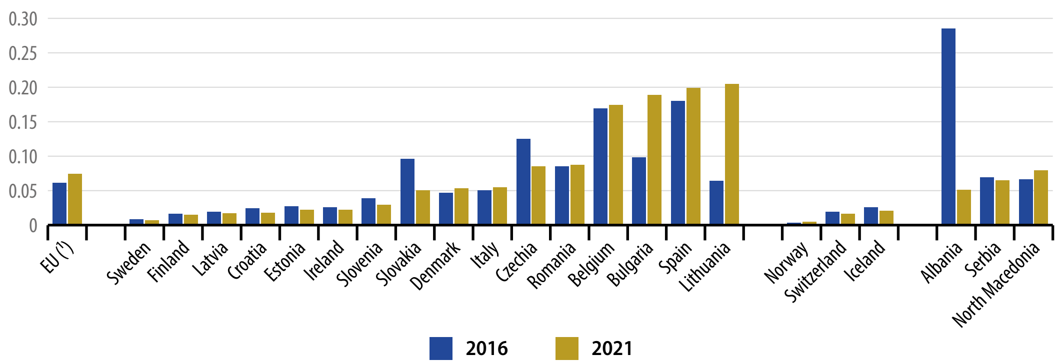


Note: 'EU' refers to an aggregate based on 16 Member States.
Source: EEA (Eurostat online data code: sdg_06_50)

FIGURE 6.10

Phosphate in rivers, by country, 2016 and 2021

(mg PO_4 per litre)



(1) 'EU' refers to an aggregate based on 16 Member States.
Source: EEA (Eurostat online data code: sdg_06_50)

Water exploitation index (WEI+)

LONG TERM
2004–2019

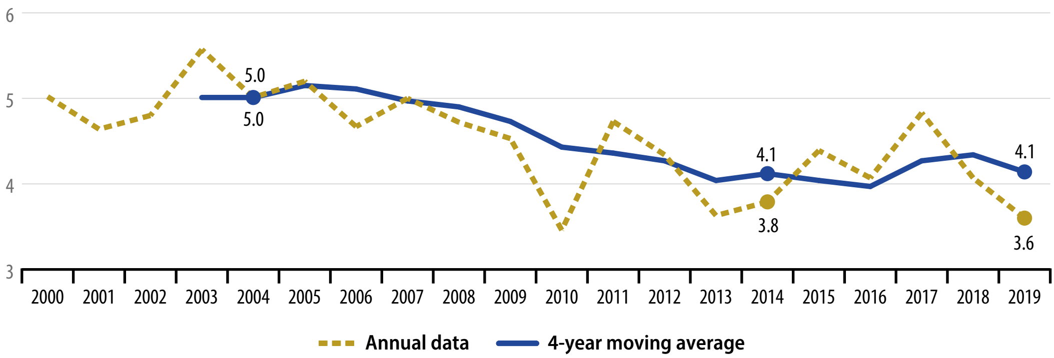
SHORT TERM
2014–2019

The regionalised water exploitation index (WEI+) measures total water consumption as a percentage of the renewable freshwater resources available for a given territory and period. It quantifies how much water is abstracted monthly or seasonally and how much water is returned before or after use to the environment via river basins (for example, leakages and discharges by economic sectors) ([23]). The difference between water abstractions and water returns is regarded as 'water consumption'. In the absence of Europe-wide agreed formal targets, values above 20 % are generally considered to be a sign of water scarcity, while values equal or greater than 40 % indicate situations of severe water scarcity ([24]), meaning the use of freshwater resources is unsustainable. Annual calculations of the WEI+ at national level do not reflect uneven spatial and seasonal distribution of resources and may therefore mask water stress which occurs on a seasonal or regional basis. The indicator is a result of data modelling by the EEA based on data from the WISE SoE-Water quantity database (WISE 3) and other open sources (JRC, Eurostat, OECD, FAO) and including gap filling methods.

FIGURE 6.11

Water exploitation index (WEI+), EU, 2000–2019

(% of renewable water resources)

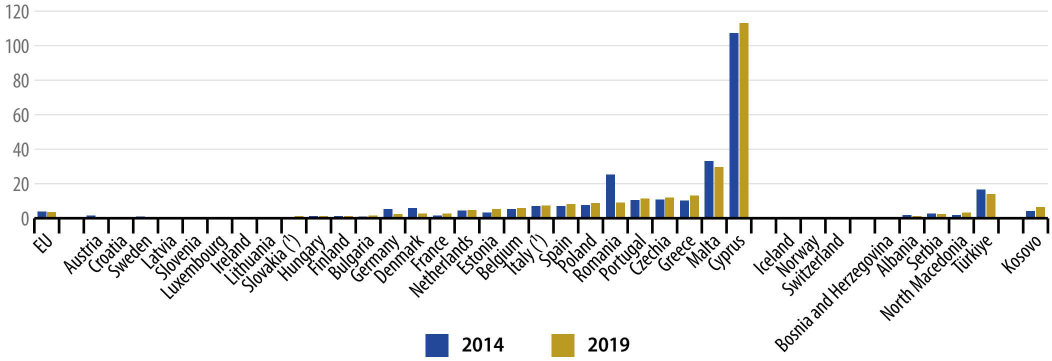


Source: EEA (Eurostat online data code: sdg_06_60)

FIGURE 6.12

Water exploitation index (WEI+), by country, 2014 and 2019

(% of renewable water resources)



([1]) 2019 data are provisional.

Source: EEA (Eurostat online data code: sdg_06_60)

Notes

([1]) Chemical water quality is not evaluated in this report because of a lack of a comprehensive series of suitable data.

([2]) European Commission (2023), *Zero Pollution: New report draws lessons from the Oder River ecological disaster*.

([3]) European Environment Agency (2017), *Emissions of pollutants to Europe's waters — sources, pathways and trends*, ETC/ICM report, p. 17.

([4]) European Environment Agency (2018), *European waters — Assessment of status and pressures 2018*, EEA Report No 7/2018, Publications Office of the European Union, Luxembourg, p. 52.

([5]) European Environment Agency (2023), *Nitrate in groundwater*

([6]) European Environment Agency (2023), *Nitrate in groundwater*; and European Commission (2021), *Report from the Commission to the Council and the European Parliament on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2016–2019*, COM(2021) 1000 final, p. 4.

([7]) European Commission (2020), *Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy*, COM(2020) 846 final.

([8]) European Environment Agency (2023), *Nitrate in groundwater*.

([9]) European Environment Agency (2023), *Nutrients in freshwater in Europe*.

([10]) Eurostat (2023), *Agri-environmental indicator — mineral fertiliser consumption*.

([11]) European Environment Agency (2023), *Nutrients in freshwater in Europe.*

([12]) European Environment Agency (2023), *Water scarcity conditions in Europe (Water exploitation index plus)*.

([13]) Ibid.

([14]) Ibid.

([15]) European Environment Agency (2021), *Water resources across Europe — confronting water stress: an updated assessment*, EEA Report No 12/2021, Publications Office of the European Union, Luxembourg, p. 84.

([16]) European Environment Agency (2022), *Water abstraction by source and economic sector in Europe*.

([17]) European Environment Agency (2023), *Drought impact on ecosystems in Europe*.

([18]) European Environment Agency (2022), *Water abstraction by source and economic sector in Europe*.

([19]) Copernicus Programme (2024), *2023 is the hottest year on record, with global temperatures close to the 1.5°C limit*; Copernicus Programme (2023), *ESOTC 2022 | Europe: Temperature*.

([20]) European Environment Agency (2021), *Drought impact on ecosystems in Europe, 2000–2022*.

([21]) European Environment Agency (2023), *Drought impact on ecosystems in Europe*.

([22]) European Environment Agency (2021), *Drought impact on ecosystems in Europe, 2000–2022*.

([23]) European Environment Agency (2023), *Water scarcity conditions in Europe (Water exploitation index plus)*.

([24]) Ibid.

7 AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 7 calls for ensuring universal access to affordable, reliable and sustainable energy. This includes improving energy efficiency, increasing the share of renewables and further diversifying the energy mix while ensuring affordability of energy for all.

In everyday life, our well-being and the workings of the economy depend on reliable, affordable and sustainable energy services, such as electricity supply, heating and cooling, and transport services. Monitoring SDG 7 in an EU context involves looking at developments in energy consumption, energy supply and access to affordable energy. As illustrated by the figure on the right, trends for the EU over the five-year period assessed have overall been slightly unfavourable, mainly due to significant impacts on energy imports and increased energy prices following Russia's war of aggression against Ukraine. While energy consumption has kept falling, the EU needs to speed up progress in light of the new 2030 targets adopted in September 2023. At the same time, energy productivity continued to develop favourably throughout the EU, resulting in a further decoupling of economic growth from energy consumption. In the area of energy supply, the EU has made progress towards the new 2030 target for renewable energy, but the pace needs to accelerate to reach a 42.5 % share. Besides diversification of gas supply, energy import dependency rose strongly in 2022, which was mainly due to refilling of stocks which were particularly low at the end of 2021. Access to affordable energy saw a strong backslide in 2022 as a result of energy price hikes. The EU has taken action to secure energy supply and affordability.

Indicators measuring progress towards SDG 7, EU

Indicator		Period	Annual growth rate	Assessment	More info
Energy consumption					
Energy consumption	Primary energy consumption	2007–2022	Observed: – 1.1 % Required: – 1.8 %	↗	page 149
		2017–2022	Observed: – 1.9 % Required: – 2.5 %	↗	
	Final energy consumption	2007–2022	Observed: – 0.6 % Required: – 1.3 %	↘	
		2017–2022	Observed: – 1.0 % Required: – 2.0 %	↘	
Final energy consumption in households per capita		2007–2022	– 0.3 %	↗	page 151
		2017–2022	– 0.9 %	↗	
Energy productivity		2007–2022	2.1 %	↑	page 151
		2017–2022	3.3 %	↑	
Energy supply					
Share of renewable energy in gross final energy consumption		2007–2022	Observed: 4.6 % Required: 5.7 %	↗	page 153
		2017–2022	Observed: 4.6 % Required: 6.6 %	↗	
Energy import dependency		2007–2022	0.6 %	↘	page 154
		2017–2022	1.7 %	↓	
Access to affordable energy					
Population unable to keep home adequately warm		2010–2022	– 0.5 %	↗	page 155
		2017–2022	2.8 %	↓	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

Policy context

The European Green Deal with its 'Delivering on the European Green Deal' package envisages the decarbonisation of Europe's energy systems in order to reach climate neutrality by 2050. To reach the EU climate target for 2030, the Commission proposed an interconnected set of measures in the areas of energy, transport, taxation and climate policies, also called 'Fit for 55', most of which has been adopted. In view of shaping the path after 2030, the Commission has recommended a new 2040 climate target.

REPowerEU is a strategic plan to reduce the EU's dependence on energy imports, particularly from Russia. In March 2022, the Communication on security of supply and affordable energy prices outlined immediate measures to prepare for the next two winters, including an obligatory gas storage target which was subsequently adopted. Since then, the EU has agreed emergency rules on safeguarding gas supply, which outline voluntary and mandatory energy consumption reductions, as well as an emergency regulation, which includes joint purchasing of gas, a market correction mechanism for gas trade, market interventions in the electricity sector, and the promotion of solidarity among Member States. The joint purchasing was made permanent through the Gas Package, which still needs formal adoption. The EU also agreed an emergency law to accelerate renewable energy permitting.

The Recovery and Resilience Facility supports reforms and investments into a number of areas, including sustainable mobility, energy efficiency, renewable energy and grids.

Energy consumption

The revised Energy Efficiency Directive implements energy efficiency as a priority across all sectors and increases the ambition of the 2030 target making it binding for EU countries to collectively ensure a reduction of energy consumption of at least 11.7 % in 2030 compared to the projections of the 2020 EU Reference Scenario so that the EU's final energy consumption amounts to no more than 763 million tonnes of oil equivalent (Mtoe). Member States shall make efforts to collectively contribute to the indicative EU primary energy consumption target amounting to no more than 992.5 Mtoe in 2030.

Energy supply

The revised Renewable Energy Directive establishes a binding EU target for a share of renewable energy sources in gross final energy consumption of at least 42.5 % by 2030, aiming for 45 %. The Directive strengthens measures for the uptake of renewable energies including facilitating electrification in different sectors, easier and faster permitting procedures for renewable energy and necessary infrastructure projects as well as for ensuring the sustainability of biomass used for energy and its cascading use.

Access to affordable energy

The European Pillar of Social Rights lists energy among the essential services that everyone should have access to, and the Commission released its first status report in 2023. The Energy Poverty and Vulnerable Consumers Coordination Group helps Member States to tackle energy poverty. The SAFE (Supporting Affordable Energy) measures enable Member States to use unspent Cohesion funds under their 2014–2020 allocation to provide direct support to vulnerable families and small and medium-sized businesses (SMEs) to help them face increased energy costs. The EU Energy Poverty Advisory Hub is an initiative that provides a central platform of energy poverty expertise for local authorities and other stakeholders.

Overview and key trends

Energy consumption

Increasing energy efficiency is one of the main pillars for achieving an affordable, reliable, sustainable and modern energy system as envisaged in SDG 7. Efficient energy systems reduce consumption and costs, decrease energy dependencies and diminish the environmental and climate impacts linked to energy supply and use. The EU consequently aims to improve energy efficiency along the whole energy supply chain implementing 'energy efficiency first' as a principle of EU energy policy.

Energy consumption has declined but significant further reductions are needed to meet the 2030 target

The EU aims to reduce its energy consumption by at least 11.7 % by 2030, compared to the 2020 reference scenario projection. Translated into absolute levels, this means that the EU should consume no more than 992.5 million tonnes of oil equivalent (Mtoe) of primary and 763 Mtoe of final energy by 2030.

The EU's primary energy consumption has seen a general downward trend since 2007, reaching 1 257.1 Mtoe in 2022, which is a 15.6 % reduction over the past 15 years. In comparison, final energy consumption has fallen to 940.5 Mtoe or by 8.6 % over the same period. The difference in primary and final energy reductions can be mainly traced back to more efficient energy production and the switch to renewable energies ([1]). Long-term progress on both fronts was mainly driven by energy policies supporting efficiency improvements across all sectors, particularly buildings, electric appliances and industrial installations.

1 257.1
Mtoe
of primary energy were consumed in the EU in 2022

The short-term trend has been influenced by a remarkable drop in energy consumption of more than 8 % in 2020 compared with 2019, mainly as a result of measures taken to tackle the COVID-19 pandemic. When excluding this year as an exemption from past trends, the EU's energy consumption has seen a steady decline since 2017. Overall, the EU's primary energy consumption fell by 9.2 % between 2017 and 2022, while final consumption decreased by 5.0 %. The reduction was particularly strong in 2022, with primary consumption falling by 4.1 % and final consumption by 2.8 % compared with 2021. Nevertheless, additional improvements in energy efficiency and consumption patterns are necessary to ensure the EU meets both of its stricter 2030 energy consumption targets.

940.5
Mtoe
of final energy were consumed in the EU in 2022

EU citizens' energy consumption at home has slightly fallen since 2017

Households account for about a quarter of final energy consumption. At home, people use energy in particular for heating, cooling, cooking, lighting, sanitation and appliances. The level of household energy consumption mainly depends on outdoor temperatures, energy performance of buildings, use and efficiency of electrical appliances, and behaviour and economic status of inhabitants (for example, their desired or affordable level of thermal comfort, frequency of clothes washing, use of TV-sets, games and lighting preferences).

540
kgoe
of final energy were consumed per EU inhabitant at home in 2022

Household energy consumption has slightly decreased since 2017, reaching 542 kilograms of oil equivalent (kgoe) per EU inhabitant in 2022. This was 4.4 % less than in 2017. A large drop of 7.7 % occurred in 2022 compared with 2021, mainly due to a comparably warmer spring and winter in 2022 ([2]). The data show some annual variability that depends mainly on the weather conditions during winter, as more than 60 % of energy is used for heating ([3]).

When viewed over the longer term, efficiency improvements, in particular in space heating, seem to have balanced the effect of population growth and increases in the number and size of dwellings. Since 2007, energy consumption per EU inhabitant has fallen by 4.7 %, with a slight downward trend in total household energy consumption offsetting a 2.2 % or 9.8 million increase in the population over the same period ([4]).

The EU has increased its energy productivity

Recent trends in Europe point to a decoupling of economic growth from energy consumption, which is measured here using gross domestic product (GDP) and gross available energy (GAE) respectively. Between 2007 and 2022, GAE fell by 15.4 % and thus by a similar amount to primary energy consumption. Over the same period, real GDP grew by 16.5 % ([5]). As a result, energy productivity — which measures GDP per unit of energy input — increased almost continuously from EUR 6.8 per kgoe in 2007 to EUR 9.3 per kgoe in 2022. The improvement in energy productivity was particularly strong in 2022, by 8.4 %, due to a marked decrease in GAE alongside continued GDP growth.

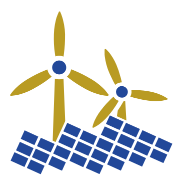
In 2022, the EU's energy productivity amounted to
EUR 9.3
per kgoe

Energy supply

To achieve a clean and secure energy system, the EU is aiming to increase the share of renewable energy in gross final energy consumption to 42.5 % by 2030, with an additional 2.5 % indicative top-up that would allow the EU to reach 45 %. Most renewable energy sources are considered to be practically inexhaustible or renewable within a human lifetime. In contrast, fossil energy sources regenerate over millions of years and are the main source of man-made greenhouse gas (GHG) emissions, and therefore contribute significantly to the climate crisis. In addition, fossil fuels such as natural gas and crude oil are mainly imported from outside the EU. This dependence exposes consumers to significant costs and to the risk of supply shortages, as shown by the reduction in natural gas and crude oil deliveries from Russia. The risks increase as dependency on a single country grows. Therefore, the EU is seeking to increase domestic energy production, particularly from renewable energy sources, as well as reduce its energy consumption, and build and update infrastructure to allow clean energy to be distributed across Member States. The EU has also introduced legislation and sustainability criteria to address the negative impacts of certain renewable energy sources such as hydropower and biomass on other SDGs such as health, water and marine and terrestrial ecosystems ([6]).

The share of renewables has kept rising in the EU, but stronger growth still remains vital to meet the 2030 target

Use of renewable energy has grown more or less steadily in the EU, almost doubling from 11.7 % of gross final energy consumption in 2007 to reach 23.0 % in 2022. Reductions in investment costs due to economies of scale and greater competition, more efficient technologies, supply chain improvements and renewable energy support schemes have



23.0 %
of the energy consumed in the EU in 2022 came from renewable sources

driven this growth (7). Nevertheless, an even faster growth will be needed in the EU in the coming years to meet the 42.5 % target in 2030.

The share of renewable energy grew in all three of the areas monitored here, namely electricity generation, heating and cooling, and transport. The share of renewables in electricity generation experienced the most pronounced growth, reaching 41.2 % in 2022. The shares of renewables in heating and cooling and in transport were somewhat lower, at 24.9 % and 9.6 % in 2022, respectively. Still, additional efforts are required across all of these sectors to scale up the use of renewable energies.

Looking at specific renewable energy sources, the largest share of available renewable energy in 2022 came from solid biofuels (40.2 %), followed by wind energy (14.5 %) and hydropower (9.5 %). Wind and solar photovoltaic energy made the biggest contribution to the absolute increase in renewable energy production between 2017 and 2022. Solar photovoltaic energy production doubled and heat pumps energy production increased by almost 50%, meaning these two sources saw the largest percentage increase over the period (8).

Energy import dependency increased with refilling of stocks

Despite continuous growth in renewable energy sources within the EU over the past decade, fuel imports from non-EU countries remained an important energy source for the EU in 2022, contributing to 62.5 % of gross available energy (GAE) — as measured by net imports (imports minus exports). Net imports were highest for oil and petroleum products (97.7 % imported) and natural gas (97.6 % imported), followed by solid fuels (predominantly coal) (45.8 % imported). Net imports of renewable energy including biofuels accounted for 2.8 % of gross available renewable energy in 2022 and just 0.8 % of total net imports (9).

Net imports amounted to

62.5 %

of the gross available energy in the EU in 2022

The EU's share of net imports of energy had remained relatively stable at around 55 % until 2021, which can be explained by two opposing developments. On the one hand, the EU reduced its energy consumption and increased its use of domestic renewables. On the other hand, it reduced its primary production of fossil fuels because of exhausted or uneconomical domestic sources, particularly natural gas and crude oil (10). Between 2021 and 2022, however, energy import dependency increased strongly by 7.0 percentage points. This development was mainly driven by a need to increase stocks. Because the amount of stored natural gas and oil were relatively low towards the end of 2021, countries took action in 2022 to refill storage sites for securing energy supply (11).

Despite strong cuts in EU imports, Russia was still the main supplier of energy to the EU in 2022, accounting for 22.6 % of gas, 20.8 % of petroleum product and 23.1 % of solid fuel imports from outside the EU. These shares are significantly lower than in 2021, particularly for gas and solid fuels. From 2021 to 2022, EU imports of these energy carriers from Russia were almost halved, with a reduction of 45 % (12). This follows Russia's cuts in gas supplies to the EU and the EU accelerating its phase out of Russian fossil fuels while increasing its diversification efforts. The EU set a ban on nearly 90 % of Russian oil imports to Europe, which took effect in December 2022 for seaborne crude oil and in February 2023 for refined petroleum products. Moreover, coal sanctions were put in place in April 2022 and took effect in August 2022 (13).

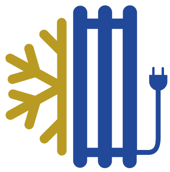
The second largest EU imports of gas and petroleum products came from European countries outside the EU (mainly Norway and the UK), which supplied 20.5 % of gas and 17.1 % of petroleum imports. For solid fuels, the second largest source was North America, which supplied 20.0 % (14). All percentages reported here refer to shares of total imports from outside the EU only, so do not account for energy traded between Member States.

In 2022, all Member States were net importers of energy, with 18 importing more than half of their total energy consumption from other countries

(EU countries and non-EU countries). Countries which imported almost all of their energy in 2022 included the island countries Malta (99.0 %) and Cyprus (92.0 %), along with Luxembourg (91.3 %). Luxembourg's high import dependency mainly results from significant fuel sales to foreign commuters and transit traffic (15).

Access to affordable energy

SDG 7 emphasises the need for affordable energy for reasons of social equality and justice. Principle 20 of the European Pillar of Social Rights also places energy among the essential services everyone should have access to. The inability to keep the home adequately warm is a survey-based indicator used to monitor access to affordable energy throughout the EU. A lack of access to affordable energy is strongly associated with low levels of income in combination with high expenditure on energy and poor building efficiency standards (16).



9.3 %
of the EU population were unable to keep their home adequately warm in 2022

The share of people reporting to be without affordable access to heating rose strongly in 2022

Between 2012 and 2021, the EU made progress on improving access to affordable energy, with the share of the population unable to keep the home adequately warm falling from 11.2 % to 6.9 %. However, in 2022, the natural gas and electricity price spikes following cuts in Russian energy supplies impacted the financial abilityhf households to pay for their energy bills. Consequently, the share of the EU population reporting that they are unable to keep their home adequately warm rose strongly to 9.3 %.

People with an income below the poverty threshold are more likely to be affected. In 2022, 20.1 % of people from this group reported to be without affordable access to heating, compared with 7.2 % of people with an income above the poverty threshold.

Lack of adequate warmth appeared to be a problem particularly in southern and south-eastern Europe. This distribution can be traced mainly to poor building energy efficiency, including the lack of suitable heating systems and insulation, leading to higher heating costs. Northern and most western European countries, where colder winters can be expected, had the lowest shares of people without affordable access to heating.

Main indicators

A variety of energy indicators are used to measure energy consumption at different stages of the supply chain and progress towards the EU energy targets. The following box explains the indicators and the differences between them.

Definitions of energy terms/concepts:

Gross available energy (GAE): represents a country's total energy demand. It is defined as: primary production + recovered/recycled products + imports – exports + stock changes.

Gross inland energy consumption (or gross inland consumption; GIC): represents energy demand including international aviation but excluding maritime bunkers. It is defined as: gross available energy – international maritime bunkers.

Total energy supply: represents the total energy delivered and/or consumed in a country excluding deliveries to international aviation and international marine bunkers. It is defined as: gross inland energy consumption – international aviation.

Primary energy consumption (PEC): represents a country's total energy demand including consumption of the energy sector itself, losses during transformation and distribution, and the final consumption by end users. This means it excludes, for example, natural gas used in non-energy products, such as chemicals. It is defined as: gross inland energy consumption – non-energy use of energy carriers.

Primary energy consumption (2020–2030): measures the progress towards the EU's 2020 and 2030 energy efficiency targets. It deviates from primary energy consumption only in that it excludes ambient heat. It is defined as: primary energy consumption – gross inland consumption of ambient heat (heat pumps).

Gross final energy consumption (or gross energy consumption): is the basis for measuring the share of renewable energies according to Directive 2009/28/EC on the promotion of renewable energies. It represents the energy commodities delivered for energy purposes to industry, transport, households, services including public services, agriculture, forestry and fisheries, the consumption of electricity and heat by the energy branch for electricity, heat and transport fuel production, and losses of electricity and heat in distribution and transmission.

Final energy consumption (FEC) (or final consumption – energy use): measures a country's energy use by end users, such as households, industry and transport. It excludes the energy used by the energy sector itself and losses incurred during energy transformation and distribution and any non-energy use of energy carriers. It is defined as: primary energy consumption – consumption by the energy sector – transformation/distribution losses – statistical differences.

Final energy consumption (2020–2030): measures the progress towards the EU's 2020 and 2030 energy efficiency targets. It deviates from final energy consumption by excluding ambient heat and including international aviation and energy consumption of blast furnaces. It is defined as: final energy consumption – final energy consumption of ambient heat (heat pumps) + international aviation + transformation input blast furnaces (all products) – transformation output blast furnaces (all products) + energy sector blast furnaces (all fossil fuels).

Energy consumption

This indicator measures a country's total energy needs excluding all non-energy use of energy carriers (such as natural gas used for producing chemicals rather than for combustion). Primary energy consumption represents a country's total energy demand before any energy transformation, excluding energy carriers used for non-energy purposes. In comparison, final energy consumption covers the energy consumed by end users, such as industry, transport, households, services and agriculture.

LONG TERM
2007–2022
* **

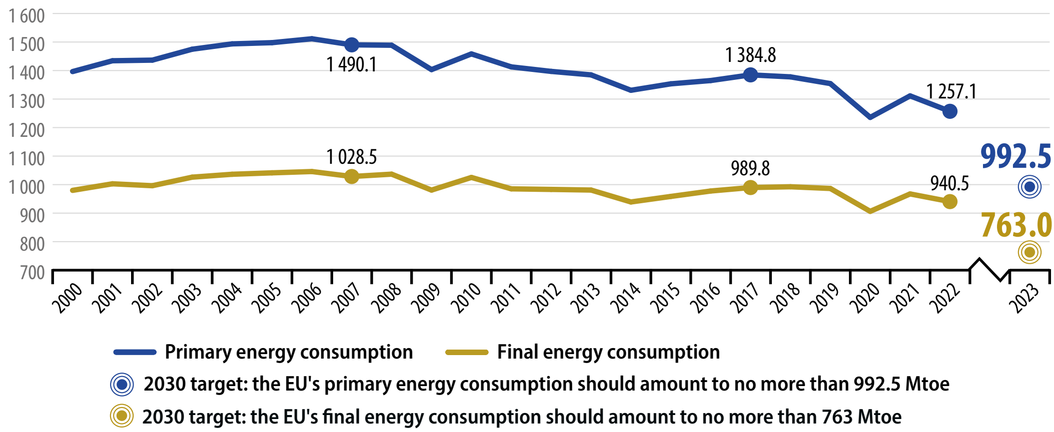
SHORT TERM
2017–2022
* **

* Primary ** Final

FIGURE 7.1

Primary and final energy consumption, EU, 2000–2022

(million tonnes of oil equivalent (Mtoe))



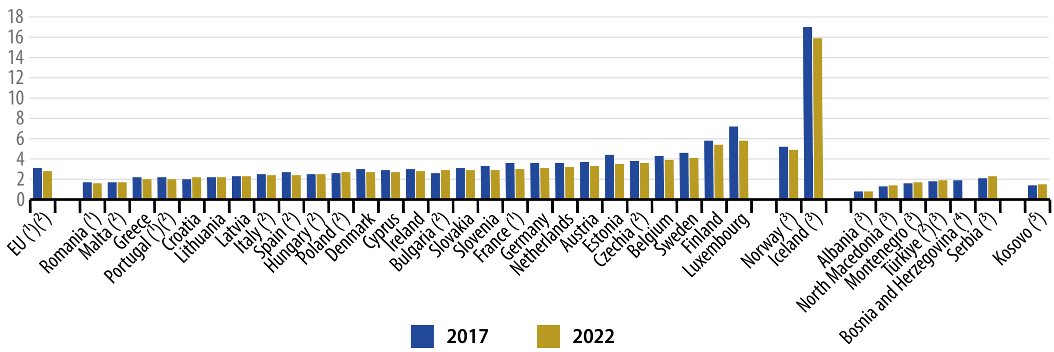
Note: Definition of primary and final energy consumption (2020–2030) is used.

Source: Eurostat (online data codes: sdg_07_10 and sdg_07_11)

FIGURE 7.2

Primary energy consumption, by country, 2017 and 2022

(tonnes of oil equivalent per capita)



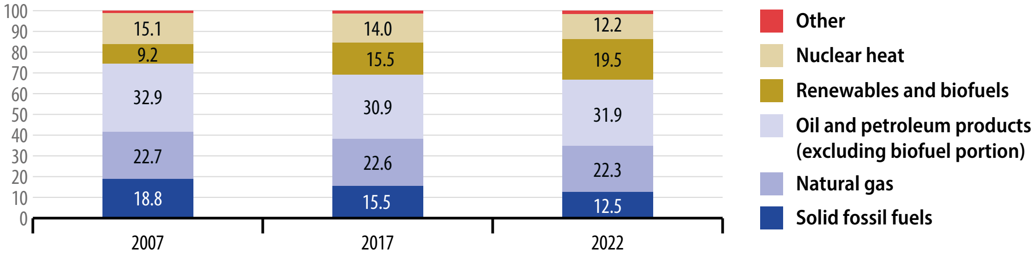
(1) 2022 population data are estimated and/or provisional.
(2) Break(s) in population data time series between the years shown.
(3) 2021 data (instead of 2022).
(4) No data for 2022.
(5) 2020 data (instead of 2022); 2020 population data estimated.

Source: Eurostat (online data code: sdg_07_10)

FIGURE 7.3

Primary energy consumption, by fuel type, EU, 2007, 2017 and 2022

(%)

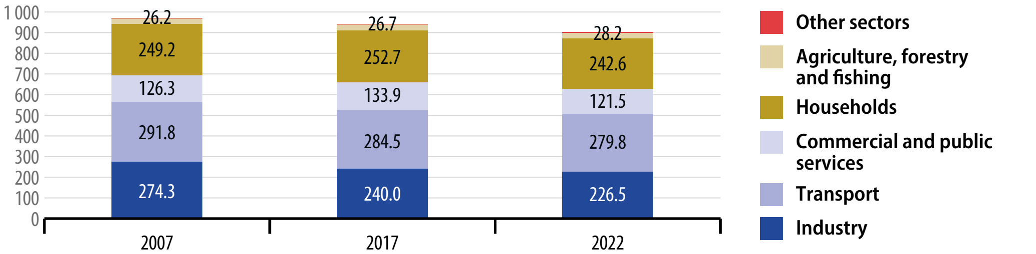


Note: Definition of primary energy consumption according to energy balances.
Source: Eurostat (online data code: nrg_bal_c)

FIGURE 7.4

Final energy consumption, by sector, EU, 2007, 2017 and 2022

(million tonnes of oil equivalent (Mtoe))



Note: Definition of final energy consumption according to energy balances.
Source: Eurostat (online data code: nrg_bal_c)

Final energy consumption in households per capita

This indicator measures how much energy each citizen consumes at home, excluding transport. Data are not temperature-adjusted, so variations from year to year are due in part to weather.

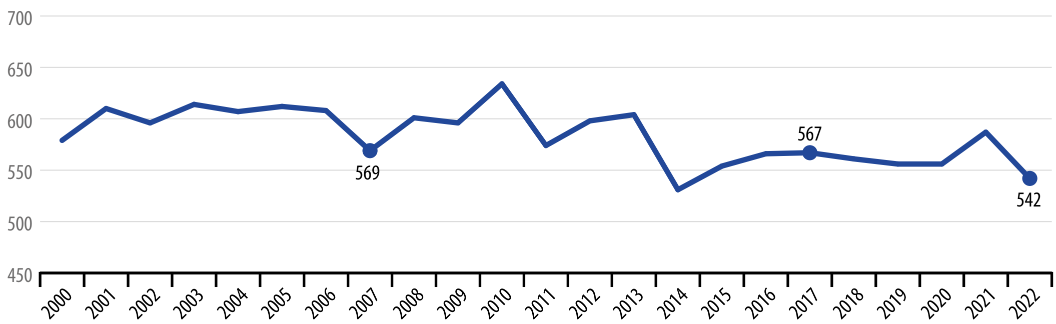
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 7.5

Final energy consumption in households per capita, EU, 2000–2022

(kgoe)

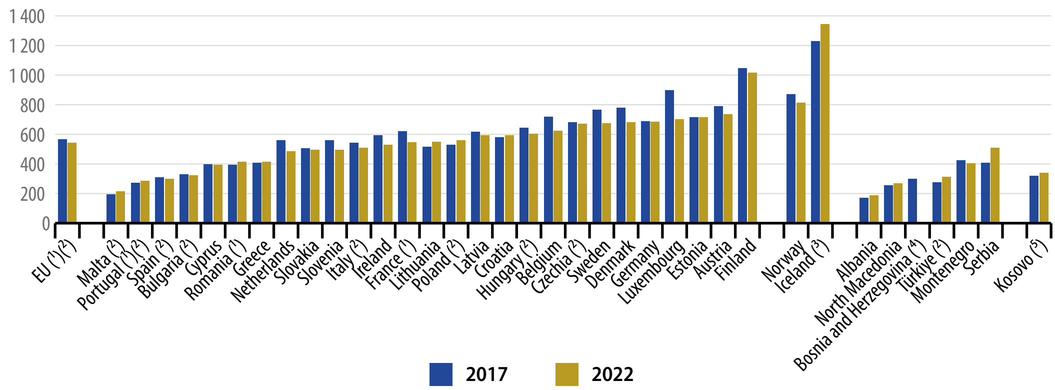


Note: Multiple breaks in population data time series; 2018–2022 population data provisional and/or estimated.
Source: Eurostat (online data code: sdg_07_20)

FIGURE 7.6

Final energy consumption in households per capita, by country, 2017 and 2022

(kgoe)



(1) 2022 population data are estimated and/or provisional.
(2) Break(s) in population data time series between the two years shown.
(3) 2021 data (instead of 2022).
(4) No data for 2022.
(5) 2020 data (instead of 2022); 2020 population data are estimated.
Source: Eurostat (online data ode: sdg_07_20)

Energy productivity

LONG TERM 2007–2022

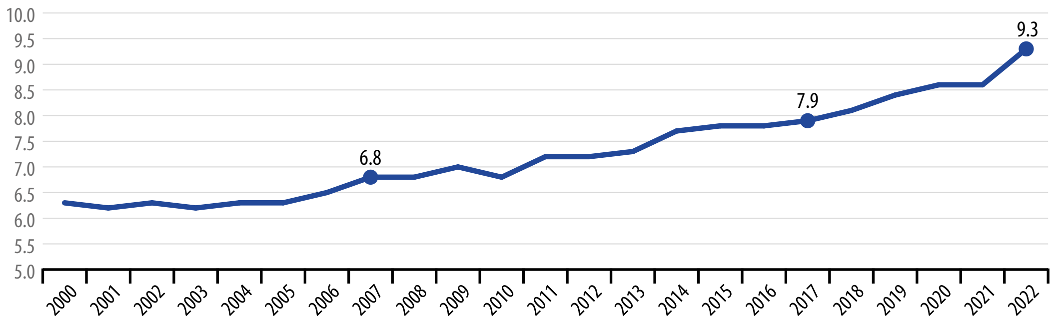
SHORT TERM 2017–2022

This indicator measures the amount of economic output produced per unit of gross available energy (GAE). Gross available energy represents the quantity of energy products needed to satisfy all demand of entities in the geographical area under consideration. Economic output is either given as euros in chain-linked volumes to the reference year 2010 at 2010 exchange rates or in the unit PPS (purchasing power standards).

FIGURE 7.7

Energy productivity, EU, 2000–2022

(EUR per kgoe)

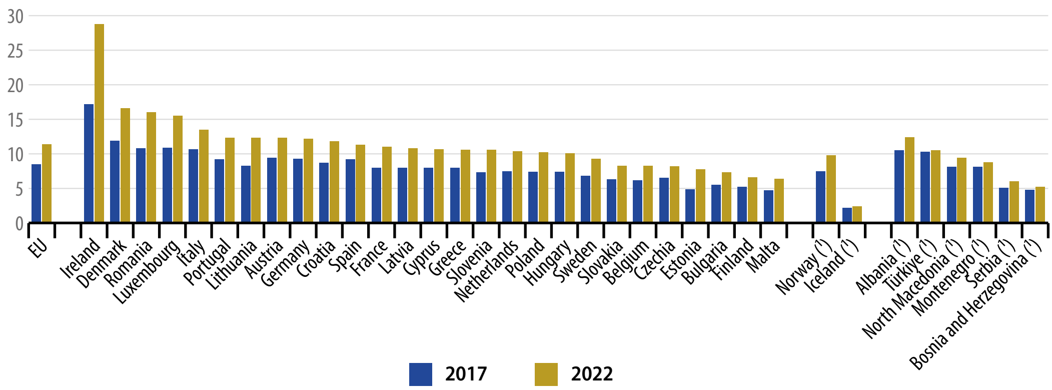


Source: Eurostat (online data code: sdg_07_30)

FIGURE 7.8

Energy productivity, by country, 2017 and 2022

(PPS per kgoe)



(1) 2021 data (instead of 2022).

Source: Eurostat (online data code: sdg_07_30)

Share of renewable energy in gross final energy consumption

This indicator is defined as the share of renewable energy consumption in gross final energy consumption, according to the Renewable Energy Directive. The gross final energy consumption is the energy used by end consumers plus grid losses and power plants' own consumption.

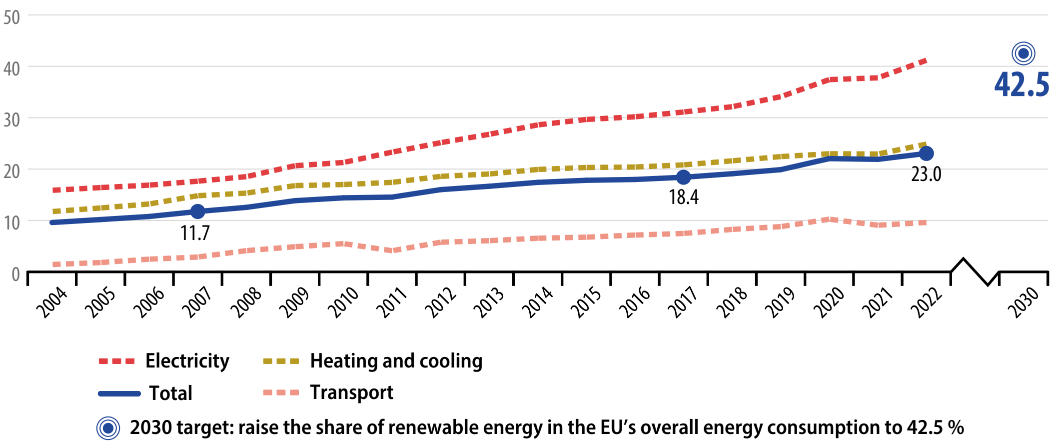
LONG TERM 2007–2022

SHORT TERM 2017–2022

FIGURE 7.9

Share of renewable energy in gross final energy consumption, by sector, EU, 2004–2022

(%)

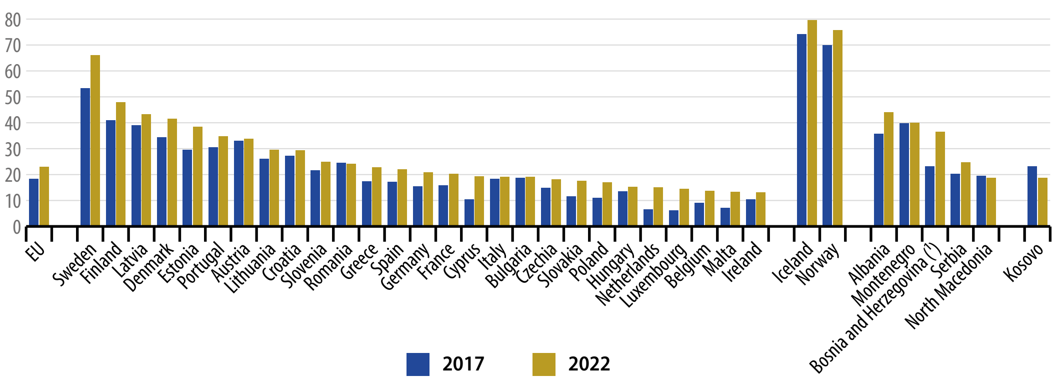


Source: Eurostat (online data code: sdg_07_40)

FIGURE 7.10

Share of renewable energy in gross final energy consumption, by country, 2017 and 2022

(%)



(¹) 2021 data (instead of 2022).

Source: Eurostat (online data code: sdg_07_40)

Energy import dependency

LONG TERM
2007–2022

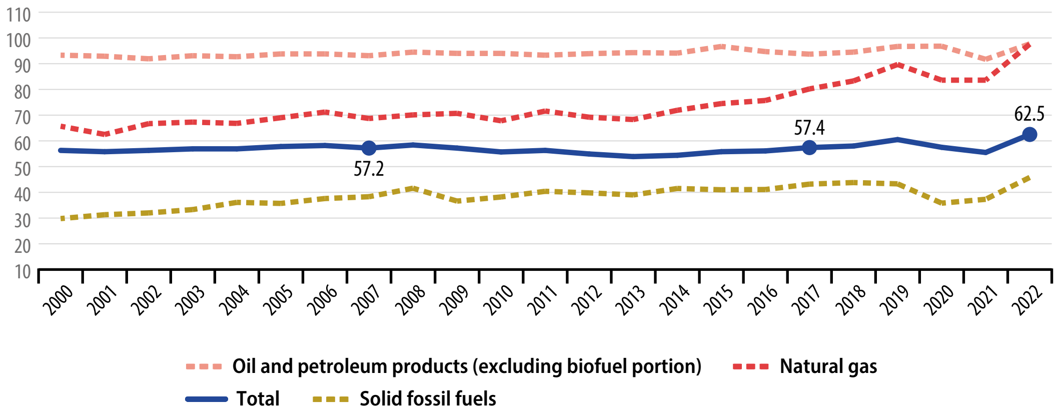
SHORT TERM
2017–2022

Energy import dependency shows the share of a country's total energy needs that are met by imports from other countries. It is calculated as net imports divided by the gross available energy (GAE). Energy import dependency = (imports – exports) / gross available energy.

FIGURE 7.11

Energy import dependency, by product, EU, 2000–2022

(% of imports in gross available energy)

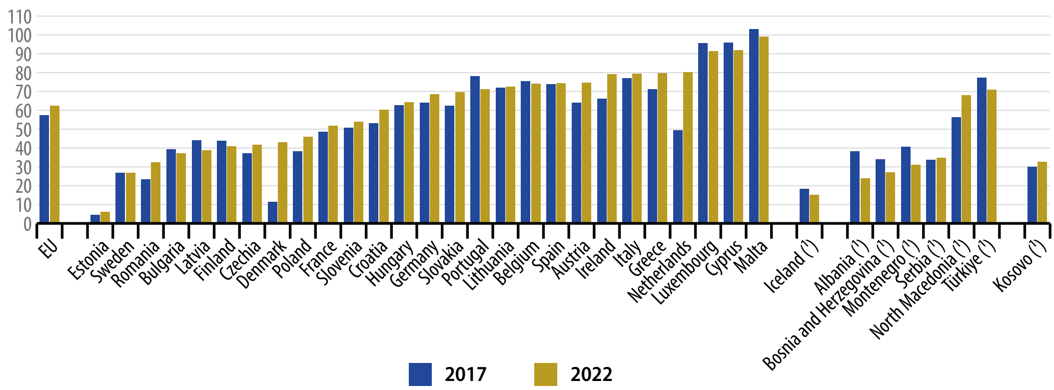


Note: 'Total' is not the average of the other three fuel categories shown. It also includes other energy sources, such as renewable energy or nuclear energy, which are treated as domestic sources.
Source: Eurostat (online data code: sdg_07_50)

FIGURE 7.12

Energy import dependency, by country, 2017 and 2022

(% of imports in gross available energy)



Note: Norway not shown on the graph with an import dependency of –617 % in 2021.
(¹) 2021 data (instead of 2022).
Source: Eurostat (online data code: sdg_07_50)

Population unable to keep home adequately warm

This indicator measures the share of people unable to afford to keep their home adequately warm. The data are collected as part of the EU Statistics on Income and Living Conditions (EU-SILC) to monitor the development of poverty and social inclusion in the EU. Data collection is based on a survey, which means that indicator values are self-reported.

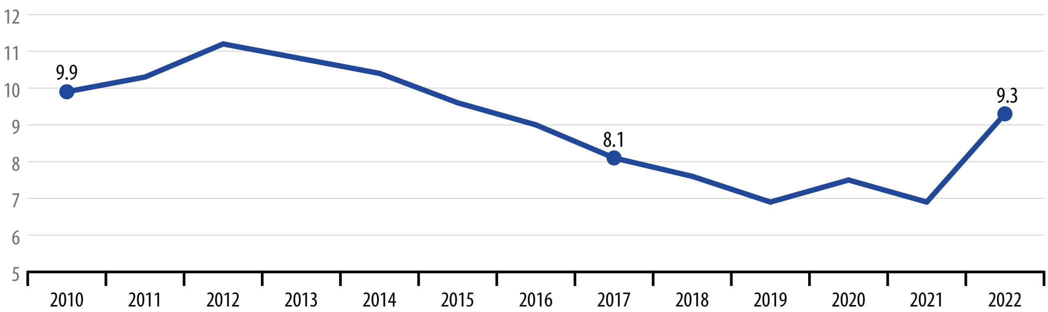
LONG TERM 2010–2022

SHORT TERM 2017–2022

FIGURE 7.13

Population unable to keep home adequately warm, EU, 2010–2022

(% of population)

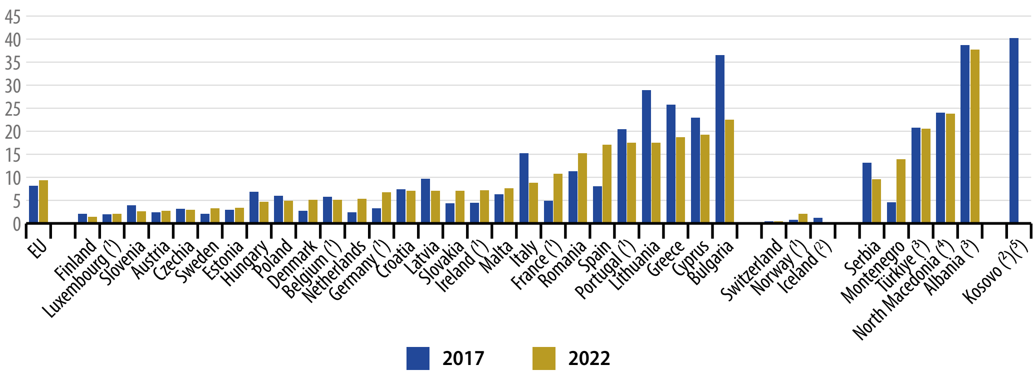


Note: 2010–2019 data are estimated.
Source: Eurostat (online data code: sdg_07_60)

FIGURE 7.14

Population unable to keep home adequately warm, by country, 2017 and 2022

(% of population)



([1]) Break(s) in time series between the two years shown.
([2]) No data for 2022.
([3]) 2021 data (instead of 2022).
([4]) 2020 data (instead of 2022).
([5]) 2018 data (instead of 2017).
Source: Eurostat (online data code: sdg_07_60)

Notes

(1) The substitution of fossil energy by renewable energies leads to a reduction of PEC via a statistical definition. The physical energy content method basically means fossil and biogenic fuel input quantities are multiplied by their calorific value. Wind, hydropower or photovoltaics produce energy with 100 % efficiency, geothermal energy with 10 % and nuclear energy with 33 %. This means that PEC decreases disproportionately with increasing substitution of fossil and nuclear fuels by renewable energies.

(2) Source: Eurostat (online data code: nrg_chdd_a).

(3) Source: Eurostat (online data code: nrg_d_hhq).

(4) Source: Eurostat (online data code: demo_gind).

(5) Source: Eurostat (online data codes: nrg_bal_s and nama_10_gdp).

(6) See for example Sayed, E.T. et al. (2021), *A critical review on environmental impacts of renewable energy systems and mitigation strategies: Wind, hydro, biomass and geothermal*, Science of the Total Environment, Volume 766; and Best, A. et al. (2021), *Assessment of resource nexus-related challenges and opportunities in the context of the European Green Deal*. Background report for the EEA Briefing 'Applying a 'resource nexus' lens to policy: opportunities for increasing coherence'.

(7) European Commission (2022), 2022 Report on the Achievement of the 2020 Renewable Energy Targets.

(8) Source: Eurostat (online data code: nrg_bal_c).

(9) Source: Eurostat (online data code: nrg_bal_s).

(10) Source: Eurostat (online data code: nrg_bal_s).

(11) Source: Eurostat (online data code: nrg_bal_s); European Council (2024), Infographic - How much gas have the EU countries stored?; Eurostat (online data code: nrg_stk_oem).

(12) Source: Eurostat (online data codes: nrg_ti_sff, nrg_ti_oil and nrg_ti_gas). Import shares for natural gas were calculated in cubic meters; solid fuel and oil import shares were calculated in tonnes.

(13) European Council (2023), *Council Decision 2014/512/CFSP of 31 July 2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine* (latest amendment in 2023); and European Council (2024), *EU sanctions against Russia explained*.

(14) Source: Eurostat (online data codes: nrg_ti_sff, nrg_ti_oil and nrg_ti_gas). Import shares for natural gas were calculated in cubic meters; solid fuel and oil import shares were calculated in tonnes.

(15) Ministry of the Environment, Climate and Biodiversity (2023), *Eighth National Communication of Luxembourg under the United Nations Framework Convention on Climate Change. Annex: Fifth Biennial Report of Luxembourg under the United Nations Framework Convention on Climate Change*.

(16) European Commission (2020), *Commission Recommendation on Energy Poverty*, COM(2020) 1563, Brussels.

8 DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

SDG 8 recognises the importance of sustained economic growth and high levels of economic productivity for the creation of well-paid quality jobs and calls for opportunities for full employment and decent work for all.

Sustainable economic growth and decent work are vital for the development and prosperity of European countries and the well-being and personal fulfilment of individuals. Monitoring SDG 8 in an EU context involves looking into trends in the areas of sustainable economic growth, employment and decent work. As illustrated by the figure on the right, the EU has made quite strong progress towards SDG 8 over the assessed five-year period. The EU's economy has grown, which in turn has improved the EU's overall employment situation. The EU is thus on track to meet its 2030 target for the overall employment rate and the complementary target on the share of young people neither in employment nor in education or training. Additionally, working conditions have also improved, with fewer fatal work accidents and fewer people being affected by in-work poverty. However, economic growth went hand in hand with an increase in the EU's material footprint over the assessed five-year period.

Indicators measuring progress towards SDG 8, EU

Indicator	Period	Annual growth rate	Assessment	More info
Sustainable economic growth				
Real GDP	2008–2023	0.8 %	↗	page 165
	2018–2023	0.9 %	↗	
Investment share of GDP	2008–2023	– 0.3 %	↘	page 166
	2018–2023	1.1 %	↑	
Material footprint (*)	2007–2022	– 1.3 %	↑	SDG 12, page 229
	2017–2022	0.7 %	↘	
Employment				
Employment rate	2009–2023	Observed: 0.8 % Required: 0.7 %	↑	page 167
	2018–2023	Observed: 0.9 % Required: 0.7 %	↑	
Long-term unemployment rate	2009–2023	– 2.7 %	↑	page 169
	2018–2023	– 7.5 %	↑	
Young people neither in employment nor in education and training (NEET)	2009–2023	Observed: – 2.0 % Required: – 2.3 %	↗	page 170
	2018–2023	Observed: – 3.4 % Required: – 3.2 %	↑	
Gender gap for people outside the labour force due to caring responsibilities (*)	2009–2023	– 2.9 %	↑	SDG 5, page 120
	2018–2023	– 6.2 %	↑	
Decent work				
Fatal accidents at work	2010–2021	– 2.4 %	↑	page 171
	2016–2021	– 0.9 %	↗	
In work at-risk-of-poverty rate (*)	2010–2022	0.0 %	→	SDG 1, page 53
	2017–2022	– 2.2 %	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

Policy context

Sustainable economic growth

The Sustainable Europe Investment Plan under the European Green Deal will mobilise at least EUR 1 trillion in sustainable investments by 2027.

As part of NextGenerationEU put in place in response to the COVID-19 pandemic, the Recovery and Resilience Facility makes EUR 723.8 billion in loans and grants available to support reforms and investments undertaken by EU Member States.

The 8th Environment Action Programme from 2022 aims to decrease the EU's material and consumption footprints and foster a regenerative well-being economy.

Employment

The European Pillar of Social Rights Action Plan aims to increase the employment rate of people aged 20 to 64 to at least 78 % and to reduce the share of young people aged 15 to 29 neither in employment nor in education or training to less than 9 % by 2030.

The Council Recommendation on access to social protection for workers and the self-employed from 2019 extends the coverage of social protection systems across the EU. The Directive for Work-Life Balance introduces a right to compensated paternity leave, compensated parental leave, a right to carers' leave, and a right to request flexible working arrangements for all working parents (of children up to at least 8 years), in particular to facilitate women's participation in the labour market.

The Council Recommendation on the integration of the long-term unemployed into the labour market aims to help long-term unemployed people re-enter the labour market.

The Youth Employment Initiative supports quality employment, further education, quality traineeships and apprenticeships. The European Social Fund Plus supports access to employment and activations measures for all, especially for young people and long-term unemployed, modernisation of labour market institutions and gender balanced labour market participation.

The European Care Strategy and Council Recommendations on early childhood education and care and access to high-quality affordable long-term care aim to improve care services across the EU, including the working conditions in the care sector and the work-life balance of persons with caring responsibilities.

Decent work

The Communication on Decent Work Worldwide reaffirmed the EU's commitment to championing decent work at home and around the world. The Directive on adequate minimum wages in the European Union aims to ensure that EU workers earn minimum wages that allow a decent living. The Directive on transparent and predictable working conditions in the EU sets new minimum standards on working conditions.

The EU strategic framework on health and safety at work 2021–2027 sets out key priorities for improving workers' health and safety. The recent amendment of the Asbestos at work directive as well as the continuous process of updating the Carcinogens, mutagens or reprotoxic substances at work directive and Chemical agents at work directive will provide additional protection to workers.

Overview and key trends

Sustainable economic growth

While economic growth is an important driver of prosperity and society's well-being, it can also harm the environment it depends on. To ensure the well-being of future generations, the EU has adopted a new growth strategy, the European Green Deal, to transform the Union into a modern, resource-efficient, fair and competitive economy. The indicators selected to monitor this objective show that over the assessed five-year period, Europeans have generally enjoyed continuous economic growth. However, this growth came hand in hand with an increase in the EU's material footprint.

Real GDP per capita has grown moderately over the past five years

Citizens' living standards depend on the performance of the EU economy, which can be measured using several indicators. One of these is growth in gross domestic product (GDP). Although GDP is not a measure of welfare, it gives an indication of an economy's potential to satisfy people's needs and its capacity to create jobs. It can also be used to monitor economic development.

Real GDP per capita (GDP adjusted for inflation) in the EU saw strong and continuous growth of 2.0 % per year on average between 2014 and 2019. In 2020, the economy was hit by the COVID-19 pandemic, resulting in a 5.7 % contraction of real GDP compared with 2019. Nevertheless, the economy rebounded from the recession in the two following years, and real GDP per capita reached EUR 28 940 (based on data chain-linked to 2010) in 2022. This growth was mostly driven by a spending spree that came with an easing of COVID-19 containment measures (1). In 2023, however, GDP per capita remained at the same level of EUR 28 940 as in the previous year. This is likely to be connected to the stagnation of consumption and investment, and a still ongoing post-pandemic rebalancing of supply and demand (2). Over the short-term period between 2018 and 2023, the EU's real GDP per capita grew by 0.9 % per year on average. Looking ahead, GDP in the EU is projected to expand by 1.0 % and 1.6 % in 2024 and 2025, respectively (3).

The EU's real GDP per capita in 2023 was EUR 28 940

Investment is another indicator of economic growth as it enhances an economy's productive capacity. In 2023, the total investment share of GDP in the EU was 22.7 %. Despite a 1.1 percentage point increase since 2018, the trend stagnated between 2019 and 2023. Businesses were the biggest investors in 2023, with an investment share in GDP of 13.4 %, followed by households with 5.8 % and governments with 3.5 %. The investment share of households has been slowly growing since 2016, disregarding a 0.3 percentage points dip in 2023, but still remains below the levels seen before the 2008 financial crisis. This is most likely because household investment consists mainly of the purchase of dwellings. Government investment has followed a counter-cyclical pattern, increasing during both the financial crisis of 2008 and the COVID-19 crisis in 2020.

22.7 % of GDP was invested in the EU in 2023

The EU's material footprint has increased since 2017

Economic growth helps to satisfy peoples' material needs, which, in turn, can put pressure on the environment. The EU, therefore, aims to lower this pressure by reducing its material footprint. The material footprint, also referred to as raw material consumption (RMC), shows the amount of material extracted from nature, both inside and outside the EU, to manufacture or provide the goods and services consumed by EU inhabitants. In other words, it refers to the resources needed to sustain the EU's economic and social activities.

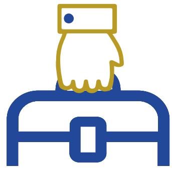
The EU's material footprint had been growing between 2000 and 2008, before it was halted by the economic crisis. As the EU's economy recovered, consumption started rising again, increasing by 7.6 % between 2015 and 2019. After a 4.4 % drop in 2020, which was likely to have been influenced by the economic slowdown due to the COVID-19 pandemic, the consumption of raw materials in the EU rose again in 2021 and 2022, by 3.7 % and 1.1 %, respectively. Raw material consumption in the EU has thus already risen above pre-pandemic numbers and reached 6.67 billion tonnes in 2022 — the highest level since 2012.

6.67
billion tonnes of globally extracted raw material were consumed in the EU in 2022

The EU's total material footprint has not only increased in recent years but is also above the global average and exceeds sustainable levels of resource extraction. This means that Earth's capacity to provide resources would be exceeded if all countries in the world were to consume resources at the same rate as the EU ([4]). The EU is thus not on track to significantly reduce its material footprint, as envisioned by the European Green Deal and the 8th Environmental Action Programme. For more information on the EU's material footprint, see the chapter on SDG 12 'Responsible consumption and production' on page 237.

Employment

Decent employment for all — including for women, people with disabilities, young people, older people, those with migrant backgrounds and other disadvantaged groups — is a cornerstone of socioeconomic development. Apart from generating the resources needed for decent living standards and achieving life goals, work provides opportunities for meaningful engagement in society, which in turn promotes a sense of self-worth, purpose and social inclusion. Higher employment rates are a key condition for making societies more inclusive by reducing poverty and inequality in and between regions and social groups. The European Pillar of Social Rights Action Plan sets a target for at least 78 % of the population aged 20 to 64 to be in employment by 2030. It also envisions the complementary ambition of at least halving the gender employment gap and decreasing the rate of young people aged 15 to 29 who are neither in employment nor in education or training (NEETs) to 9 %.



75.3 %
of 20- to 64-year-olds were employed in the EU in 2023

The EU's employment rate reached a historic high in 2023

The EU employment rate has shown steady growth in both the long and the short term. Despite the uncertain and challenging environment caused by Russia's war of aggression against Ukraine, the employment rate in the EU reached a record high of 75.3 % in 2023, which is a 3.4 percentage point increase since 2018 when it amounted to 71.9 %. In the upcoming years, the slowing of economic activity is expected to weigh on the pace of the employment growth in 2024 and 2025 ([5]). Nevertheless, the EU is well placed to reach its target of 78 % by 2030.

An analysis by degree of urbanisation reveals that employment rates in rural areas had been slightly higher than in cities and in towns and suburbs until 2021. In 2023, the employment rate in cities reached 75.6 %, while it was at 75.4 % in rural areas and 74.9 % in towns and suburbs ([6]).

Unemployment and long-term unemployment reached all-time low in 2023

The EU's unemployment situation has been improving almost steadily over the past decade. Between 2013 and 2023, the EU's unemployment rate for the age group 15 to 74 decreased by 5.5 percentage points, affecting 6.1 % of the population in the labour force in 2023 — the lowest value recorded since 2009 (7). Over the past years, city dwellers have been more affected by unemployment than those living in rural areas. In 2023, the unemployment rate in cities was 6.7 % compared with 5.3 % for rural areas (8).

2.1 %
of the population in the labour force were long-term unemployed in 2023

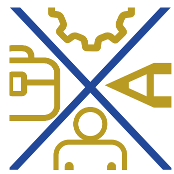
Long-term unemployment usually follows the trends in unemployment, but with a delay. Being unemployed for a year or more can have long-lasting negative implications for individuals and society by reducing employability prospects, contributing to human capital depreciation, endangering social cohesion and increasing the risk of poverty and social exclusion. Beyond material living standards, it can also lead to a deterioration of individual skills and health status, thus hindering future employability, productivity and earnings.

Similar to the unemployment rate, the long-term unemployment in the EU has been declining since 2014. In 2023, the rate reached the lowest value on record, at 2.1 %, which is 1.0 percentage points below the 2018 level. The proportion of long-term unemployment in total unemployment has also decreased since 2014 and reached 35.0 % in 2023, which is 7.5 percentage points below the level observed in 2018 (9).

The situation for young people in the labour market is improving

The labour market situation of young people has been improving steadily since 2014, disregarding the pandemic-related drop. By 2023, the youth employment rate, referring to people aged 20 to 24 years, reached 54.2 %. While this is the highest level recorded, it is significantly lower than for other age groups (10). The relatively low employment rate for people aged 20 to 24 can be explained by the fact that many people at this age are in education and thus not part of the labour force. In addition, youth unemployment was significantly higher than for older age groups. Despite a strong 10.5 percentage point decrease in youth unemployment since 2013, 12.9 % of 20- to 24-year-olds who were part of the labour force were unemployed in 2023 (11).

Young people not engaged in employment nor in education and training (NEET) are among the most vulnerable groups in the labour market. Over the long term they may fail to gain new skills and suffer from erosion of competences, which in turn might lead to a higher risk of labour market and social exclusion. To improve the labour market situation of young people, the EU set a complementary target of decreasing the NEET rate to 9 % by 2030.



11.2 %
of young people aged 15 to 29 were not employed nor in education and training in the EU in 2023

The NEET rate for 15- to 29-year-olds in the EU had been improving since 2013 and reached 11.2 % in 2023, which was the lowest value recorded. If this positive trend continues, the EU is well placed to reach its NEET rate target of 9 % by 2030. Since 2009, the NEET rate in rural areas and in towns and suburbs had been higher than in cities. By 2023, it amounted to 12.3 % in rural areas and 11.7 % in towns and suburbs, compared with a rate of 10.3 % in cities (12).

The participation of women in the labour market is growing, but gender differences persist

The employment rate of women in the EU has been increasing since 2009 and reached a new high of 70.2 % in 2023. The gender employment gap, however, continues to persist, despite narrowing by 3.2 percentage points since 2009. In 2023, it amounted to 10.2 percentage points, despite women becoming increasingly well-qualified and even outperforming men in terms of educational attainment (see the chapter on SDG 5 'Gender equality' on page 109).

Inflexible work-life-balance options and underdeveloped care services — both for childcare and long-term care of a family member — are major impediments to women remaining in or returning to work. Caring responsibilities, which include care for children and care for adults with disabilities, are more often performed by women, contributing to the gender employment gap. In 2023, 0.9 % of women in the EU aged 20 to 64 who were willing to work were outside the labour force because they were caring for children or adults with disabilities. For men, this share was 0.1 %. Caring responsibilities are also the main reason why women are opting for part-time jobs ([13]). As a result, women were overrepresented in this type of employment, with 27.9 % of employed women working part-time in 2023, compared with 7.7 % of employed men ([14]).

0.9%
of women in the EU were outside of the labour force because of caring responsibilities in 2023

Interestingly, the share of women who indicated caring responsibilities as the main reason for part-time employment in 2023 varied widely across the EU Member States, from 1.6 % in Denmark to 37.3 % in the Netherlands ([15]). Similarly, the share of women working part-time varied significantly. While only 1.4 % of employed women in Bulgaria and 2.9 % in Romania performed part-time work, this was the case for 60.6 % in the Netherlands and 50.7 % in Austria in 2023 ([16]).

Employment opportunities are lower for people with disabilities

People with disabilities have a basic activity difficulty (such as seeing, hearing, walking or communicating) and/or a work limitation caused by a longstanding health condition and/or a basic activity difficulty ([17]). Disabilities impact people's lives in many areas, including participation in the labour market. In 2022, the employment rate of people with disabilities at the EU level was 21.4 percentage points lower than people without disabilities. For women with disabilities, this gap was 18.9 percentage points, while for men with disabilities it was 23.3 percentage points. The degree of disability is also an important factor affecting the employment rate. At the EU level, the employment rate for people with a severe disability was 42.1 percentage points lower than for people without a disability, while for people with a moderate disability the gap was 14.5 percentage points in 2022 ([18]).

Decent work

For a society's sustainable economic development and well-being it is crucial that economic growth generates not just any kind of job but 'decent' jobs. This means that work should deliver fair income, workplace security and social protection for families, better prospects for personal development and social integration and equality of opportunity ([19]).

1.76
per 100 000 people employed in the EU had a fatal accident at work in 2021

Over the past few years, work in the EU has become safer and more economically secure

A prerequisite for decent work is a safe and healthy working environment, without non-fatal and fatal accidents, occupational diseases and other work-related health problems, where risks of work-related hazardous events or exposures are minimised. Over the past few decades, the EU and its Member States have put considerable effort into ensuring high minimum requirements in occupational health and safety at work. As a result, the rate of fatal accidents at work has declined by 23.8 % since 2010, amounting to 1.76 fatalities per 100 000 employed persons in 2021. Mining and quarrying as well as construction have been especially prone to fatal accidents over the past decade, with the rate of fatal accidents at work amounting to 7.23 and 6.32 fatalities per 100 000 employed persons in 2021, respectively ([20]).

While there has been a significant decrease since 2010, a noticeable gender difference persists: in 2021, the incidence rate for women was only 0.26 per 100 000 persons, compared with 3.08 for men. This gender gap is due to the fact that activities with the highest incidence rates are mostly male-dominated ([21]).

Besides safety at work, fair income and social protection are also important components of decent work. Poverty is often associated with the absence of a paid occupation but low wages can also push some workers below the poverty line. People working part-time or on temporary contracts, low-skilled workers and non-EU born workers are especially affected by in-work poverty. In the EU, the share of the so-called 'working poor' (aged 18 and over) has been decreasing since 2016 and reached 8.5 % in 2022. For more information on in-work poverty, see the chapter on SDG 1 'No poverty' on page 39.

While a fixed-term contract, part-time employment or platform work may provide greater flexibility for both employers and workers, it is not always a personal choice for an employee and can thus significantly influence their well-being. In 2023, 3.8 % of European employees aged 20 to 64 were involuntarily working on temporary contracts, corresponding to 31.1 % of all temporary employees. This share has decreased significantly over the past five years ([22]). The indicator on labour transitions from temporary to permanent contracts also shows that the share of such transitions has increased since 2015, reaching 33.0 % in 2022 (based on a three-year average) ([23]). Like involuntary temporary employment, the share of involuntary part-time employment in total employment in the EU also decreased, from 5.0 % in 2018 to 3.4 % in 2023 ([24]).

8.5 %
of employed people in the EU were at risk of income poverty in 2022

Main indicators

Real GDP

Gross domestic product (GDP) is a measure of economic activity and is often used as a proxy for changes in a country's material living standards. It refers to the value of total final output of goods and services produced by an economy within a certain time period. Real GDP per capita is calculated as the ratio of real GDP (GDP adjusted for inflation) to the average population of the same year and is based on rounded figures.

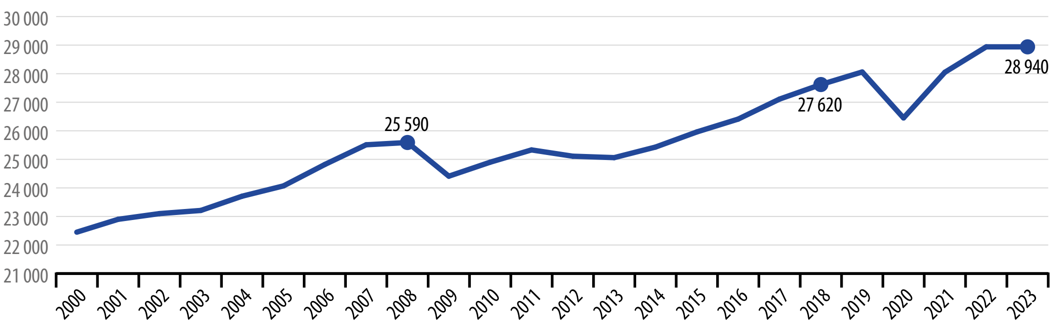
LONG TERM
2008–2023

SHORT TERM
2018–2023

FIGURE 8.1

Real GDP per capita, EU, 2000–2023

(EUR per capita, chain-linked volumes, 2010)

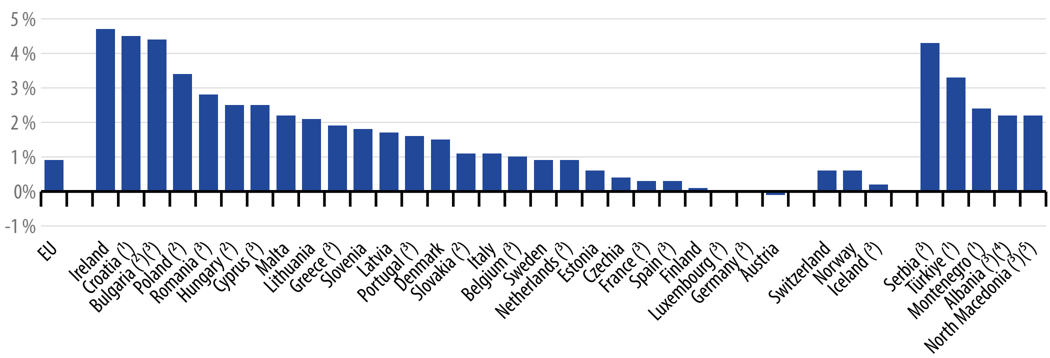


Source: Eurostat (online data code: sdg_08_10)

FIGURE 8.2

Change in real GDP per capita, by country, 2018–2023

(average annual growth rate in %)



(1) Change 2017–2022.
(2) Break(s) in time series between the two years shown.
(3) Provisional or estimated data.
(4) Change 2015–2020.
(5) Change 2016–2021.

Source: Eurostat (online data code: sdg_08_10)

Investment share of GDP

LONG TERM 2008–2023

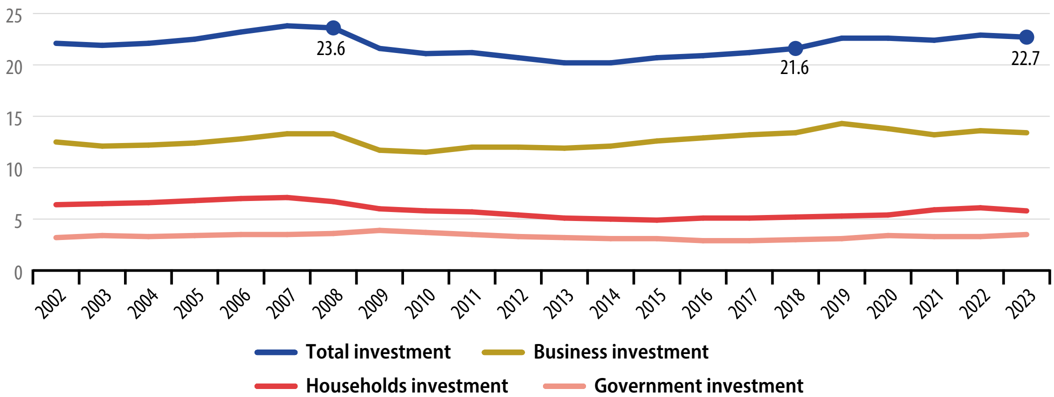
SHORT TERM 2018–2023

The investment share of GDP measures gross fixed capital formation (GFCF) for the total economy, government and business, as well as household sectors as a percentage of GDP.

FIGURE 8.3

Investment share of GDP, by institutional sector, EU, 2002–2023

(% of GDP)

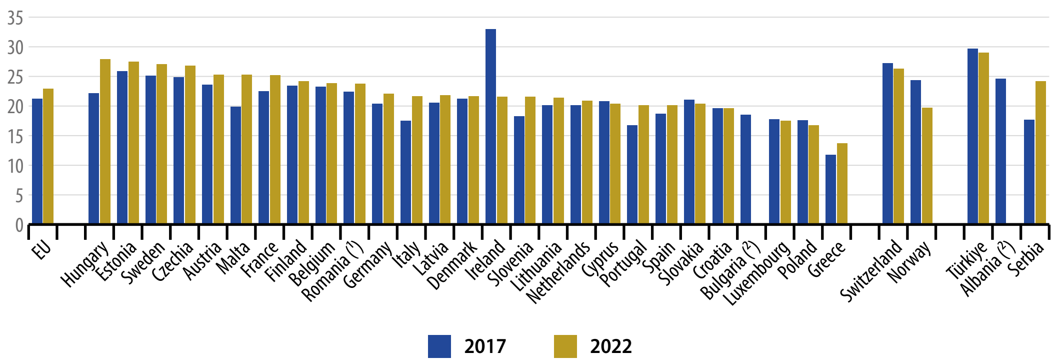


Source: Eurostat (online data code: sdg_08_11)

FIGURE 8.4

Investment share of GDP, by country, 2017 and 2022

(% of GDP)



([1]) 2020 data (instead of 2022).
([2]) No data for 2022.
Source: Eurostat (online data code: sdg_08_11)

Employment rate

The employment rate is defined as the percentage of employed persons in relation to the total population. The data analysed here focus on the population aged 20 to 64. Employed persons are those who, during a reference week, worked at least one hour for pay or profit or were temporarily absent from such work. Data presented in this section stem from the EU Labour Force Survey (EU-LFS).

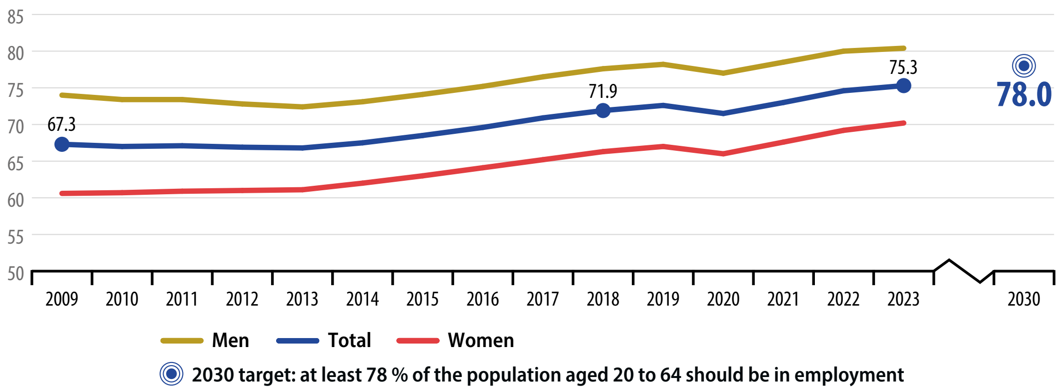
LONG TERM 2009–2023

SHORT TERM 2018–2023

FIGURE 8.5

Employment rate, by sex, EU, 2009–2023

(% of population aged 20 to 64)

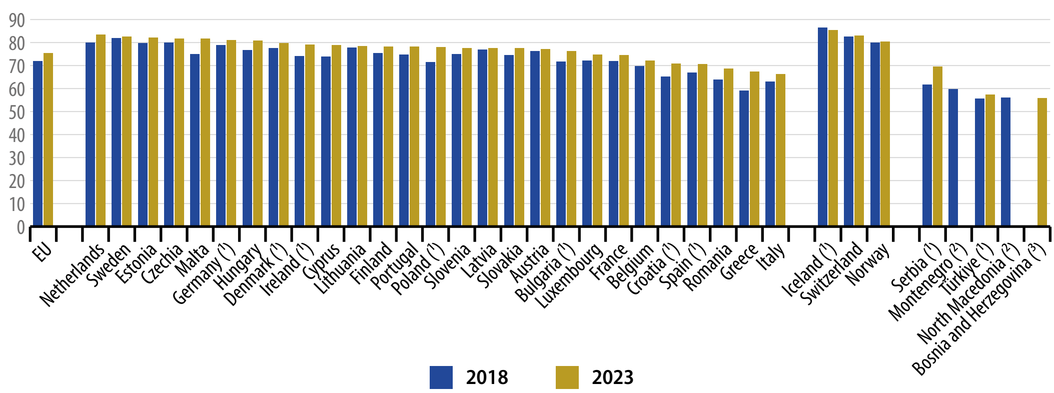


Source: Eurostat (online data code: sdg_08_30)

FIGURE 8.6

Employment rate, by country, 2018 and 2023

(% of population aged 20 to 64)

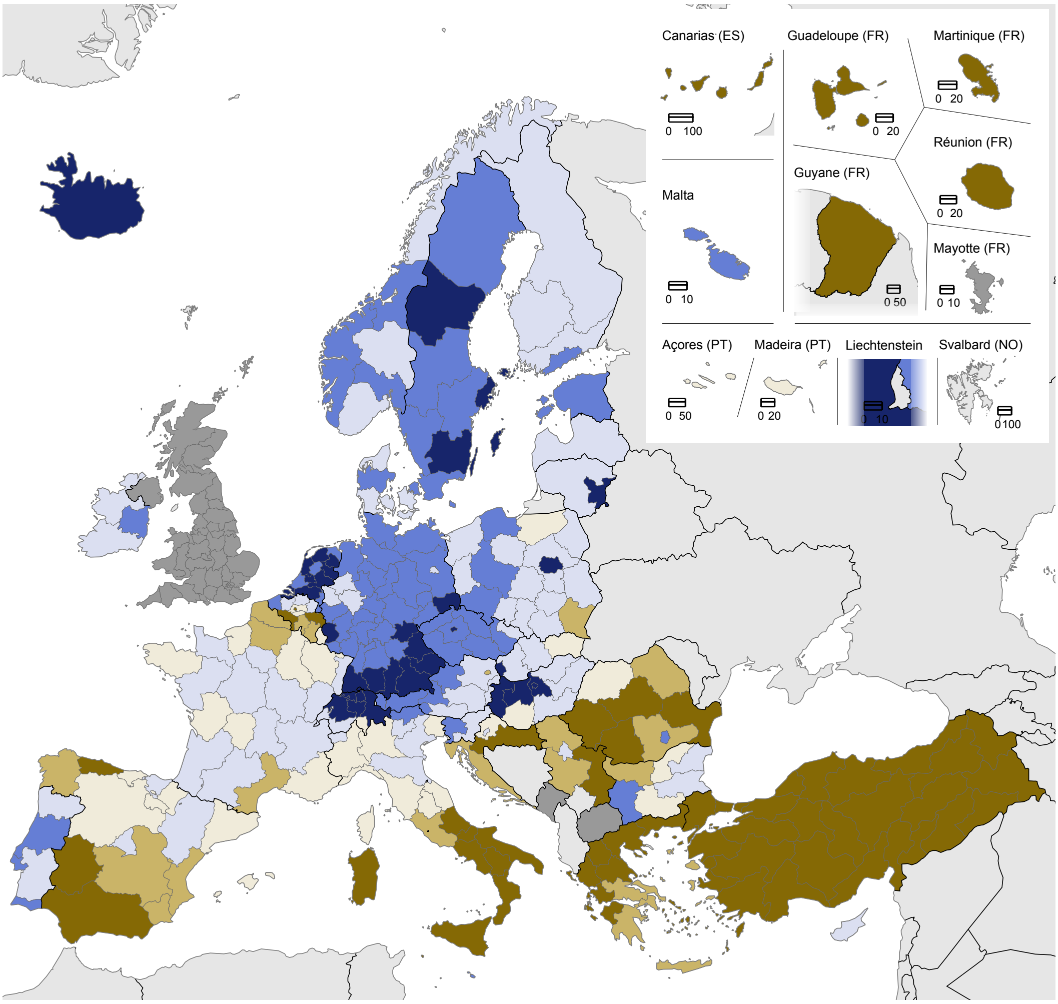


(¹) Break(s) in time series between the two years shown.
(²) No data for 2023.
(³) No data for 2018.
Source: Eurostat (online data code: sdg_08_30)

MAP 8.1

Employment rate, by NUTS 2 region, 2023

(% of population aged 20 to 64)



EU = 75.3

- ≥ 83
- 79 – < 83
- 75.3 – < 79
- 71 – < 75.3
- 67 – < 71
- < 67
- Data not available

Administrative boundaries: © EuroGeographics © UN–FAO © Turkstat. Cartography: Eurostat – IMAGE, 05/2024
Source: Eurostat (online data code: lfst_r_lfe2emprt)

Source: Eurostat (online data code: lfst_r_lfe2emprt)

Long-term unemployment rate

Long-term unemployment is measured as a percentage of the population in the labour force (which includes both employed and unemployed people) aged 15 to 74 who have been unemployed for 12 months or more. Long-term unemployment increases the risk of a person completely stopping their search for employment and falling into poverty, and has negative implications for society as a whole. People in the EU who are long-term unemployed have about half the chance of finding employment as those who are short-term unemployed ([25]). Data presented in this section stem from the EU Labour Force Survey (EU-LFS).

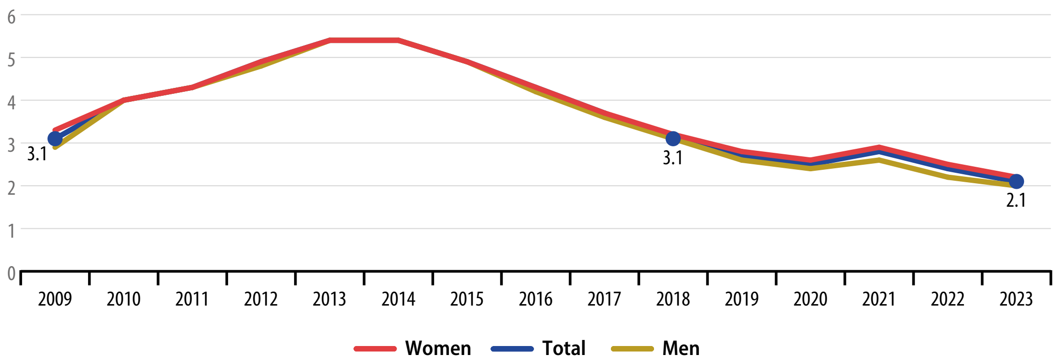
LONG TERM
2009–2023

SHORT TERM
2018–2023

FIGURE 8.7

Long-term unemployment rate, by sex, EU, 2009–2023

(% of population in the labour force aged 15 to 74)

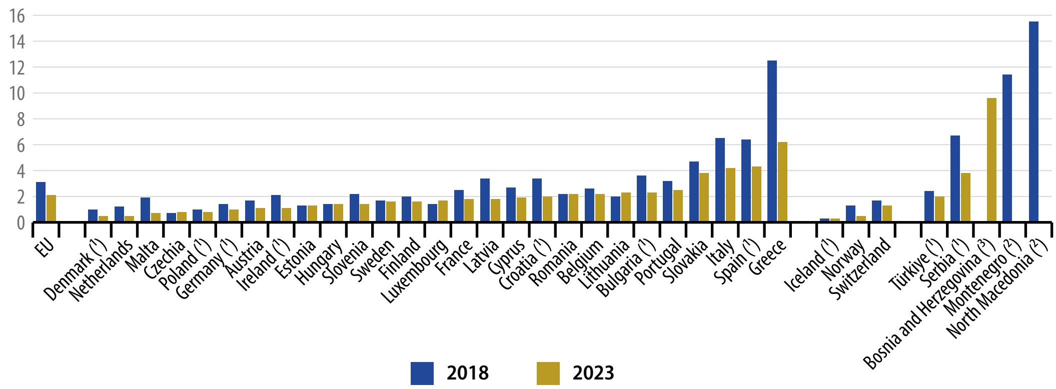


Source: Eurostat (online data code: sdg_08_40)

FIGURE 8.8

Long-term unemployment rate, by country, 2018 and 2023

(% of population in the labour force aged 15 to 74)



(1) Break(s) in time series between the two years shown.
(2) No data for 2023.
(3) No data for 2018.
Source: Eurostat (online data code: sdg_08_40)

Young people neither in employment nor in education and training (NEET)

LONG TERM 2008–2023

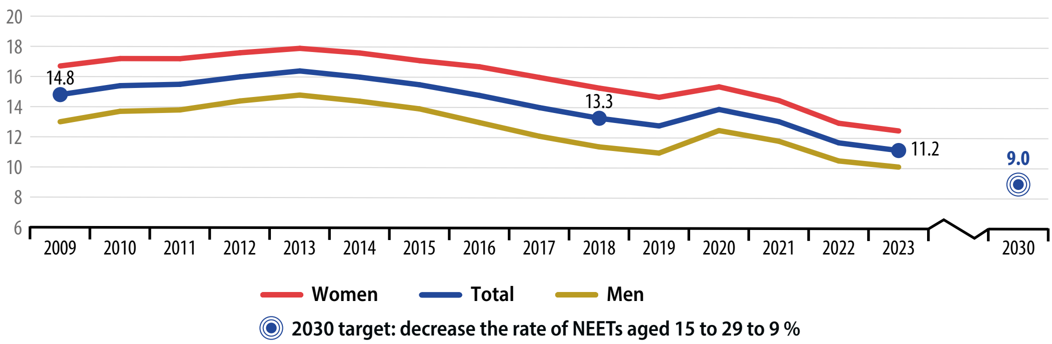
SHORT TERM 2018–2023

A considerable proportion of young people aged 15 to 29 in the EU are not employed. For some this is due to the pursuit of education and training. However, others have withdrawn from education and training as well. Those are captured by the statistics on young people who are neither in employment (meaning they are outside of the labour force or unemployed), education nor training (NEET rate). Data presented in this section stem from the EU Labour Force Survey (EU-LFS).

FIGURE 8.9

Young people neither in employment nor in education and training (NEET), by sex, EU, 2009–2023

(% of population aged 15 to 29)

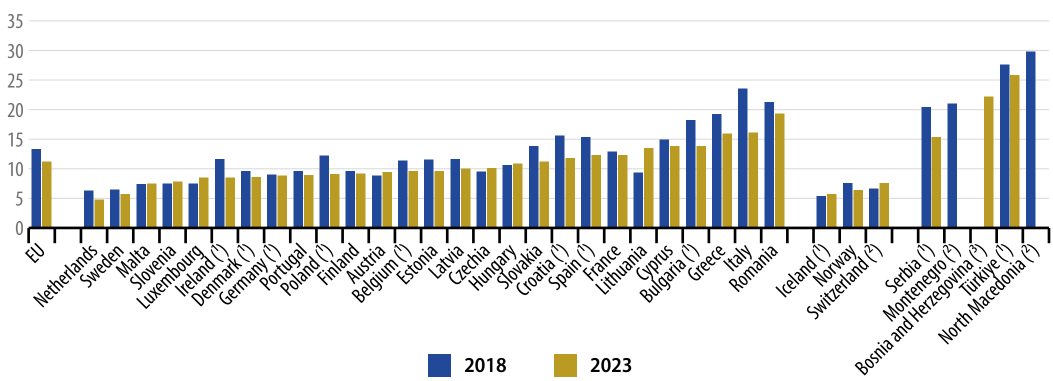


Source: Eurostat (online data code: sdg_08_20)

FIGURE 8.10

Young people neither in employment nor in education and training (NEET), by country, 2018 and 2023

(% of population aged 15 to 29)



([1]) Break(s) in time series between the two years shown. ([2]) No data for 2023. ([3]) No data for 2018.

Source: Eurostat (online data code: sdg_08_20)

Fatal accidents at work

Fatal accidents at work are those occurring during the course of employment and leading to the death of the victim within one year — commuting accidents occurring between the home and the workplace are excluded from data at EU level. The incidence rate refers to the number of accidents per 100 000 persons in employment. Data presented in this section are collected in the framework of the administrative data collection 'European Statistics on Accidents at Work (ESAW)' ([26]). As an exception, fatal road traffic accidents at work are not included in the data from the Netherlands.

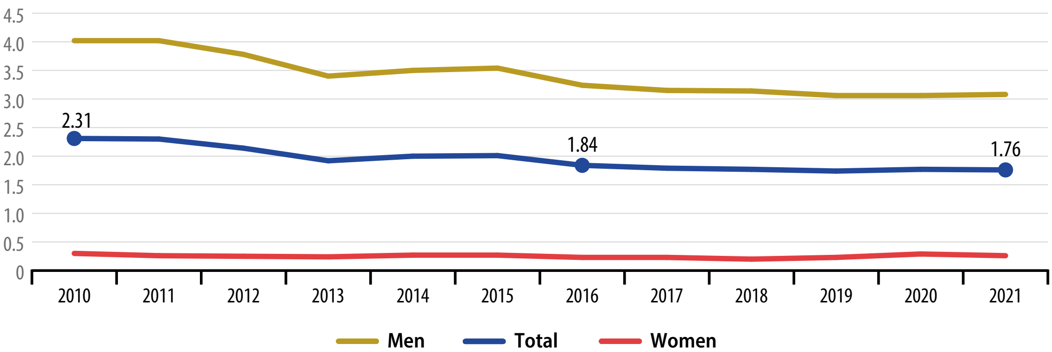
LONG TERM
2010–2021

SHORT TERM
2016–2021

FIGURE 8.11

Fatal accidents at work, by sex, EU, 2010–2021

(number per 100 000 workers)

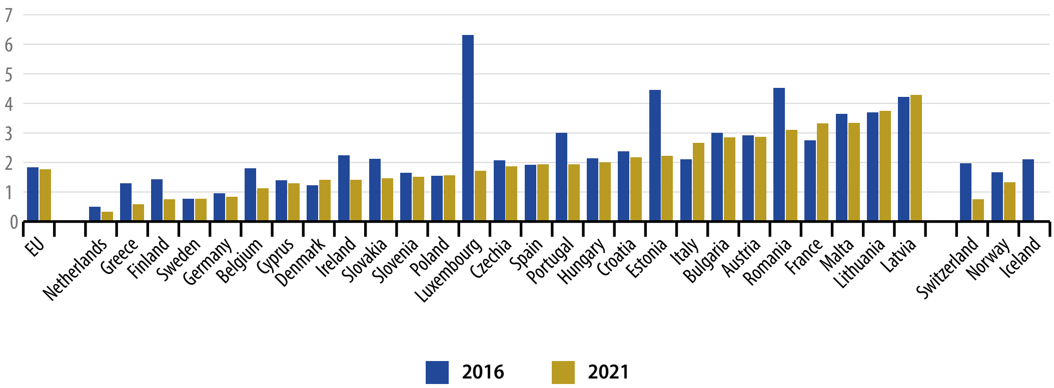


Note: Break in time series in 2020.
Source: Eurostat (online data code: sdg_08_60)

FIGURE 8.12

Fatal accidents at work, by country, 2016 and 2021

(number per 100 000 workers)



Note: Break in time series in 2020 for all countries. Countries with a smaller workforce may sometimes experience larger changes in fatal accident rates from year to year due to natural fluctuations in the low number of such accidents.
Source: Eurostat (online data code: sdg_08_60)

Notes

(1) European Commission (2022), *European Economic Forecast, Autumn 2022,* Publications Office of the European Union, Luxembourg, p. 1.

(2) European Commission (2024), *European Economic Forecast, Winter 2024,* Publications Office of the European Union, Luxembourg, p. 2.

(3) European Commission (2024), *European Economic Forecast, Spring 2024,* Publications Office of the European Union, Luxembourg, p. 1.

(4) EEA (2023), *Europe's material footprint*.

(5) European Commission (2023), *European Economic Forecast, Autumn 2023,* Publications Office of the European Union, Luxembourg, p. 3.

(6) Source: Eurostat (online data code: lfst_r_ergau).

(7) Source: Eurostat (online data code: une_rt_a).

(8) Source: Eurostat (online data code: lfst_r_urgau).

(9) Source: Eurostat (online data code: une_ltu_a).

(10) Source: Eurostat (online data code: lfsa_ergan).

(11) Source: Eurostat (online data code: lfsa_urgaed).

(12) Source: Eurostat (online data code: edat_lfse_29).

(13) Source: Eurostat (online data code: lfsa_epgar).

(14) Source: Eurostat (online data code: lfsa_epgaed).

(15) Source: Eurostat (online data code: lfsa_epgar).

(16) Source: Eurostat (online data code: lfsa_epgaed).

(17) Eurostat, Statistics explained. Glossary: Disability.

(18) Source: Eurostat (online data code: hlth_dlm200).

(19) International Labour Organisation (2022), Decent work.

(20) Source: Eurostat (online data code: hsw_n2_02).

(21) Eurostat (2023), Statistics Explained: Accidents at work — statistics by economic activity.

(22) Source: Eurostat (online data code: lfsa_etgar).

(23) Source: Eurostat (online data code: ilc_lvhl36).

(24) Source: Eurostat (online data codes: lfsa_epgar and lfsa_epgaed).

(25) European Commission (2016), *Employment and Social Developments in Europe 2015*, Publications Office of the European Union, Luxembourg, p. 13.

(26) Eurostat (2013), *European Statistics on Accidents at Work (ESAW) — Summary methodology*, Publications Office of the European Union, Luxembourg.

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

SDG 9 calls for building resilient and sustainable infrastructure and promotes inclusive and sustainable industrialisation. It also recognises the importance of research and innovation for finding solutions to social, economic and environmental challenges.

Research and development (R&D), innovations, sustainable industries and infrastructures are key to achieving the SDGs. Monitoring SDG 9 in an EU context focuses on elements such as R&D intensity and personnel, patent applications, the air emissions intensity of industry, and modal splits in passenger and freight transport. Over the five-year period assessed in this report, the EU has experienced strong progress in many of these indicators. However, there have also been recent unfavourable trends. The EU's R&D intensity has decreased since 2020, and the EU is thus not on track to reach its respective 2030 target. Additionally, recent trends show a decline in the use of environmentally friendly modes of freight and passenger transport.

Indicators measuring progress towards SDG 9, EU

Indicator	Period	Annual growth rate	Assessment	More info
R&D and innovation				
Gross domestic expenditure on R&D	2007–2022	Observed: 1.5 % Required: 2.2 %	↗	page 181
	2017–2022	Observed: 0.8 % Required: 2.6 %	↘	
Patent applications to the European Patent Office	2008–2023	0.9 %	↗	page 183
	2018–2023	0.7 %	↗	
R&D personnel	2007–2022	2.9 %	↑	page 184
	2017–2022	3.3 %	↑	
Tertiary educational attainment (*)	2008–2023	Observed: 2.5 % Required: 1.9 %	↑	SDG 4, page 103
	2018–2023	Observed: 2.2 % Required: 1.3 %	↑	
Sustainable industry				
Air emissions intensity of industry	2008–2021	– 4.6 %	↑	page 185
	2016–2021	– 3.0 %	↑	
Gross value added in environmental goods and services sector (*)	2006–2021	3.4 %	↑	SDG 12, page 239
	2016–2021	3.8 %	↑	
Sustainable infrastructure				
Share of buses and trains in inland passenger transport	2006–2021	– 1.4 %	↓	page 186
	2016–2021	– 4.8 %	↓	
Share of rail and inland waterways in inland freight transport	2007–2022	– 1.0 %	↘	page 187
	2017–2022	– 2.0 %	↓	
Share of households with high-speed internet connection (*)	Time series too short for long-term assessment		:	SDG 17, page 327
	2017–2022	Observed: 20.2 % Required: 9.9 %	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

Policy context

R&D and innovation

The new European Research Area (ERA) aims to build a single, borderless area for research, innovation and technology by prioritising investments and reforms, improving access to excellence, translating research and innovation results into the economy and strengthening the mobility of researchers and knowledge through greater cooperation. The Council Recommendation on a Pact for Research and Innovation in Europe reaffirmed the EU's long-standing objective of increasing its R&D intensity to 3 % of GDP and outlines the long-term vision for the ERA. The ERA Policy Agenda 2022–24 translates the vision into 20 tangible actions. The EU research and innovation programme Horizon Europe supports researchers and innovators to drive the systemic changes needed to ensure a green, healthy and resilient Europe.

The European Education Area (EEA) is an initiative that enables all young people to benefit from the best education and training and to find employment across Europe. The European Education Area strategic framework promotes collaboration between EU Member States and key stakeholders and sets the target that by 2030 at least 45 % of 25–34-year-olds in the EU should have completed tertiary education.

The New European Innovation Agenda (2022) aims to position Europe at the forefront of the new wave of deep tech innovation and start-ups.

The Recovery and Resilience Facility is a temporary instrument that supports reforms and investments to promote smart, sustainable and inclusive growth, entrepreneurship, competitiveness, industrialisation and reindustrialisation, digitalisation of businesses and digital connectivity, improve the business environment, foster research, development and innovation, and support SMEs. It also supports reforms and investments for a circular economy and sustainable mobility.

Sustainable industry

The EU's updated New Industrial Strategy for Europe (2021) aims to support industry to shift towards climate neutrality and to build a more circular economy.

The EU Bioeconomy Strategy (2018) supports the greening of EU industry, materials and products within planetary boundaries.

The Green Deal Industrial Plan (2023) seeks to enhance the competitiveness of Europe's net-zero industry and support the fast transition to climate neutrality. The Net-Zero Industry Act (2023) aims to enhance the manufacturing capabilities of net-zero technologies in Europe.

Sustainable infrastructure

The Sustainable and Smart Mobility Strategy put forward an action plan to make all transport modes more sustainable, smart and resilient and thus reach the climate targets of the European Green Deal.

The Trans-European Transport Network (TEN-T) policy, supported by the Connecting Europe Facility (CEF), aims to build an effective, EU-wide and multimodal network of roads, railway lines, inland waterways, ports, airports and rail-road terminals. The Action Plan to boost long-distance and cross-border passenger rail and the current TEN-T Revision aim to put the transport sector on track to cut its emissions by 90 %, while increasing connectivity across Europe.

The Digital Decade policy programme 2030 outlines Europe's digital transformation and sets the target of ensuring gigabit network coverage for all households by 2030.

Overview and key trends

R&D and innovation

R&D expenditure is a key enabling factor for smart, sustainable and inclusive growth. Introducing new ideas to the market promotes job creation, labour productivity and efficient use of resources. Highly skilled human resources are imperative for keeping the EU's research and innovation capacity and competitiveness up to date and for supporting the digital and green transitions. Innovative products and services — often the result of R&D activities — contribute to smart growth and sustainable industrialisation. R&D and innovation are also essential for finding solutions to societal and environmental challenges such as climate change and clean energy, public security or health protection and promotion.

EU expenditure on R&D has shown only modest growth over the past few years

2.24 %
of GDP was spent on R&D in the EU in 2022

The EU economy is facing increasing global competition and can only preserve its competitiveness by strengthening its scientific and technological base. Therefore, one of the key aims of EU policies over recent decades has been to encourage greater investment in R&D. This is monitored here by looking at gross domestic expenditure on R&D in relation to GDP, referred to as R&D intensity, which reflects both growth in spending on R&D and growth in GDP.

Despite the EU's long-standing 3 % target, the EU's R&D intensity has grown only modestly over the past two decades. After prolonged stagnation between 2000 and 2007, the EU's R&D intensity has increased slowly, reaching 2.30 % in 2020. Most recently, however, the R&D intensity has declined again, to 2.24 % in 2022. This corresponded to an R&D expenditure of about EUR 354 billion. In absolute terms, expenditure in 2022 was higher than in 2020 (EUR 309 billion) and 2021 (EUR 331 billion) ([1]), suggesting that the recent decline in R&D intensity is a result of GDP growth outpacing growth in R&D expenditure. With a gap of 0.76 percentage points, the EU remains at some distance from its ambition of raising R&D intensity to 3 % by 2030.

Private expenditure accounts for two-thirds of total R&D expenditure

An analysis of gross domestic expenditure on R&D by sector of performance shows that the two biggest spenders in 2022 remained the business enterprise sector (66.2 % of total R&D expenditure) and the higher education sector (21.7 %). The share of the government sector was 10.7 %, while the private non-profit sector accounted for only 1.4 % of total R&D expenditure ([2]).

68 579
patent applications from within the EU were submitted to the European Patent Office in 2023

The business enterprise sector accounts for the lion's share of total R&D expenditure and has increased its R&D intensity by 0.33 percentage points over the past 15 years, from 1.15 % of GDP in 2007 to 1.48 % in 2022. Simultaneously the higher education sector increased its R&D intensity from 0.39 % in 2007 to 0.49 % of GDP in 2022. In contrast, the R&D intensity of the government has more or less stagnated at levels around 0.25 %. The R&D intensity of the private non-profit sector remained at a very low level, amounting to 0.03 % in 2022.

The number of patent applications to the European Patent Office has grown

Patent applications provide a valuable measure of the creative and innovative capacity of countries, regions and companies and of the economic exploitation of research results. In 2023, 68 579 patent applications from within the EU were submitted to the European Patent Office. This is a 13.5 % increase compared with 2008, when 60 401 applications were submitted. Over the long-term period from 2008 to 2022, the only year to record a strong year-on-year drop in applications was 2009, owing to the economic crisis (3).

The availability of human capital for a knowledge-based society is growing, but gender disparities remain

The growing knowledge orientation of the EU's economy and society, together with developments in the labour market and demographic trends, make highly skilled human capital increasingly important. Achieving the SDGs will require ambitious investments in research and development (R&D) and significant innovation, including further investment in skills development and in lifelong learning (4).

1.53 %
of the economically active population in the EU worked in R&D in 2022

R&D personnel consists of researchers engaged directly in R&D and the people providing direct services for R&D activities (such as R&D managers, administrators, technicians and clerical staff) (5). The share of R&D personnel in the labour force has increased steadily since 2007, from 1.00 % to 1.53 % in 2022 (full-time equivalent). This trend was mainly driven by the business enterprise sector, which employed about 60 % of the R&D workforce in 2022 (6).

An analysis by sex, however, reveals that women remain considerably underrepresented among researchers based on head count in the EU, accounting for only 33.7 % in 2021. There has been no considerable progress since 2007, when the share stood at 31.0 %. This underrepresentation is particularly strong in the business enterprise sector, where women only made up 22.4 % of researchers in 2021. In contrast, women accounted for more than 40 % of researchers in the other three sectors (government, higher education and the non-profit sector), with the private non-profit sector achieving parity at 50.5 % in 2021. Between 2007 and 2021, the higher education and government sectors recorded the largest increases in female researchers, of 6.2 and 5.7 percentage points, respectively (7).

Data show a general long-term increase in tertiary educational attainment of the EU population. Between 2008 and 2023, the share of 25- to 34-year-olds with a university degree or similar increased from 29.9 % to 43.1 %. The EU is therefore well on track to reach its target of raising this share to at least 45 % by 2030, as set out in the Council Resolution from 2021 on the European Education Area. However, differences between the sexes remain considerable, and when compared with the situation for R&D personnel, the gender imbalance is reversed. While 48.8 % of women aged 25 to 34 years had accomplished tertiary education in 2023, only 37.6 % of men in this age group had done so. This gender gap has been widening almost continuously since 2008. For further details on tertiary education and the gender gap, see the chapters on SDG 4 'Quality education' on page 93 and SDG 5 'Gender equality' on page 109.

43.1 %
of the EU population aged 25 to 34 had accomplished tertiary education in 2023

Sustainable industry

Mobilising industry for a clean and circular economy is one of the key priorities of the European Green Deal, which seeks to support and accelerate the EU's industry transition to a sustainable model of inclusive growth. This requires a massive reduction in harmful air emissions emitted through industrial production alongside increased use of greener products and services (also see the chapter on SDG 12 'Responsible consumption and production' on page 237).

The air emissions intensity of EU industry has improved in recent years

Industry is vital for Europe's prosperity and future development. The EU industrial sector accounts for more than 20 % of the EU economy and employs about 35 million people ([8]). However, industry is also a source of many environmental pressures such as material consumption and the emission of greenhouse gases and other air pollutants. This analysis focuses on air pollutants emitted by industry, using particulate matter emissions from manufacturing as a proxy.

Poor air quality causes premature deaths, impacts quality of life and damages ecosystems ([9]). Particulate matter, especially fine particulate matter ($PM_{2.5}$), is one of the most harmful components of air pollution for human health ([10]). Exposure to air pollution by $PM_{2.5}$ caused 253 305 premature deaths in the EU in 2021 (see the chapters on SDG 3 'Good health and well-being' on page 73 and on SDG 11 'Sustainable cities' on page 211). In 2021, the EU's manufacturing sector was responsible for about a fifth (19.3 %) of total $PM_{2.5}$ emissions. In comparison, in the same year, more than a third (36.0 %) of total $PM_{2.5}$ emissions could be attributed to transportation and storage, and almost a quarter (23.4 %) to agriculture, forestry and fishing ([11]).

14.3 %
improvement in the manufacturing sector's emissions intensity of fine particulate matter between 2016 and 2021

Data on emissions intensity are used to monitor a sector's air emissions relative to its economic output in terms of gross value added (GVA). Between 2008 and 2021, the EU's manufacturing sector's $PM_{2.5}$ air emissions intensity dropped by 45.5 %, from 0.11 grams per euro to 0.06 grams per euro. This improvement is a result of the sector's $PM_{2.5}$ emissions falling by 30.9 % between 2008 and 2021 while its GVA grew by 16.3 % ([12]). The decline in industrial emissions of air pollutants can be partly attributed to European regulation, advancements in energy efficiency and abatement technologies, and the relocation of heavy polluting industries outside Europe ([13]).

Between 2016 and 2021, $PM_{2.5}$ emissions from manufacturing decreased by 2.2 %, alongside a 9.6 % increase in the sector's GVA ([14]). This resulted in a 14.3 % improvement in the sector's emissions intensity over this most recent five-year period. Most recently, between 2020 and 2021, the recovery from the COVID-19 pandemic led to a 5.3 % increase in the sector's $PM_{2.5}$ emissions alongside a 10.1 % growth in its GVA. The sector's emissions intensity for the broader group of fine and coarse particulate matter (PM_{10}) experienced a similar development over the past 15- and five-year periods, decreasing by 40.0 % between 2008 and 2021 and by 10.0 % between 2016 and 2021.

The gross value added of the environmental goods and services sector has grown strongly

The EU's updated New Industrial Strategy for Europe strives for a greener industry. Products and services that, for instance, prevent or limit environmental pollution, repair and correct resource depletion or protect biodiversity may contribute to a so-called green economy. These kinds of environmental goods and services (EGSS) are gaining in importance. In 2021, they accounted for a gross value added of EUR 317.3 billion. This is a 64.4 % increase compared with 2006, when the EU's GVA of environmental goods and services amounted to EUR 193.0 billion. In relation to the whole economy, the environmental goods and services sector grew from 1.8 % of GDP in 2006 to 2.5 % in 2021. This indicates the sector grew — in gross value added terms — disproportionally faster than other economic sectors.

317.3
billion EUR of gross value added were generated by the EU's environmental goods and services sector in 2021

Employment (in full-time equivalent) in the sector has also increased since 2006, by 42.2 %. In 2021, the sector employed slightly more than 5.2 million people in the EU ([15]). The development is related to multiple factors, which, among other things, include growth in private investments in environmental goods and services, encouraged by increasing government interventions in this area ([16]).

Sustainable infrastructure

The European Green Deal aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy. To achieve this vision, the EU needs to address the twin challenges of the green and the digital transitions. In this context, the Green Deal calls for an acceleration in the shift to sustainable and smart mobility as well as for investment in digitalisation to support the green transition. Multimodal and energy-efficient freight transport as well as automated and connected multimodal mobility will consequently need to play an increasing role, together with smart traffic management systems enabled by digitalisation.

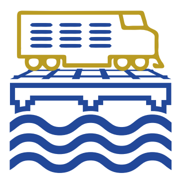
Use of public transport has dropped considerably since the onset of the pandemic

13.7 %
of passenger-km in the EU were covered by buses and trains in 2021

Well-functioning and efficient transport and mobility systems are key elements for a competitive economy. Growth in transport activities puts increasing pressure on natural resources and on societies. Emissions of greenhouse gases, air pollutants and noise from transport affect the climate, the environment and human health. As the transport sector is responsible for about one-quarter of greenhouse gas (GHG) emissions in the EU (see the chapter on SDG 13 'Climate action' on page 253), sustainable transport is an essential ingredient in sustainable development strategies. Rethinking future mobility includes optimising the use of all means of transport, promoting car sharing and the integration between different modes of collective transport such as trains and buses.

In 2020 the modal share of buses and trains in inland passenger transport in the EU fell significantly compared with previous years and did not bounce back to the pre-crisis levels in 2021 ([17]). While their share in terms of passenger-km was quite stable in the period 2000 to 2019 and accounted for 17.6 % in 2019, it dropped to 12.9 % in 2020 and increased only slightly to 13.7 % in 2021. Conversely, the share of passenger-km covered by cars — which remains by far the dominant mode for inland passenger transport — increased from 82.4 % in 2019 to 86.3 % in 2021 ([18]). This drastic development can be essentially attributed to the effects of the COVID-19 pandemic. A study from 2023 on the effects of the pandemic on connectivity and competition in transport indicates that the shift away from public transport to private cars and to active mobility (cycling and walking) persisted in 2022.

The EU's freight transport system still relies on road transport



22.2 %
of freight tonne-km in the EU was carried out via rail and inland waterways in 2022

Despite the EU policy objective of shifting freight from road to rail and inland waterways, road continues to have by far the largest share in EU freight transport among the three inland transport modes analysed in this report (road, rail and inland waterways). Since 2012, the share of rail and inland waterways in total freight transport in the EU has declined almost continuously. It accounted for 22.2 % in 2022, which is a new low in the time series and corresponds to a 4.3 percentage point decrease compared with the peak of 26.5 % in 2012. In the short-term period since 2017, the share of rail and inland waterways fell by 2.4 percentage points.

Considerable differences do exist at country level. In 2022, Latvia was the only Member State reporting higher shares for rail and inland waterways than for road in inland freight transport. Looking at the transport modes separately, the highest shares of rail transport were reported from the Baltic countries Latvia (53.2 %) and Lithuania (46.4 %). In the Netherlands, freight transport via inland waterways still plays an important role, with a modal split of 41.0 % in 2022.

Considerable progress has been made in rolling out fixed very high capacity network connections across the EU

Digital connections are crucial for today's economies and societies. Instant communication between individuals, bank transfers, office work, public dissemination of information, or data analysis are only some of the activities that depend on the internet. Especially in rural and remote areas, fast internet connection can significantly improve access to various services such as health care and education. Regions without fast internet connections have serious social and economic disadvantages in a digitalised world. The 2030 Digital Compass thus proposed the target that by 2030 all European households should be covered by a gigabit network, with all populated areas covered by 5G.

Data collected by the European Commission services for the key dimensions of the European information society ([19]) show that the uptake of fixed very high capacity network (VHCN) connectivity — referring to fibre connections or other networks offering similar bandwidth ([20]) — has improved considerably in the EU over the past few years. While only 29.2 % of EU households had access to such connectivity in 2017, this share has risen considerably, reaching 73.4 % of households in 2022. If VHCN roll-out continues at this pace, the EU will reach 100 % coverage well before 2030. VHCN connectivity has also improved in rural areas ([21]). Between 2017 and 2022, the share of rural households with fixed VHCN connection increased from 10.6 % to 45.1 % across the EU. Despite this positive development, VHCN connectivity in rural areas remains at some distance from the 2030 target. In addition, basic digital skills for all citizens (see the chapter on SDG 4 'Quality education' on page 93) are a general prerequisite for ensuring they benefit from digital developments ([22]).

73.4%
of EU households had high-speed internet coverage in 2022

Main indicators

Gross domestic expenditure on R&D

This indicator measures gross domestic expenditure on R&D (GERD) as a percentage of gross domestic product (GDP) — also called R&D intensity. The OECD's Frascati Manual on collecting R&D data defines research and experimental development (R&D) as creative and systematic work undertaken to increase the stock of knowledge — including knowledge of humankind, culture and society — and to devise new applications of available knowledge.

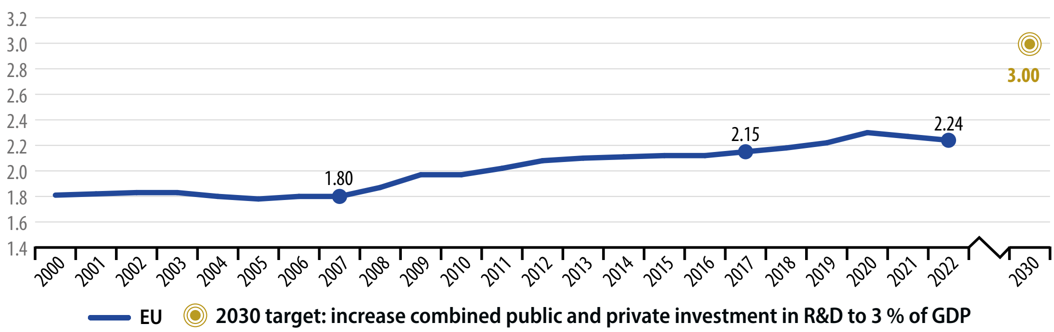
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 9.1

Gross domestic expenditure on R&D, EU, 2000–2022

(% of GDP)

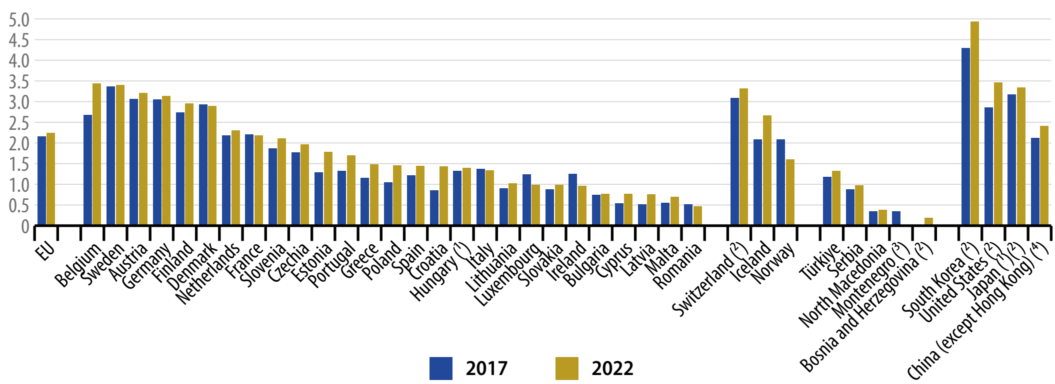


Note: Estimated data.
Source: Eurostat (online data code: sdg_09_10)

FIGURE 9.2

Gross domestic expenditure on R&D, by country, 2017 and 2022

(% of GDP)

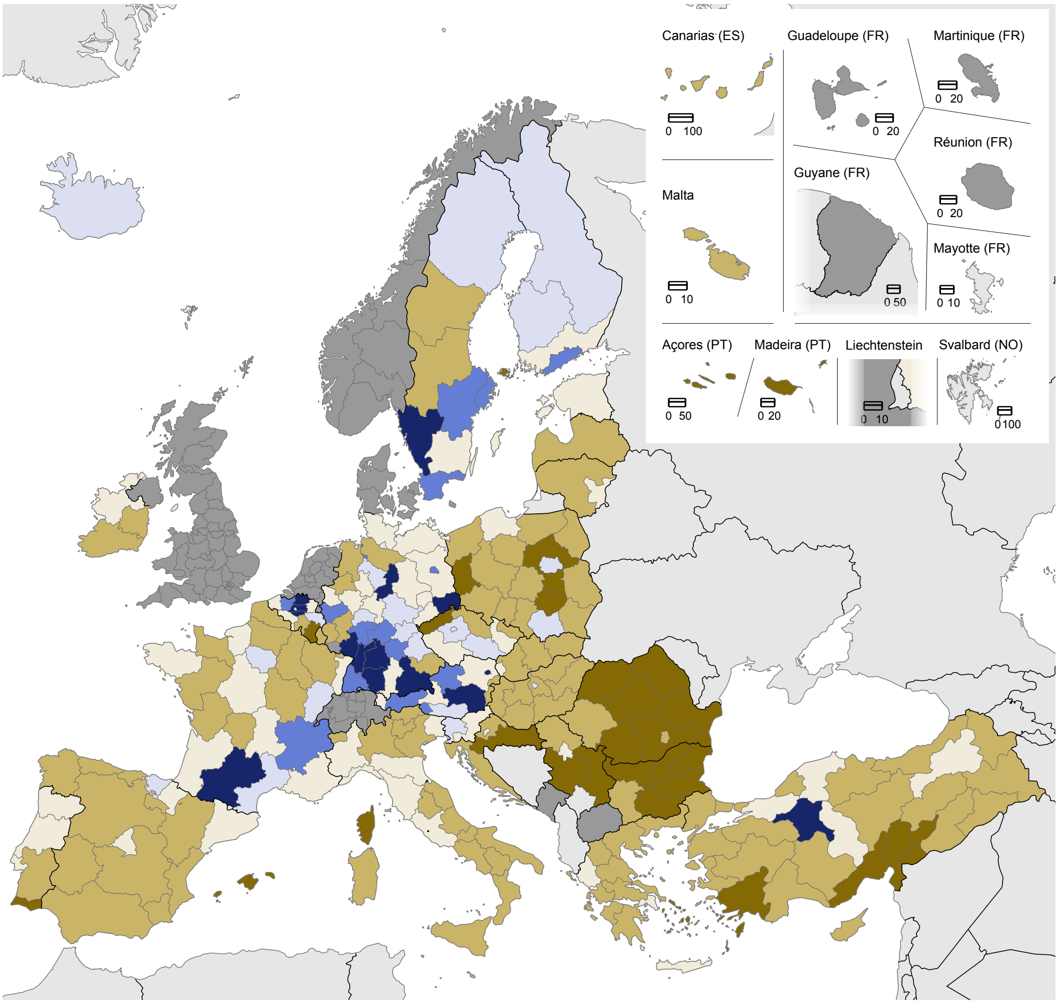


Note: 2022 data are provisional data and/or estimated for many countries.
(¹) Break(s) in time series between the two years shown.
(²) 2021 data (instead of 2022).
(³) No data for 2022.
(⁴) 2020 data (instead of 2022).
Source: Eurostat (online data codes: sdg_09_10 and rd_e_gerdtot)

MAP 9.1

Gross domestic expenditure on R&D, by NUTS 2 region, 2021

(% of GDP)



EU = 2.27

- ≥ 4
- 3 – < 4
- 2.27 – < 3
- 1.5 – < 2.27
- 0.5 – < 1.5
- < 0.5
- Data not available

Administrative boundaries: © EuroGeographics © UN–FAO © Turkstat. Cartography: Eurostat – IMAGE, 05/2024
Source: Eurostat (online data code: rd_e_gerdreg)

Source: Eurostat (online data code: rd_e_gerdreg)

Patent applications to the European Patent Office

This indicator measures requests for the protection of an invention filed with the European Patent Office (EPO) regardless of whether they are granted or not. Applications are allocated according to the country of residence of the first applicant listed on the application form (first-named applicant principle) as well as according to the country of residence of the inventor.

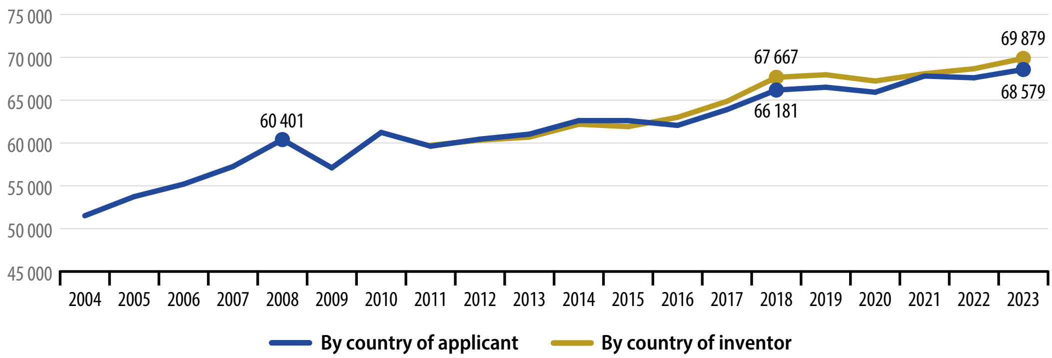
LONG TERM
2008–2023

SHORT TERM
2018–2023

FIGURE 9.3

Patent applications to the European Patent Office (EPO), EU, 2004–2023

(number)

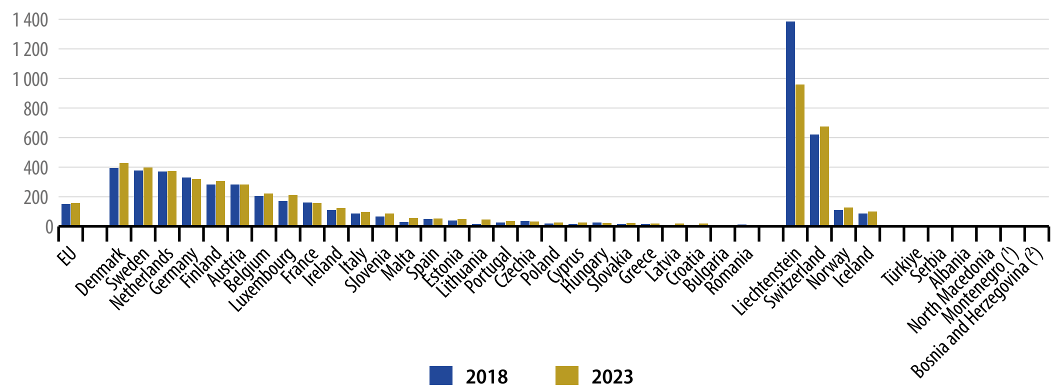


Note: 2023 data are provisional.
Source: EPO (Eurostat online data code: sdg_09_40)

FIGURE 9.4

Patent applications to the European Patent Office (EPO), by country of inventor, 2018 and 2023

(per million inhabitants)



Note: 2023 data are provisional.
([1]) 2022 data (instead of 2023).
([2]) No data for 2023.
Source: EPO, Eurostat (online data code: sdg_09_40)

R&D personnel

LONG TERM
2007–2022

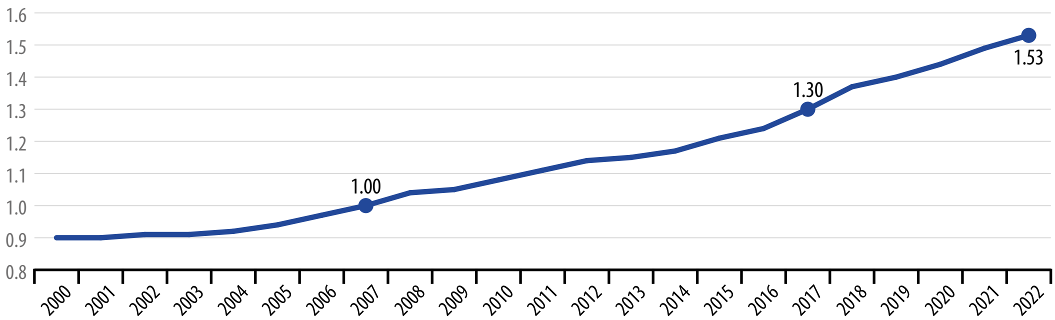
SHORT TERM
2017–2022

This indicator measures the share of R&D personnel in the following institutional sectors: business enterprise, government, higher education and private non-profit. Data are presented in full-time equivalents as a share of the labour force. R&D personnel consists of persons engaged directly in R&D, which refers to the creative and systematic work undertaken to increase the stock of knowledge, including knowledge of humankind, culture and society, and to devise new applications of available knowledge. In addition, R&D personnel also includes those providing direct services for the R&D activities, such as R&D managers, administrators, technicians and clerical staff.

FIGURE 9.5

R&D personnel, EU, 2000–2022

(% of population in the labour force)

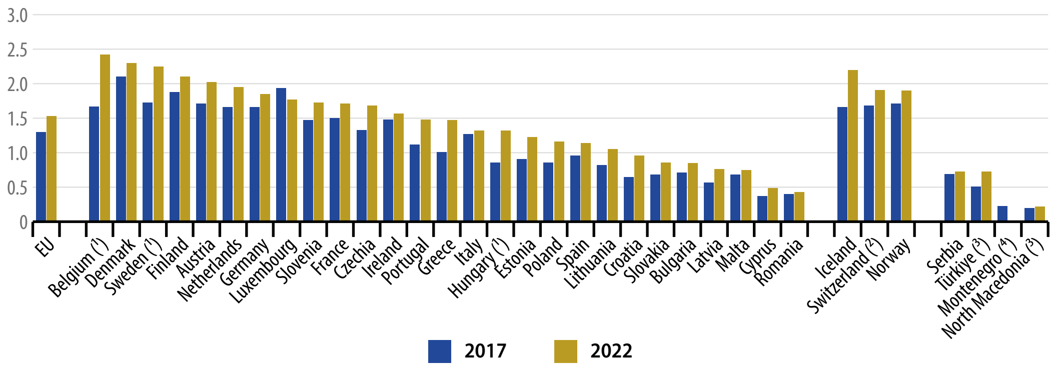


Note: Estimated data.
Source: Eurostat (online data code: sdg_09_30)

FIGURE 9.6

R&D personnel, by country, 2017 and 2022

(% of population in the labour force)



Note: 2022 data are provisional and/or estimated for many countries.
(1)Break(s) in time series between the two years shown.
(2)2021 data (instead of 2022).
(3)2020 data (instead of 2022).
(4)No data for 2022.
Source: Eurostat (online data code: sdg_09_30)

Air emissions intensity of industry

This indicator measures the emissions intensity of particulate matter (PM_{10} and $PM_{2.5}$) from the manufacturing sector (NACE Rev. 2 sector 'C'). Air emissions are defined as flows of gaseous and particulate materials emitted into the atmosphere. Fine and coarse particulates (PM_{10}) are less than 10 micrometres in diameter and can be carried deep into the lungs, where they can cause inflammation and exacerbate the condition of people suffering from heart and lung diseases. Fine particulates ($PM_{2.5}$) are less than 2.5 micrometres in diameter and are therefore a subset of the PM_{10} particles. Their negative health impacts are more serious than PM_{10} because they can be drawn further into the lungs and may be more toxic. Emission intensity is calculated by dividing the sector's PM emissions by its gross value added (GVA), which is defined as output (at basic prices) minus intermediate consumption (at purchaser prices).

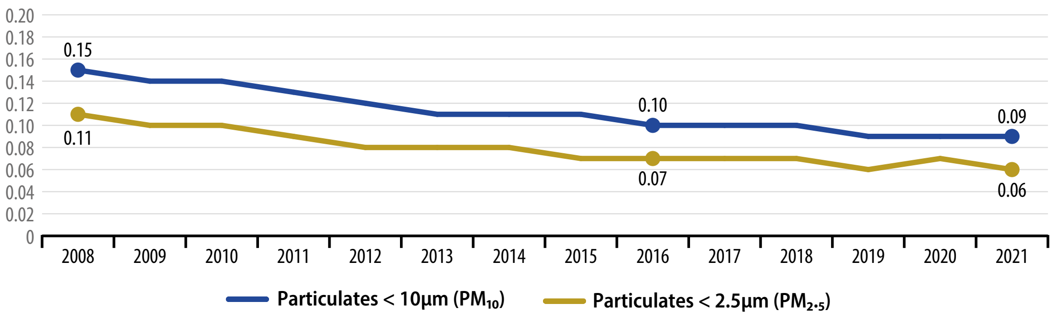
LONG TERM
2008–2021

SHORT TERM
2016–2021

FIGURE 9.7

Air emissions intensity of industry for particulate matter, EU, 2008–2021

(grams per euro, chain-linked volumes, 2010)

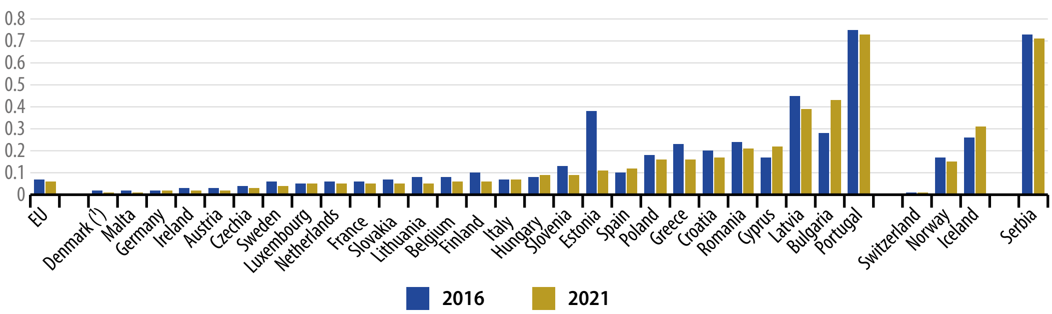


Note: 2008 data are Eurostat estimates.
Source: Eurostat (online data code: sdg_09_70)

FIGURE 9.8

Air emissions intensity of industry for particulate matter ($PM_{2.5}$), by country, 2016 and 2021

(grams per euro, chain-linked volumes, 2010)



([1]) 2020 data (instead of 2021).
Source: Eurostat (online data code: sdg_09_70)

Share of buses and trains in inland passenger transport

LONG TERM 2006–2021

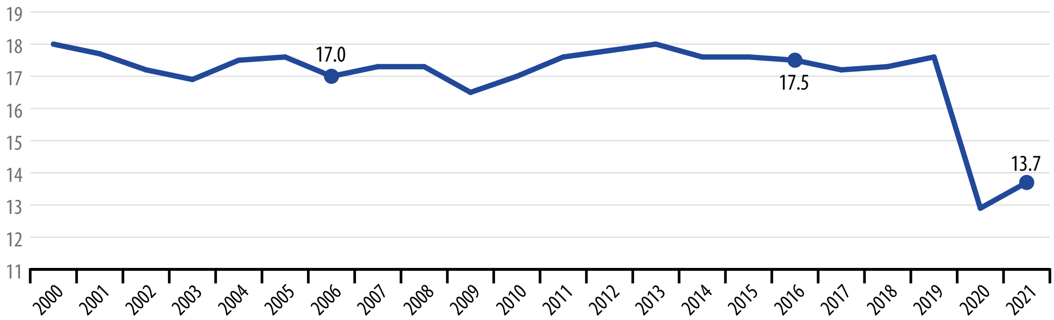
SHORT TERM 2016–2021

This indicator measures the share of buses, including coaches and trolley-buses, and trains in inland passenger transport, expressed in passenger-kilometres (pkm). Passenger transport here includes transport by passenger cars, buses and coaches, and trains, but excludes inland waterways, air and sea transport. All data are based on movements within national territories, regardless of the vehicle's nationality. Road data stem from a voluntary collection and are not fully harmonised at the EU level. Tram and metro systems are not included because the data collection methodology for these means of transport is not sufficiently harmonised between Member States.

FIGURE 9.9

Share of buses and trains in inland passenger transport, EU, 2000–2021

(% of passenger-km)



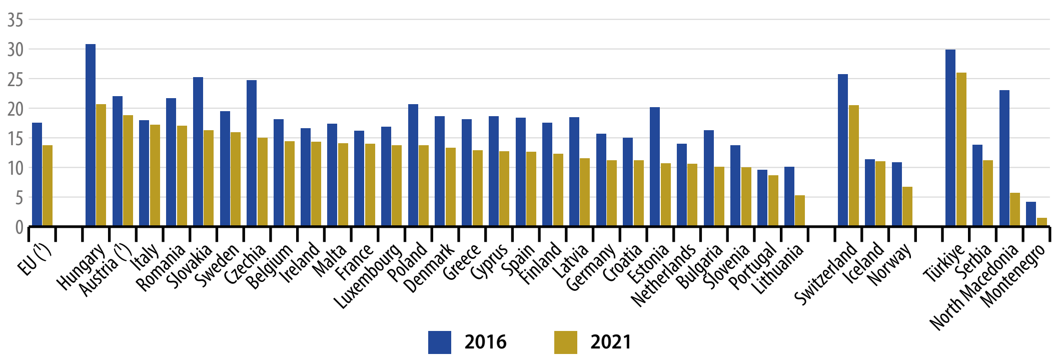
Note: Estimated data; multiple breaks in time series.

Source: Eurostat (online data code: sdg_09_50)

FIGURE 9.10

Share of buses and trains in inland passenger transport, by country, 2016 and 2021

(% of passenger-km)



Note: Estimated data for EU and many countries.
(¹) Break(s) in time series between the two years shown.

Source: Eurostat (online data code: sdg_09_50)

Share of rail and inland waterways in inland freight transport

This indicator measures the share of rail and inland waterways in inland freight transport, expressed in tonne-kilometres (tkm). Inland freight transport includes road, rail and inland waterways. All data are based on movements on national territory; rail and inland waterways transport are collected based on movements on national territory, regardless of the nationality of the train or vessel. Road transport activity is collected according to the country of registration of the vehicle, regardless of the territory where the activity is performed. The activity is redistributed to the territory where the activity is actually performed by modelling the likely journey itinerary on the European road network. Neither sea nor air freight transport are currently included.

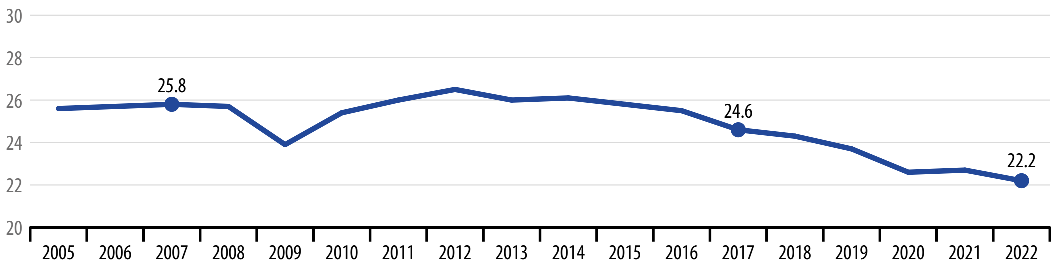
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 9.11

Share of rail and inland waterways in inland freight transport, EU, 2005–2022

(% of freight tonne-km)

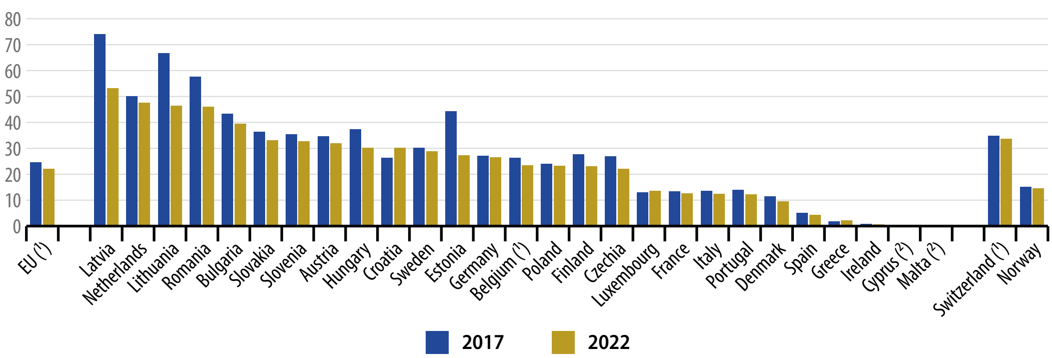


Note: Data for 2005–2008 and 2012–2022 are estimated.
Source: Eurostat (online data code: sdg_09_60)

FIGURE 9.12

Share of rail and inland waterways in inland freight transport, by country, 2017 and 2022

(% of freight tonne-km)



([1]) Estimated data. ([2]) Not applicable (no rail or inland waterways).
Source: Eurostat (online data code: sdg_09_60)

Notes

(1) Source: Eurostat (online data code: rd_e_gerdtot).

(2) Ibid.

(3) European Patent Office (2009), *Annual Report 2009*, p. 13.

(4) International Labour Organization (2021), *World Employment and Social Outlook — Trends 2021*, p. 114.

(5) Eurostat (2024), *Research and development (R&D) — Reference Metadata*.

(6) Source: Eurostat (online data code: rd_p_persocc).

(7) Source: Eurostat (online data code: rd_p_femres).

(8) European Commission (2020), *A New Industrial Strategy for Europe*, COM(2020) 102 final, p. 2.

(9) European Commission (2024), *Air*.

(10) World Health Organization (2022), *Ambient (outdoor) air pollution*.

(11) Source: Eurostat (online data code: env_ac_ainah_r2).

(12) Source: Eurostat (online data codes: env_ac_ainah_r2 and nama_10_a10).

(13) European Environment Agency (2023), *Industrial pollutant releases to air in Europe*.

(14) Source: Eurostat (online data codes: env_ac_ainah_r2 and nama_10_a10).

(15) Source: Eurostat (online data code: env_ac_egss1).

(16) European Environment Agency (2019), *Environmental Goods and Services Sector: employment and value added*.

(17) Tram and metro systems, as well as active modes (walking, cycling), are not included because the data collection methodology for these means of transport is not sufficiently harmonised between Member States.

(18) Source: Eurostat (online data code: tran_hv_psmod).

(19) See European Commission, *Key Indicators*.

(20) Data until 2018 refer to FTTP (fiber to the premises) only, while data from 2019 onwards refer to both FTTP and DOCSIS 3.1 (Data Over Cable Service Interface Specification). DOCSIS allows adding high-bandwidth data transfer to existing cable television systems.

(21) In the context of the EU's digital agenda scoreboard indicators, rural areas are defined as those with fewer than 100 people per km^2.

(22) European Commission (2021), *2030 Digital Compass: the European way for the Digital Decade*, COM(2021) 118 final, p. 6.

10 REDUCED INEQUALITIES

Reduce inequality within and among countries

SDG 10 addresses inequalities within and among countries. It calls for nations to reduce inequalities in income as well as those based on age, sex, disability, race, ethnicity, origin, religion, or economic or other status within a country. The goal also addresses inequalities among countries and calls for support for safe migration and mobility of people.

It is widely agreed that economic prosperity alone will not achieve social progress. High levels of inequality risk leaving much human potential unrealised, damage social cohesion, hinder economic activity and undermine democratic participation. Leaving no one behind is thus a crucial part of achieving the SDGs. Monitoring SDG 10 in an EU context thus focuses on inequalities within countries, inequalities between countries, and migration and social inclusion. The EU has made significant strides in addressing income inequalities within countries over the five-year period assessed. Additionally, the trends in economic disparities between EU countries show a long-term convergence of Member States in terms of GDP and income. The picture is also quite positive for the area of migration and social inclusion of people with a migrant background, where the EU has made progress in reducing differences in social and labour market inclusion between home-country nationals and non-EU citizens.

Indicators measuring progress towards SDG 10, EU

Indicator	Period	Annual growth rate	Assessment	More info
Inequalities within countries				
Income quintile share ratio	2010–2022	– 0.3 %	↗	page 199
	2017–2022	– 1.2 %	↑	
Income share of the bottom 40 % of the population	2010–2022	0.1 %	→	page 200
	2017–2022	0.5 %	↗	
Relative median at-risk-of-poverty gap	2010–2022	0.0 %	→	page 201
	2017–2022	– 1.3 %	↑	
Urban–rural gap for risk of poverty or social exclusion (*)	Time series too short for long-term assessment		:	page 206
	2017–2022	– 32.7 % (1)	↑	
Inequalities between countries				
Disparities in GDP per capita	2008–2023	– 1.1 % (2)	↑	page 202
	2018–2023	– 1.8 % (2)	↑	
Disparities in household income per capita	2007–2022	– 2.1 % (2)	↑	page 204
	2017–2022	– 2.5 % (2)	↑	
Migration, asylum and social inclusion				
Asylum applications	No assessment due to lack of policy targets		:	page 205
Citizenship gap for risk of monetary poverty after social transfers (*)	2010–2022	– 0.1 % (3)	→	page 207
	2017–2022	– 3.1 % (3)	↑	
Citizenship gap for early leavers from education and training (*)	2008–2023	– 2.6 % (3)	↑	page 208
	2018–2023	– 0.1 % (3)	→	
Citizenship gap for young people neither in employment nor in education and training (NEET) (*)	2008–2023	– 1.0 % (3)	↗	page 208
	2018–2023	– 3.1 % (3)	↑	

Indicator	Period	Annual growth rate	Assessment	More info
Citizenship gap for employment rate (*)	2008–2023	3.7 % (3)	↓	page 208
	2018–2023	– 1.4 % (3)	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

(1) Trend refers to evolution of gap between cities and rural areas.

(2) Calculation of trend based on coefficient of variation.

(3) Trend refers to evolution of gap between citizens of reporting EU countries and non-EU citizens.

Policy context

Inequalities within countries

The European Pillar of Social Rights sets out 20 key principles to support fair and well-functioning labour markets and welfare systems and to tackle inequalities. It ensures solidarity between generations and creates opportunities for all.

The Just Transition Mechanism supports those who will be most affected by the transition to a climate-neutral society. The Council Recommendation on ensuring a fair transition towards climate neutrality provides guidance for addressing the relevant employment and social aspects linked to the green transition. The Social Climate Fund helps vulnerable households, micro-enterprises and transport users cope with the price impacts of an emissions trading system on the road transport and building sectors.

The Fund for European Aid to the Most Deprived supports the most vulnerable in society by providing them with food and basic material assistance, complemented by accompanying measures for social inclusion.

The Communication on better assessing the distributional impact of Member States' policies calls for an increased use of distributional impact assessment in order to more systematically assess the distributional impacts of planned (or existing) measures on various population groups (including on various income groups).

The revised European Social Fund Plus (ESF+), with a total budget of EUR 142 billion from the Multiannual Financial Framework 2021–2027, helps to reduce inequalities. The ESF+ contributes to equal opportunities for children, a fair start for young people, more inclusive labour markets, and social integration for more disadvantaged people.

The Commission has committed to making progress towards a Union of Equality and has adopted several strategies and actions after 2020. These include the Gender Equality Strategy 2020–2025, the LGBTIQ Equality Strategy 2020–2025, the EU anti-racism action plan 2020–2025, the EU Roma strategic framework for equality, inclusion and participation, the Strategy for the Rights of Persons with Disabilities 2021–2030, the Strategy on Combating Antisemitism and Fostering Jewish life (2021–2030), as well as actions to combat anti-Muslim hatred. Moreover, a Communication 'No place for hate: a Europe united against hatred' was adopted in December 2023.

Inequalities between countries

By reducing disparities in the levels of development of European regions, the European Regional Development Fund strengthens economic and social cohesion in the EU.

The 2021–2027 EU Cohesion Policy seeks to ensure all EU regions participate in the green and digital transitions in a fair and territorially balanced way.

Migration, asylum and social inclusion

The European Commission's New Pact on Migration and Asylum aims to create faster migration processes and stronger governance of migration and border policies.

The Action Plan on Integration and Inclusion (2021–2027) supports migrants' inclusion in education and employment, access to health services and affordable housing.

The EU Skills Profile Tool for Third Country Nationals assists displaced persons, migrants and citizens of non-EU countries in profiling their skills and work qualifications to reception, employment and education services.

Overview and key trends

Inequalities within countries

A high level of inequality can harm society in many ways. It can hamper social cohesion, result in lost opportunities for many, hinder economic activity, reduce social trust in institutions, lead to disproportionate exposure to adverse environmental impacts such as climate change and pollution, and undermine democratic participation ([1]). Technological innovation and financial globalisation are some of the many factors driving inequality within countries by favouring people with specific skills or accumulated wealth ([2]). Similarly, the transition to a climate-neutral society will have to be managed well to prevent rising inequality.

The income gap between high-income and low-income households in the EU has narrowed over the past few years

Analysing income distribution is one of the ways inequality within EU countries can be measured. The income quintile share ratio compares the income received by the 20 % of the population who have the highest equivalised disposable income with the income of the 20 % with the lowest equivalised disposable income. The higher this ratio, the bigger the income inequality between the bottom and the top ends of the income distribution. In the EU, this ratio had been decreasing in recent years, falling from 5.22 in the income year 2013 to 4.89 in the income year 2019 ([3]). After a reversal of this trend in the income year 2020, when the ratio rose to 4.99 owing to the impact of COVID-19, the decline resumed in the income year 2021 with the ratio falling to 4.74. This means that the income of the richest 20 % of the EU households was almost five times as much as the poorest 20 %.

In the income year 2021, the income of the richest 20 % of the population in the EU was

4.74

times higher than that of the poorest 20 %

Reflecting the trend in the income quintile share ratio, the income share of the bottom 40 % of the population in the total equivalised disposable income had been increasing between the income years 2013 and 2018, followed by a stagnation and a slight decline in the next two years. However, this has also been a temporary reversal, as the income year 2021 saw a marked increase of this share to 21.7 %, representing a 0.4 percentage point improvement relative to the income year 2020. In addition to the significant improvements in the short term, the long-term trend shows an overall moderate progress in reducing the gap between the rich and the poor in the EU over the 12-year period assessed. It needs to be noted that recent trends in the two income inequality indicators analysed in this report are affected by methodological changes in the data collection from 2020 (referring to the income year 2019) onwards in a few Member States ([4]).

21.7 %

was the share of total income earned by the bottom 40 % of the EU population in the income year 2021

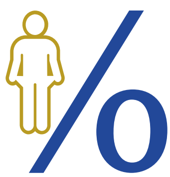
Economic inequality affects children's long-term opportunities

Inequality is also of particular concern regarding the long-term outcomes and opportunities for children. It puts those affected at a disadvantage from the start in areas with long-lasting consequences, such as physical and mental health and education, thus undermining their development and human potential. To evaluate these disadvantages, indicators on several dimensions of childhood inequality of opportunity, such as income ([5]) and education ([6]), have been developed. Circumstances outside individual control, particularly parental background, lead to unequal outcomes in labour and disposable income. The contribution of parental background amounts to around three-quarters of the overall inequality of opportunity ([7]).

Moreover, there are wide variations between EU Member States regarding the childcare gap, which refers to a period in which families with young children are unable to benefit from childcare leave or a guaranteed place in early childhood care. While some Member States experience no childcare gap (for example, Denmark and Slovenia), others offer a relatively short period of childcare leave and guarantee a place in early childhood care only relatively late in the child's life, at around five years of age (for example, the Netherlands and Ireland). Additionally, affordability of childcare remains an issue, especially for parents with multiple children and who are from low-income households ([8]). Despite the observed positive benefits of early childhood education and care (ECEC) among children from socioeconomically disadvantaged backgrounds, children from these backgrounds are less likely to participate in ECEC, particularly children under three years of age who are at risk of poverty and social exclusion, whose parents do not hold tertiary qualifications, and who live in large families ([9]).

The poverty gap and the at-risk-of-poverty-or-social-exclusion gap between urban and rural areas have both narrowed in recent years

Inequality and poverty are closely interrelated. The poverty gap, defined as the distance between the median (equivalised disposable) income of people at risk of poverty and the poverty threshold (set at 60 % of the national median equivalised disposable income after social transfers), has decreased since 2017, showing significant progress in the short run. In 2022, this gap narrowed by 1.4 percentage points relative to 2021 and amounted to 23.1 % in the EU. This means the median income of those below the poverty threshold was 23.1 % lower than the poverty threshold itself. This is a 1.6 percentage point narrowing of the gap since 2017, representing a significant short-term improvement in the 'depth' of monetary poverty in the EU. The long-term trend is characterised by an increase in the gap between 2010 and 2016, followed by a decrease that resulted in the poverty gap in 2022 falling back to the levels seen in 2010.



23.1 %
median distance from the poverty threshold for those at risk of poverty in 2022

In 2022, 21.6 % of the EU population were at risk of poverty or social exclusion ([10]). However, this rate differs between cities and rural areas. In the same year, the urban–rural gap in the at-risk-of-poverty-or-social-exclusion rate amounted to 0.4 percentage points, with 21.7 % of people living in cities being in this situation, compared with 22.1 % of people in rural areas. This represents a 0.1 percentage point decrease in the gap compared with 2021. The lowest share of people at risk of poverty or social exclusion was observed in towns and suburbs, with 21.1 % of people at risk in 2022.

The share of people at risk of poverty or social exclusion in rural areas was
0.4
percentage points higher than in cities in 2022

The gap in the risk of poverty or social exclusion rate between cities and rural areas at EU level has thus significantly narrowed compared with 2017, when it was 2.9 percentage points. This development is the result of a stronger improvement in rural areas, where the share of people at risk of poverty or social exclusion has fallen by 2.7 percentage points since 2017. In contrast, the rate in cities has decreased by only 0.2 percentage points over the same time span.

However, the overall EU figure masks the full scope of the broad variations in gaps among Member States. Rural poverty remains extremely high in some European countries, such as Bulgaria and Romania, where 43.1 % and 47.9 % of the rural population were at risk of poverty or social exclusion in 2022. This amounted to an urban–rural gap of 19.4 and 29.0 percentage points in these two countries, respectively. However, while rural areas generally tend to be at a higher risk of poverty due to out-migration and limited access to services, infrastructure, labour markets and educational opportunities ([11]), this is not the case in all Member States. Countries such as Malta, Austria, France and Belgium are reporting much higher poverty rates in cities than in rural areas.

There also exist large regional variations within the Member States, with more than 30 % of the population in numerous regions in Spain, Italy, Greece, Romania and Bulgaria being at risk of poverty ([12]). Specifically, certain minorities such as Roma are at a much higher risk of monetary poverty. As of 2021, 80 % of Roma were at risk of monetary poverty, with their situation remaining unchanged since 2016. Moreover, 48 % of Roma were living in severe material deprivation in 2021, a reduction of 14 percentage points compared with 2016. Roma children under the age of 18 are particularly affected by poverty, with 83 % of those being at risk of poverty and 54 % living in households with severe material deprivation in 2021. This further adds to the vulnerability of the Roma population ([13]).

The gap between high-income and low-income population groups extends to their carbon footprint

In recent years, research has increasingly pointed to the greenhouse gas (GHG) emissions gap between the high-income and low-income population groups. This emissions gap highlights that the poorer sections of the society contribute less to the climate crisis. Research has shown that reaching the EU's 2030 target to reduce GHG emissions to at least 55 % below 1990 levels necessitates addressing carbon inequality within the EU ([14]). According to the report on Carbon Inequality in 2030 by Oxfam, the consumption emissions of the poorest 50 % of the population in the EU are estimated to fall to the per capita level needed to limit global warming to 1.5 °C by 2030, while the richest 10 % stand to be five to six times above this level. Data from the World Inequality Database show that in the EU, the carbon footprint — referring to per capita CO_2 emissions from consumption — of the richest 10 % of the population was 5.0 times higher than that of the poorest 50 % in 2020. The ratio has stagnated at this level since 2015. The Member States with the widest carbon footprint gap between the top 10 % and the bottom 50% were Luxembourg, Romania and Austria, with ratios of 7.1, 6.5 and 6.3, respectively, in 2020. In comparison, the gap was the narrowest in Malta and the Netherlands, at 3.9 and 4.0, respectively. Overall, carbon footprint inequality in the EU is somewhat smaller than in other parts of the world. For example, the ratio amounted to 5.8 in Japan and 6.5 in the United States. A much higher carbon inequality was measured in India and China, with ratios of 10.2 and 12.6, respectively.

Inequalities between countries

We live in an interconnected world, where problems and challenges — such as poverty, climate change or migration — are rarely confined to one country or region. Therefore, reducing inequalities between countries is important, not only from a social cohesion perspective, but also as a prerequisite for solving many interdependent problems. Cohesion between Member States is one of the EU's objectives, as mentioned in the Treaty on European Union (article 3.3).

Economic disparities between EU countries in terms of GDP and household income have fallen strongly in recent years

Not only have economic performance, incomes and living standards improved across the EU as a whole over time, they have also converged between countries. A way to measure such conversion is by looking at the coefficient of variation, expressed as the ratio of the standard deviation to the mean (in %). A lower coefficient of variation indicates less disparities between Member States. The two indicators used to measure this convergence show that inequalities between EU countries have decreased over the 15-year period assessed, even though the short-term trends are mixed.

The coefficient of variation in gross domestic product (GDP) per capita — expressed in purchasing power standards (PPS) — shows that economic disparities between Member States have narrowed since 2000, reaching 38.1 % in 2023. Most of this convergence took place in the period leading up to the 2008 economic crisis and between 2015 and 2019. After a temporary turnaround of the trend during the COVID-19 crisis in 2020 and 2021, when economic disparities between countries increased, the coefficient of variation resumed its downward trend in 2022 and 2023. The progress in economic convergence was particularly strong in 2023, when the coefficient of variation fell by 4.3 percentage points compared with 2022. At Member State level, purchasing power-adjusted GDP per capita ranged from 64 % of the EU average in Bulgaria to 240 % in Luxembourg in 2023.

38.1 %
variation in GDP per capita between Member States in 2023

While GDP per capita is used to measure a country's economic performance, adjusted gross household disposable income provides an indication of the average material well-being of people. Gross household disposable income reflects households' purchasing power and ability to invest in goods and services or save for the future, by taking into account taxes, social contributions and in-kind social benefits. The coefficient of variation in gross household disposable income between Member States has significantly decreased over time, reaching 23.6 % in 2022. This figure is 3.2 percentage points less than in 2017 and an 8.8 percentage point improvement since 2007.

23.6 %
variation in household disposable income across the EU in 2022

However, a clear north–south and west–east divide is evident when looking at the geographical distribution of GDP per capita and household income (from national accounts) in the EU. EU citizens living in northern and western European countries with above-average GDP per capita levels had the highest gross disposable income per capita. At the other end of the scale were eastern and southern EU countries, which displayed gross household disposable incomes and GDP per capita levels below the EU average.

Migration, asylum and social inclusion

The Syrian conflict, unstable situations in Afghanistan and some African countries, crises in several Latin American countries such as Venezuela, Colombia, Honduras and Nicaragua, and the war in Iraq have contributed to an unprecedented surge of migration into the EU over the past few years. Russia's invasion of Ukraine has led to a mass movement of people fleeing the war to seek temporary protection in the EU. The successful integration of migrants is decisive for the future well-being, prosperity and cohesion of European societies. To ensure the social inclusion of immigrants and their children, it is essential to strengthen the conditions that will enable their participation in society, including their active participation in education and training and their integration into the labour market. Successful integration of migrants into the EU labour force has the potential to slow the ongoing trend of population ageing and to address skills shortages.

The number of asylum applications in the EU has risen strongly since 2020

The urge to seek international protection is one of the main reasons why people cross borders. In 2023, the EU received 1 049 020 first-time asylum applications ([15]), which is an almost 20 % increase since 2022. During 2023, around 358 000 people were granted protection status at the first instance in the EU ([16]). In relation to the EU population, these numbers equal 2 338 first-time asylum applications and 798 positive first-instance decisions per million EU inhabitants in 2023.

Following a considerable fall (by one-third) in the number of first-time asylum seekers applying for international protection between 2019 and 2020, owing to the COVID-19 pandemic and related emergency measures such as movement restrictions ([17]), the EU has since seen a consistent rise in asylum applications. Moreover, following the displacement caused, the Council Decision of March 2022 enabled non-EU citizens fleeing Ukraine as a consequence of the Russian invasion on 24 February 2022 to receive immediate and temporary protection. At the end of February 2024, about 4.2 million displaced people were beneficiaries of this temporary protection in the EU. Germany and Poland hosted the highest absolute number of beneficiaries, providing temporary protection to more than half of all beneficiaries in the EU ([18]). The asylum applications received by Member States were the highest in October 2023 for the second month in a row since the refugee crisis of 2015 and 2016. More than a quarter of these applications were made to Germany, and most of the applications were lodged by Syrians ([19]).

2 338
first-time asylum applications per million inhabitants were submitted in the EU in 2023

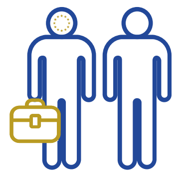
Despite some improvements in recent years, the social inclusion of non-EU citizens remains a challenge

The social integration of migrants is monitored here by comparing the situation of non-EU citizens with citizens of EU Member States that reside in their home country —referred to as 'home-country nationals' in this publication — in the areas of poverty, education and the labour market. In all these areas, people from outside the EU fare less well than EU nationals. However, short-term trends have been mostly favourable, with the gap between home-country nationals and non-EU citizens closing or at least stagnating in almost all areas monitored here.

Trends in the citizenship gap for people at risk of monetary poverty after social transfers show that between 2017 and 2022, poverty rates remained quite stable for EU home-country nationals with a 0.7 percentage point improvement compared with 2017, while those for non-EU citizens fell by 4.6 percentage points over this period. This has contributed to the narrowing of the gap between the two groups by 3.9 percentage points since 2017 showing significant progress. Still, this gap remains large, with 37.2 % of non-EU citizens being at risk of monetary poverty (after social transfers) in 2022, compared with only 14.5 % of home-country nationals.

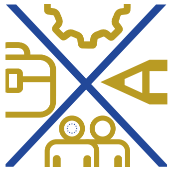
The monetary poverty rate for non-EU citizens was
22.7
percentage points higher than for home-country nationals in the EU in 2022

Between 2018 and 2023, the employment rate for EU home-country nationals aged 20 to 64 increased by 3.2 percentage points, while the rate for non-EU citizens grew by 4.2 percentage points. As a result, the gap between the two groups has narrowed by 1.0 percentage points since 2018. While 76.2 % of EU home-country nationals were employed in 2023, the rate for non-EU citizens stood at 63 %. Thus, despite the stronger improvement for non-EU citizens since 2018, the gap remains considerable, at 13.2 percentage points in 2023.



The employment rate for non-EU citizens was
13.2
percentage points lower than for EU home-country nationals in 2023

The gaps between home-country nationals and non-EU citizens in the area of education and training have evolved differently in recent years. The shares of young people not in employment nor in education and training (NEET) decreased for both groups between 2018 and 2023. The NEET rate for 15- to 29-year old non-EU citizens fell by 3.7 percentage points, reaching 21.5 % in 2023. For home-country nationals of the same age, the NEET rate decreased by 1.8 percentage points in the same period, amounting to 10.4 % in 2023. Thus, a narrowing of the gap by 1.9 percentage points has been visible since 2018. Despite these improvements, the citizenship gap between the two groups still amounted to 11.1 percentage points in 2023.



The NEET rate for non-EU citizens was

11.1

percentage points higher than for EU home-country nationals in 2023

The most striking difference between non-EU citizens and EU home-country nationals is visible for 18- to 24-year-old early leavers from education and training. The early leaving rate of home-country nationals has fallen continuously since 2018, reaching 8.2 % in 2023. Over the same period, the early leaving rate for non-EU citizens experienced ups and downs and overall fell by 1.1 percentage points compared with 2018, reaching 25.3 % in 2023. As a result, the citizenship gap has narrowed slightly by 0.1 percentage points since 2018, reaching 17.1 percentage points in 2023. Because early school leaving and unemployment both have an impact on people's future job opportunities and their lives in general, further efforts are needed to fully integrate young migrants into European societies.

The share of early school leavers among non-EU citizens was

17.1

percentage points higher than for EU home-country nationals in 2023

Main indicators

Income quintile share ratio

LONG TERM
2010–2022

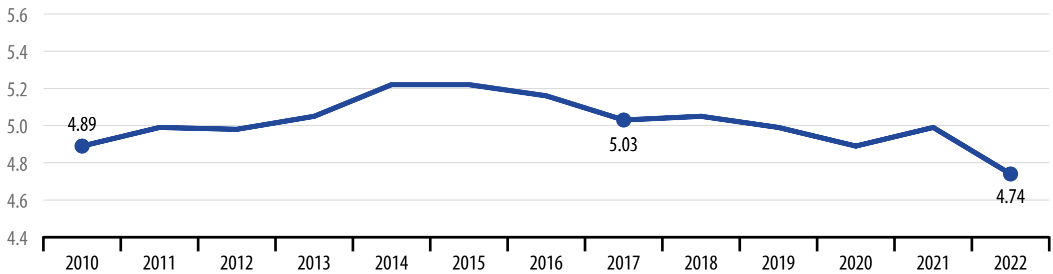
SHORT TERM
2017–2022

The distribution of income can be measured by using, among others [20], the ratio of total equivalised disposable income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile). Equivalised disposable income is the total income of a household (after taxes and other deductions) that is available for spending or saving, divided by the number of household members converted into equivalised adults. Data presented in this section stem from the EU Statistics on Income and Living Conditions (EU-SILC).

FIGURE 10.1

Income quintile share ratio, EU, 2010–2022

(ratio)

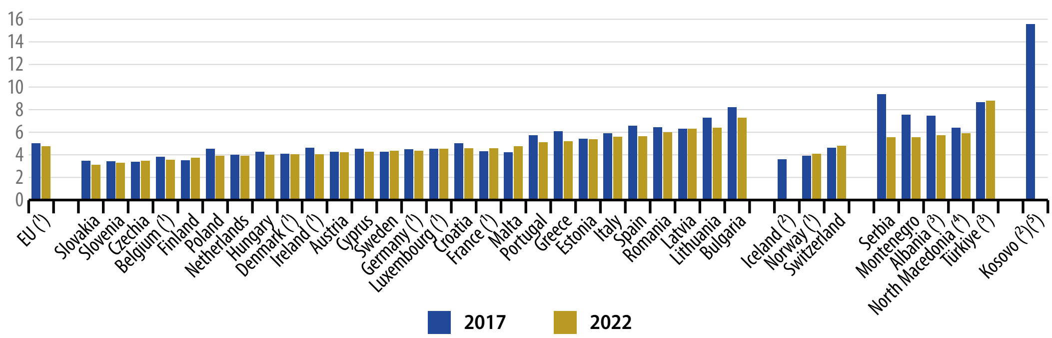


Note: 2014–2019 data are estimated; break in time series in 2020. The data are presented according to the year of the data collection but refer to the income of the previous year (for example, the data for 2022 refer to the income in the year 2021).
Source: Eurostat (online data code: sdg_10_41)

FIGURE 10.2

Income quintile share ratio, by country, 2017 and 2022

(ratio)



Note: The data are presented according to the year of the data collection but refer to the income of the previous year (meaning that the data for 2022 refer to the income in the year 2021).
(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2021 data (instead of 2022).
(4) 2020 data (instead of 2022).
(5) 2018 data (instead of 2017).
Source: Eurostat (online data code: sdg_10_41)

Income share of the bottom 40 % of the population

LONG TERM
2010–2022

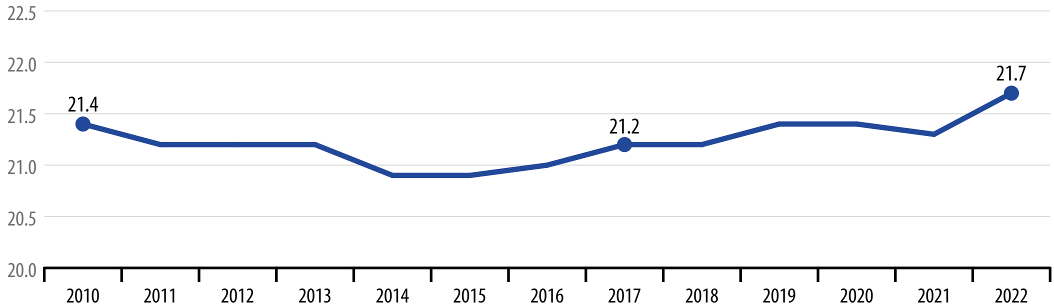
SHORT TERM
2017–2022

This indicator measures the income share received by the bottom 40 % of the population (in terms of income). The income concept used is the total disposable household income, which is a households' total income (after taxes and other deductions) that is available for spending or saving. Data presented in this section stem from the EU Statistics on Income and Living Conditions (EU-SILC).

FIGURE 10.3

Income share of the bottom 40 % of the population, EU, 2010–2022

(% of income)



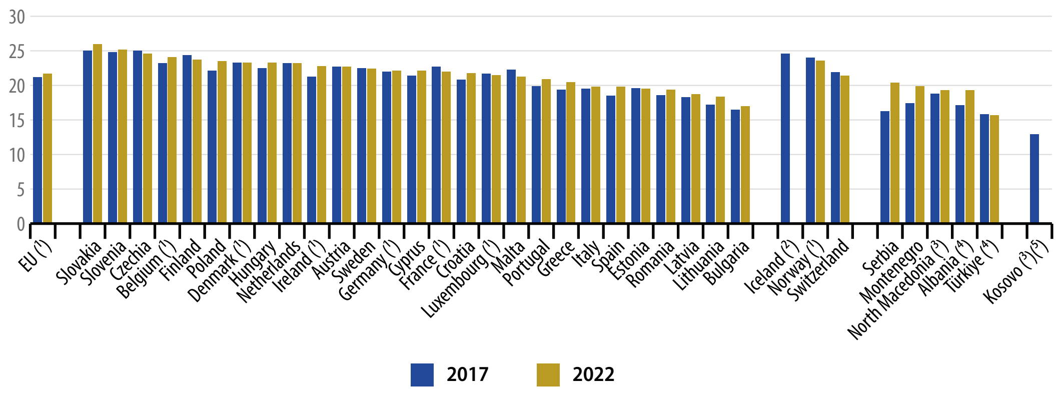
Note: 2014–2019 data are estimated; break in time series in 2020. The data are presented according to the year of the data collection but refer to the income of the previous year (for example, the data for 2022 refer to the income in the year 2021).

Source: Eurostat (online data code: sdg_10_50)

FIGURE 10.4

Income share of the bottom 40 % of the population, by country, 2017 and 2022

(% of income)



Note: The data are presented according to the year of the data collection but refer to the income of the previous year (meaning that the data for 2022 refer to the income in the year 2021).

(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2020 data (instead of 2022).
(4) 2021 data (instead of 2022).
(5) 2018 data (instead of 2017).

Source: Eurostat (online data code: sdg_10_50)

Relative median at-risk-of-poverty gap

The relative median at-risk-of-poverty gap helps to quantify how poor the poor are by showing the distance between the median income of people living below the poverty threshold and the threshold itself, expressed in relation to the poverty threshold. The poverty threshold is set at 60 % of the national median equivalised disposable income of all people in a country and not for the EU as a whole. Data presented in this section stem from the EU Statistics on Income and Living Conditions (EU-SILC).

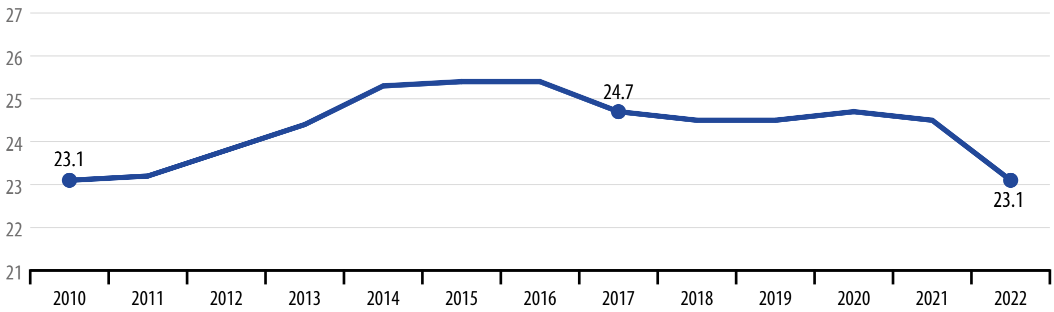
LONG TERM 2010–2022

SHORT TERM 2017–2022

FIGURE 10.5

Relative median at-risk-of-poverty gap, EU, 2010–2022

(% distance to poverty threshold)

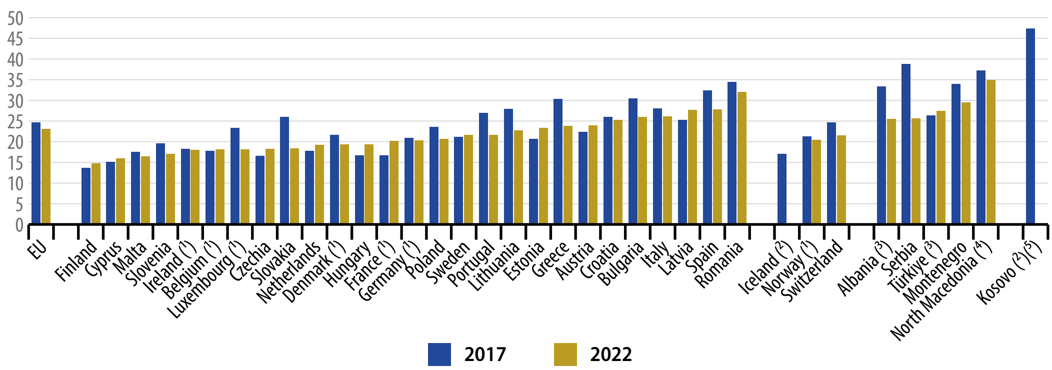


Note: 2014–2019 data are estimated. The data are presented according to the year of the data collection but refer to the income of the previous year (for example, the data for 2022 refer to the income in the year 2021).
Source: Eurostat (online data code: sdg_10_30)

FIGURE 10.6

Relative median at-risk-of-poverty gap, by country, 2017 and 2022

(% distance to poverty threshold)



Note: The data are presented according to the year of the data collection but refer to the income of the previous year (meaning that the data for 2022 refer to the income in the year 2021).
(1) Break(s) in time series between the two years shown.
(2) No data for 2022.
(3) 2021 data (instead of 2022).
(4) 2020 data (instead of 2022).
(5) 2018 data (instead of 2017).
Source: Eurostat (online data code: sdg_10_30)

Disparities in GDP per capita

LONG TERM 2008–2023

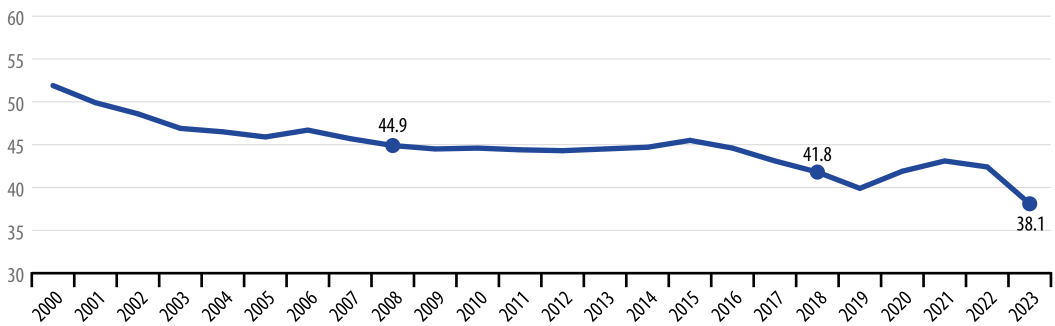
SHORT TERM 2018–2023

GDP per capita is calculated as the ratio of GDP to the average population in a specific year. Basic figures are expressed in purchasing power standards (PPS) which represent a common currency that eliminates differences in price levels between countries to allow meaningful volume comparisons of GDP. The disparities indicator for the EU is calculated as the coefficient of variation of the national figures.

FIGURE 10.7

Disparities in purchasing power adjusted GDP per capita, EU, 2000–2023

(coefficient of variation, in %)

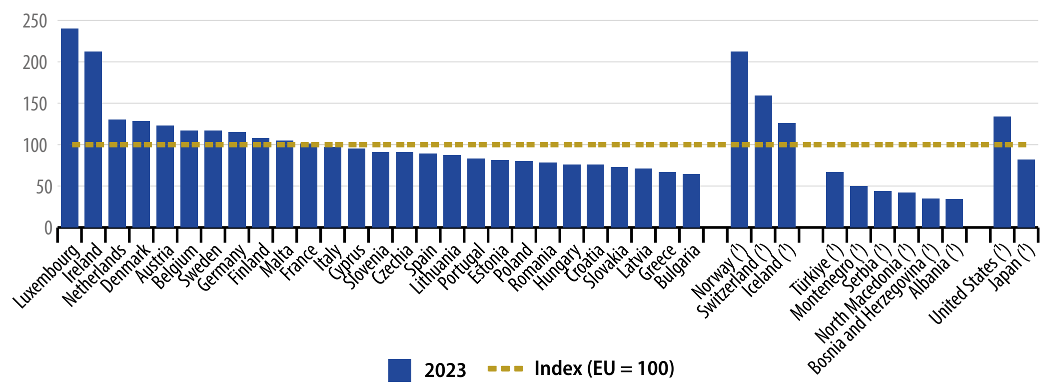


Note: 2023 data are provisional estimates.
Source: Eurostat (online data code: sdg_10_10)

FIGURE 10.8

Purchasing power adjusted GDP per capita, by country, 2023

(index EU = 100)

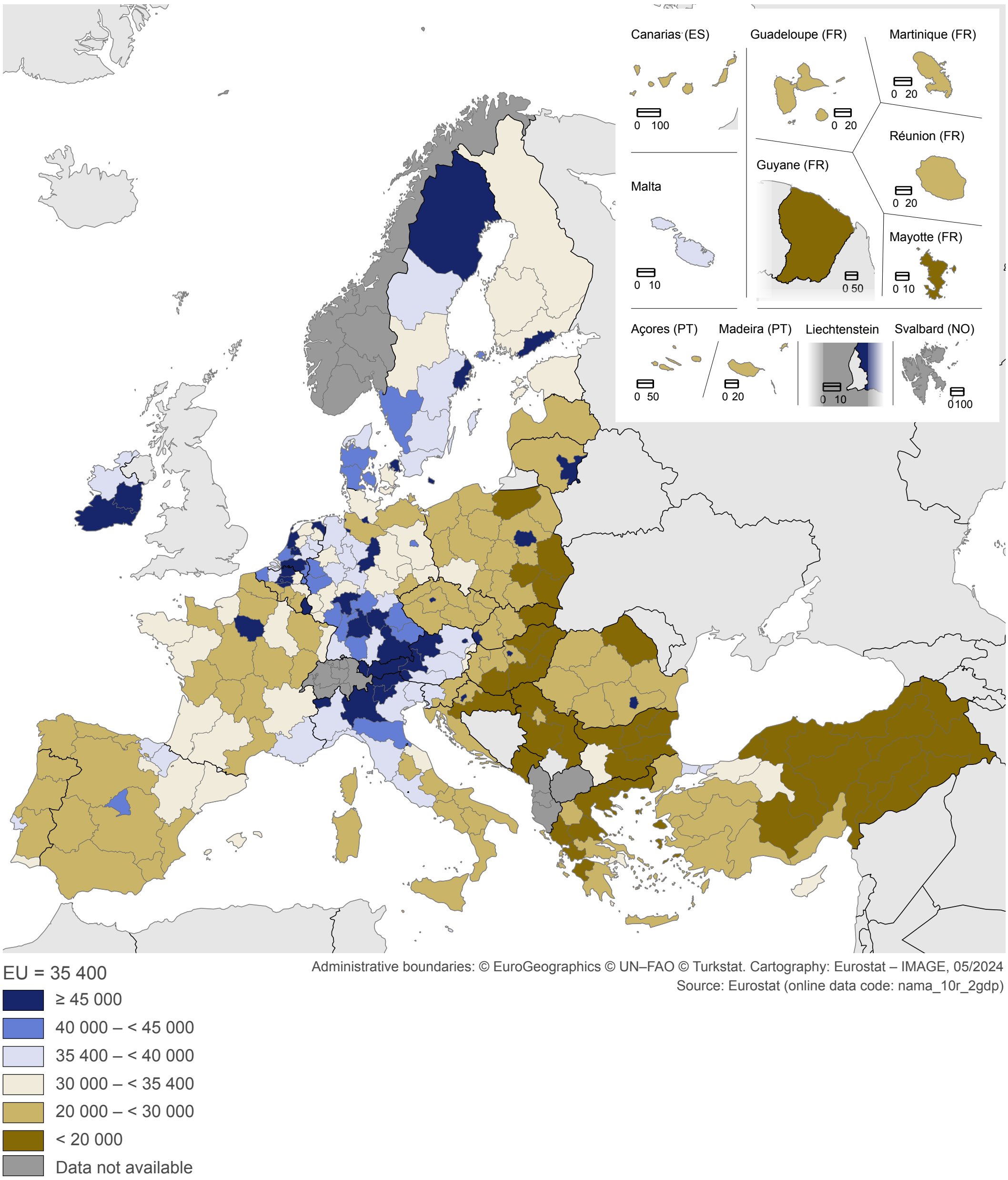


(¹) 2022 data.
Source: Eurostat (online data code: sdg_10_10)

MAP 10.1

Purchasing power adjusted GDP per capita, by NUTS 2 region, 2022

(PPS per inhabitant)



Source: Eurostat (online data code: nama_10r_2gdp)

Disparities in household income per capita

LONG TERM 2007–2022

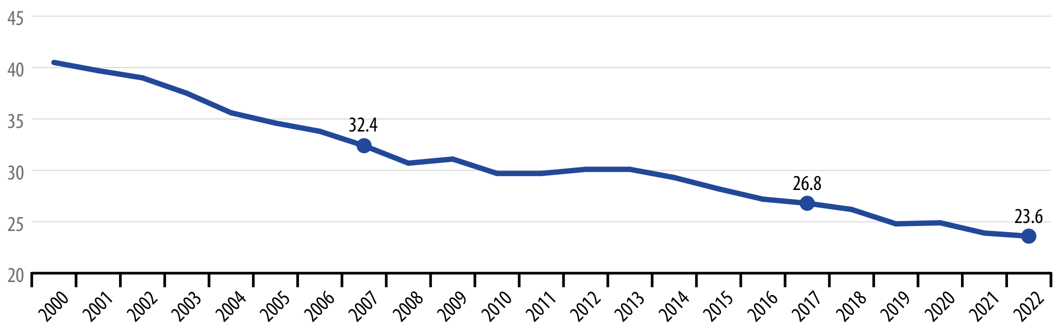
SHORT TERM 2017–2022

The adjusted gross disposable income of households reflects the purchasing power of households and their ability to invest in goods and services or save for the future, by accounting for taxes and social contributions and monetary in-kind social benefits. The disparities indicator for the EU is calculated as the coefficient of variation of the national figures in PPS per capita.

FIGURE 10.9

Disparities in adjusted gross disposable income of households per capita, EU, 2000–2022

(coefficient of variation, in %)



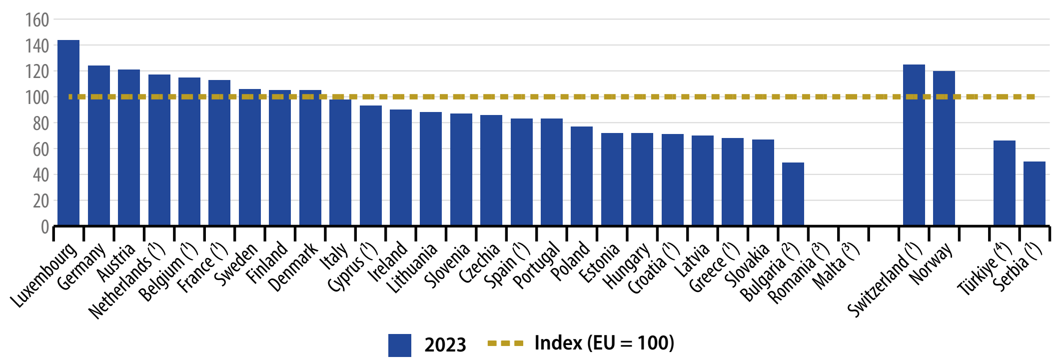
Note: EU coefficient of variation excluding Malta and Romania (whole time series); data for Bulgaria available up to 2017, data for 2018 to 2022 estimated by the authors.

Source: Eurostat (online data code: sdg_10_20)

FIGURE 10.10

Adjusted gross disposable income of households per capita, by country, 2022

(index EU = 100)



(1) Provisional or estimated data.
(2) 2017 data.
(3) No data.
(4) 2021 data.

Source: Eurostat (online data code: sdg_10_20)

Asylum applications

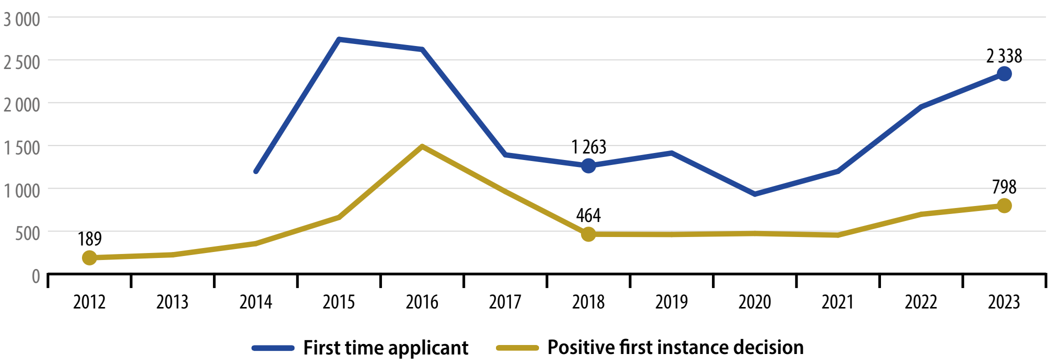
This indicator shows the number of first-time asylum applicants per million inhabitants and the number of positive first instance decisions per million inhabitants. A first-time applicant for international protection is a person who lodged an application for asylum for the first time in a given Member State. First-instance decisions are decisions granted by the respective authority acting as a first instance of the administrative or judicial asylum procedure in the receiving country. The source data are supplied to Eurostat by the national ministries of interior and related official agencies.

X Assessment of progress not applicable due to lack of policy targets

FIGURE 10.11

Asylum applications and decisions, EU, 2012–2023

(number per million inhabitants)

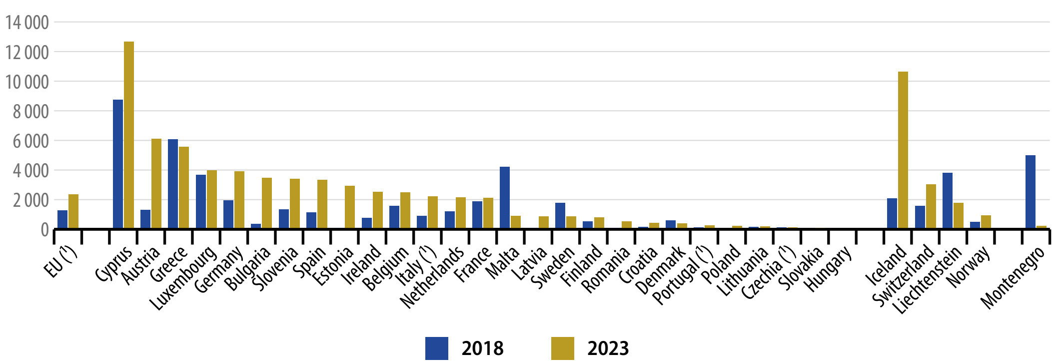


Note: Multiple breaks in population data time series; 2018 to 2023 population data are provisional and/or estimated.
Source: Eurostat (online data code: sdg_10_60)

FIGURE 10.12

First-time asylum applications, by country, 2018 and 2023

(number per million inhabitants)



Note: 2023 data are provisional estimates.
([1]) Break(s) in population data time series between the two years shown.
Source: Eurostat (online data code: sdg_10_60)

Additional multi-purpose indicators

Urban–rural gap for risk of poverty or social exclusion

LONG TERM Time series too short

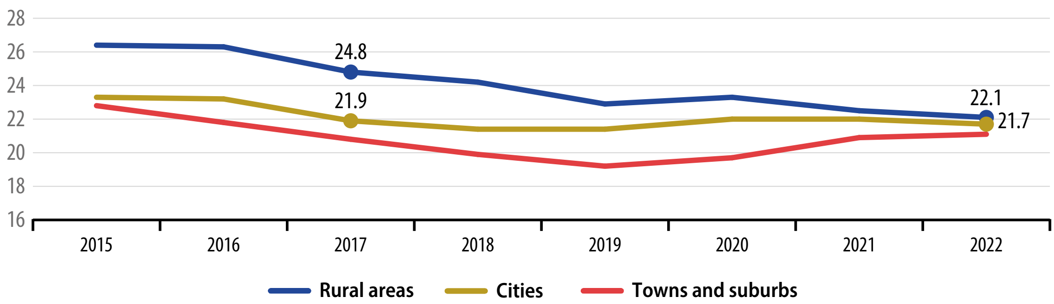
SHORT TERM 2017–2022

Statistics on the degree of urbanisation classify local administrative units as 'cities', 'towns and suburbs' or 'rural areas' depending on population density and the total number of inhabitants. This classification is used to determine the difference in the shares of people at risk of poverty or social exclusion (see page 47 for a description of the main indicator) between cities and rural areas. Data presented in this section stem from the EU Statistics on Income and Living Conditions (EU-SILC).

FIGURE 10.13

People at risk of poverty or social exclusion, by degree of urbanisation, EU, 2015–2022

(% of population)

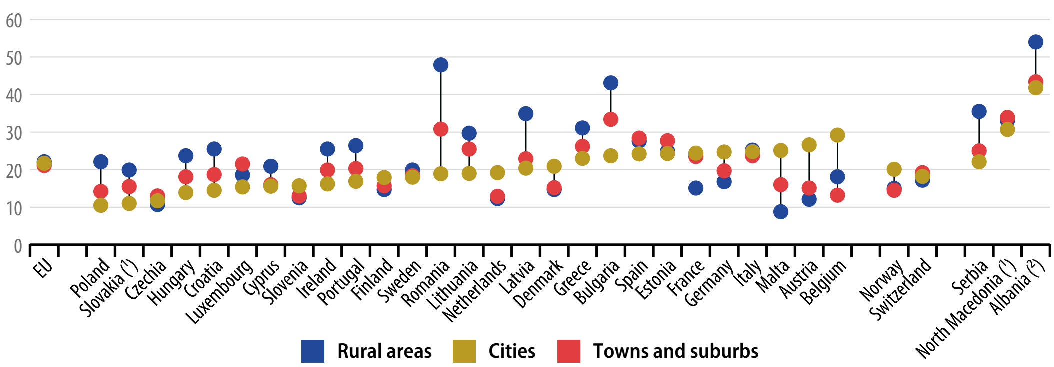


Note: 2015–2018 data are estimated.
Source: Eurostat (online data code: sdg_01_10a)

FIGURE 10.14

People at risk of poverty or social exclusion, by degree of urbanisation, by country, 2022

(% of population)



(¹) 2020 data (instead of 2022). (²) 2021 data (instead of 2022).
Source: Eurostat (online data code: sdg_01_10a)

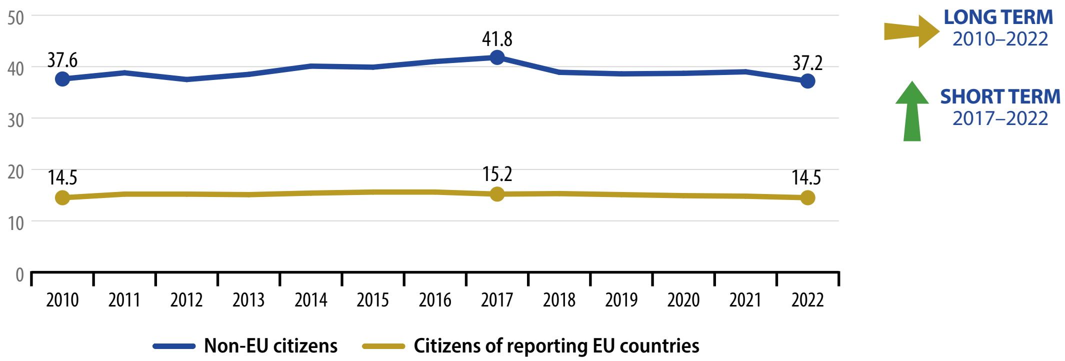
Citizenship gaps between non-EU citizens and citizens of reporting EU countries

This section provides data for different indicators by citizenship. Data are shown for non-EU citizens, referring to citizens of non-EU Member States, and for citizens of the reporting countries, referring to citizens of EU Member States that reside in their home country. Data presented in this section stem from the EU Statistics on Income and Living Conditions (EU-SILC) and from the EU Labour Force Survey (EU-LFS).

FIGURE 10.15

People at risk of monetary poverty after social transfers, by citizenship, EU, 2010–2022

(% of population aged 18 or over)

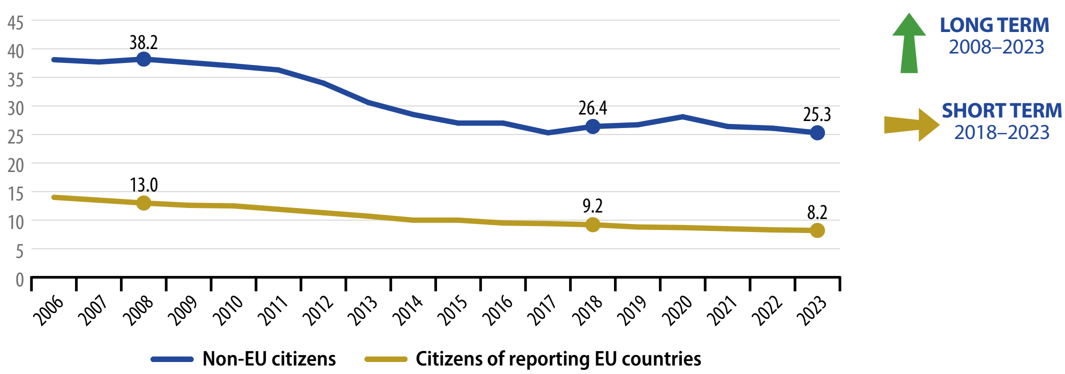


Note: 2010–2019 data are estimated; 2010–2011 data for non-EU citizens have low reliability.
Source: Eurostat (online data code: sdg_01_20a)

FIGURE 10.16

Early leavers from education and training, by citizenship, EU, 2006–2023

(% of population aged 18–24)



Note: Breaks in time series in 2014 and 2021.
Source: Eurostat (online data code: sdg_04_10a)

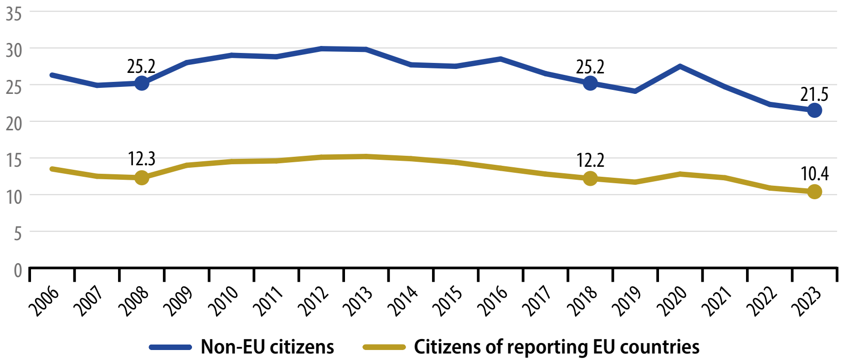
LONG TERM 2008–2023

SHORT TERM 2018–2023

FIGURE 10.17

Young people neither in employment nor in education and training (NEET), by citizenship, EU, 2006–2023

(% of population aged 15–29)



Note: Break in time series in 2021.
Source: Eurostat (online data code: sdg_08_20a)

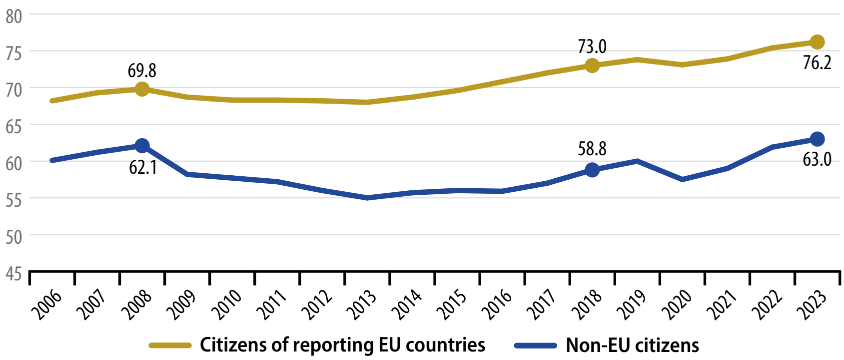
LONG TERM 2008–2023

SHORT TERM 2018–2023

FIGURE 10.18

Employment rate, by citizenship, EU, 2006–2023

(% of population aged 20–64)



Note: Break in time series in 2021.
Source: Eurostat (online data code: sdg_08_30a)

Notes

(1) OECD (2017), *Understanding the socio-economic divide in Europe. Background report*.

(2) Darvas, Z. and Wolff, B. (2016), *An Anatomy of Inclusive Growth in Europe*, pp.14–15.

(3) The term ‘income year’ is used here to emphasise that the income data collected for EU-SILC in a given year refer to the income situation of the previous year. The EU-SILC indicators provide insights on the economic well-being and other living conditions on EU residents based on data collected during a specific year, denoted as N. This data encompasses both the characteristics of households for that year (N) and the income from the preceding year, N-1. The income for year N-1 is an estimate for income of year N within EU-SILC. Income data collected for SILC refer to the situation in the previous year, meaning that data labelled as 2022 refer to people’s incomes in 2021. To emphasise this aspect, the analysis of SILC income data in this chapter uses the term ‘income year’, thereby highlighting that the data describe the situation in the year N-1 rather than in the year N when they were collected.

(4) In 2020, the German EU-SILC survey was integrated into the newly designed German microcensus, leading to a substantial break in the time series between 2019 and 2020, with income variables being the most affected by the break. For more information see the related information note. Additionally, further countries such as France also reported methodological changes in 2020, which also affected the EU total.

(5) European Commission, *EU social indicators dataset: Inequality of opportunity — income dimension*.

(6) European Commission, *EU social indicators dataset: Inequality of opportunity — education dimension*.

(7) European Commission (2022), *Employment and social developments in Europe 2022*, Publications Office of the European Union, Luxembourg.

(8) European Platform for Investing in Children (EPIC) (2020), *The Childcare Gap in EU Member States*, Publications Office of the European Union, Luxembourg.

(9) European Commission (2022), *Employment and social developments in Europe 2022*, Publications Office of the European Union, Luxembourg.

(10) Source: Eurostat (online data code: sdg_01_10).

(11) Volonteurope (2016), *Rural isolation of citizens in Europe*.

(12) European Commission (2022), *Cohesion in Europe towards 2050 – Eighth report on economic, social and territorial cohesion*, Publications Office of the European Union, Luxembourg.

(13) European Union Agency for Fundamental Rights (2022), *Roma in 10 European Countries. Main results*, Vienna.

(14) Oxfam (2020), *Confronting Carbon Inequality in the European Union*.

(15) Source: Eurostat (online data code: migr_asyappctza).

(16) Source: Eurostat (online data code: migr_asydcfsta).

(17) European Asylum Support Office (2021), *Asylum Report 2020*.

(18) Source: Eurostat (online code: migr_asytpsm) and Eurostat (2023), *Statistics Explained: Temporary protection for persons fleeing Ukraine — monthly statistics*.

(19) Source: Eurostat (online data code: migr_asyappctzm).

(20) The income quintile share ratio looks at the two ends of the income distribution. Other indicators, such as the Gini index, measure total inequality along the whole income distribution.

11 SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable

SDG 11 aims to renew and plan cities and other human settlements in a way that offers opportunities for all, with access to basic services, energy, housing, transport and green public spaces, while reducing resource use and environmental impact.

Around 332 million people or almost three-quarters of the EU population live in urban areas — cities, towns and suburbs — with almost 39 % residing in cities alone ([1]). With the share of Europe's urban population projected to rise to just over 80 % by 2050 ([2]), sustainable cities, towns and suburbs are therefore essential for citizens' well-being and quality of life. Monitoring SDG 11 in an EU context means looking at developments in the quality of life in cities and communities, sustainable mobility and adverse environmental impacts. Overall, the EU has made only modest progress towards SDG 11 over the past five-year period assessed. While there has been quite strong progress in increasing the quality of life in cities and communities, trends in the area of sustainable mobility are less clear-cut and are moreover impacted by the COVID-19 pandemic. The picture is similarly diverse when it comes to adverse environmental impacts, with both sustainable and unsustainable trends visible.

Indicators measuring progress towards SDG 11, EU

Indicator	Period	Annual growth rate	Assessment	More info
Quality of life in cities and communities				
Severe housing deprivation rate	2010–2020	– 3.4 %	↑	page 219
	2015–2020	– 4.1 %	↑	
Population living in households suffering from noise	2010–2020	– 1.6 %	↑	page 220
	2015–2020	– 0.8 %	↗	
Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$)	2005–2021	Observed: – 3.3 % Required: – 3.1 %	↑	page 222
	2016–2021	Observed: – 2.1 % Required: – 2.6 %	↗	
Population reporting crime, violence or vandalism in their area (*)	2010–2020	– 2.0 %	↑	SDG 16, page 307
	2015–2020	– 4.1 %	↑	
Sustainable mobility				
Road traffic deaths	2007–2022	Observed: – 4.3 % Required: – 5.3 %	↗	page 223
	2017–2022	Observed: – 2.5 % Required: – 5.4 %	↘	
Share of buses and trains in inland passenger transport (*)	2006–2021	– 1.4 %	↓	SDG 9, page 186
	2016–2021	– 4.8 %	↓	
Environmental impacts				
Soil sealing index	2006–2018	0.3 %	↘	page 225
	2015–2018	0.3 %	↘	
Recycling rate of municipal waste	2007–2022	Observed: 2.2 % Required: 2.3 %	↗	page 226
	2017–2022	Observed: 1.0 % Required: 2.0 %	↘	
Population connected to at least secondary waste water treatment (*)	2006–2021	0.7 %	↗	SDG 6, page 134
	2016–2021	0.3 %	↗	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.
(*) Multi-purpose indicator.

Policy context

Quality of life in cities and communities and environmental impacts

Under the EU Cohesion Policy, a minimum of 8 % of the European Regional Development Fund of each national envelope is dedicated to supporting sustainable urban development. It is accompanied by the European Urban Initiative supporting innovation, capacity and knowledge building in urban areas.

The Environmental Noise Directive is the main EU instrument for identifying and combating noise pollution.

The EU addresses air pollution through specific legislation on clean air as well as legislation addressing the key sources of emissions. The EU emission standards for road vehicles, for example, will help improve air quality in cities. With the Green City Accord, European Mayors can commit to improving their cities by addressing five areas of environmental management — air, water, noise, biodiversity and circular economy.

The affordable housing initiative is part of the Commission's renovation wave strategy and ensures that social and affordable housing facilities also benefit from the wave.

The EU Soil Strategy for 2030 sets out a framework and concrete measures for protecting and restoring soils, and ensuring they are used sustainably. The strategy contains a goal that there should be no net land take by 2050.

The Action Plan 'Towards Zero Pollution for Air, Water and Soil' includes the target of reducing the health impacts due to air pollution by 55 % by 2030, compared with 2005, and maximises synergies with relevant EU policies, such as limiting soil sealing and urban sprawl. The 2022 Zero Pollution package proposed stricter rules for cleaner air and water. The European Commission has proposed a revision of the Ambient Air Quality Directives that aligns the air quality standards more closely with WHO recommendations, and improves air quality monitoring, modelling and plans.

The 2015 circular economy action plan supports the transition to a stronger and more circular economy. In 2018, the legally binding targets for recycling and reuse of municipal waste entered into force. EU countries will now be required to recycle at least 55 % of their municipal waste by 2025, 60 % by 2030 and 65 % by 2035. The 2022 proposal for the Packaging and Packaging Waste Directive aims to reduce packaging waste and increase recycling.

The New European Bauhaus initiative brings citizens, experts, businesses and institutions together to reimagine sustainable living in Europe and beyond, along the values of sustainability, aesthetics, and inclusion.

Sustainable mobility

The EU guidelines for sustainable urban mobility planning and funding for related projects, combined with the Sustainable and Smart Mobility Strategy adopted in 2020, support the green and digital transformation of the EU transport system.

The 2021 Communication on the Urban Mobility Framework reinforces the enabling EU framework for Member States, regions and cities to develop safe, accessible, inclusive, smart, resilient and zero-emission urban mobility.

The Strategic Action Plan on Road Safety and the EU road safety policy framework 2021–2030 set a 50 % reduction target for deaths and for serious injuries by 2030 compared with 2019 and ambitious road safety plans to move close to zero road deaths by 2050 ('Vision Zero').

Overview and key trends

Quality of life in cities and communities

While European cities and communities provide opportunities for employment, and economic and cultural activity, many inhabitants still face considerable social challenges and inequalities. Problems affecting the quality of housing and the wider residential area, such as noise disturbance, crime and vandalism, are some of the most visible challenges that cities and communities can face and that impact quality of life.

Quality of housing in the EU has improved since 2010

Safe and adequate homes are a foundation for living an independent, healthy and fulfilling life. Poor housing conditions, on the other hand, are associated with lower life chances, health inequalities, increased risks of poverty and environmental hazards.

The severe housing deprivation rate refers to the share of the population living in an overcrowded household while also experiencing types of housing deprivation such as a leaking roof, damp walls, floors or foundations; rot in window frames or floors; lacking sanitary facilities; or a dwelling that is considered too dark. Between 2010 and 2020, the share of EU residents who lived in such conditions fell by 1.8 percentage points, which indicates a significant improvement in the perceived quality of the EU's housing stock.

4.3 %
of the EU population experienced severe housing deprivation in 2020

Europeans perceive their residential areas as quieter and safer

Noise disturbance can cause annoyance, stress, sleep deprivation, poor mental health and well-being, as well as harm to the cardiovascular and metabolic system ([3]). Likewise, crime and vandalism can also reduce quality of life and housing satisfaction in a residential area. In 2020, 17.6 % of the EU population (close to 79 million people) said their household suffered from noise disturbance, compared with 20.6 % in 2010. Crime, violence and vandalism in the neighbourhood were perceived by 10.7 % of the EU population in 2020, compared with 13.1 % in 2010.

17.6 %
of the EU population experienced noise disturbance in 2020

The EU's zero pollution action plan aims to reduce the share of people chronically disturbed by transport noise by 30 % by 2030 compared with 2017. At 55 decibels (dB) noise levels can start to have critical effects, ranging from severe annoyance and sleep disturbance to hearing impairment ([4]). The more recent WHO guidelines for Europe are even more stringent, recommending that the noise level from road traffic should be below 53 dB during the day and below 45 dB at night. Despite improvements in perceived exposure to noise, 95 million people in the EU were estimated to be exposed to road traffic noise at levels of 55 dB or higher on an annual average for day, evening and night in 2017. While railways and airports represent further significant sources of local noise pollution, their impact on the overall population is much lower. The number of people exposed to harmful noise levels has not decreased significantly since 2012 ([5]). A recent outlook from the European Environment Agency (EEA) suggests that meeting the zero pollution action plan's 30 % noise reduction target will be challenging, with the most optimistic scenario only estimating a 19 % reduction.

Exposure to fine particulate matter in the EU leads to premature deaths and lost years of life

Pollutants such as fine particulate matter ($PM_{2.5}$) suspended in the air reduce people's life expectancy, and can lead to or aggravate many chronic and acute respiratory and cardiovascular diseases ([6]). Exposure to air pollution is of particular concern in cities because the concentration of economic activities and high population densities mean there are many potential emission sources and a large number of people being affected by air pollutants.

According to data from the European Environment Agency (EEA), in 2021 four EU Member States (Italy, Czechia, Croatia and Poland) registered annual mean $PM_{2.5}$ concentrations above the EU limit value of 25 micrograms per cubic metre (µg/m^3) ([7]), which has been attributed primarily to increased burning of solid fuels for domestic heating and industrial purposes. However, when considering the more stringent 2021 WHO air quality guideline of 5 µg/m^3, all EU Member States reported concentration levels that exceeded the limit. In 2021, most of the EU's population was exposed to key air pollutants, especially in urban areas with almost all EU city dwellers (97 %) being exposed to $PM_{2.5}$ concentrations above the WHO guideline.

253 305
people died prematurely in the EU in 2021 due to PM2.5 exposure

In the EU, long-term exposure to fine particulate matter was responsible for around 253 305 premature deaths in 2021. The number of premature deaths in the EU increased by 6.6 % between 2020 and 2021. Nevertheless, the 2021 level represents a 41 % reduction since 2005, meaning the EU appears to be on track to meet the zero pollution action plan target for 2030. This aims to reduce the number of premature deaths due to fine particulate matter exposure by more than 55 % compared with 2005 ([8]). According to EEA estimates, if the long-term trend can be sustained over the next few years, the EU could achieve a 68 % decline in this number, thereby overachieving the EU's 2030 target.

City dwellers experience more noise pollution and crime

Statistics on the degree of urbanisation provide an analytical and descriptive lens through which to view urban and rural communities. Based on the share of the local population living in urban clusters and urban centres, Eurostat differentiates between three types of area: 'cities', 'towns and suburbs' and 'rural areas' ([9]).

16.3 %
people living in EU cities reported occurrence of crime and vandalism in their area in 2020

The severe housing deprivation rate in the EU in 2020 was higher in rural areas (4.9 %) than in cities (4.8 %) and in towns and suburbs (3.4 %) ([10]). The perceived level of noise pollution varies greatly depending on the degree of urbanisation. In 2020, people living in EU cities were more likely to report noise from neighbours or from the street (23.9 %) compared with those living in towns and suburbs (16.3 %) or in rural areas (10.5 %) ([11]). Similarly, the perceived occurrence of crime and vandalism in cities (16.3 %) was almost three times higher than in rural areas (5.8 %) and above the level observed in towns and suburbs (8.4 %) in 2020 ([12]).

Access to green spaces makes urban residents more satisfied with their city

Green spaces in cities have a great potential to boost human health and well-being, and play a crucial role for children, the elderly and those with lower incomes, who may otherwise have limited access to nature. Universal accessibility to these green spaces that are safe, inclusive and open is thus essential. According to the survey on quality of life in European cities in 2023, around 76 % of European urban residents were satisfied with green spaces available within their city. This satisfaction rate was lower for those living in capital cities (73 %) compared with non-capital cities (78 %). Overall, Geneva, Malmö, Oslo and Munich received the highest scores from their residents, with more than 90 % of the people surveyed in these cities stating satisfaction with their green spaces. Four of the top 10 cities with the highest satisfaction rates in Europe lie in the Scandinavian region. Among the Member States, southern countries showed lower than average satisfaction with green spaces, with rates below 60 %. Overall, urban residents in Europe with greater access to green spaces tend to be more satisfied with the cities they live in. This was especially noted for retired residents, where access to green urban areas within 400 metres of walking was associated with lower levels of loneliness felt.

Sustainable mobility

A functioning transport system is necessary for people to reach their places of work, education, services and social activities, all of which affect quality of life and equal opportunities for everyone. In addition to availability, the type, quality and safety of transport systems are also crucial when designing sustainable and inclusive cities and communities.

Use of public transport modes remains below pre-pandemic levels

The EU aims to improve citizens' quality of life and to strengthen the economy by promoting sustainable urban mobility and greater use of clean and energy-efficient vehicles, together with reducing the demand for individual car transport. Public transport networks help to relieve traffic jams, reduce harmful pollution and offer more affordable and sustainable ways to commute to work, access services and travel for leisure.

Since 2000, the share of buses and trains in inland passenger transport has stagnated well below 20 %, accounting for only 13.7 % of passenger-kilometres (pkm) in 2021. The onset of the pandemic in 2020 drastically hit this sector, with its share falling by 4.7 percentage points compared with 2019, to 12.9 %. The precautionary measures put in place, including domestic and international travel restrictions, quarantine restrictions, introduction of remote-working policies and changing mobility habits led to a reduction in the use of public transport ([13]) and passengers' perceptions about safety and comfort. The slight increase in the share of buses and trains in inland passenger transport in 2021 by 0.8 percentage points relative to 2020 might signify a potential recovery from the pandemic. Nonetheless, the decline in the shares of public modes of mobility remains significant compared with pre-pandemic levels, showing a reduction by 3.3 percentage points since 2006 and by 3.8 percentage points since 2016.

13.7 %
of inland passenger-kilometres were taken by buses and trains in 2021

Cars continue to remain the dominant form of passenger mobility ([14]) in the EU, accounting for 86.3 % of passenger-kilometres travelled in the EU in 2021. This represents a 3.9 percentage point increase compared with the pre-pandemic values from 2019 ([15]). According to an EU-wide survey on passenger mobility carried out in 2021, 64 % of the respondents reported that their travel behaviour was impacted by the COVID-19 pandemic. This study also revealed that, after cars, active mobility (walking and cycling) was the second most used mode of transport. A study from 2023 on the effects of the pandemic on connectivity and competition in transport indicates that the shift away from public transport to private cars and to active mobility persisted in 2022.

Deaths from road crashes have fallen, but greater progress will be necessary to meet the 2030 target

20 653
people were killed in road accidents in the EU in 2022

Road traffic injuries are a public health issue and have a huge economic cost. About 120 000 people are estimated to be seriously injured in road accidents in the EU each year ([16]). In 2022, about 57 people a day lost their lives on EU roads. This corresponds to slightly more than 20 600 people for the entire year — a loss equivalent to the size of a medium town. Nevertheless, the EU has made considerable progress in this respect compared with 2007, when road deaths amounted to about 40 000. In recent years, the figures have experienced some fluctuations, in part explained by significant changes in traffic volumes as a result of to the COVID-19 pandemic. After an unprecedented fall in road traffic deaths of 17.2 % between 2019 and 2020, the number has been on the rise since, increasing by 9.7 % between 2020 and 2022. The most recent figures, based on preliminary figures for 2023, show the number of road deaths in the EU have seen a small decrease of 1 % since 2022. Consequently, the EU as a whole is not on track to meet its 2030 target of halving the total death toll on EU roads compared with 2019.

The highest share of road-traffic fatalities in 2022 was recorded on non-motorway roads outside urban areas (52 %), followed by roads inside urban areas (38 %) and motorways (9 %). Almost 70 % of fatalities in urban areas involve vulnerable road users such as pedestrians, motorcyclists and cyclists ([17]). Data by mode of transport show that over the period 2019 to 2022, road fatalities have decreased for all modes except heavy goods vehicles, which saw a 7 % increase in fatal road accidents ([18]). According to the thematic report on alcohol and drugs by European Road Safety Observatory, around 25 % of all road deaths in the EU are alcohol related, and it is estimated that 1.5 % to 2 % of the kilometres driven in the EU are done by a driver with illegal blood alcohol content.

Environmental impacts

While cities, towns and suburbs are a focal point for social and economic activity, if not managed sustainably, they risk causing considerable environmental damage. At the same time, large and densely populated cities provide opportunities for effective environmental action, indicating that urbanisation is not necessarily a threat but can act as a transformative force for more sustainable societies ([19]). EU progress in reducing the environmental impacts of cities and communities is monitored by three indicators on the management of municipal waste, waste water treatment and artificial land cover.

Soil sealing is increasing slowly but constantly in the EU

In 2018, the area of sealed soil surface in the EU was
2.7 %

Offering numerous cultural, educational and job opportunities, an urban lifestyle is attractive to many people. However, growth in the urban population has also come with increased land take. Land take is described as the process of transforming agricultural, forest and other semi-natural and natural areas into artificial areas. Between 2012 and 2018, the net land take in cities and their commuting zones, also known as functional urban areas, amounted to 450 square kilometres (km^2) annually. Additionally, most of the net land take (about 78 %) happened in commuting areas ([20]).

Soil sealing is the most intense form of land take and is essentially an irreversible process. It destroys or covers soils with layers of partly or completely impermeable artificial material such as asphalt and concrete ([21]). Increases in the extent of sealed land can be used to estimate land-use change for human use or intensification. The area of sealed soil in the EU has increased in all Member States since 2006. Between 2006 and 2018, the total EU area covered with impervious materials grew by 3 605 km^2 or

3.4 %. In 2018, the area of sealed soil surface reached 2.7 % in the EU. Across Member States, the share of area covered with impervious materials ranged from below 1 % in Sweden and Finland to around 10 % in Belgium and the Netherlands up to 18 % in Malta.

The EU might miss its target for municipal waste recycling as progress slows

The 'waste hierarchy' is the overarching logic that guides EU waste policy. It prioritises waste prevention, followed by preparing for reuse, recycling, other recovery and finally disposal, including landfilling, as the last resort. Waste management activities promote recycling, which reduces the amount of waste going to landfills and leads to higher resource efficiency. Although municipal waste accounts for less than 10 % of the weight of total waste generated in the EU (22), it is highly visible and closely linked to consumption patterns. Sustainable management of this waste stream reduces the adverse environmental impact of cities and communities, which is why the EU has set a target to recycle or prepare for reuse at least 60 % of its municipal waste by 2030 (23).

48.6 %
of total municipal waste generated in the EU was recycled in 2022

In 2022, the EU residents generated 229 482 thousand tonnes of municipal waste, corresponding to 513 kilograms (kg) of waste per capita per year (24). Since 2017, the annual amount of waste generated per capita increased by 14 kg, which represents an increase of about 3 % between 2017 and 2022. Although the EU has not reduced its municipal waste generation, it has clearly shifted to more recycling. Since 2000, the recycling rate of municipal waste — covering both recycling and preparing for re-use — has increased from 27.3 % to 48.6 % in 2022. However, this trend has slowed in the short run, with the recycling rate dropping by 1.2 percentage points between 2021 and 2022. Over the short-term period from 2017 to 2022, the share of recycled municipal waste only increased by 2.3 percentage points. Stronger efforts are therefore needed to put the EU back on track to meet its 2030 recycling targets.

Connection rates to waste water treatment have been increasing

Urban areas also place significant pressure on the water environment through waste water from households and industry that contains organic matter, nutrients and hazardous substances. The share of the EU population connected to at least secondary waste water treatment plants, which decompose most of the organic material and retain some of the nutrients, has been steadily growing since 2000 and reached 80.9 % in 2021. In seven Member States, more than 90 % of the population were connected to such services according to most recent data (which refer to 2017, 2019, 2020 or 2021, depending on the country). However, it may not be suitable to connect 100 % of the population to a sewerage collection system, either because it would produce no environmental benefit or would be too costly (see chapter on SDG 6 'Clean water and sanitation' on page 125).

80.9 %
of the EU population were connected to at least secondary waste water treatment in 2021

Main indicators

Severe housing deprivation rate

The severe housing deprivation rate is defined as the percentage of the population living in a dwelling which is considered to be overcrowded, while also exhibiting at least one of the following housing deprivation measures: i) a leaking roof, ii) no bath/shower and no indoor toilet, and iii) considered too dark. The data stem from the EU Statistics on Income and Living Conditions (EU-SILC).

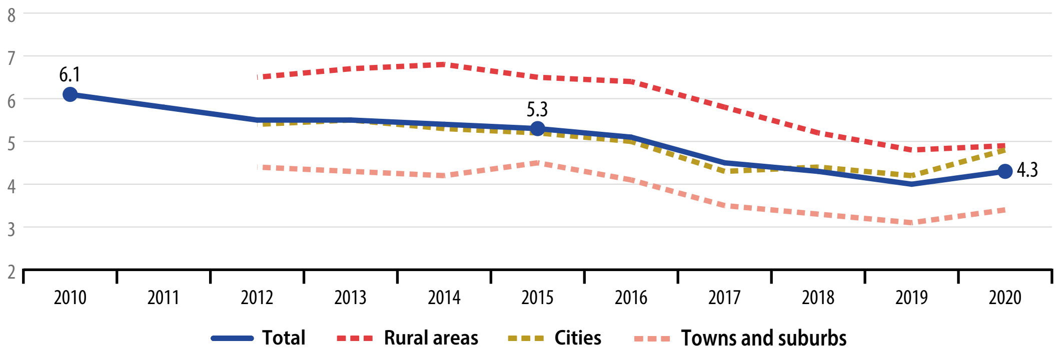
LONG TERM
2010–2020

SHORT TERM
2015–2020

FIGURE 11.1

Severe housing deprivation rate, by degree of urbanisation, EU, 2010–2020

(% of population)



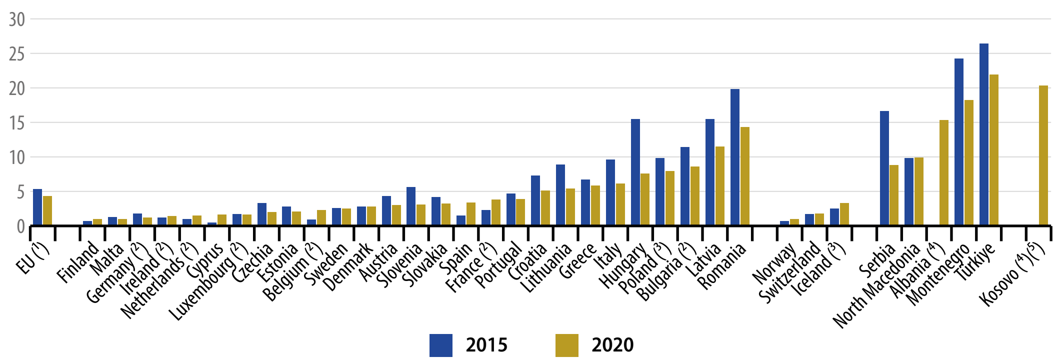
Note: Estimated data. The frequency of the data collection has been changed from annually to every three years, meaning no data were collected for 2021 and 2022.

Source: Eurostat (online data codes: sdg_11_11 and ilc_mdho06d)

FIGURE 11.2

Severe housing deprivation rate, by country, 2015 and 2020

(% of population)



(1) Estimated data.
(2) Break(s) in time series between the two years shown.
(3) 2019 data (instead of 2020).
(4) No data for 2015.
(5) 2018 data (instead of 2020).

Source: Eurostat (online data code: sdg_11_11)

Population living in households suffering from noise

LONG TERM
2010–2020

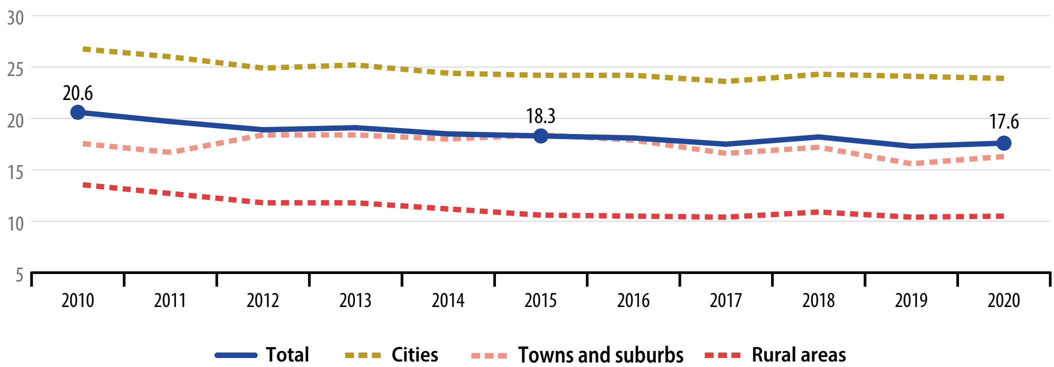
SHORT TERM
2015–2020

This indicator measures the share of the population who declare they are affected either by noise from neighbours or from the street. Because the assessment of noise pollution is subjective, it should be noted that the indicator accounts for both the levels of noise pollution as well as people's standards of what level they consider to be acceptable. Therefore, an increase in the value of the indicator may not necessarily indicate a similar increase in noise pollution levels; it may also indicate a decrease in the levels that European citizens are willing to tolerate and vice versa. In fact, there is empirical evidence that perceived environmental quality by individuals is not always consistent with the actual environmental quality assessed using 'objective' indicators, particularly for noise. The data stem from the EU Statistics on Income and Living Conditions (EU-SILC).

FIGURE 11.3

Population living in households considering that they suffer from noise, by degree of urbanisation, EU, 2010–2020

(% of population)



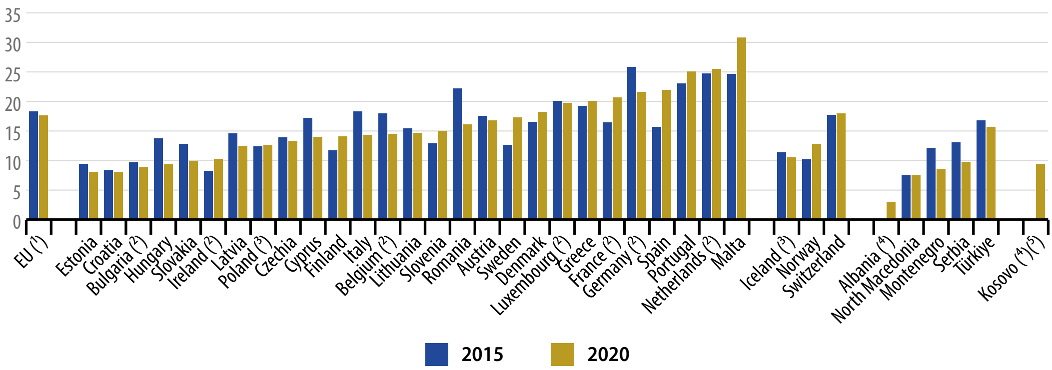
Note: Estimated data. The frequency of the data collection has been changed from annually to every three years, meaning no data were collected for 2021 and 2022.

Source: Eurostat (online data codes: sdg_11_20 and ilc_mddw04)

FIGURE 11.4

Population living in households considering that they suffer from noise, by country, 2015 and 2020

(% of population)



([1]) Estimated data.
([2]) Break(s) in time series between the two years shown.
([3]) 2019 data (instead of 2020).
([4]) No data for 2015.
([5]) 2018 data (instead of 2020).

Source: Eurostat (online data code: sdg_11_20)

Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$)

LONG TERM 2005–2021

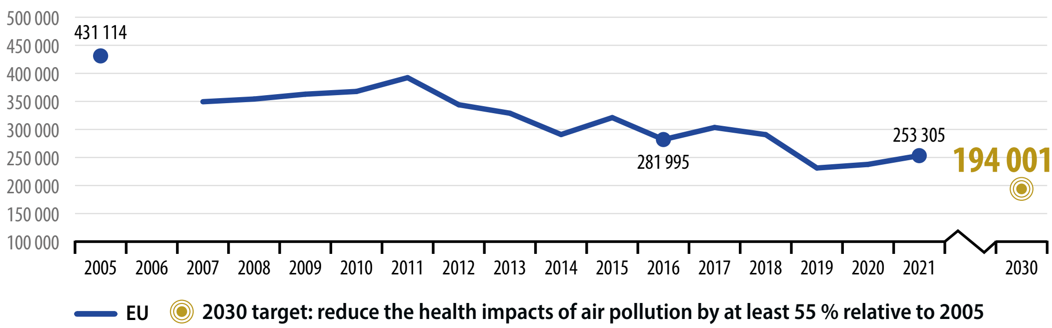
SHORT TERM 2016–2021

The indicator measures the number of premature deaths due to exposure to particulate matter. Fine particulates ($PM_{2.5}$) are particulates whose diameter is less than 2.5 micrometres, meaning they can be carried deep into the lungs where they can cause inflammation and exacerbate the condition of people already suffering from heart and lung diseases. Premature deaths refer to those deaths that occur before the expected age of death. This expected age is typically defined by accounting for the life expectancy in the country, stratified by sex and age. The data stem from the European Environment Agency.

FIGURE 11.5

Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$), EU, 2005–2021

(number)

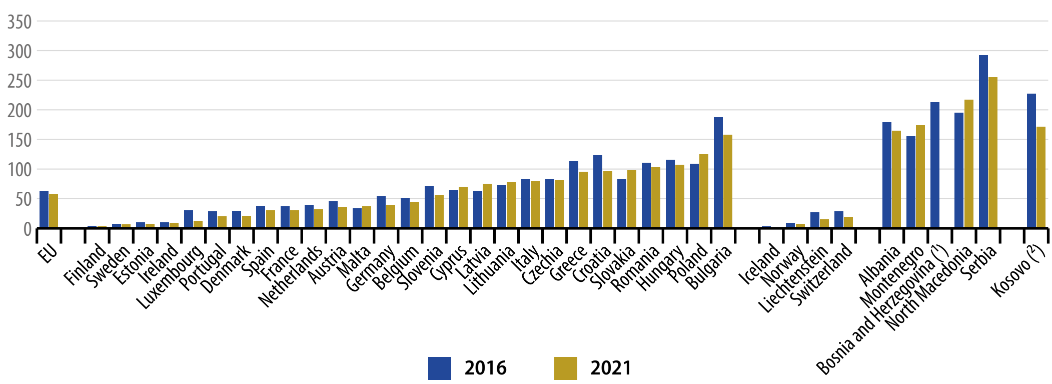


Source: EEA (Eurostat online data code: sdg_11_52)

FIGURE 11.6

Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$), by country, 2016 and 2021

(number per 100 000 people)



(1) No data for 2021. (2) 2020 data (instead of 2021).

Source: EEA (Eurostat online data code: sdg_11_52)

Road traffic deaths

This indicator measures the number of fatalities caused by road crashes, including drivers and passengers of motorised vehicles and pedal cycles, as well as pedestrians. Persons dying on road crashes up to 30 days after the occurrence of the crash are counted as fatalities. The data come from the CARE database managed by DG Mobility and Transport (DG MOVE).

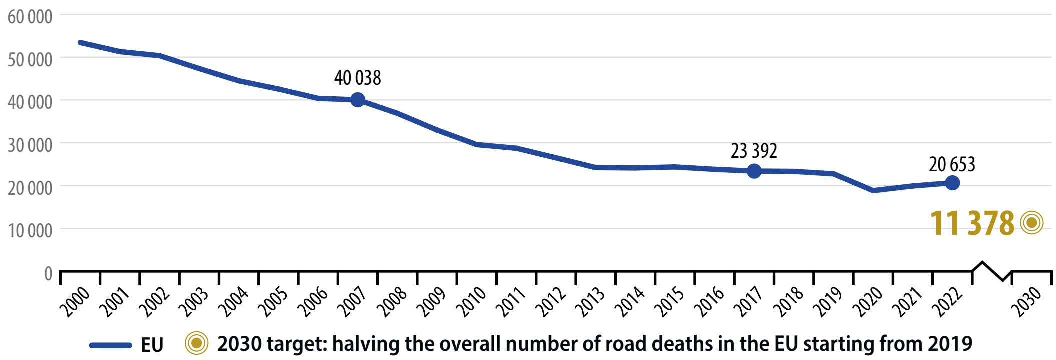
LONG TERM 2007–2022

SHORT TERM 2017–2022

FIGURE 11.7

Road traffic deaths, EU, 2000–2022

(number)

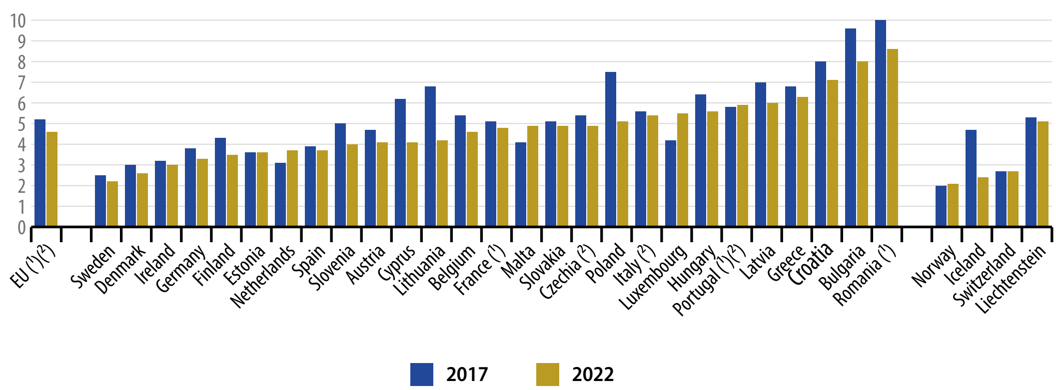


Source: European Commission services, DG Mobility and Transport (Eurostat online data code: sdg_11_40)

FIGURE 11.8

Road traffic deaths, by country, 2017 and 2022

(number per 100 000 people)

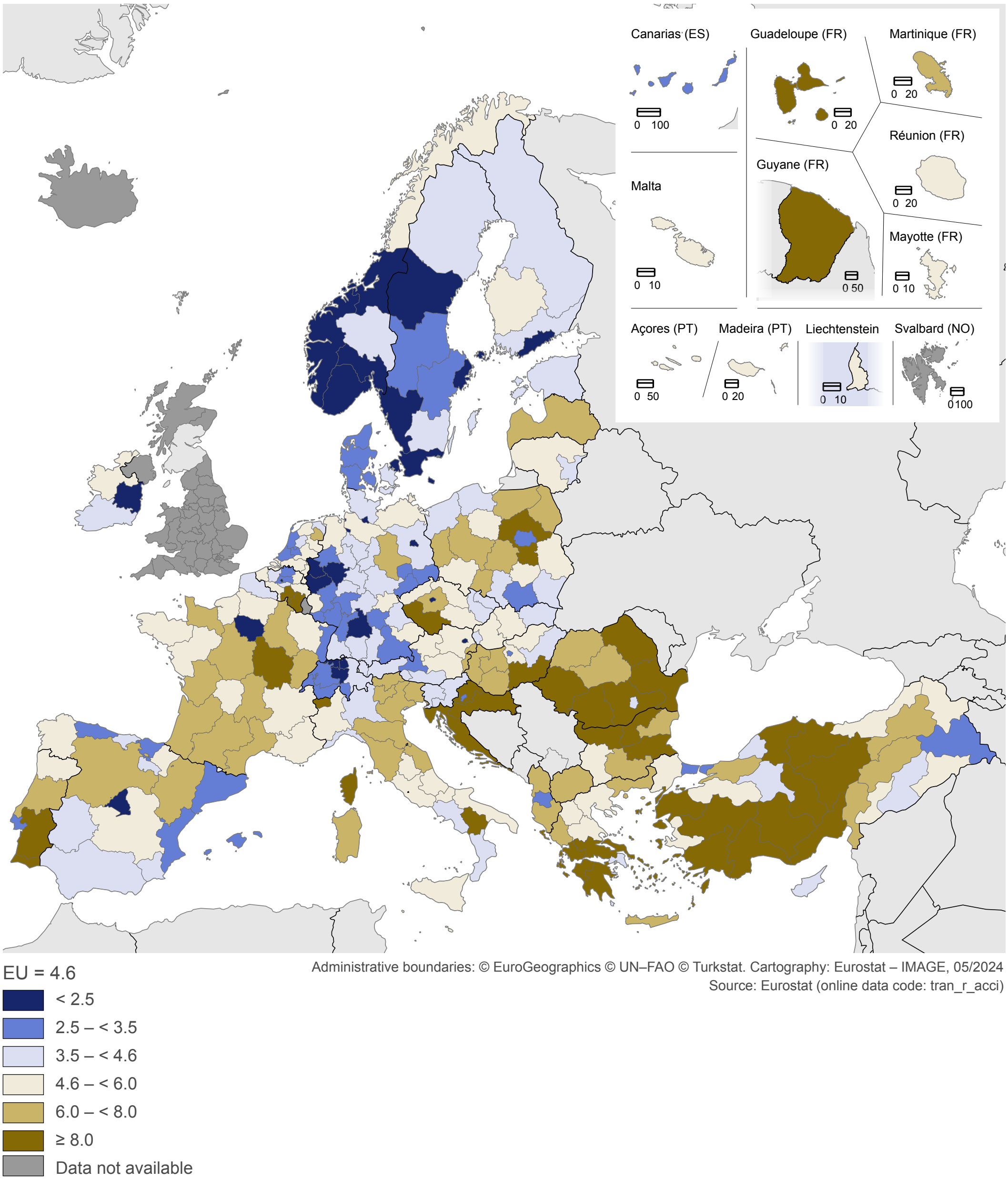


([1]) 2022 population data are estimated and/or provisional.
([2]) Break(s) in population data time series between the two years shown.
Source: European Commission services, DG Mobility and Transport (Eurostat online data code: sdg_11_40)

MAP 11.1

Road traffic deaths, by NUTS 2 region, 2022

(number per 100 000 people)



Source: Eurostat (online data code: tran_r_acci)

Soil sealing index

This indicator estimates the increase in sealed soil surfaces with impervious materials due to development and construction (such as buildings, constructions and laying of completely or partially impermeable artificial material, such as asphalt, metal, glass, plastic or concrete). This provides an indication of the rate of soil sealing, which occurs when there is a change in land use towards artificial and urban land use. The indicator builds on data from the Imperviousness High Resolution Layer (a product of the Copernicus Land Monitoring Service).

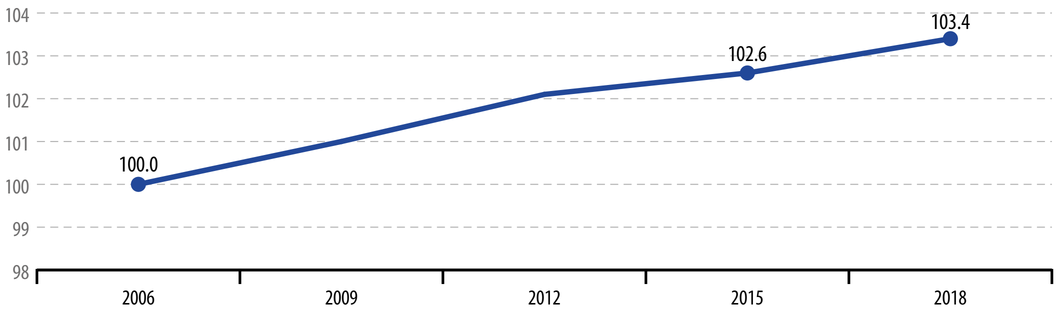
LONG TERM
2006–2018

SHORT TERM
2015–2018

FIGURE 11.9

Soil sealing index, EU, 2006–2018

(index 2006 = 100)

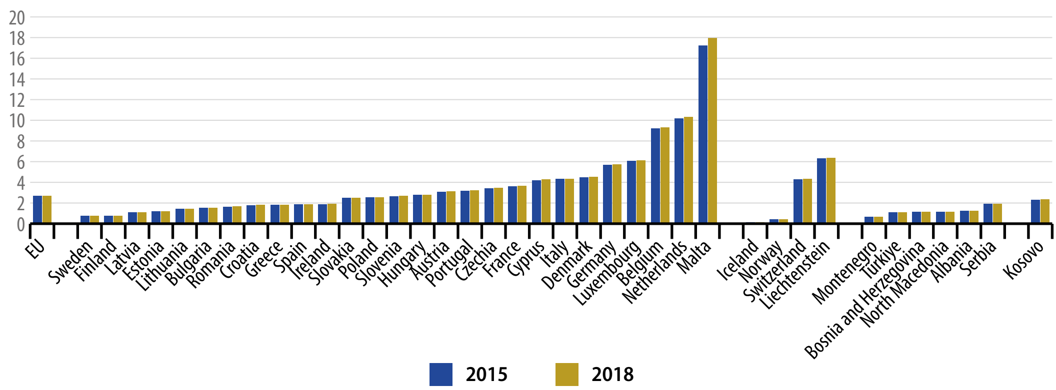


Source: EEA (Eurostat online data code: sdg_11_32)

FIGURE 11.10

Soil sealing, by country, 2015 and 2018

(% of total surface)



Source: EEA (Eurostat online data code: sdg_11_32)

Recycling rate of municipal waste

LONG TERM 2007–2022

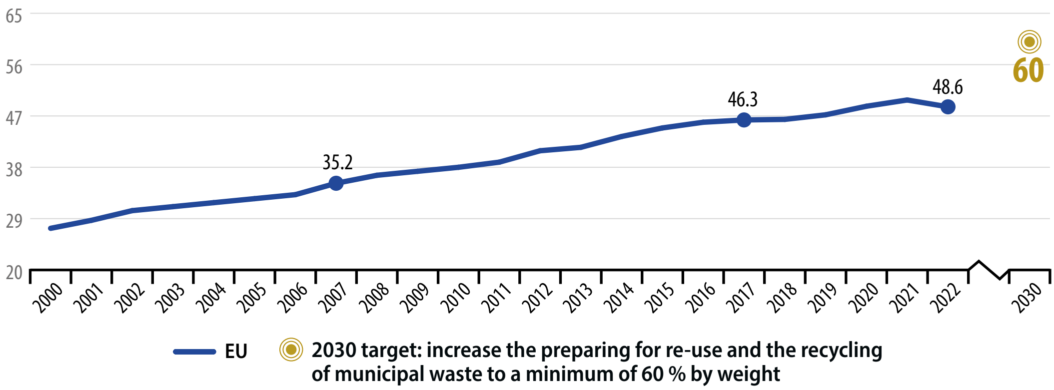
SHORT TERM 2017–2022

This indicator measures the tonnage recycled or prepared for re-use from municipal waste divided by the total municipal waste arising. Recycling includes material recycling, composting and anaerobic digestion. Municipal waste consists mostly of waste generated by households but may also include similar wastes generated by small businesses and public institutions and collected by the municipality. This latter part of municipal waste may vary from municipality to municipality and from country to country, depending on the local waste management system. For areas not covered by a municipal waste collection scheme the amount of waste generated is estimated.

FIGURE 11.11

Recycling rate of municipal waste, EU, 2000–2022

(% of total municipal waste generated)



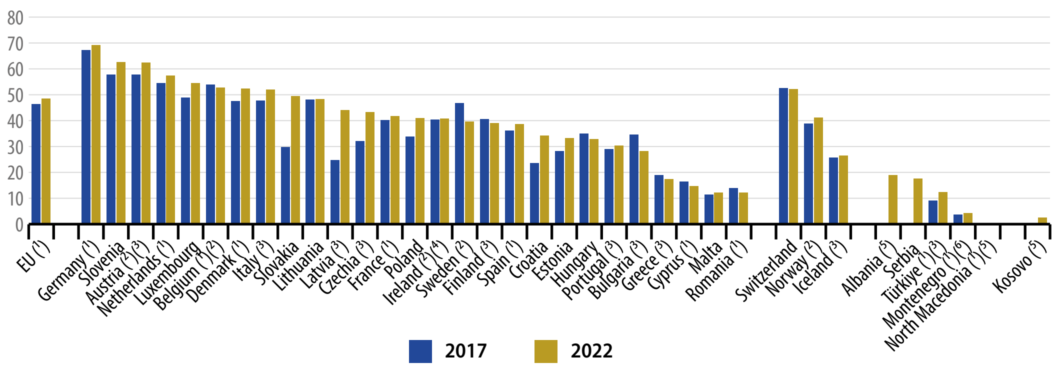
Note: 2019–2022 data are Eurostat estimates.

Source: Eurostat (online data code: sdg_11_60)

FIGURE 11.12

Recycling rate of municipal waste, by country, 2017 and 2022

(% of total municipal waste generated)



(1) Estimated and/or provisional data.
(2) Break(s) in time series between the two years shown.
(3) 2021 data (instead of 2022).
(4) 2020 data (instead of 2022).
(5) No data for 2017.
(6) 2018 data (instead of 2017).

Source: Eurostat (online data code: sdg_11_60)

Notes

([1]) 2020 data. Source: Eurostat (online data codes: ilc_lvho01 and demo_gind).

([2]) Eurostat (2016), *Urban Europe: Statistics on cities, towns and suburbs*, Publications Office of the European Union, Luxembourg, p. 9.

([3]) European Environment Agency (2019), *Population exposure to environmental noise*.

([4]) Berglund, B., Lindvall, T., Schwela, D.H. (1999), *Guidelines for Community Noise*, World Health Organization (WHO), Geneva.

([5]) European Environment Agency (2023), *Noise pollution and health*.

([6]) WHO (2021), *WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide*, World Health Organization; and European Environment Agency (2023), *Harm to human health from air pollution in Europe: burden of disease 2023*, Briefing no. 23/2023.

([7]) For $PM_{2.5}$, the Ambient Air Quality Directive 2008/50/EC introduced a target value to be attained by 2010, which became a limit value starting in 2015. For more information on EU air quality standards see: http://ec.europa.eu/environment/air/quality/standards.htm

([8]) European Environment Agency (2023), *Monitoring report on progress towards the 8th EAP objectives 2023 edition*, EEA Report 11/2023; European Environment Agency (2023), *8th Environment Action Programme: Premature deaths due to exposure to fine particular matter in Europe*; European Commission (2022), *Zero Pollution Monitoring and Outlook Report*.

([9]) Degree of urbanisation classifies local administrative units as 'cities', 'towns and suburbs' or 'rural areas'. In 'cities' at least 50 % of the population lives in an urban centre. If less than 50 % lives in an urban centre but more than 50 % of the population lives in an urban cluster it is classified as 'towns and suburbs', and if more than 50 % of the population lives outside an urban cluster it is classified as a 'rural area'. An urban centre is a cluster of contiguous grid cells of 1 square kilometre (km^2) with a density of at least 1 500 inhabitants per km^2 and a minimum population of 50 000 people. An urban cluster is a cluster of contiguous grid cells of 1 km^2 with a density of at least 300 inhabitants per km^2 and a minimum population of 5 000 people.

([10]) Source: Eurostat (online data code: ilc_mdho06D).

([11]) Source: Eurostat (online data code: ilc_mddw04).

([12]) Source: Eurostat (online data code: ilc_mddw06).

([13]) Lozzi, G., Cré, I., Ramos, C. (2022), *Research for TRAN Committee — Relaunching transport and tourism in the EU after COVID-19 — Part VI: Public Transport*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

([14]) Tram and metro systems, as well as active modes (walking, cycling), are not included because the data collection methodology for these means of transport is not sufficiently harmonised between Member States.

([15]) Source: Eurostat (online data code: tran_hv_psmod).

([16]) European Commission (2020), *Road safety: Europe's roads are getting safer but progress remains too slow*.

([17]) European Commission (2024), *2023 figures show stalling progress in reducing road fatalities in too many countries*.

([18]) European Commission (2024), *Annual statistical report on road safety in the EU, 2024. European Road Safety Observatory*, Brussels, p. 14.

([19]) UN-Habitat (2016), *Urbanization and Development: Emerging Futures, World Cities report 2016*, pp. 85–100.

([20]) European Environment Agency (2023), *8th Environment Action Programme. Land Take: net land take in cities and commuting zones in Europe*.

([21]) Prokop G, Jobstmann H, Schonbauer A (2011), *Report on best practices for limiting soil sealing and mitigating its effects*, Brussels.

([22]) Eurostat (2024), *Statistics explained: Municipal waste statistics*.

([23]) European Commission (2018), Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste (Text with EEA relevance).

([24]) Source: Eurostat (online data code: env_wasmun).

Ensure sustainable consumption and production patterns

SDG 12 calls for a comprehensive set of actions from businesses, policymakers and consumers to adapt to sustainable practices. It envisions sustainable production and consumption based on advanced technological capacity, resource efficiency and reduced global waste.

Consumption and production patterns have wide environmental and social impacts. Monitoring SDG 12 in an EU context focuses on developments in the areas of consumption patterns, the green economy, and waste generation and management. Overall, the EU's progress towards this goal over the five-year period assessed has been mixed. While consumption of hazardous chemicals and energy productivity have shown positive developments, the EU's material footprint has increased, and the EU's consumption footprint continues to considerably transgress several planetary boundaries. The picture is also mixed on waste, as circular use of materials is not growing fast enough to meet the target, while waste generation has slightly reduced. On a positive note, the value added from the environmental goods and services sector has been growing.

Indicators measuring progress towards SDG 12, EU

Indicator	Period	Annual growth rate	Assessment	More info
Consumption patterns				
Material footprint	2007–2022	– 1.3 %	↑	page 237
	2017–2022	0.7 %	↘	
Consumption footprint	2010–2022	0.5 %	↘	page 239
	2017–2022	0.2 %	↘	
Consumption of hazardous chemicals	2007–2022	– 1.7 %	↑	page 240
	2017–2022	– 2.2 %	↑	
🎯 Average CO_2 emissions per km from new passenger cars (*)	Long-term assessment not possible due to break in time series in 2017		:	SDG 13, page 255
	2017–2022	Observed: – 5.1 % Required: – 7.8 %	↗	
Energy productivity (*)	2007–2022	2.1 %	↑	SDG 7, page 152
	2017–2022	3.3 %	↑	
Green economy				
Gross value added in the environmental goods and services sector	2006–2021	3.4 %	↑	page 241
	2016–2021	3.8 %	↑	
Waste generation and management				
🎯 Circular material use rate	2007–2022	Observed: 1.7 % Required: 4.3 %	↘	page 242
	2017–2022	Observed: 0.0 % Required: 5.5 %	↘	
Generation of waste	2006–2020	– 0.6 %	↗	page 243
	2016–2020	– 1.3 %	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign 🎯), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

Policy context

The 8th Environment Action Programme (EAP) aims to accelerate the transition to a climate-neutral, resource-efficient and regenerative economy, recognising that human well-being depends on healthy ecosystems.

The Circular Economy Action Plan from 2020 aims to double the EU's circular material use rate in the coming decade to support the achievement of climate neutrality by 2050, decouple economic growth from resource use, reduce waste generation, and keep resource consumption within ecological boundaries. In 2022, the European Commission proposed a package on Circular Economy measures, including the Ecodesign for Sustainable Products Regulation to make sustainable products the norm in the EU and to boost circular business models. The Council Recommendation on ensuring a fair transition towards climate neutrality calls for facilitating access to sustainable consumption, such as affordable reuse, repair, recycling and sharing schemes, especially for people and households in vulnerable situations.

The Recovery and Resilience Facility supports reforms and investments to boost sustainable consumption and production patterns, for example in the areas of sustainable mobility and circular economy.

The Global Alliance on Circular Economy and Resource Efficiency brings together governments and relevant organisations to advance the circular economy transition.

The New Consumer Agenda aims to empower consumers to engage with the green and digital transitions while enforcing consumer rights and protection.

The Waste Framework Directive emphasises waste prevention and establishes a target for the EU to recycle 55 % of municipal waste by 2025, increasing to 65 % by 2035. The new revision proposes to reduce food waste by 2030 by 10 % in processing and manufacturing of food and by 30 % in retail and consumption. In addition, the revision introduces mandatory and harmonised Extended Producers Responsibility (EPR) schemes for textiles to make producers responsible for the full life cycle of textiles products.

The 2020 EU industrial strategy and its 2021 update aim to help Europe's industry lead the twin transitions towards climate neutrality and digital leadership. The Green Deal Industrial Plan aims to enhance the competitiveness of Europe's net-zero industry and support the fast transition to climate neutrality.

The Chemicals Strategy for Sustainability aims to improve the protection of the environment and our health from risks posed by chemicals and to support innovation for safe and sustainable chemicals, in particular via the REACH Regulation and the Regulation on the classification, labelling and packaging of chemical substances and mixtures (CLP Regulation).

The 2021 Zero Pollution Action Plan calls for air, water and soil pollution to be reduced to levels no longer considered harmful to health and ecosystems, respecting planetary boundaries and creating a toxic-free environment. In 2022 the Commission adopted a Zero Pollution package proposing stricter rules for cleaner air and water. This includes a soil monitoring law.

EU legislation sets mandatory CO_2 emission targets for cars and vans, which were strengthened in 2023, and CO_2 emission standards for heavy-duty vehicles, which start applying from 2025.

Overview and key trends

Consumption patterns

Economic growth improves people's well-being but has long been associated with greater environmental impacts due to increased resource and energy consumption. Continuous growth in the consumption of finite resources both harms the environment and significantly contributes to climate change. The EU's long-term objective, as outlined in the 8th Environment Action Programme, is to build a well-being economy, where resource- and energy-efficiency are improved, and environmental and climate impacts associated with production and consumption are reduced.

The EU's material footprint has been growing over the past decade

The material footprint, also referred to as raw material consumption (RMC), is the amount of materials used along the supply chains of goods and services that are finally consumed in a country. The indicator thus measures the extracted materials (both domestic and abroad) needed to produce goods and services consumed by final users inside EU borders and estimates the volume of traded products — imports and exports — in raw material equivalents.

6.67
billion tonnes of globally extracted raw material were consumed in the EU in 2022

The EU's material footprint had been growing between 2000 and 2008, before it was halted by the effects of the financial crisis. As the economy recovered, the raw material consumption of EU inhabitants started growing again, increasing by 7.4 % since 2013. A pandemic-related drop in 2020 did not reverse the growing trend, and in absolute terms, final users in the EU consumed 6.67 billion tonnes of raw material (in raw material equivalents) in 2022, which translates into a per-capita material footprint of 14.9 tonnes. The increase in the EU's material consumption over the past decade suggests further efforts might be required to meet the objectives of the European Green Deal, which calls for a reduction in environmental pressures alongside economic growth (also see the section on spillover effects on page 329).

The EU's consumption footprint considerably transgresses planetary boundaries

The consumption footprint, based on a basket of products in five consumption areas, shows that EU consumption patterns considerably transgress several planetary boundaries, emphasising the need for further efforts to reduce consumption and achieve the EU's policy goals. Overall, the EU's consumption footprint transgressed planetary boundaries by 3.4 times in 2022, which is a 0.9 % increase since 2017 and a 6.0 % increase since 2010. The 2022 value also constitutes a new record high and indicates that the environmental impact of the EU's consumption of goods — both within the EU and abroad — remains too high. The EU's transgression of planetary boundaries was particularly high for the impacts on climate change (by 8.2 times), particulate matter pollution (by 9.5 times) and freshwater ecotoxicity (by 10.5 times) [1]. Data per inhabitant show that Luxembourg, Denmark and Malta had the highest consumption footprint in 2022, whereas Romania, Slovakia, Bulgaria and Hungary had the lowest.

The EU's consumption footprint transgressed planetary boundaries by
3.4
times in 2022

More than half of fossil energy carriers and metal ores used in the EU are imported

Material import dependency captures the extent to which an economy relies on imports to meet its material needs. Material import dependency is calculated as the ratio of imports to direct material input (DMI), which is the sum of imports and domestic extraction. In 2022, imports accounted for 22.4 % of the EU's DMI. Import dependency was highest for fossil energy carriers, at 69.7 % in 2022, followed by metal ores at 51.5 %. The EU's import dependency on fossil energy carriers has increased by about 10 percentage points over the past decade (up from around 60 %), while dependency on metal ore imports has remained stable. In contrast, the EU is almost completely self-sufficient for non-metallic minerals, with an import dependency of only 3.0 % in 2022 ([2]).

The EU's self-sufficiency is especially relevant for critical raw materials (CRMs), which are raw materials of high importance to the EU economy and with a high supply risk. To address the challenge of ensuring reliable and unhindered access to certain raw materials, the European Commission presents a list of critical raw materials that is reviewed every three years. The CRM list from 2023 contains 34 materials; data on the EU's self-sufficiency are available for eight of them. They show that in 2022, the EU's self-sufficiency was highest for vanadium (100 %), copper (52 %) and fluorspar (40 %). However, the EU economy was (almost) completely dependent on imports for borate (0 % self-sufficiency), cobalt (1 %) and tantalum (1 %) ([3]). To ensure access to a secure and sustainable supply of the critical raw materials needed for the EU to meet its 2030 climate and digital objectives, the Commission has proposed a Critical Raw Materials (CRM) Act. This would set benchmarks for domestic capacities, such as for extraction or recycling, to be met by 2030.

Resource and energy productivity have increased in the EU over the five-year period assessed

Resource productivity ([4]) monitors how much output an economy produces per unit of materials used and can provide insights into whether decoupling between the use of natural resources and economic growth is taking place. It is measured as the ratio of gross domestic product (GDP) to domestic material consumption (DMC). Between 2017 and 2022, the EU economy (in terms of GDP) grew by 7.5 %, while DMC grew at a slower pace, by 3.0 % over the same period. This resulted in a 4.0 % increase in the EU's resource productivity, from EUR 2.04 per kg of DMC in 2017 to EUR 2.13 per kg in 2022 ([5]).

Like resource productivity, energy productivity ([6]) measures economic output (in terms of GDP) per unit of energy used. Observed trends for energy productivity are stronger than for resource productivity, due to larger decreases in energy consumption than in material use. Between 2017 and 2022, the EU increased its energy productivity by 17.8 %, from EUR 7.9 per kg of oil equivalent (kgoe) to 9.3 EUR per kgoe. Over the same period, economic growth of 7.5 % in the EU was accompanied by an 8.8 % reduction in gross available energy (GAE) ([7]). A particularly strong growth in the EU's energy productivity, by 8.4 % on the previous year, occurred in 2022 due to the 3.4 % increase in GDP and a simultaneous 4.5 % reduction in GAE.

In 2022, the EU's energy productivity amounted to
9.3
EUR per kgoe

Consumption of hazardous chemicals dropped by 12.1 % in 2022

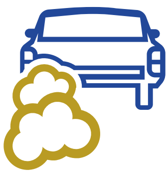
Most everyday products used by businesses and consumers are produced with the help of chemicals. This makes them a significant contributor to the EU economy, with chemical sales worth EUR 760 billion in 2022 ([8]). The consumption of chemicals provides benefits to society but can also entail environmental and health risks. The level of risk depends on both the hazardous properties of chemicals and the exposure to them. Tracking the consumption volumes of industrial (manufactured) chemicals that are hazardous to human and environmental health is, therefore, used as a proxy for human exposure (9).

In 2022, 196.7 million tonnes of hazardous chemicals were consumed in the EU, which was 22.6 % less than in 2007 and 10.8 % less than in 2017. Between 2016 and 2021, the consumption of toxic chemicals was on the rise, but a 12.1 % drop in 2022 reversed the trend. This resulted in an overall decline in the consumption of hazardous chemicals over the short term from 2017 to 2022.

196.7
million tonnes of hazardous chemicals were consumed in the EU in 2022

Average CO_2 emissions per km from new car fleets have fallen since 2017

Road transport was responsible for almost a quarter of the EU's total GHG emissions in 2022, and more than half of road transport emissions came from passenger cars (10). To reduce those emissions, the EU has set targets for the fleet-wide average CO_2 emissions of new passenger cars and vans, and new heavy duty vehicles registered in a given year. For each manufacturer's new fleet, a binding specific emission target applies so that the overall target for the EU's average fleet emissions will be met. For cars and vans, a manufacturer's annual target is based on the average mass of its new vehicles registered in that year. For lorries the target is based on the vehicles' mileage and payload. From 2035 onwards, all new cars and vans registered in the EU must be zero-emission vehicles (11).



109.8
grams of CO_2 per km were emitted on average by new passenger cars in the EU in 2022

Over the period 2017 to 2022, average CO_2 emissions per km from new passenger cars registered in the EU fell by 23.2 %, reaching 109.8 g/km in 2022. This is still far from the EU targets of reducing these emissions to 93.6 g/km by 2025 and to 49.5 g/km by 2030 (12).

Accelerating the market uptake of new zero emission vehicles is a crucial step towards achieving the CO_2 emission targets for new vehicles. In the EU, the share of zero-emission vehicles (including battery and fuel cell electric cars as well as hydrogen cars) in newly registered cars rose from 0.7 % in 2017 to 12.1 % in 2022. However, the share differs considerably between countries. Sweden reported the highest share with 32.9 % in 2022, followed by the Netherlands with 23.5 % and Denmark with 20.6 %. In contrast, zero-emission vehicles only accounted for around 2 % of newly registered passenger cars in Czechia and Slovakia (13).

Green economy

An economy is green when it is resource efficient, low in carbon emissions and socially just, contributing to the achievement of good life for all on a healthy planet. The EU is promoting the green economy through various policies such as the European Green Deal. The environmental goods and services sector (EGSS) produces the goods and services used in environmental protection and resource management activities, and thus helps to green the economy. Such goods and services can include, for example, products to prevent, measure, control, limit, minimise or correct environmental damage and resource depletion. Increasing the market share of green technologies in the EU can also have important socioeconomic benefits in terms of value added and employment (14).

The environmental goods and services sector has grown faster than the overall economy

The gross value added in the EGSS in the EU has grown by 64.4 % over the 15-year period assessed, from EUR 193.0 billion in 2006 to EUR 317.3 billion in 2021 (all numbers here are given in 2010 chain-linked prices). Growth in the renewable energy and energy efficiency sectors, along with increased spending on green infrastructure, are among the main drivers of this development [15]. In relation to the whole economy, the EGSS grew — in gross value added terms — from 1.8 % of GDP in 2006 to 2.5 % in 2021. This indicates the sector grew disproportionally faster than other economic sectors. Notably, the sector's gross value added continued to grow in 2020 compared with the previous year, by 2.0 %, when the EU's GDP fell by 5.6 % as a result of the COVID-19 pandemic [16]. Employment in the sector has also increased, in terms of full-time equivalent, by 42.2 % since 2006. In 2021, the sector provided 5.2 million full-time equivalent jobs throughout the EU [17].

317.3
billion EUR of gross value added were generated by the EU's environmental goods and services sector in 2021

Waste generation and management

Production and consumption patterns characterised by products being made, used and then disposed of are not sustainable. Therefore, the EU aims to move towards a circular economy where materials and resources are kept in the economy for as long as possible (through repair, recycling and reuse) and waste is minimised or even prevented. Because waste contains resources, recycling can put these materials back into the economy and ensure they are used again to preserve the value embedded within them.

Waste generation has fallen, but the EU is not on-track to meet its circular material use goal

In 2020, 2.2 billion tonnes of waste were generated in the EU by all economic activities and households, corresponding to 4 815 kilograms (kg) of waste per inhabitant. Almost two-thirds (64.0 % or 3.1 tonnes per inhabitant) of this waste was major mineral waste, including dredging spoils and contaminated soils that are mainly created in the mining and construction sectors [18]. Of the total waste, 4.4 % was hazardous to health or the environment, corresponding to 214 kg per resident in 2020. The total amount of waste generated in the EU fell by 4.6 % between 2016 and 2020, likely as a result of the pandemic-related economic slowdown in 2020. This translates into a 5.1 % reduction of waste generated per EU inhabitant between 2016 and 2020.

Total waste excluding major mineral waste constituted one-third (36 %) or 776 million tonnes of total waste generated in the EU in 2020. From this amount, 212 million tonnes were recorded for waste and water services, followed by households (196 million tonnes) and manufacturing activities (167 million tonnes). In 2020, food waste accounted for 58 million tonnes in the EU. More than half (54 %) of food waste was generated by household activities, followed by manufacture of food products and beverages (21 %) and primary production of food (9 %) [19].

4 815
kg of waste were generated in the EU per inhabitant in 2020

When not managed sustainably, all this waste has a huge impact on the environment, causing pollution and greenhouse gas emissions, and significantly lowering the efficiency materials use [20]. Recycling waste and feeding it back into the economy as secondary raw materials is crucial for reducing the EU's demand for primary raw materials and relies heavily on improved waste management systems [21]. Between 2007 and 2022, the EU circular material use (CMU) rate — the share of used materials derived from collected waste — increased from 8.9 % to 11.5 %. Since 2016, however, the CMU rate has stagnated between 11.3 % and 11.6 %, meaning the EU will need to make stronger progress in the next few years to meet its goal of doubling the materials it uses from collected waste by 2030 to 23.2 %.

11.5%
of the materials used in the EU came from collected waste in 2022

Data for the recycling of waste excluding major mineral wastes show that 58 % of EU waste was recycled in 2020 ([22]). The difference between this relatively high end-of-life recycling rate and the CMU rate (11.5 % in 2022) may seem surprising. However, the comparatively low degree of circularity in the EU can be attributed to three structural barriers. First, a large fraction of the materials extracted, in particular minerals, is used to build and maintain buildings, infrastructure and other long-life goods and is not readily available for recycling. The second barrier is the large amount of materials used to generate energy. For these materials, in particular for fossil fuels, closing the loop is hardly possible and the high share of these materials keeps the degree of circularity low ([23]). Another barrier is that in many cases, despite the relatively high recycling rate, secondary (recycled) raw materials often are not of sufficient quality to be used in new products (for example, in construction products, packaging or transport) and therefore lack market demand. In other words, there is a gap between the supply of recycled materials and demand for quality secondary material as inputs.

Main indicators

Material footprint

The material footprint, also referred to as raw material consumption (RMC), represents the global demand for the extraction of materials (minerals, metal ore, biomass and fossil energy materials) induced by consumption of goods and services within a geographical reference area. Data for material footprints stem from material flow accounts, which model the flows of natural resources from the environment into the economy. They include domestic extraction of materials measured in tonnes of gross material (for example, gross ore or gross harvest) as well as imports and exports measured by estimates of the raw material equivalents of the products traded (domestic and abroad extraction required to produce the traded products). RMC thus measures the amount of extraction needed to produce the goods demanded by final users in the geographical reference area, irrespective of where in the world the material extraction took place.

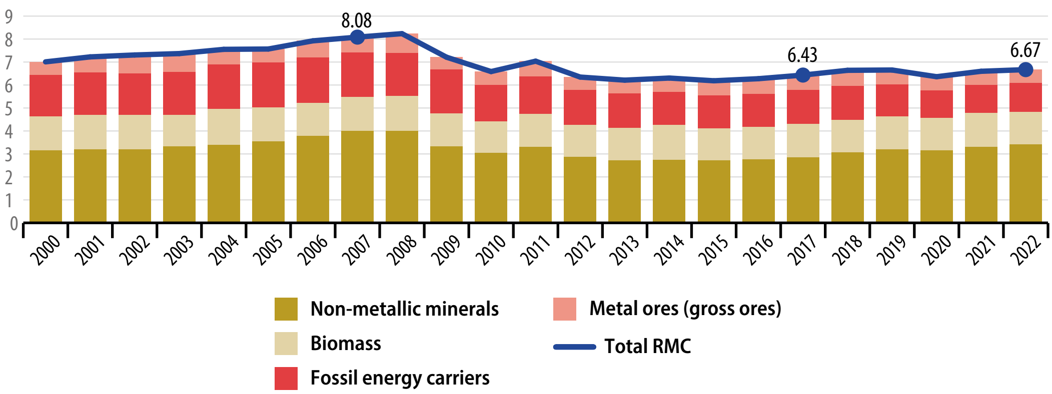
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 12.1

Raw material consumption, by material, EU, 2000–2022

(billion tonnes)



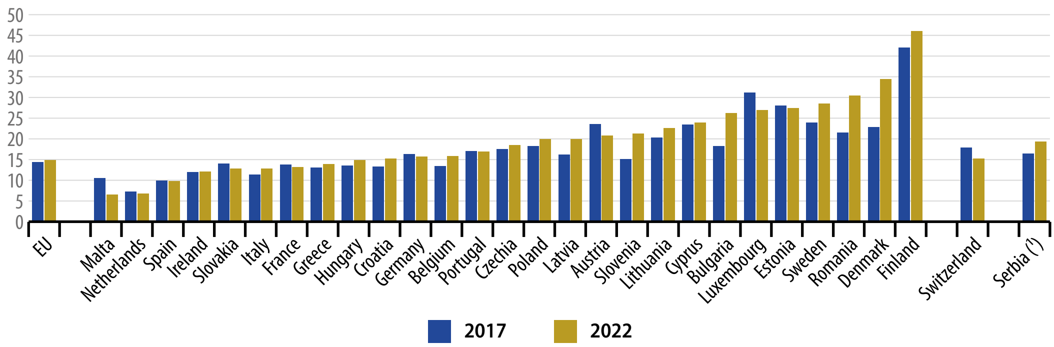
Note: Estimated data.

Source: Eurostat (online data code: sdg_12_21 and env_ac_rme)

FIGURE 12.2

Raw material consumption, by country, 2017 and 2022

(tonnes per inhabitant)



Note: Estimated data for most countries.
([1]) 2021 data (instead of 2022).
Source: Eurostat (online data code: sdg_12_21)

Consumption footprint

LONG TERM
2010–2022

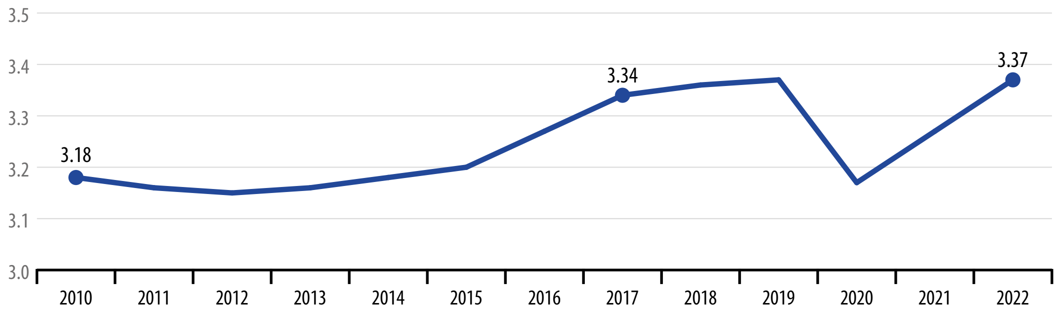
SHORT TERM
2017–2022

The consumption footprint is a set of 16 life cycle assessment (LCA)-based indicators to assess the environmental impacts of EU and its Member States consumption by combining data on consumption intensity and environmental impacts of representative products [24]. It is based on the combination of: (a) the emissions to air, soil and water, as well as the resources used along the life cycle of around 165 representative products, belonging to five areas of consumption (food, mobility, housing, household goods, and appliances), (b) the consumption intensities of those products, which are calculated based on consumption statistics, and (c) the Environmental Footprint (EF) impact assessment method, which translates emissions and resource consumption into 16 potential environmental impacts that can be aggregated into a single score. The EF impact indicators can be compared with a set of thresholds based on the Planetary Boundaries framework [25].

FIGURE 12.3

Consumption footprint, EU, 2010–2022

(overall transgression of planetary boundaries)

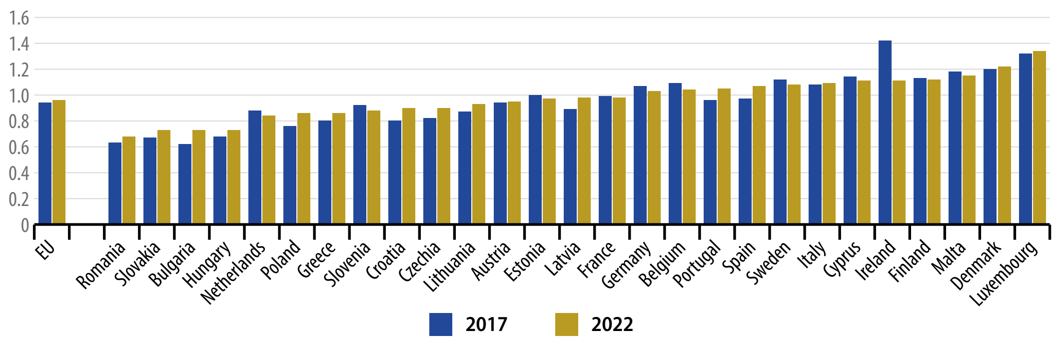


Source: Eurostat (online data code: sdg_12_31)

FIGURE 12.4

Consumption footprint, by country, 2017 and 2022

(per inhabitant)



Source: Eurostat (online data code: sdg_12_31)

Consumption of hazardous chemicals

LONG TERM
2007–2022

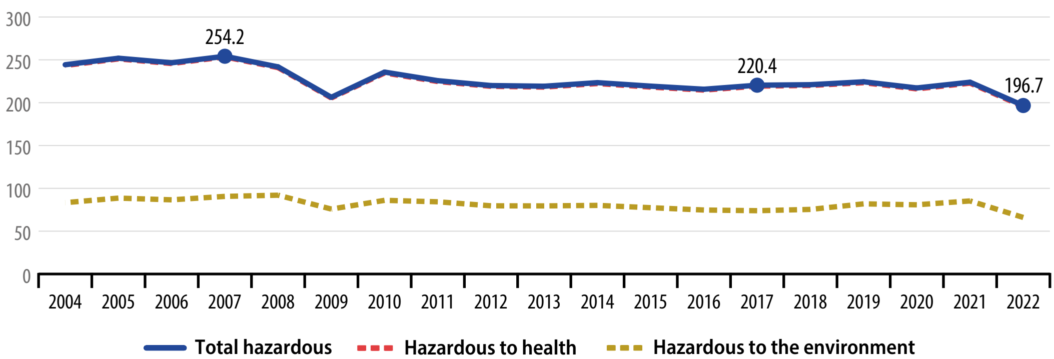
SHORT TERM
2017–2022

This indicator measures the consumption of toxic chemicals, expressed in million tonnes. The consumption of chemicals is calculated as the sum of the production volumes and the net import volumes of the chemicals according to the equation: consumption = production + imports – exports. The two sub-categories of hazardous chemicals — hazardous to human health and hazardous to the environment — overlap by definition and as a result their sum is not equal to the total consumption of hazardous chemicals.

FIGURE 12.5

Consumption of hazardous chemicals, EU, 2004–2022

(million tonnes)



Source: Eurostat (online data code: sdg_12_10)

Gross value added in the environmental goods and services sector

The environmental goods and services sector (EGSS) is defined as that part of a country's economy that is engaged in producing the goods and services used in environmental protection and resource management activities either domestically or abroad. Gross value added in EGSS represents the contribution of the environmental goods and services sector to GDP and is defined as the difference between the value of the sector's output and intermediate consumption.

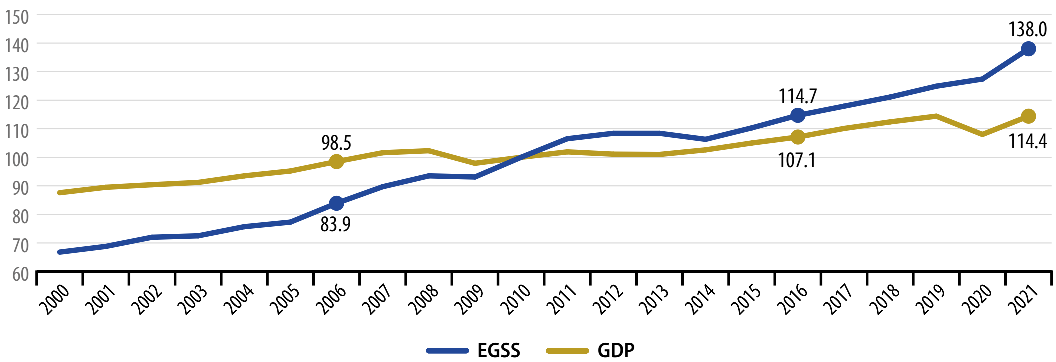
LONG TERM
2006–2021

SHORT TERM
2016–2021

FIGURE 12.6

Gross value added in the environmental goods and services sector, EU, 2000–2021

(chain-linked volumes, index 2010 = 100)

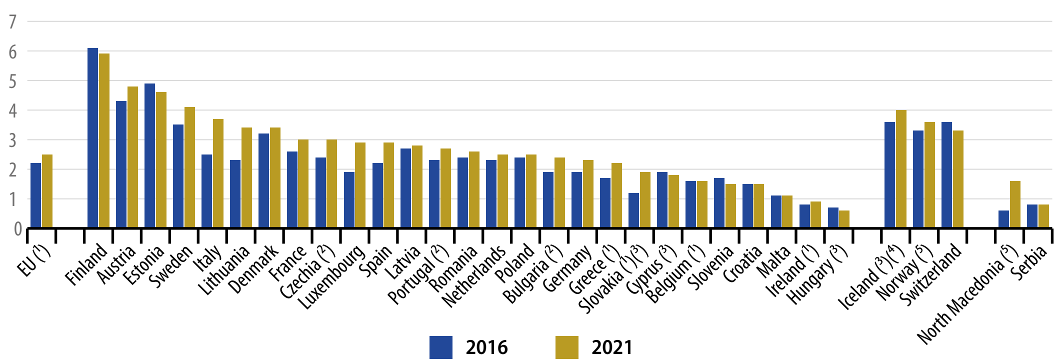


Note: Data for EGSS are Eurostat estimates.
Source: Eurostat (online data codes: sdg_12_61 and nama_10_gdp)

FIGURE 12.7

Gross value added in the environmental goods and services sector, by country, 2016 and 2021

(% of GDP)



(1) Estimated and/or provisional data.
(2) Break(s) in time series between the two years shown.
(3) 2018 data (instead of 2016).
(4) 2020 data (instead of 2021).
(5) 2019 data (instead of 2016).
Source: Eurostat (online data code: sdg_12_61)

Circular material use rate

LONG TERM 2007–2022

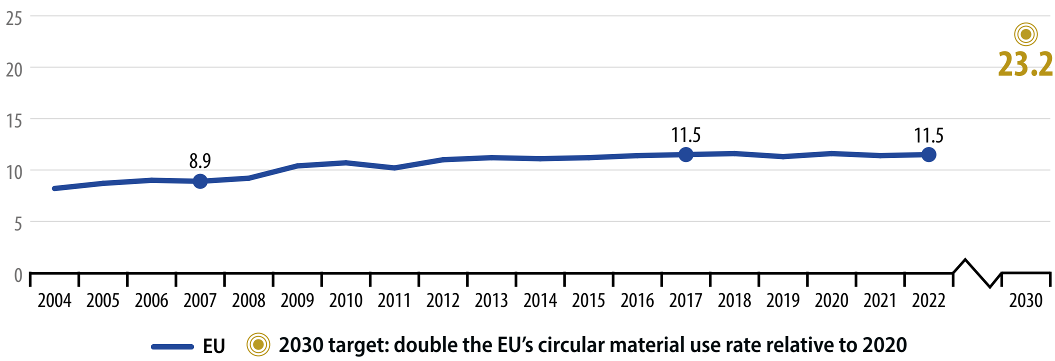
SHORT TERM 2017–2022

The circular material use rate (CMU) measures the share of material recovered and fed back into the economy in overall material use. The CMU is defined as the ratio of the circular use of materials to the overall material use. The overall material use is measured by summing up the aggregate domestic material consumption (DMC) and the circular use of materials. DMC is defined in economy-wide material flow accounts. The circular use of materials is approximated by the amount of waste recycled in domestic recovery plants minus imported waste destined for recovery plus exported waste destined for recovery abroad. A higher CMU rate value means more secondary materials are being substituted for primary raw materials, thus reducing the environmental impacts of extracting primary material.

FIGURE 12.8

Circular material use rate, EU, 2004–2022

(% of material input for domestic use)

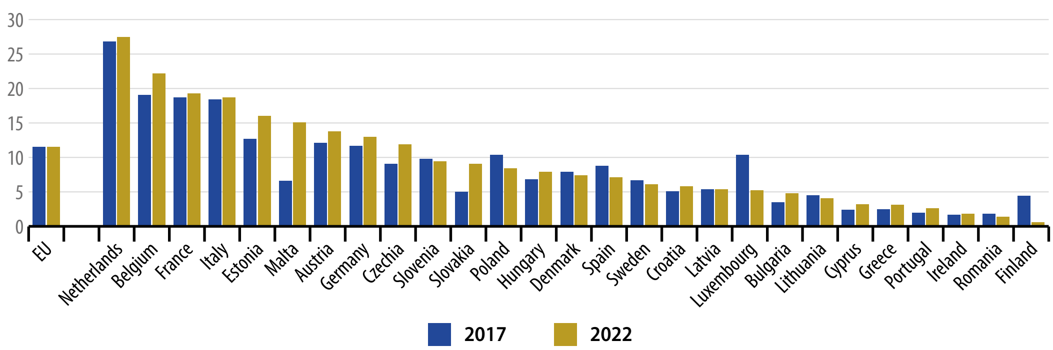


Note: Data for 2022 are estimated.
Source: Eurostat (online data code: sdg_12_41)

FIGURE 12.9

Circular material use rate, by country, 2017 and 2022

(% of material input for domestic use)



Note: 2022 data are estimated.
Source: Eurostat (online data code: sdg_12_41)

Generation of waste

This indicator is defined as all waste generated in a country. It covers waste generated by industrial production (including the waste management sector itself) and by households. Major mineral wastes, dredging spoils and soils are included. This leads to high quantities of waste in some countries with substantial economic activities such as mining and construction.

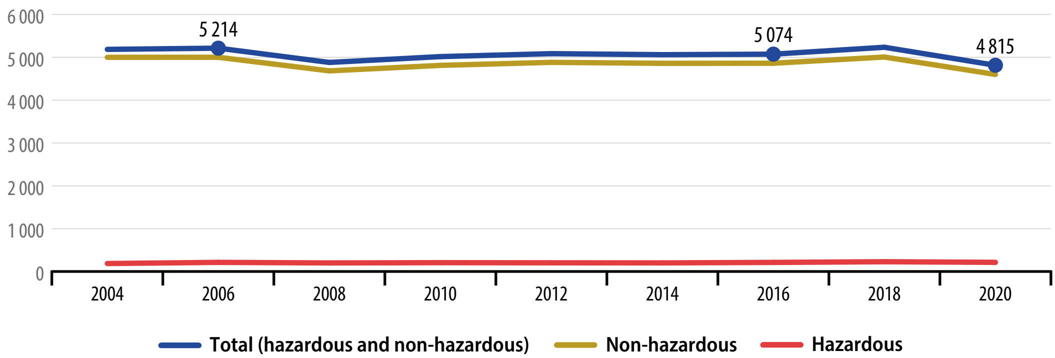
LONG TERM
2006–2020

SHORT TERM
2016–2020

FIGURE 12.10

Generation of waste, by hazardousness, EU, 2004–2020

(kg per capita)

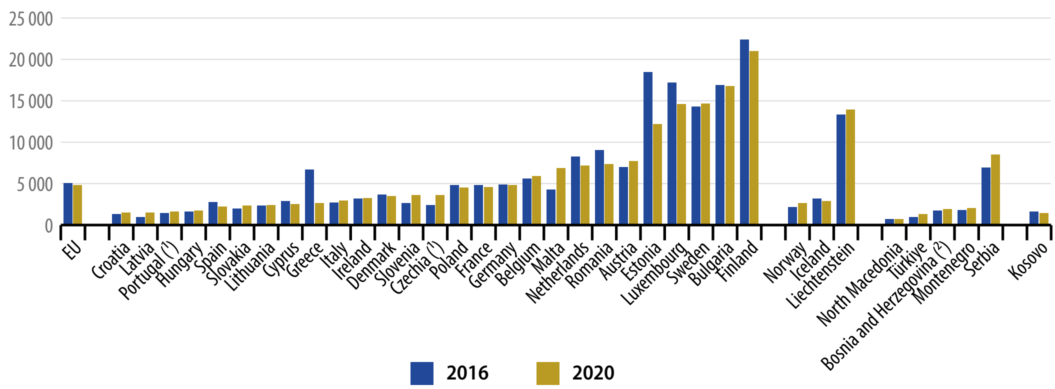


Source: Eurostat (online data code: sdg_12_51)

FIGURE 12.11

Generation of waste, by country, 2016 and 2020

(kg per capita)



([1]) Break(s) in time series between the two years shown.
([2]) 2018 data (instead of 2020).

Source: Eurostat (online data code: sdg_12_51)

Notes

(1) Source: JRC (Eurostat online data code: cei_gsr010).

(2) Source: Eurostat (online data code: env_ac_mid).

(3) Source: Eurostat (online data code: cei_gsr020). Copper does not meet the CRM threshold but is included on the CRM list as strategic raw material in line with the Critical Raw Materials Act.

(4) Resource productivity is defined as GDP per unit of domestic material consumption (DMC), measured in EUR per kilogram. Part of these materials is directly consumed by households, which means they are not used as an input to production activities. Thus, resource productivity is not directly comparable to concepts such as labour or capital productivity.

(5) Source: Eurostat (online data codes: env_ac_rp, env_ac_mfa and nama_10_gdp).

(6) Energy productivity is defined as GDP per unit of gross inland energy consumption, measured in EUR per kg of oil equivalent. Part of the energy considered is consumed by households, which means it is not used as an input to production activities. Thus, energy productivity is not directly comparable to concepts such as labour or capital productivity. Note that the indicator's inverse is energy intensity.

(7) Source: Eurostat (online data codes: nama_10_gdp and nrg_bal_s).

(8) The European Chemical Industry Council (2023), *CEFIC Facts and Figures 2023*.

(9) European Environment Agency (2019), *Consumption of hazardous chemicals*.

(10) Source: Eurostat (online data code: env_air_gge).

(11) Please note that the EU targets also cover vehicles registered in Norway and Iceland, while those countries are not included in the emission values quoted, which relate to EU-27.

(12) European Commission (2023), *Commission Implementing Decision (EU) 2023/1623* of 3 August 2023 specifying the values relating to the performance of manufacturers and pools of manufacturers of new passenger cars and new light commercial vehicles for the calendar year 2021 and the values to be used for the calculation of the specific emission targets from 2025 onwards.

(13) Source: Eurostat and European Alternative Fuels Observatory (online data code: road_eqr_zevpc).

(14) European Environment Agency (2019), *Environmental Goods and Services Sector: employment and value added.*

(15) Ibid.

(16) Source: Eurostat (online data code: nama_10_gdp).

(17) Source: Eurostat (online data code: env_ac_egss1).

(18) Source: Eurostat (online data code: env_wasgen).

(19) Source: Eurostat (online data codes: env_wasgen and env_wasfw).

(20) European Commission (2010), *Being wise with waste: the EU's approach to waste management*, Publication Office of the European Union, Luxembourg.

(21) European Commission (2024), *Circular economy*.

(22) Source: Eurostat (online data code: env_wasoper).

(23) Haas, W., Krausmann, F., Wiedenhofer, D., Heinz, M. (2015), *How Circular is the Global Economy?: An Assessment of Material Flows, Waste Production, and Recycling in the European Union and the World in 2005*, Journal of Industrial Ecology 19(5), 765–777.

(24) Sanye Mengual, E. and Sala, S. (2023), *Consumption Footprint and Domestic Footprint: Assessing the environmental impacts of EU consumption and production*, Publications Office of the European Union, Luxembourg.

(25) Sala, S., Crenna, E., Secchi, M., Sanyé-Mengual, E. (2020), *Environmental sustainability of European production and consumption assessed against planetary boundaries*, Journal of Environmental Management, Volume 269, 110686.

Take urgent action to combat climate change and its impacts

SDG 13 seeks to achieve a climate-neutral world by mid-century and to limit global warming to well below 2°C — with an aim of 1.5°C — compared with pre-industrial times. It aims to strengthen countries' climate resilience and adaptive capacity, with a special focus on supporting least-developed countries.

Climate change increases global air and ocean temperatures, changes precipitation patterns, raises the global average sea level, provokes extreme weather events, harms biodiversity and increases ocean acidity. Its impacts threaten the viability of social, environmental and economic systems and may make some regions less habitable due to food and water scarcity. Monitoring SDG 13 in an EU context focuses on climate mitigation, climate impacts and adaptation, and financing climate action. As surface temperatures rise, the EU continues to face intensifying climate impacts and economic losses from climate-related events, which have increased in recent years. Net greenhouse gas (GHG) emissions kept falling when excluding the remarkable drop in 2020 following the COVID-19 pandemic. However, more efforts will still be needed to reach the target of reducing net GHG emissions by at least 55 % by 2030 compared with 1990 — efforts that are reinforced by the 'Fit for 55' package. The 2030 target includes net GHG removals from land use, land use change and forestry, which have declined since 2013. The share of renewables has kept rising in the EU, but stronger progress will be needed to meet the new 2030 target. Financing of the transition saw new funds made available via the issuance of green bonds from cooperatives but also governmental issuers. Climate finance kept progressing, with climate-related expenditure for developing countries increasing further.

Indicators measuring progress towards SDG 13, EU

Indicator	Period	Annual growth rate	Assessment	More info
Climate change mitigation				
Net greenhouse gas emissions	2007–2022	Observed: – 1.9 % Required: – 3.0 %	(1)	page 252
	2017–2022	Observed: – 2.6 % Required: – 4.2 %	(1)	
Net greenhouse gas emissions from land use, land use change and forestry	2007–2022	Observed: 1.7 % Required: – 0.1 %		page 254
	2017–2022	Observed: 1.0 % Required: – 1.7 %		
Share of renewable energy in gross final energy consumption (*)	2007–2022	Observed: 4.6 % Required: 5.7 %		SDG 7, page 153
	2017–2022	Observed: 4.6 % Required: 6.6 %		
Average CO_2 emissions per km from new passenger cars	Long-term assessment not possible due to break in time series in 2017		:	page 255
	2017–2022	Observed: – 5.1 % Required: – 7.8 %		
Climate change impacts and adaptation				
Climate-related economic losses	2009–2022	3.1 %		page 257
	2017–2022	5.5 %		
Financing climate action				
Green bond issuance	Time series too short for long-term assessment		:	page 258
	2017–2022	26.8 % (2)		
Contribution to the international USD 100bn commitment on climate-related expenditure	Time series too short for long-term assessment		:	page 259
	2017–2022	8.0 %		

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(*) Multi-purpose indicator.

(1) Assessment based on past progress and not on projections of future emissions based on planned legislation and policy measures.

(2) Assessment based on provisional data for the whole period.

Policy context

Climate change mitigation

The European Climate Law establishes the goal of reducing net GHG emissions by at least 55 % between 1990 and 2030 with the aim of achieving climate-neutrality by 2050, a key objective of the European Green Deal. In February 2024, the Commission recommended a 2040 climate target of 90 % net GHG emission reductions relative to 1990 levels.

To set in motion the transformative change, the so-called Fit for 55 package comprises an interconnected set of new and revised EU climate and energy legislation [1] — including strengthened and expanded targets, carbon pricing, standards and support measures. This includes the 2030 target for natural carbon sinks of 310 million tonnes of CO_2 equivalents.

In addition, the EU also strengthened mandatory CO_2 emission standards for new cars and vans, while revised standards for heavy-duty vehicles are still negotiated. The revised Clean Vehicles Directive promotes clean mobility solutions in public procurement. In addition, the Smart and Sustainable Mobility Strategy from 2020 aims to make at least 30 million zero-emission cars operational in Europe by 2030.

The Just Transition Mechanism supports regions that are the most carbon-intensive or with the most affected people working in fossil fuel industries. The Council Recommendation on ensuring a fair transition provides guidance for addressing relevant employment and social aspects linked to the green transition. The Social Climate Fund will support vulnerable households, micro-enterprises and transport users to cope with price impacts of emissions trading in road transport and buildings.

Climate change impacts and adaptation

The Climate Law mandates continuous progress in enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change. The EU Adaptation Strategy urges smarter, faster and more systematic adaptation so that by 2050 the EU is a climate-resilient society. Better coherence is targeted internationally under the Sendai Framework for Disaster Risk Reduction and at EU level under the EU Civil Protection Mechanism. The Communication on Managing Climate Risks responds to the EU-wide climate risk assessment identifying paths to protecting people and prosperity.

Financing climate action

Support to climate action in the EU comes from the EU budget, the Recovery and Resilience Facility, ETS revenues and its climate-related funds including the Innovation Fund and the Modernisation Fund.

To shift private and public investments towards sustainable activities, the EU introduced a taxonomy for sustainable economic activities, requesting sustainability-related disclosures to investors for financial products and establishing two new climate-friendly benchmarks for investment portfolios. There is now also a European Green Bond standard available. Further work is summarised in the Commission's strategy for financing the transition.

To support developing countries, the EU and its Member States contribute to the joint goal of developed countries under the Paris Agreement to provide USD 100 billion per year in climate finance through to 2025.

Overview and key trends

Climate change mitigation

Climate mitigation aims to reduce emissions of climate-harming greenhouse gases (GHG) that originate from human activity through measures such as promoting low-carbon technologies and practices or encouraging sustainable forest management and land use that enhance carbon removals. The EU has set into law the target to reach climate neutrality with no net GHG emissions by 2050. This means reducing GHG emissions as much as possible while compensating for residual and unavoidable emissions by removing carbon dioxide (CO_2), for example through natural carbon sinks and by using carbon-removal technologies. As an intermediate target on the path to climate neutrality in 2050, the EU has committed itself to reducing net GHG emissions by at least 55 % by 2030 compared with 1990 levels. In February 2024, the European Commission issued a Communication on the EU's 2040 climate target, with a recommendation for a net reduction of emissions of 90 % relative to 1990 levels, launching a debate with stakeholders.

GHG emissions continue to fall compared with pre-pandemic levels, with more to be done to meet the 2030 target

Between 1990 and 2022, the EU achieved a 31.0 % reduction in its net GHG emissions, which include net removals from land use and forestry. This means that over the next eight years, emissions will need to fall much quicker for the EU to reach its net GHG emission reduction target of 55 % by 2030.

The EU reduced its net GHG emissions by

12.3 %

between 2017 and 2022

A large proportion of the EU's emission reductions since 1990 have occurred between 2007 and 2022, with net emissions falling by 24.5 % during this period. The short-term trend shows a rather steady decrease when excluding the year 2020. The remarkable 10.6 % drop in that year can mainly be attributed to the measures taken in response to the COVID-19 pandemic and the related reduction in energy consumption. Overall, EU net emissions fell by 12.3 % between 2017 and 2022.

Per capita emissions have fallen in line with the overall reduction in net GHG emissions

Net carbon removals from land use and forestry in the EU in 2022 amounted to

236.4

Mt CO_2-eq

Across the EU, net GHG emissions per capita ranged from 0.6 tonnes of CO_2-equivalent in Sweden to 14.5 tonnes in Luxembourg in 2022. The high value for Luxembourg can be partly attributed to a relatively large number of commuters and transit traffic ([2]). Between 2017 and 2022, net GHG emissions per capita fell in all Member States except for Bulgaria, Latvia and Finland. While per capita emissions grew only slowly in Bulgaria and Finland, by 4.2 % and 2.2 %, respectively, Latvia reported a 93.0 % increase, mainly as a result of growing emissions from land use and forestry. The strongest reductions over the period from 2017 to 2022 were reported by Portugal, Sweden and Estonia, with net GHG emissions per capita falling by 43.6 %, 40.0 % and 37.8 %, respectively.

Carbon removals remain on a downward trend

Net GHG removals come from land use and forestry, which is also referred to as the 'land use, land use change and forestry (LULUCF)' sector according to the Intergovernmental Panel on Climate Change (IPCC) classification. Within this sector, forests remove CO_2 from the air (as trees capture CO_2

through photosynthesis), which in most Member States overcompensates for emissions from land use (for example, from the use of fertilisers) and land use change (for example, when grassland is converted to cropland).

Between 2007 and 2022, GHG net removals from land use and forestry fell by 22.2 % in the EU. The decline in forest carbon sinks has been attributed to several trends, including slowdowns in net afforestation and in forest biomass growth as well as increases in tree mortality and in timber harvesting ([3]). In the short-term period between 2017 and 2022, the EU's net removals from land use and forestry declined further, by 4.8 %. Due to the reductions in total GHG emissions, net removals still compensated for 6.8 % of emissions in 2022. In absolute numbers, net removals amounted to 236.4 million tonnes (Mt) of CO_2-equivalent in 2022. This is well below the EU's net carbon removal target for land use and forestry of at least 310 Mt of CO_2-equivalent by 2030.

Emissions associated with energy consumption have fallen thanks to reduced energy consumption and increased use of renewables

A sectoral breakdown of the GHG emissions for 2022 shows that two sectors — energy industries (which covers electricity and central heat generation) and transport (including international aviation) — were responsible for more than half of total EU emissions, with each of these sectors accounting for around 26 % of emissions. Industry and other energy consumers were the third and fourth largest emitters of GHGs in the EU, accounting for around 20 % and 14 % of total emissions in 2022, respectively. Between 2017 and 2022, energy industries showed the strongest reduction in emissions, of around 20 %. Emissions from industry and from other energy consumers fell by around 13 % each, while transport emissions dropped by less than 4 % over the same period ([4]).

Emissions arise mainly from fossil energy consumption, whereby related reductions result from the general drop in energy consumption and an increasing share of renewable energies (see the chapter on SDG 7 'Affordable and clean energy' on page 141). In total, renewable energy contributed 23.0 % of the EU's gross final energy consumption in 2022. While this was an increase of 4.6 percentage points between 2017 and 2022, stronger progress is vital to reach a 42.5 % share of renewable sources in energy consumption by 2030. A sectoral breakdown shows that the share of renewables was largest in electricity generation, reaching 41.2 % in 2022. The shares of renewables in heating and cooling and in transport were lower, at 24.9 % and 9.6 % in 2022, respectively.

23.0 %
of energy consumed in the EU in 2022 came from renewable sources

Average CO_2 emissions per km from new car fleets have fallen since 2017

Road transport was responsible for almost a quarter of the EU's total GHG emissions in 2022, and more than half of road transport emissions came from passenger cars ([5]). To reduce those emissions, the EU has set targets for the fleet-wide average CO_2 emissions of new passenger cars and vans, and heavy duty vehicles. For each manufacturer's new fleet, a binding specific emission target has been set so that the overall target for the EU's average fleet emissions will be met. For cars and vans, this manufacturer's target is based on the average mass of its new cars or vans and for lorries the target is based on mileage and payload. The EU fleet-wide targets for average CO_2 emissions per kilometre (km) from new passenger cars and vans have been set to 93.6 grams per km (g/km) for 2025 and to 49.5 g/km for 2030, while from 2035 onwards all new cars and vans registered in the EU must be zero-emission vehicles ([6]).

109.8
grams of CO_2 per km were emitted on average by new passenger cars in the EU in 2022

Over the period 2017 to 2022, the average CO_2 emissions per km from new passenger cars registered in the EU fell by 23.2 %, with most of this reduction taking place between 2019 and 2021. The EU average CO_2 emissions reached 109.8 g/km in 2022, which is still far from the respective EU targets for 2025 and 2030.

Accelerating the market uptake of new zero emission vehicles is a crucial step to achieving the CO_2 emission targets for new vehicles. The share of zero-emission passenger cars (including battery and fuel cell electric as well as hydrogen cars) in newly registered cars in the EU rose from 0.7 % in 2017 to 12.1 % in 2022. However, the share differs considerably between countries. Sweden reported the highest share with 32.9 % in 2022, followed by the Netherlands with 23.5 % and Denmark with 20.6 %. In contrast, zero-emission vehicles only accounted for around 2 % of newly registered passenger cars in Czechia and Slovakia (7).

Climate change impacts and adaptation

Rising concentrations of CO_2 emissions and other GHGs lead to global warming and increased ocean acidity. As a consequence of global anthropogenic GHG emissions, the decade 2013 to 2022 was the warmest on record, with a global mean near-surface temperature increase of 1.13–1.17 °C compared with the pre-industrial level. This means that more than half of the warming towards the global 2 °C limit stipulated in the Paris Agreement has already occurred. The average annual temperature over the European continent has increased even more, by 2.04–2.10 °C during this decade (8).

Climate impacts are a consequence of rising temperatures and the related intensity and quantity of extreme events which affect environmental, social and economic systems. The EU's SDG monitoring focuses on the economic costs that arise from weather- and climate-related extreme events. To minimise the impacts, countries are taking action to adapt to climate change by introducing measures such as flood protection, adapted agricultural practices and forest management, and sustainable urban drainage systems. However, adaptation is lagging far behind the impacts.

Economic losses from weather- and climate-related extreme events have been considerable in recent decades

In 2022, weather- and climate-related economic losses in EU countries amounted to

EUR 52.3 billion

Studies have shown that various weather- and climate-related extreme events in Europe and beyond have become more severe and frequent as a result of global climate change. The resulting impact on human systems and ecosystems has led to measurable losses to nature, economies and people's livelihoods (9). Reported economic losses generally reflect monetised direct damages to certain assets and as such are only partial estimates of the full damages. They do not consider losses related to productivity, mortality and health, cultural heritage or ecosystems services, which would considerably raise the estimate (10).

Over the period 1980 to 2022, weather- and climate-related losses accounted for a total of EUR 650 billion (11). 2022 marked another negative record with climate-related economic losses amounting to EUR 52.3 billion, most of which (EUR 40.9 billion) was caused by climatological events such as heat or cold waves, droughts and forest fires. This is only slightly below the 2021 loss of EUR 59.4 billion, which was caused mainly by hydrological events such as floods.

However, recorded losses vary substantially over time: about 59 % of the total losses have been caused by just 5 % of unique extreme events (12). This variability makes the analysis of historical trends difficult. However, a closer look at a 30-year moving average shows an almost steady increase in annual climate-related economic losses, from EUR 11.9 billion in 2009 to EUR 17.7 billion in 2022 (13), which corresponds to a 48.0 % increase. The three most expensive extreme climate events during the period from 1980 to 2022 included the 2021 flooding in Germany and Belgium (EUR 44 billion), the 2022 drought (EUR 40 billion), and the 2002 flood in central Europe (EUR 34 billion), all at 2022 prices ([14]).

Financing climate action

As part of the transition towards climate neutrality and climate resilience, the EU is endeavouring to redirect public and private investments to areas where they will support this objective. For this reason, the EU has adopted the EU taxonomy as a classification system for sustainable economic activities and a European green bond standard as a voluntary 'gold' standard for the green bond market. At EU level, climate change mitigation and adaptation has been integrated into all major spending programmes ([15]) and the EU has also committed to support international climate action.

Green bond issuance has been increasing significantly, leaving behind its existence as a niche product

Investments into clean technologies and supportive infrastructure are key for the transition to climate neutrality. Such investments often rely on funds which can be raised for example through the issuance of bonds. There are different issuers active in the green bond market such as the EU, which issues for example the NextGenerationEU Green Bonds to finance climate action in the EU.

Green bonds reached a share of
8.9%
in total bonds in the EU in 2022

Provisional data on the share of green bonds in total bonds issuance indicate an increase from 2.7 % to 8.9 % between 2017 and 2022. This suggests that green bonds are moving away from being a niche product. Supranational issuers and cooperates particularly increased the share of green bonds, so that green bonds made up 8.6 % and 11.0 % of their respective total bond issuance. The importance of green bonds is likely to continue to grow as investors place increasing emphasis on the sustainability of their investments and consistency with policy objectives ([16]).

The EU's contribution to climate finance for developing countries has been increasing since 2014

In addition to investing in climate action within its borders, the EU and its Member States have also committed to raising money to combat climate change and for adapting to climate impacts in developing countries. They take part in a commitment made by the world's developed countries to jointly mobilise USD 100 billion per year by 2025, from a wide variety of sources, instruments and channels ([17]).

In 2022, the EU's contribution to the international USD 100 billion commitment amounted to
EUR 28.5 billion

Total EU public finance contributions (including all 27 Member States as well as the EU institutions) increased from about EUR 12.9 billion in 2014 to EUR 28.5 billion in 2022. This equals roughly USD 30 billion contribution to the global target. The two largest contributors in the period were Germany and France. The European Commission and the European Investment Bank (EIB) were the third and fourth largest donors in 2022, respectively. In 2020, the EU, its Member States and the EIB together were the biggest contributors of public climate finance to developing countries worldwide ([18]). It is important to note that due to methodological changes, data from 2020 onwards are not fully comparable with earlier years. The data for 2020 and 2021 cover commitments for both multilateral and bilateral public finance. Data for 2022 cover bilateral finance committed and multilateral finance provided.

Main indicators

Net greenhouse gas emissions

LONG TERM
2007–2022

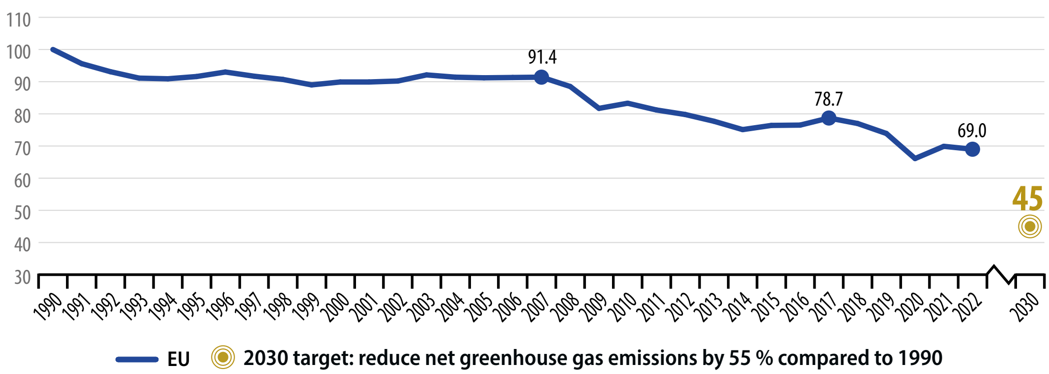
SHORT TERM
2017–2022

This indicator measures man-made greenhouse gas (GHG) emissions as well as carbon removals on EU territory. The 'Kyoto basket' of GHGs includes carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and the so-called F-gases, which include hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride (NF_3) and sulphur hexafluoride (SF_6). Emissions and removals are integrated into a single indicator — net GHG emissions — expressed in units of CO_2 equivalents based on the global warming potential (GWP) of each gas. At present, carbon removals are accounted for only in the land use, land use change and forestry (LULUCF) sector. The net GHG emissions shown here include international aviation, indirect CO_2 and natural carbon removals from LULUCF. The indicator refers to GHG emissions in the EU territory. GHG emissions derived from the production of goods imported and consumed in the EU are counted in the export country, following the United Nations Framework Convention on Climate Change (UNFCCC) rules. Emissions and removals data, known as GHG inventories, are submitted annually by Member States to the EU and the UNFCCC. The European Environment Agency (EEA) compiles the EU aggregate data and publishes data for the EU and all Member States. Eurostat republishes the EEA data.

FIGURE 13.1

Net greenhouse gas emissions, EU, 1990–2022

(index 1990 = 100)



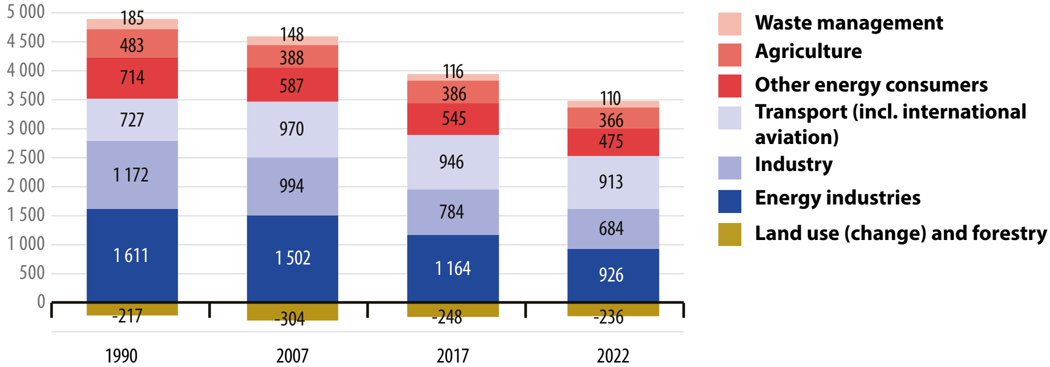
Note: The legal scope of the target only includes emissions from flights within the European Economic Area (EEA) and departures to Switzerland and to the UK, not all emissions from international aviation.

Source: EEA, Eurostat (online data code: sdg_13_10)

FIGURE 13.2

Greenhouse gas emissions and removals, by sector, EU, 1990, 2007, 2017 and 2022

(million tonnes of CO_2 equivalent)

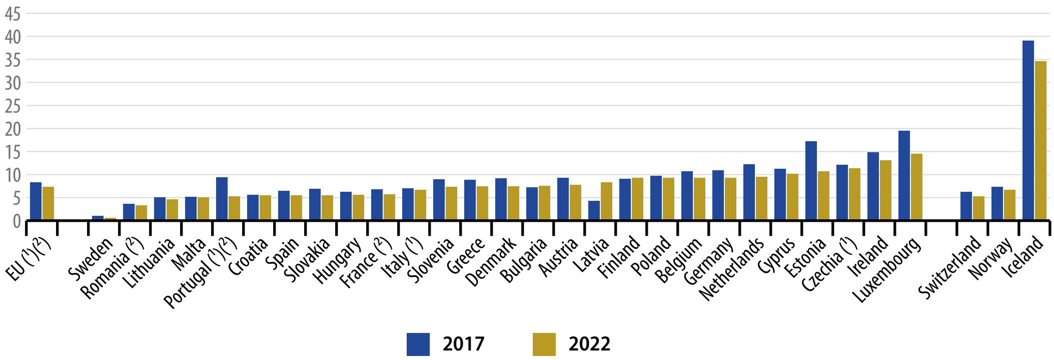


Source: EEA, Eurostat (online data code: env_air_gge)

FIGURE 13.3

Net greenhouse gas emissions per capita, by country, 2017 and 2022

(tonnes per capita)



([1]) Break(s) in population data time series between the two years shown.
([2]) Population data for 2022 are provisional and/or estimated.
Source: EEA, Eurostat (online data code: sdg_13_10)

Net greenhouse gas emissions from land use, land use change and forestry

LONG TERM
2007–2022

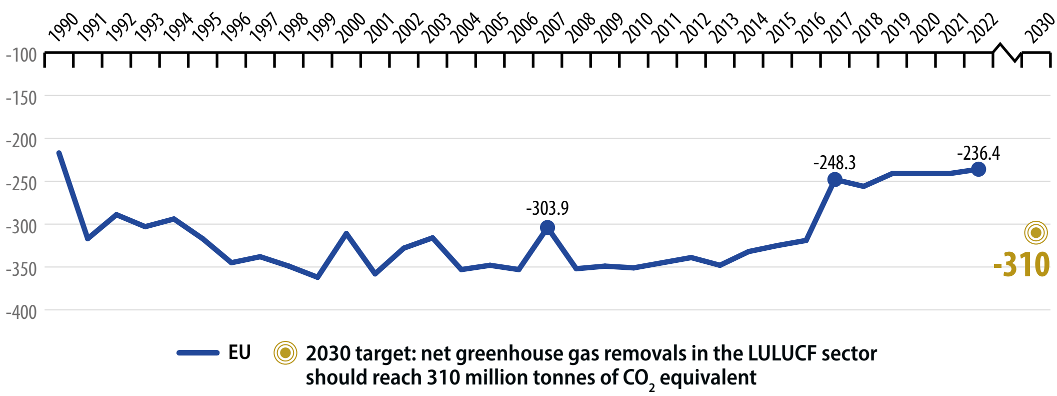
SHORT TERM
2017–2022

This indicator measures net carbon removals from the land use, land use change and forestry (LULUCF) sector, considering both emissions and removals from the sector. The indicator is expressed as CO_2 equivalents using the global warming potential (GWP) of each gas. Emissions and removals data, known as greenhouse gas (GHG) inventories, are submitted annually by Member States to the EU and the United Nations Framework Convention on Climate Change (UNFCCC). The European Environment Agency (EEA) compiles the EU aggregate data and publishes data for the EU and all Member States. Eurostat republishes the EEA data.

FIGURE 13.4

Net greenhouse gas emissions from land use, land use change and forestry, EU, 1990–2022

(million tonnes of CO_2 equivalent)

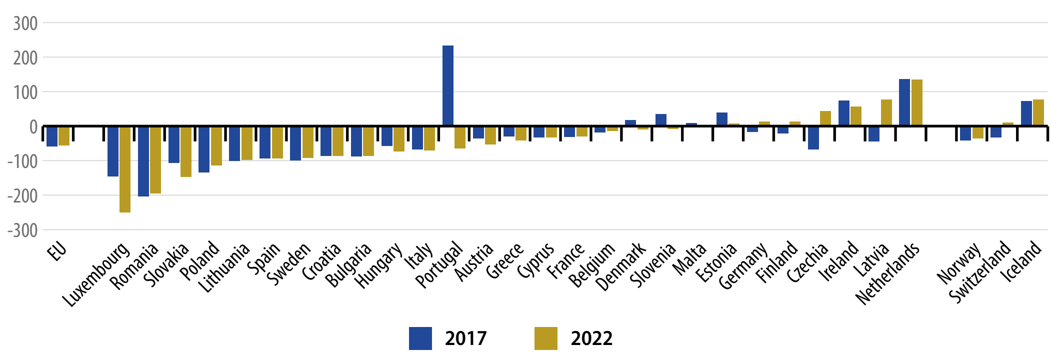


Source: EEA, Eurostat (online data code: sdg_13_21)

FIGURE 13.5

Net greenhouse gas emissions from land use, land use change and forestry, by country, 2017 and 2022

(tonnes of CO_2 equivalent per km²)



Source: EEA, Eurostat (online data code: sdg_13_21)

Average CO_2 emissions per km from new passenger cars

This indicator is defined as the average carbon dioxide (CO_2) emissions per km from new passenger cars registered in a given year. The reported emissions are based on type-approval and can deviate from the actual CO_2 emissions of new cars on the road. Data up to (and including) 2019 were collected according to the New European Driving Cycle (NEDC) procedure, while the data collection from 2021 onwards is based on the World Harmonised Light-vehicle Test Procedure (WLTP). Data for 2020 were collected based on both protocols. For the purpose of monitoring progress in this report, data for 2017 to 2019 are presented according to WLTP based on a conversion factor calculated using 2020 data in NEDC and WLTP, while data before 2017 are presented according to NEDC. Data presented in this section are provided by the European Commission, Directorate-General for Climate Action and the European Environment Agency (EEA).

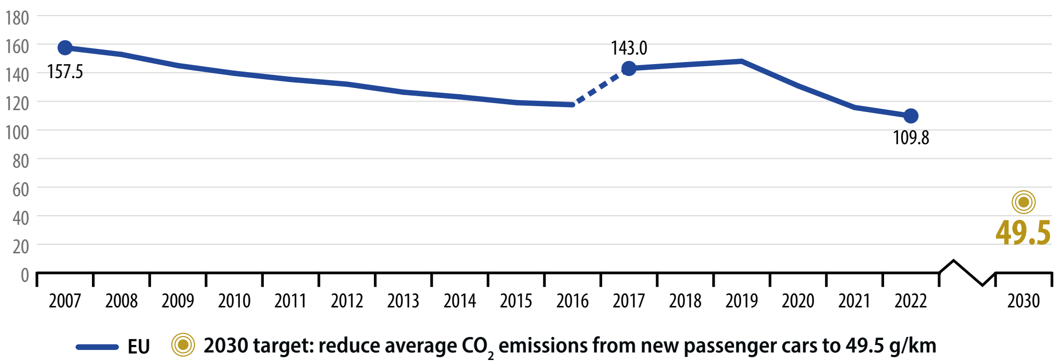
LONG TERM
X Assessment not possible due to break in time series in 2017

SHORT TERM
2017–2022

FIGURE 13.6

Average CO_2 emissions per km from new passenger cars, EU, 2007–2022

(g CO_2 per km)

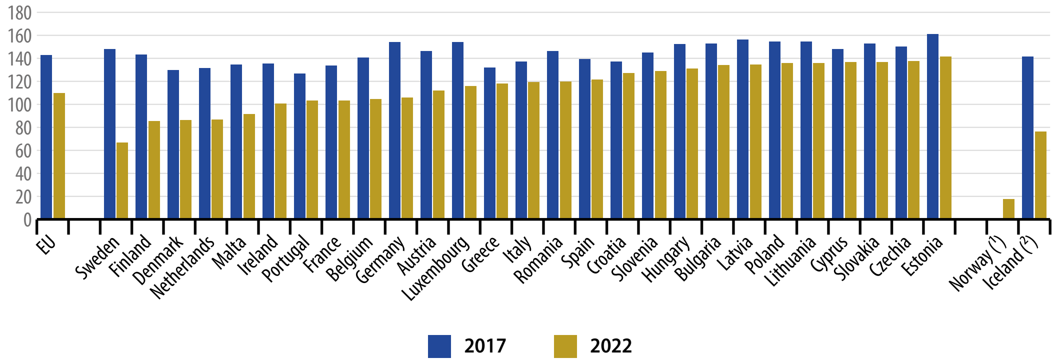


Note: 2017–2019 data are estimated; break in time series in 2017 (see indicator description above). The EU targets also cover vehicles registered in Norway and Iceland, while those countries are not included in the emission values presented, which relate to EU-27.
Source: EEA, European Commission services, Eurostat (online data code: sdg_13_31)

FIGURE 13.7

Average CO_2 emissions per km from new passenger cars, by country, 2017 and 2022

(g CO_2 per km)

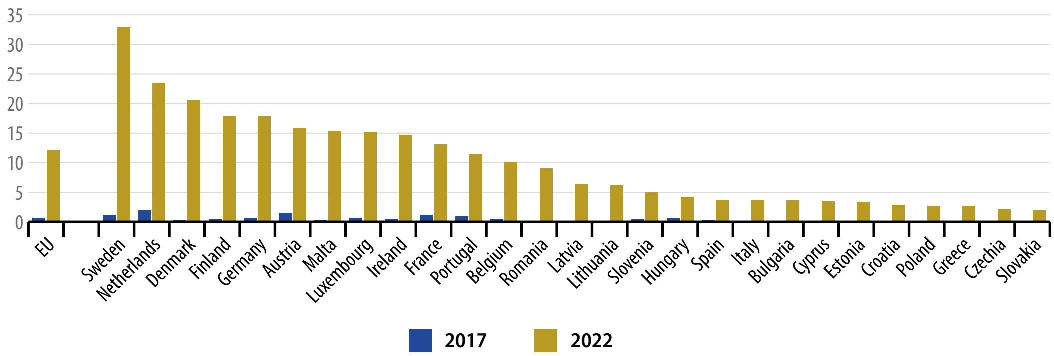


Note: 2017 data are estimated.
([1]) No data for 2017.
([2]) 2018 data (instead of 2017).
Source: EEA, European Commission services, Eurostat (online data code: sdg_13_31)

FIGURE 13.8

Share of zero emissions vehicles, by country, 2017 and 2022

(% of newly registered passenger cars)



Note: Estimated data for many countries.
Source: Eurostat, EAFO (online data code: road_eqr_zevpc)

Climate-related economic losses

This indicator includes the overall monetary losses from weather- and climate-related events. The European Environment Agency (EEA) compiles the EU aggregate data from CATDAT of RiskLayer. Eurostat republishes the EEA data. Due to the variability of the annual figures, the data are also presented as a 30-year moving average to facilitate the analysis of historical trends.

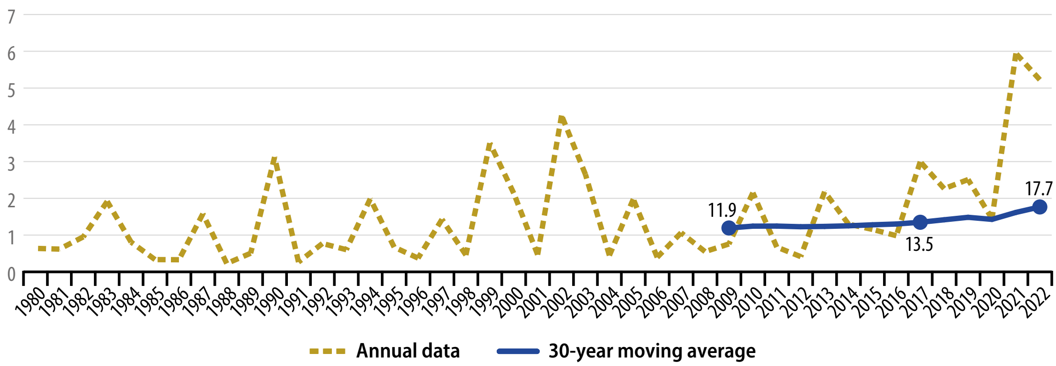
LONG TERM
2009–2022

SHORT TERM
2017–2022

FIGURE 13.9

Climate-related economic losses, EU, 1980–2022

(EUR billion, constant prices)

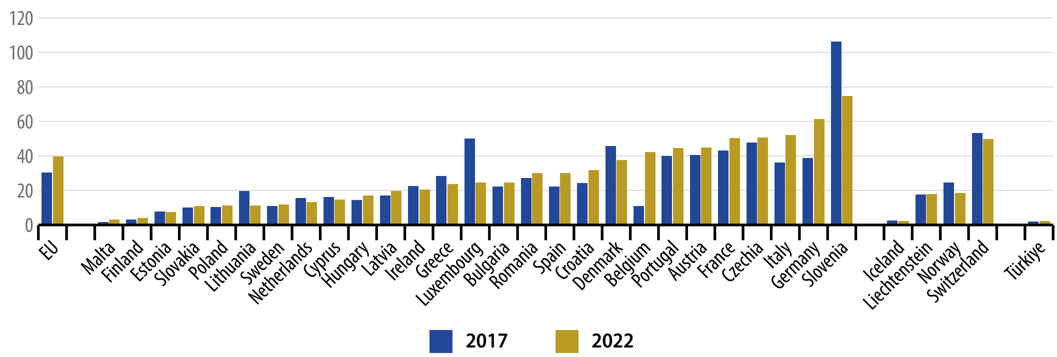


Note: The annual data points for the 30-year moving average refer to the average over the 30-year period up to these years.
Source: EEA, Eurostat (online data code: sdg_13_40)

FIGURE 13.10

Climate-related economic losses (30-year moving average) by country, 2017 and 2022

(EUR per capita, constant prices)



Note: Data are shown as 30-year moving average (annual data points refer to the 30-year period up to that year).
Source: EEA, Eurostat (online data code: sdg_13_40)

Green bond issuance

LONG TERM Time series too short

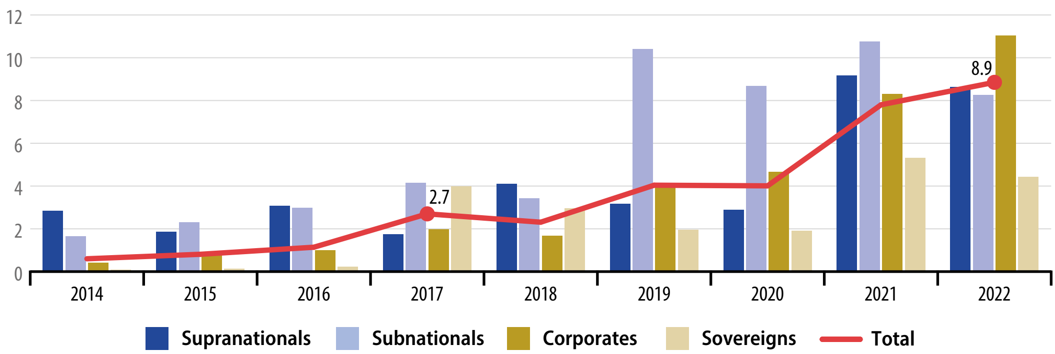
SHORT TERM 2017–2022

Green bonds are loans provided by an investor to a borrower which are used to fund projects or activities that promote climate change mitigation or adaptation or other environmental objectives. While the green bond definition can vary, this indicator includes bonds that are aligned with the four core components of the International Capital Market Association (ICMA) green bond principles or are certified by the Climate Bond Initiative (CBI) ([19]). Issuers include the supranational issuers such as the EU or the EIB, subnational issuers such as municipalities or agencies, cooperates such as a company or financial corporation, and sovereign bond issuers which are national governments.

FIGURE 13.11

Green bond issuance, by type of issuer, EU, 2014–2022

(% of total bond issuance)

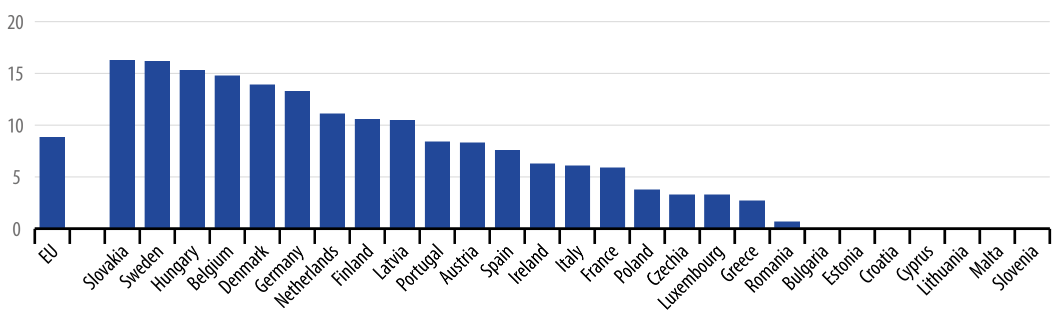


Note: Provisional data.
Source: EEA (Eurostat data code: sdg_13_70)

FIGURE 13.12

Green bond issuance by corporates and governments, by country, 2022

(% of total bond issuance)



Note: Provisional data.
Source: EEA (Eurostat data code: sdg_13_70a)

Contribution to the international USD 100bn commitment on climate-related expenditure

The intention of the international commitment on climate finance under the United Nations Framework Convention on Climate Change (UNFCCC) is to enable and support enhanced action by developing countries to advance low-emission and climate-resilient development. The data presented in this section are reported to the European Commission under the Monitoring Mechanism Regulation (Regulation (EU) 525/2013) for the period up to 2019 and under the Governance Regulation (Regulation (EU) 2018/1999) for subsequent years. The data refer to public finance only and do not include private finance.

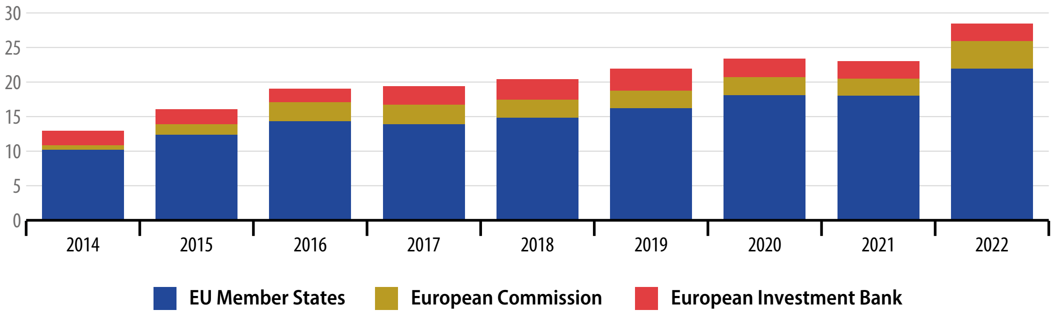
LONG TERM
Time series too short

SHORT TERM
2017–2022

FIGURE 13.13

Contribution to the international USD 100bn commitment on climate-related expenditure, EU, 2014–2022

(EUR billion, current prices)



Note: Breaks in time series in 2020 and 2022.
Source: EEA, European Commission services (Eurostat online data code: sdg_13_50)

TABLE 13.2

Contribution to the international USD 100bn commitment on climate-related expenditure, by country, 2017 and 2022

(EUR million, current prices)

Country	2017	2022
EU Member States	13 906.8	21 920.9
European Commission	2 823.7	4 030.6
European Investment Bank	2 640.4	2 523.4
Belgium	104.9	395.5
Bulgaria	:	0.0
Czechia	7.1	8.5
Denmark	181.7	264.5
Germany	6 729.6	9 476.3
Estonia	0.6	2.8
Ireland	64.5	118.2
Greece	4.6	2.0
Spain	529.1	743.5
France	4 377.4	7 667.7
Croatia	0.0	0.0
Italy	632.6	957.8
Cyprus	:	0.0
Latvia	:	0.1
Lithuania	1.5	4.0
Luxembourg	40.4	66.0
Hungary	14.0	8.2
Malta	0.2	0.2
Netherlands	405.4	804.4
Austria	164.1	401.3
Poland	4.3	19.5
Portugal	2.2	4.3
Romania	0.9	8.1
Slovenia	3.8	5.2
Slovakia	3.6	7.4
Finland	119.4	161.5
Sweden	515.0	793.9

Note: Breaks in time series in 2020 and 2022.

Source: EEA, European Commission services (Eurostat online data code: sdg_13_50)

Notes

(1) European Parliament, Legislative Train Schedule.

(2) Luxembourg (2023), *Eighth National Communication of Luxembourg under the United Nations Framework Convention on Climate Change*.

(3) See for example: ESABCC (2024), *Towards EU climate neutrality — Progress, policy gaps and opportunities*, European Scientific Advisory Board on Climate Change; and Hyyrynen, M., Ollikainen, M., & Seppälä, J. (2023), European forest sinks and climate targets: Past trends, main drivers, and future forecasts, European Journal of Forest Research, 142(5), 1207–1224.

(4) Source: Eurostat (online data code: env_air_gge).

(5) Source: Eurostat (online data code: env_air_gge).

(6) European Commission (2023), *Commission Implementing Decision (EU) 2023/1623* of 3 August 2023 specifying the values relating to the performance of manufacturers and pools of manufacturers of new passenger cars and new light commercial vehicles for the calendar year 2021 and the values to be used for the calculation of the specific emission targets from 2025 onwards.

(7) Source: Eurostat and European Alternative Fuels Observatory (online data code: road_eqr_zevpc).

(8) European Environment Agency (2023), *Global and European temperatures*.

(9) IPCC (2023), *Climate change 2023 — Synthesis Report — Summary for Policymakers*, Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1–34.

(10) IPBES (2019), *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, Bonn; and European Environment Agency (2016), *Climate change impacts and vulnerability in Europe: An indicator-based report*, Report No. 1/2017, Copenhagen.

(11) European Environment Agency (2023), *Economic losses from climate-related extremes in Europe (temporal coverage 1980–2022)*.

(12) Ibid.

(13) A 30-year moving average shows the average over the past 30 years for a given year. For example, for 2017, the data point shows the average from 1988 to 2017.

(14) European Environment Agency (2023), *Economic losses from climate-related extremes in Europe (temporal coverage 1980–2022)*.

(15) European Commission, *The EU long-term budget*.

(16) See also EEA (2023), *Green bonds*.

(17) European Commission (2018), *A modern budget for a Union that protects, empowers and defends: The Multiannual Financial Framework for 2021–2027*, COM(2018) 321 final, Brussels.

(18) European Commission (2022), *International climate finance*.

(19) EEA (2023), *Green bonds*.

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

SDG 14 aims to protect and ensure the sustainable use of oceans. This includes reducing marine pollution and ocean acidification, end overfishing and conserve marine and coastal ecosystems. SDG 14 is strongly related to other SDGs as oceans sustain coastal economies and livelihoods, contribute to food production and function as a carbon sink.

The livelihoods and well-being of Europeans depend heavily on the health and productivity of marine ecosystems. At the same time, the marine and coastal environments are affected by climate change, habitat destruction, degradation and alteration, biodiversity loss, over-exploitation of marine resources and pollution from various sources. Monitoring SDG 14 in an EU context thus involves looking into trends in the areas of ocean health, marine conservation and sustainable fisheries. The EU has made moderate progress towards SDG 14 over the assessed five-year period. On the positive side, marine protected areas have increased and fish stocks in EU marine waters (especially in the North-East Atlantic) seem to be recovering due to reduced fishing pressure. However, unsustainable trends are visible in the areas of ocean acidification (as result of carbon dioxide emissions from human activities) and eutrophication.

Indicators measuring progress towards SDG 14, EU

Indicator	Period	Annual growth rate	Assessment	More info
Ocean health				
Global mean surface seawater acidity	2007–2022	– 0.02 %	(1)	page 271
	2017–2022	– 0.02 %	(1)	
Marine waters affected by eutrophication	2008–2023	– 5.8 % (2)		page 272
	2018–2023	0.3 % (2)		
Coastal bathing sites with excellent water quality	2011–2022	0.8 %		page 273
	2017–2022	0.3 %		
Marine conservation				
Marine protected areas	Time series too short for long-term assessment		:	page 274
	2016–2021	Observed: 10.3 % Required: 10.5 %		
Sustainable fisheries				
Estimated trends in fish stock biomass	2006–2021	0.0 %		page 276
	2016–2021	0.8 %		
Estimated trends in fishing pressure	2006–2021	– 3.8 %		page 277
	2016–2021	– 4.9 %		

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(1) Assessment is neutral due to the logarithmic scale of the indicator, which obscures the actual increase in acidity.

(2) Assessment based on a four-year moving average.

Policy context

Ocean health and marine conservation

The Marine Strategy Framework Directive (MSFD) aims to ensure EU marine waters achieve good environmental status. The MSFD also promotes the establishment of marine protected areas, which, according to the Maritime Spatial Planning Directive (MSPD), have to be considered in maritime spatial planning.

The Water Framework Directive requires Member States to draw up management plans to ensure good ecological status of coastal waters. The EU Bathing Water Directive lays down provisions for monitoring bathing water quality at designated bathing sites.

The UN Biodiversity Conference (COP 15) in 2022 adopted a global biodiversity framework to protect at least 30 % of the global sea areas by 2030. This goal was taken up by the landmark Treaty of the High Seas to protect the ocean.

The EU Biodiversity Strategy for 2030 aims to enhance the protection of marine ecosystems with the objective of achieving good environmental status. At the same time, the Nature Restoration Law — adopted by the EU Parliament in February 2024 — aims to restore European habitats in poor condition, including marine ecosystems.

The Habitats Directive contributes to the conservation of marine habitat types and species. The Birds Directive lists bird species that depend on marine habitats.

Making ocean sustainability a reality by 2030 is one of the four pillars of the EU's updated International Ocean Governance Agenda.

To tackle marine pollution, the EU uses a wide set of legal instruments, including the regulations on waste management and prevention, port reception facilities for ship-generated waste and cargo residues and the Directive on Single Use Plastics.

The Zero Pollution Action Plan for Air, Water and Soil sets out key actions to improve water quality by reducing emissions of waste, plastic litter at sea and microplastics.

The EU's approach for a sustainable blue economy fosters activities that preserve marine ecosystems, reduce pollution and increase resilience to climate change.

The International Convention for the Prevention of Pollution from Ships (MARPOL) aims to protect oceans and seas against pollution caused by maritime transport.

The EU strategy on adaptation to climate change aims to tackle ocean acidification and encourage nature-based solutions for sustaining Europe's seas.

Sustainable fisheries

The Common Fisheries Policy (CFP) aims to ensure the long-term sustainability of the sector by ensuring the highest sustainable yield and conserving marine resources.

The Action plan on protecting and restoring marine ecosystems for sustainable and resilient fisheries contributes to the delivery of the EU Biodiversity Strategy for 2030.

The updated EU Arctic policy stresses the utmost importance of conserving and sustainably using Arctic marine living resources, including fish stocks.

Overview and key trends

Ocean health

Accomplishing the goal of clean, healthy and productive oceans requires an integrated approach that addresses different pressures. To monitor SDG 14 in the EU context, indicators have been chosen that focus on ocean acidification, eutrophication and bathing water quality. The EU is committed to improving water quality in marine waters and coastal areas in the sea basins around the EU. It aims to do this through a range of land-based and marine policies, and by active engagement in Regional Sea Conventions, the EU sea-basin and macro-regional strategies, and support to its outermost regions. As a result, some positive trends have been emerging for bathing water quality and the reduction of point-source pollution through improved waste water treatment. Oceans, however, have continued to acidify as a result of global climate change.

Seawater acidification poses a risk to the marine environment and global climate regulation

Seawater acidification occurs when increased levels of carbon dioxide (CO_2) from the atmosphere are absorbed by the sea. The global yearly ocean carbon uptake is showing that the amount of carbon absorbed by the sea is increasing each year, mainly due to higher CO_2 concentrations in the atmosphere. While the ocean helps in mitigating atmospheric warming by absorbing this greenhouse gas, its capacity to do so is limited and the oceans chemistry is fundamentally changing. Acidification reduces calcification and affects biochemical processes such as photosynthesis, with knock-on effects for entire ecosystems ([1]). Because cold water absorbs more CO_2, polar regions are disproportionately hard hit by acidification. Research has shown that organisms relying on calcification (for example, mussels, corals and plankton) and photosynthesis (plankton and algae) are particularly vulnerable to increased acidity ([2]). A decline of coral reefs does not only lead to habitat loss for many species and impacts on the food chain, but also increased flood risk due to coastal erosion.

In 2022, the mean pH level of global ocean surface water reached a new low of

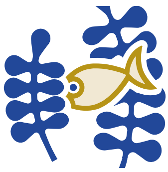
8.047

Before industrialisation, surface seawater pH levels varied between 8.3 and 8.2. Since 1985, the Copernicus Marine Services has been monitoring ocean acidification, showing that these levels have been declining at a steady rate, with the global mean surface seawater pH reaching an unprecedented low of 8.047 in 2022. Unless CO_2 emissions are significantly reduced, ocean acidification is projected to double or triple by 2100. EU leadership in mitigating climate change (SDG 13) is thus vital for reaching the SDG target 14.3 on minimising seawater acidification.

Pollution continues to threaten the marine environment

In addition to acidification, Europe's marine ecosystem continues to be at threat from organic and chemical pollutants from human activities, as well as marine litter and noise pollution. Excessive nutrient loads from agriculture and municipal waste water — in particular compounds of phosphorus and nitrogen — cause eutrophication, which can lead to problematic algal blooms and oxygen depletion with severe consequences for the marine ecosystem health and biodiversity.

The Copernicus Marine Service monitors all EU sea basins for oxygen depletion and measures anomalies in chlorophyll-a levels as an indicator of eutrophication. The chlorophyll data show strong annual fluctuations in the area of EU marine waters affected. For most of the years from 2000 to 2023, less than 25 000 square kilometres (km^2) were affected by eutrophication, corresponding to less than 0.5 % of the EU's exclusive economic zone (EEZ). However, in some years — for example in the early 2000s as well as in 2007, 2008, 2015 and 2022 — a much larger area was affected, highlighting the strong annual variability in the extent of eutrophication. In 2023, 2 632 km^2 of EU marine waters were affected by eutrophication, corresponding to 0.05 % of the EU's EEZ. A smoothed four-year moving average for the trend assessment reveals that over the five-year period from 2018 to 2023 the area affected by eutrophication rose slightly in the EU. At the same time, the long-term trend since 2008 (based on the four-year moving average) shows clear improvements, with an almost 60 % reduction in the area affected. Nevertheless, a recent analysis from the European Environment Agency (EEA) shows that while some locations demonstrated a decline in chlorophyll-a, indicating improvement of the water quality, most areas (94.5% of cases) have shown no significant trend since 1980. Particularly in the Baltic and Greater North Seas eutrophication remains a large-scale problem. However, as a time series from the EEA shows, levels of nutrient input, specifically nitrogen, have significantly decreased between 1980 and 2021.



0.05 %
of marine waters in the EU's exclusive economic zones were classified as eutrophic in 2023

Chemical pollution from hazardous substances and marine plastic litter and microplastics is another relevant threat to the marine environment. Chemical pollution stems from a number of land-based and marine sources, including agriculture (through the application of pesticides and veterinary medicines), industry, households and the transport sector. Of particular concern are persistent organic pollutants (POPs), which degrade slowly and can bio-accumulate in the food chain. Marine litter, such as plastic bottles and packaging, can also break down into smaller particles through photodegradation, releasing chemicals such as bisphenol A (BPA) and phthalates into the water. All in all, the transfer of toxic chemicals from the litter into the food chain is already taking place at large scale and ultimately have combined effects on marine life and human health such as organ failure and increased cancer risk.

Estimates of plastic litter entering Europe's oceans are highly tentative, due to a lack of data. However, the European Commission estimates that 150 000 to 500 000 tonnes of plastic enter the EU's marine waters every year, most of it being carried to the sea by rivers. Accordingly, 75 % of the EEA assessed marine areas are classified as polluted. Plastic pollution has many harmful effects on the marine environment, for example it traps and strangles marine animals or is ingested by them. Marine plastic can come from both sea- and land-based sources, with the latter accounting for 85 %. Single-use plastics account for about 50 % of all marine litter on European beaches [3]. Based on a Commission initiative, in 2019 the European Parliament and the Council adopted the new European Directive on Single Use Plastics targeting these plastics and fishing gear alongside other plastic products.

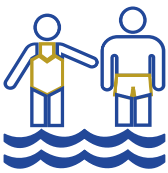
Noise, caused by ships and offshore activities such as oil and gas exploration industry, is one of the most widespread human-induced pressures in the marine environment [4]. Noise pollution can negatively affect marine life, causing increased stress and resulting in behavioural changes in animals. Furthermore, the constant noise frequencies released by ships potentially obscure the sounds that various marine species, such as whales and dolphins, make to communicate, hunt, navigate and protect themselves. EEA Marine Signal has shown an upward trend of underwater radiated noise from ships, with the noise emissions steadily increasing between 2014 and 2019, especially in EU waters.

Human-induced eutrophication, contaminant concentrations, marine litter and noise pollution are common multiple pressures that must be minimised for marine waters to achieve good environmental status under the Marine Strategy Framework Directive (MSFD) and good ecological status for coastal waters under the Water Framework Directive (WFD).

European coasts offer an increasing number of bathing sites with excellent water quality

Coastal water quality is affected by land-based pollution from sewage, agriculture run-off, and surface run-off from coastal cities, which can carry hazardous chemicals, nutrients and plastic litter and microplastics. The resulting pollution exerts significant pressure on aquatic ecosystems and underwater life.

In the EU, recent developments have been quite favourable in this regard, and as a result the water quality of the EU's coastal bathing sites has improved almost continuously since 2011. The most important factors affecting the quality of these waters are microbiological contamination and marine litter. Since 2011, the share of European coastal bathing sites with 'excellent' water quality has grown more or less steadily, reaching 88.9 % in 2022. It should be noted though that the bathing water indicator provides only a limited view of pollution in European seas because it is focused on the shore and transitional waters but excludes waters further away from the coast (5). In addition, because the classification of bathing water quality considers datasets reported for the past four bathing seasons, this indicator does not tend to fluctuate greatly from year to year.



88.9 %
of EU coastal water bathing sites had excellent water quality in 2022

Marine conservation

The lives of European citizens depend in many ways on the services marine ecosystems provide, including climate regulation, fish and seafood provision, coastal protection, cultural value, recreation and tourism. Against this backdrop, the European Commission and Member States have taken multiple steps to combat the destruction and degradation of aquatic and coastal habitats and biodiversity, which poses a serious threat to human livelihoods, food security and climate stability (6). A crucial step has been the designation of a network of marine protected areas (MPAs) (7), in which some human activities are subject to stricter regulation. The degree of protection and hence the effectiveness of MPAs depends on the management plan regulating each protected area. Management measures may range from a total ban on fishing, mining or wind power generation, to a more moderate protection regime where economic activity is restricted, for example, allowing only certain types of fishing methods. However, many MPAs still lack comprehensive management plans or permit potentially harmful activities (8). One of the commitments taken by the international community at the 2022 One Ocean summit and the UN COP15 on Biodiversity has been to designate new MPAs to achieve the goal of 30 % of marine space under protection by 2030. This goal is also supported by the landmark Treaty of the High Seas to protect the ocean of the high ambition coalition on Biodiversity Beyond National Jurisdiction (BBNJ) and was already included it in the EU Biodiversity Strategy for 2030. With the ambition to accelerate the implementation of SDG 14 globally, the EU pledged 52 commitments worth up to EUR 7 billion at the UN Ocean Conference in June 2022.

While the extent of marine protected areas has been growing in the EU, the conservation status of marine habitats and species remains unfavourable

A 2019 report by the European Environment Agency (EEA) revealed that a high proportion of marine species and habitats across Europe's seas are still in 'unfavourable conservation status' and that the marine ecosystem condition is generally not 'good'. One approach to protect the state of marine ecosystems is the designation of MPAs.

12.1 %
of the EU's marine area were protected in 2021

Between 2012 and 2021, the extent of marine protected areas grew considerably, from 216 972 square kilometres (km^2) to 612 094 km^2. Even though this means MPAs represented only 12.1 % of overall EU marine area in 2021, the EU appears to be on track to meeting its 30 % target by 2030. Since 2016, MPA coverage has grown in 15 out of the 22 EU Member states with a sea border. The largest relative improvements were reported from France and Greece, where the extent of protected areas tripled from 2016 to 2021.

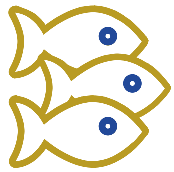
Although a positive development, growth in the extent of protected areas alone does not provide a good indication of how well species and habitats are being protected. In fact, the EU currently has no overview or assessment of how effective the management plans associated with designated MPAs in EU regional seas are. In a special report on the marine environment, the European Court of Auditors concluded that EU MPAs provide limited protection in practice.

To gain a better picture on MPAs, information on their connectivity, status and the implementation of conservation measures is needed. The Biodiversity Strategy for 2030 requires the Commission, in cooperation with Member States and the EEA, to advance criteria and guidelines for the identification and designation of new protected areas, as well as for coherent management planning. The European Commission adopted an action plan for protecting and restoring marine ecosystems for sustainable and resilient fisheries. This action plan calls on the EU Member States to take measures for minimising the by-catch of sensitive species and for prohibiting mobile bottom fishing in MPAs, owing to their high impact on seabed species and habitats. This objective is flanked by the EU Mission Restore our Ocean and Waters and the EU Blue Parks Community Initiative.

Sustainable fisheries

Besides pollution, the unsustainable use of living resources is the main threat to marine habitats and species in the EU. An ecosystem-based approach to managing Europe's fishing fleets is provided for under the EU's common fishing policy and is required for biodiversity conservation.

Governance of fisheries in EU waters mainly focuses on fair access and sustainable supply. The European Common Fisheries Policy (CFP) aims to ensure that EU fisheries are managed sustainably by setting catch limits at the maximum sustainable yield. It limits the total amount of fish catches and controls who is allowed to fish how, when and where to prevent damage to vulnerable marine ecosystems and preserve fish stocks. Thus, the CFP's ambition and implementation will directly affect whether SDG 14 is achieved, in particular the aim of ending overfishing, destructive and/or illegal, unreported and unregulated fishing practices, and subsidies that encourage these activities. In addition, unsustainable fisheries are a major threat to marine ecosystems through the bycatch of non-target species (such as birds and cetaceans) and seabed degradation. The CFP empowers Members States and the Commission to regulate fisheries in a way that it is also compliant with the obligations of the Birds and Habitats Directives and the Marine Strategy Framework Directive (MSFD).

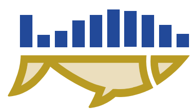


Between 2006 and 2021, fishing pressure in EU marine waters decreased by

44 %

Improved sustainability of fisheries in EU marine waters

European fisheries affect fish stock productivity and stock size through catches. However, because stock size also varies naturally, the management of fisheries is a complex exercise. Controlling fishing mortality is one way of managing fisheries. Fishing mortality (F) reflects the proportion of fish of a given age that is caught by fisheries during one year. For fisheries to be sustainable, fishing mortality should not exceed the maximum sustainable yield value (F_{MSY}), which will provide the



Between 2006 and 2021, fish stock biomass stagnated in EU marine waters

largest catch that can be taken from a fish stock over an indefinite period without harming it.

The model based median value of all F/F_{MSY} stock assessments can be used to estimate fishing pressures on fish stocks. Values above 1.0 mean the current fishing mortality (F) exceeds the estimated maximum sustainable yield (F_{MSY}). The results for EU marine waters show a 44 % reduction in fishing pressure, from 1.57 in 2006 to 0.88 in 2021. However, this overall figure masks the fact that while fish stocks in the North-East Atlantic (including the Baltic Sea) — where about three-quarters of the EU's catch originates — were on average fished sustainably (F/F_{MSY} median of 0.58 in 2022), the Mediterranean and Black Sea fish stocks were still overfished (F/F_{MSY} median of 1.23 in 2021). If the EU is to meet its own targets for sustainable fisheries, efforts need to be increased substantially in these sea regions.

The EU's approach to sustainable fisheries is not limited to respecting MSY. The Marine Strategy Framework Directive requires commercially exploited fish and shellfish populations to have a healthy distribution of age and size. The status of stocks and their reproductive capacity can be measured and described by fish stock biomass as well as by spawning stock biomass (SSB). Biomass estimates are, however, associated with high levels of uncertainty due to the high annual variability of stock biomass. Fish stocks can also take time to respond to changes in management measures, and results can be masked by other factors, such as environmental conditions and predation ([9]). For this reason, analyses of stock biomass trends should always focus on longer term patterns. Model-based estimates show a long-term stagnation of fish stock biomass in EU marine waters between 2006 and 2021. In the short term between 2016 and 2021, estimations show a slightly upward trend for EU fish stocks, with a growth in biomass of around 4 %.

Main indicators

Global mean surface seawater acidity

This indicator shows the global yearly mean surface seawater acidity expressed as pH value. The decline in pH observed on a global scale corresponds to an increase in seawater acidity. This trend is caused by an increase in atmospheric CO_2, which increases the uptake of CO_2 by oceans. This is directly correlated with seawater pH values. The Copernicus Marine Service has reconstructed the global yearly mean surface seawater pH from 1985 onwards.

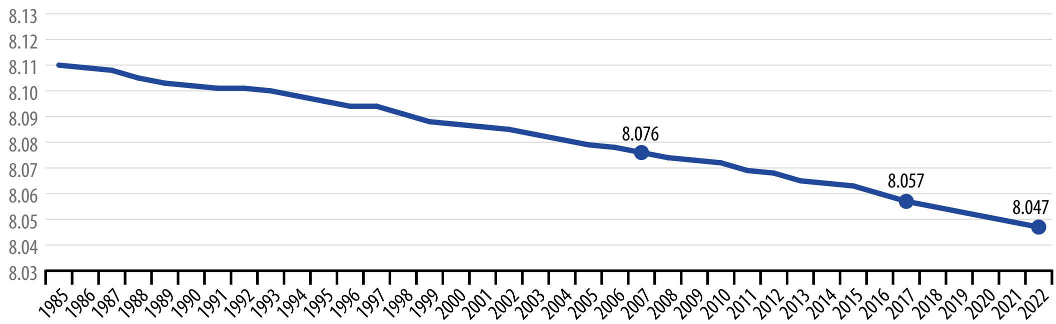
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 14.1

Global mean surface seawater acidity, 1985–2022

(pH value)



Note: As the pH scale is logarithmic, the actual increase in acidity is higher. The change in pH value of around – 0.01 between 2017 and 2022 means an increase in acidity of about 2 %.

Source: EEA, Copernicus Marine Service (Eurostat online data code: sdg_14_50)

Marine waters affected by eutrophication

LONG TERM 2008–2023

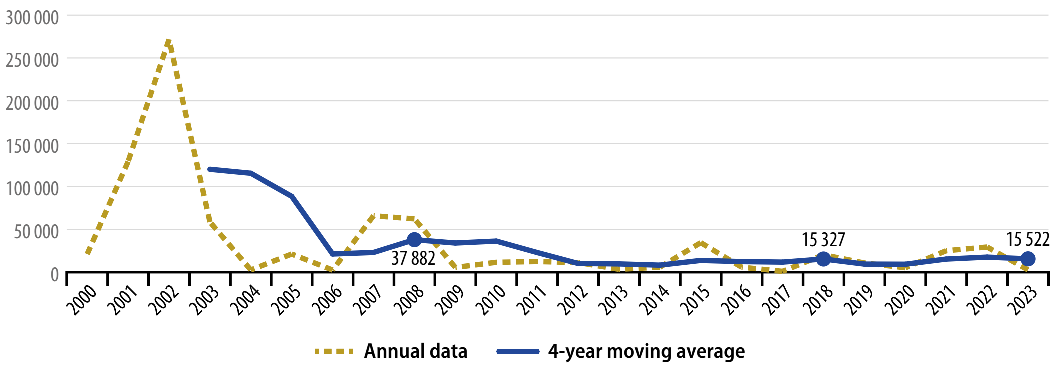
SHORT TERM 2018–2023

This indicator shows the extent of eutrophic marine waters in the EU's exclusive economic zone (EEZ). An area is classified as eutrophic if chlorophyll-a concentrations, as a proxy, are above the 90th percentile of the 1998–2017 reference base line for more than 25 % of the observation days in a given year. Eutrophication is the process by which an excess of nutrients — mainly phosphorus and nitrogen — leads to increased growth of plant material, particularly planktonic algae, in an aquatic body, resulting in a decrease in water quality. This can, in turn, cause death by hypoxia of aquatic organisms. Anthropogenic activities, such as farming, agriculture, aquaculture, industry and sewage, are the main source of nutrient input in problem areas. The Copernicus Marine Service calculates the indicator from satellite imagery.

FIGURE 14.2

Marine waters affected by eutrophication, EU, 2000–2023

(km²)

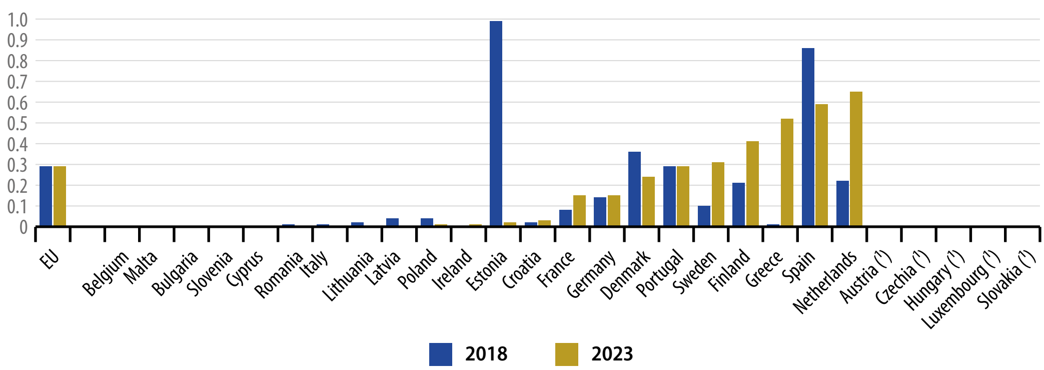


Source: Mercator Ocean International, Copernicus Marine Service (Eurostat online data code: sdg_14_60)

FIGURE 14.3

Marine waters affected by eutrophication, by country, 2018 and 2023

(% of exclusive economic zone (EEZ))



Note: Data are presented as four-year moving average.
(¹) Not applicable (landlocked country).
Source: Mercator Ocean International, Copernicus Marine Service (Eurostat online data code: sdg_14_60)

Bathing sites with excellent water quality

This indicator shows the share of inland and coastal bathing sites with excellent water quality in the EU and is calculated based on the moving average of 16 sampling events in four years to be sure that most weather events are covered. Bathing water quality is assessed according to standards for microbiological parameters (intestinal *Enterococci* and *Escherichia coli*). The Bathing Water Directive (BWD) requires Member States to identify and assess the quality of all inland and marine bathing waters and to classify these waters as 'poor', 'sufficient', 'good' or 'excellent' depending on the levels of faecal bacteria detected. The data presented in this section stem from the European Environment Agency (EEA) and are based on Member States reporting under the BWD.

LONG TERM
2011–2022

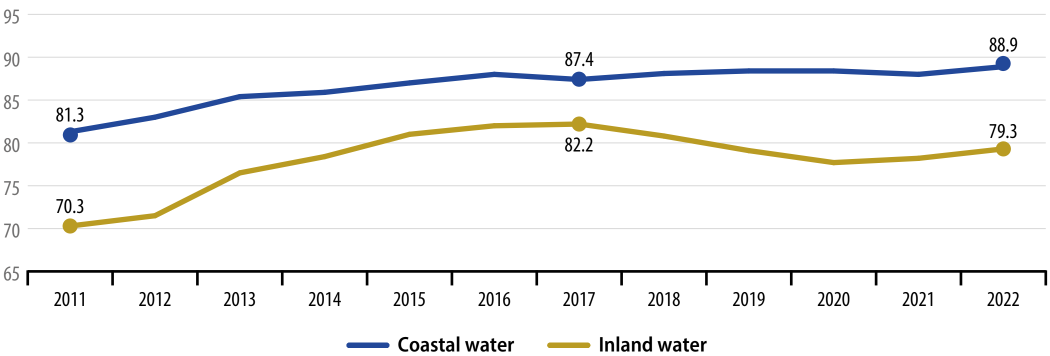
SHORT TERM
2017–2022

* Coastal water sites
** Inland water sites

FIGURE 14.4

Bathing sites with excellent water quality, by location, EU, 2011–2022

(% of bathing sites)

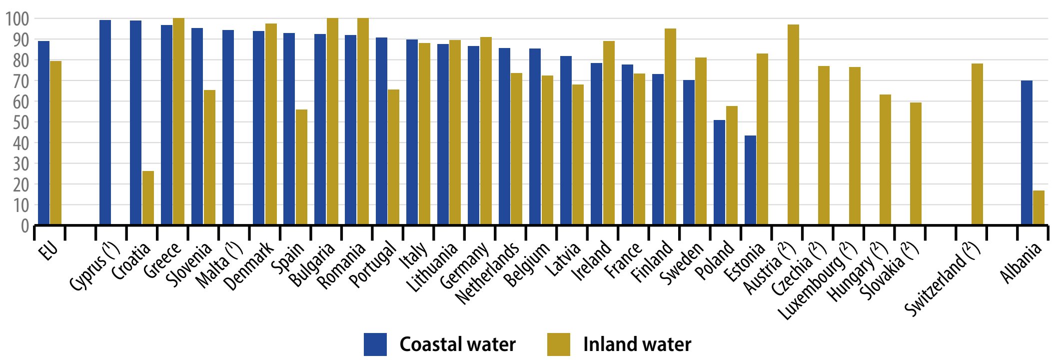


Note: EU aggregate refers to 22 Member States for coastal water (no data for landlocked countries) and 25 Member States for inland water (no data for Cyprus and Malta); see Figure 14.5.
Source: EEA (Eurostat online data code: sdg_14_40)

FIGURE 14.5

Bathing sites with excellent water quality, by location, by country, 2022

(% of bathing sites)



([1]) No measurements of inland water bathing sites.
([2]) No coastal water bathing sites (landlocked country).
Source: EEA (Eurostat online data code: sdg_14_40)

Marine protected areas

LONG TERM
Time series too short

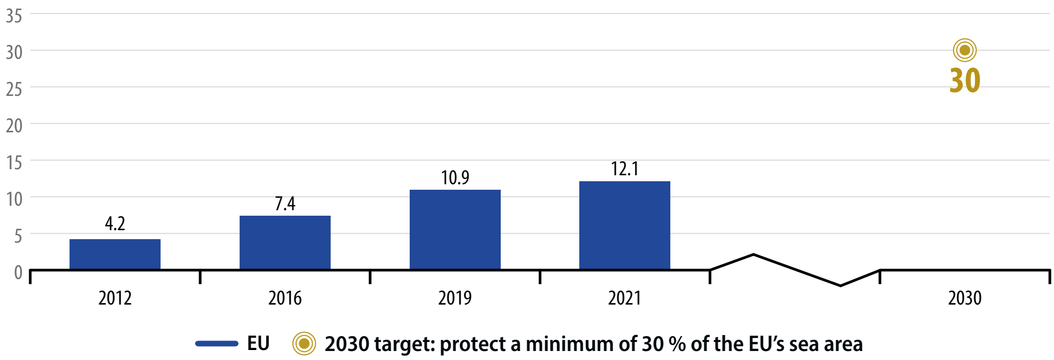
SHORT TERM
2016–2021

This indicator measures the extent of marine protected areas (MPAs) in EU marine waters. MPAs are biodiversity 'hotspots' and can serve various objectives including species and habitats protection, biodiversity conservation and restoration, but also resource use within defined ecological boundaries. MPAs may also positively impact neighbouring areas. The indicator comprises nationally designated protected areas and Natura 2000 sites. A nationally designated area is an area protected by national legislation. The Natura 2000 network comprises both marine and terrestrial protected areas designated under the EU Habitats and Birds Directives with the goal to maintain or restore a favourable conservation status for habitat types and species of EU interest. The EU biodiversity strategy for 2030 aims to protect at least 30 % of land and sea in Europe, including both nationally designated sites and Natura 2000 sites. Data provided by the Member States to the Commission are consolidated by the European Environment Agency and collected by European Commission Directorate-General for the Environment.

FIGURE 14.6

Marine protected areas, EU, 2012–2021

(% of marine area)

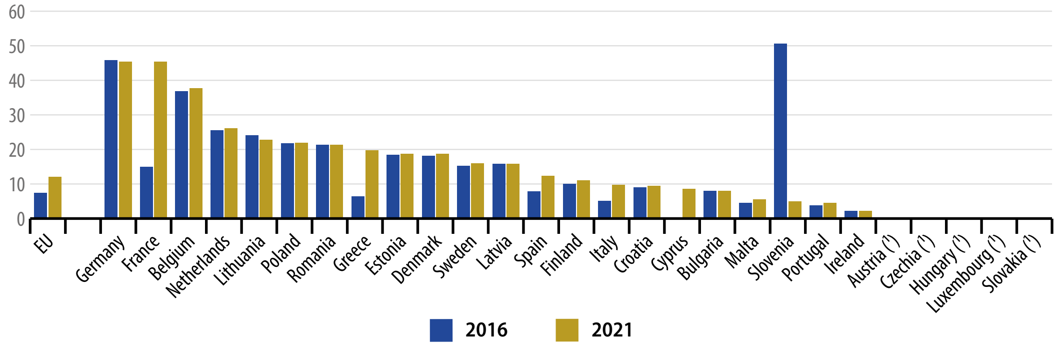


Source: EEA (Eurostat online data code: sdg_14_10)

FIGURE 14.7

Marine protected areas, by country, 2016 and 2021

(% of marine area)



(1) Not applicable (landlocked country).
Source: EEA (Eurostat online data code: sdg_14_10)

Estimated trends in fish stock biomass

LONG TERM
2006–2021

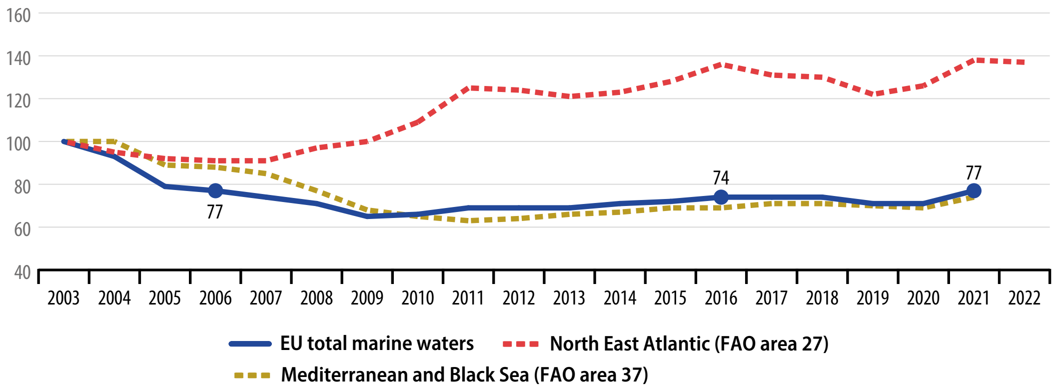
SHORT TERM
2016–2021

Fish stock biomass is a function of biological characteristics such as abundance and weight and can indicate the status of a fish stock when measured against reference values. This is a model-based indicator that is computed using results from single-species quantitative stock assessments. It shows the median value of fish stock biomass relative to 2003. Time series for stock biomass estimates are provided by the International Council for the Exploration of the Sea (ICES).

FIGURE 14.8

Estimated trends in fish stock biomass, 2003–2022

(index 2003 = 100)



Note: Estimated data; data for Mediterranean and Black Sea (FAO area 37) are only available until 2021. Also note that the visualisation of the trends is affected by indexing the data to the year 2003.

Source: Joint Research Centre (JRC) — Scientific, Technical and Economic Committee for Fisheries (STECF) (Eurostat online data code: sdg_14_21)

Estimated trends in fishing pressure

To ensure fish stocks are exploited sustainably, the CFP aims to rebuild stocks above levels at which they can produce the maximum sustainable yield (MSY). The indicator presents the model-based median value of fishing pressure (F/F_{MSY}) for which current fishing mortality (F) exceeds the estimated fishing mortality consistent with achieving maximum sustainable yield (F_{MSY}). Fishing mortality is a measure for death or removal of fish from a population due to fishing. The fishing mortality consistent with achieving MSY is determined by the long-term average stock size that allows fishing at this level. For fisheries to be sustainable, F should not exceed F_{MSY} — the point at which the largest catch can be taken from a fish stock over an indefinite period without harming it. Values below 1 indicate sustainable fishing levels ($F \leq F_{MSY}$). Time series data on fishing mortality are provided by the International Council for the Exploration of the Sea (ICES).

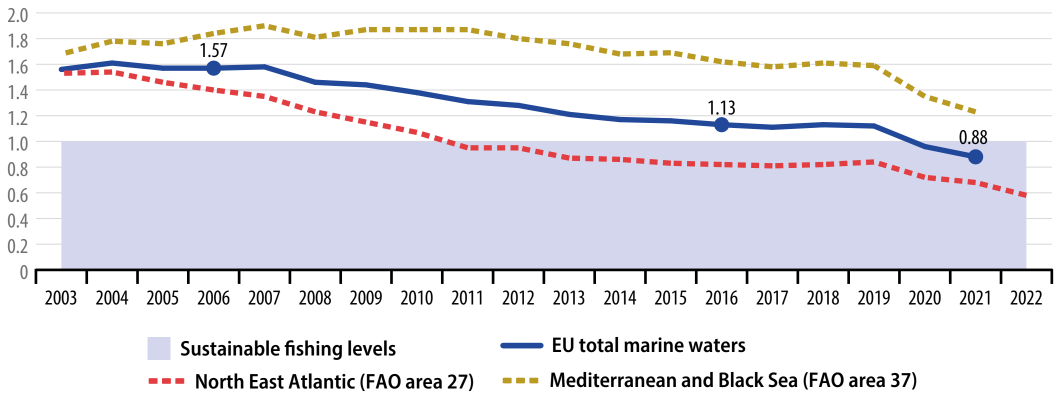
LONG TERM
2006–2021

SHORT TERM
2016–2021

FIGURE 14.9

Estimated trends in fishing pressure, 2003–2022

(model-based median value of fishing pressure (F/F_{MSY}))



Note: Estimated data; data for Mediterranean and Black Sea (FAO area 37) are only available until 2021.
Source: Joint Research Centre (JRC) — Scientific, Technical and Economic Committee for Fisheries (STECF) (Eurostat online data code: sdg_14_30)

Notes

([1]) Hoegh-Guldberg, O., R. Cai, E.S. Poloczanska, P.G. Brewer, S. Sundby, K. Hilmi, V.J. Fabry, and S. Jung (2014), The Ocean. In: Climate Change (2014), Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects, Cambridge University Press, Cambridge, pp. 1655–1731.

([2]) European Environment Agency (2017), Climate change, impacts and vulnerability in Europe 2016 — An indicator-based report, EEA Report No 1/2017, Copenhagen.

([3]) Addamo, A. M., Laroche, P., Hanke, G. (2017), Top Marine Beach Litter Items in Europe, Publications Office of the European Union, Luxembourg.

([4]) European Environment Agency (2019), Marine Messages II: navigating the course towards clean, healthy and productive seas through implementation of an ecosystembased approach, EEA Report No 17/2019, Copenhagen.

([5]) Article 5 of the United Nations Convention on the Law of the Sea (UNCLOS) defines the normal baseline as the low-water mark as marked on large scale-charts by the coastal State.

([6]) European Commission (2021), Assessment of the existing EU policy tools in the field of Sustainable Development Goal (SDG) 14 and other ocean-related Agenda 2030.

([7]) European Environment Agency (2015), Marine protected areas in Europe's seas — An overview and perspectives for the future, EEA Report No 3/2015, Copenhagen.

([8]) Dureuil M., Boerder K., Burnett K. A., Froese R. and Worm B. (2018), Elevated trawling inside protected areas undermines conservation outcomes in a global fishing hot spot, Science 362 (6421), 1403–1407.

([9]) Measuring the Effect of Catch Shares (2018), Has the status of fish stocks changed? Biological indicators: Biomass.

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG 15 seeks to protect, restore and promote the conservation and sustainable use of terrestrial ecosystems. This includes efforts to sustainably manage forests and halt deforestation, combat desertification, restore degraded land and soil, halt biodiversity loss and protect threatened species.

SDG 15 is one of the key goals at international level that addresses biodiversity and ecosystems. In the EU, this goal ensures that the health and functioning of terrestrial ecosystems and the delivery of ecosystem services remain a priority, especially in the face of global trends such as population growth, accelerating urbanisation and an increasing need for natural resources as well as climate change impact. Monitoring SDG 15 in an EU context focuses on trends in ecosystem status, land degradation and biodiversity. Over the five-year period assessed, the EU has experienced a number of negative trends in the indicators analysed here, resulting in an overall moderately negative assessment for SDG 15 as a whole. While the EU's forest area has grown slightly, recent trends for pollutant concentrations in EU rivers have been mixed. Land degradation continues, with increasing land take and drought impact. Indicators on species' biodiversity show a long-term and continued decline in common birds and grassland butterflies in the EU. Moreover, growth in the designation of terrestrial protected areas has stalled, and the EU is not on track to meet its respective 2030 target.

Indicators measuring progress towards SDG 15, EU

Indicator	Period	Annual growth rate	Assessment	More info
Ecosystem status				
Share of forest area	Time series too short for long-term assessment		:	page 288
	2015–2018	0.7 %	↗	
Biochemical oxygen demand in rivers (*)	2006–2021	– 0.7 % (1)	↗	SDG 6, page 135
	2016–2021	– 1.6 % (1)	↑	
Phosphate in rivers (*)	2006–2021	– 1.3 % (2)	↑	SDG 6, page 137
	2016–2021	3.9 % (2)	↓	
Land degradation				
Area at risk of severe soil erosion by water	2000–2016	– 0.9 %	↗	page 289
	2010–2016	– 0.1 %	→	
Drought impact on ecosystems	2009–2022	3.0 % (3)	↓	page 291
	2017–2022	13.0 % (3)	↓	
Soil sealing index (*)	2006–2018	0.3 %	↘	SDG 11, page 225
	2015–2018	0.3 %	↘	
Biodiversity				
Terrestrial protected areas	2011-2021	Observed: 0.7 % Required: 1.1 %	↗	page 292
	2016–2021	Observed: 0.6 % Required: 1.3 %	↘	
Common bird index	2007–2022	– 0.5 % (4)	↘	page 292
	2017–2022	– 0.5 % (4)	↘	
Grassland butterfly index	2005–2020	– 1.8 % (1)	↓	page 294
	2015–2020	– 6.6 % (1)	↓	

(*) Multi-purpose indicator. Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

(1) Data refer to an EU aggregate based on 18 Member States.
(2) Data refer to an EU aggregate based on 16 Member States.
(3) Assessment based on a 10-year moving average.
(4) Data refer to an EU aggregate that changes over time depending on when countries joined the Pan-European Common Birds Monitoring Scheme.

Policy context

The EU Biodiversity Strategy for 2030 aims to put Europe's biodiversity on a path to recovery by 2030, by establishing a larger EU-wide network of protected areas on land and at sea, launching a nature restoration plan, and introducing measures to enable the necessary transformative change and to tackle the global biodiversity challenge.

The Nature Restoration Law — adopted formally by the EU Parliament in February 2024 — is a key element of the EU Biodiversity Strategy for 2030. It calls for legally binding targets to restore degraded ecosystems, in particular those that can best capture and store carbon as well as prevent and reduce the impact of natural disasters.

The EU Birds Directive and the Habitats Directive aim to maintain or restore a favourable conservation status of protected habitats and species, and safeguard their sustainable use and management. The Birds Directive protects all wild bird species and their habitats. The Habitats Directive covers more than 1 300 rare, threatened or endemic species of wild animals and plants and 233 natural habitat types.

The 'Kunming-Montreal Global Biodiversity Framework' was agreed at the 15th meeting of the Conference of Parties to the UN Convention on Biological Diversity in December 2022. It announced four long-term goals related to the 2050 vision for biodiversity, set 23 global targets for 2030 and adopted a global monitoring framework.

The EU Forest Strategy for 2030 aims to improve the quantity and quality of EU forests and strengthen their protection, restoration and resilience. It includes a roadmap outlining how to achieve the 3 billion additional trees commitment in line with the ecological principles set out in the EU Biodiversity Strategy for 2030.

The EU Soil Strategy for 2030 sets out a framework and concrete measures for protecting and restoring soils and ensuring they are used sustainably.

The Water Framework Directive imposes restrictions on activities that could pollute and damage Europe's freshwater resources. This legislation is complemented by the EU Drinking Water Directive and Nitrates Directive, which also restrict levels of chemicals and minerals in Europe's freshwater resources.

The LIFE Programme is the EU's key funding instrument for environmental and nature conservation projects. It plays an important role in restoring and safeguarding the condition of terrestrial and freshwater ecosystems.

The Zero Pollution Action Plan for Air, Water and Soil maximises synergies with relevant EU policies, such as limiting soil sealing and urban sprawl.

Europe's Common Agricultural Policy requires farmland receiving income support to protect the climate and the environment. It sets standards to prevent soil erosion and to protect biodiversity and the landscape. The European Agricultural Fund for Rural Development provides additional funding for farmers to implement environmental and climate-related measures, including the protection of nature and biodiversity.

The Bioeconomy strategy, updated in 2018, and its action plan aim to foster the bioeconomy and understand its ecological boundaries. Bioeconomy encompasses economic and industrial sectors using biological resources and processes.

The revised EU Initiative on Pollinators represents an integrated framework to tackle the causes of pollinator decline, improve knowledge and mobilise actors across society.

Overview and key trends

Ecosystem status

Humans benefit greatly from many ecosystem services, such as clean air, purified water and food provision. In addition, terrestrial ecosystems provide natural resources used in industrial processes and cultural services such as outdoor recreation. Other services that ecosystems offer include protection from natural disasters, such as flooding, and mitigation of the negative effects of climate change. Human activities that degrade ecosystems, including pollution and the overuse of resources, threaten animals and plants and, as a result, the provision of ecosystem services and their benefits to human well-being (1).

In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released a Global Assessment Report on Biodiversity and Ecosystem Services. The key findings of the report indicate that negative trends in biodiversity and ecosystem services are expected to hinder progress towards the 2030 Agenda and its SDGs. As such, current global conservation and sustainability goals will not be met unless transformative change is implemented. In 2021, the European Commission issued the report Accounting for ecosystems and their services in the European Union (INCA), which delivered an integrated system of ecosystem accounts for the EU. The report's key findings suggest that between 2000 and 2018, changes in the extent of most ecosystem types have been small in relative terms. However, urban ecosystems have seen a significant increase in their extent, indicating a continued expansion of urbanised areas at the expense of semi-natural ecosystems and farmland. The report also suggests that sites in the Natura 2000 network tend to have a higher degree of ecosystem stability than those outside the network (2).

Some types of terrestrial ecosystems (for example, wetlands, heathlands and scrub) and the pressures placed on them (such as invasive species, habitat fragmentation, and noise and light pollution) are not monitored in this report due to data shortcomings. It is therefore important to recognise the limitations in presenting a full and complete picture of Europe's terrestrial ecosystems, the status of which cannot be fully assessed with the long-term datasets that are currently available.

The share of forest area in the EU is growing slowly

Europe's forests provide multiple benefits, such as enhancing soil fertility and conserving soil moisture, storing carbon and providing habitats for animals and plants. They also provide employment in rural areas and help mitigate climate change and regulate the microclimate. In 2018, forests and other wooded land covered 43.5 % of the EU's total area. As a proportion of total land area, the EU's share of forests and other wooded land increased slightly, by 0.9 percentage points, between 2015 and 2018.

43.5 %
of the EU area were covered by forests and other wooded land in 2018

Currently, forests are affected by pressures from habitat degradation and loss, invasive alien species, pollutants and excessive nutrient loads, as well as climate change (3), which has resulted in persistent droughts and heatwaves. This means that EU efforts to retain and sustainably manage its forested areas are increasingly important. According to the 2020 assessment of the State of Nature in the EU, only about 14 % of forest habitats at the EU level are in good conservation status, while the rest are in poor and bad conservation status. Nevertheless, the report shows that forest habitats have experienced the most improvement compared with other habitats.

Organic and phosphate pollution levels in EU rivers have seen a long-term decrease, even though short-term trends are more mixed

The ecological status of European water bodies gives an important indication of how Europe's natural environment is faring in the face of pressures from human use. Two indicators monitor progress in this area: biochemical oxygen demand in rivers and phosphate in rivers. While these indicators paint a somewhat favourable picture of the EU's progress over the past 20 years in making rivers cleaner, the short-term developments have been less clear-cut.

Biochemical oxygen demand (BOD) in rivers is an indicator of organic water pollution and the effectiveness of water treatment. When a high level of oxygen (O_2) is required for the microbiological decomposition of organic compounds in water this means there is less O_2 available for other river species. As such, biochemical oxygen demand provides an indication of a river system's overall health. Available data for 18 Member States show an overall decline in BOD in EU rivers, from 3.1 milligrams per litre (mg/L) in 2006 to 2.8 mg/L in 2021. The trend, however, has not been continuous. While BOD levels were showing a downward trend up to 2011, they had climbed back to 3.1 mg/L by 2015 before falling again. Recently, there has been a small increase from 2.7 mg/L in 2019 to 2.8 mg/L in 2021. Overall, BOD levels in EU rivers have fallen by 9.5 % since 2006 and by 8.0 % since 2016. Between 2016 and 2021, 12 out of 18 reporting Member States saw reductions in BOD in their rivers. The overall decrease in BOD values is mainly linked to a general improvement in waste water collection and treatment throughout Europe.

Between 2016 and 2021, the biochemical oxygen demand in EU rivers fell by

8.0 %

Phosphate (PO_4) in rivers can originate from agricultural production, urban waste water and industrial discharges. Heavy loads of phosphate in rivers can harm the environment by causing biodiversity loss and water eutrophication. Data on phosphate concentrations in EU rivers are available for 16 Member States. They show a marked improvement between 2007 and 2011, after which, however, the trend levelled off and even started increasing again. Thus, while the phosphate concentration of 0.074 mg/L recorded in 2021 is considerably below the values reported in the early 2000s of around 0.092 mg/L, it is 21.3 % higher than in 2016.

The overall positive long-term trend is to some extent the result of measures implemented under the Urban Waste Water Treatment Directive, especially the introduction of phosphate-free detergents (4). The recent turnaround may be related to the slower decrease in phosphorus emissions from the agricultural sector as well as increasing phosphorus fertiliser consumption at EU level (5). Of all the reporting Member States, rivers in Finland and Sweden on average had the lowest concentrations of phosphate between 2016 and 2021. This is likely to be a result of their low population densities and high levels of waste water collection and treatment. In contrast, relatively high concentrations were found in some Member States with high population densities and/or intensive agriculture. The higher short-term values observed, particularly in Lithuania, Spain, Bulgaria and Belgium, may lead to freshwater eutrophication (6).

Between 2016 and 2021, the concentration of phosphates in EU rivers increased by

21.3 %

Land degradation

Land degradation is linked to the long-term functionality and biological productivity of land or land-based ecosystems. It is a complex phenomenon bringing together several elements, including soil degradation and the capacity of land to sustain water resources, biodiversity and primary productivity (7). Soil degradation by itself covers many aspects such as soil sealing and contamination, erosion by wind and water, loss of soil biodiversity, compaction, decline in organic matter, desertification, acidification and salination ([8]). Not all of these threats to soil quality can be covered in the EU SDG indicator set, so the analysis in this report has been limited to imperviousness change, the area impacted by drought and the risk of soil erosion by water.

Land take is continuing to increase in the EU

In 2018, the area of sealed soil surface in the EU was

2.7 %

Land take is described as the process of transforming agricultural, forest and other semi-natural and natural areas into artificial areas. It often means an increase in settlement area over time, usually at the expense of agricultural areas. Land take can be monitored using the Copernicus CORINE land cover datasets, which have been published every six years since 2000. Net land take includes the 'reverse land take process', which occurs when artificial areas are returned to non-artificial land categories through recultivation and renaturalisation. According to data from the European Environment Agency (EEA), net land take in the EU amounted to 11 845 square kilometres (km^2) between 2000 and 2018, equalling an average annual net land take of 658 km^2. Even though the rate of net land take has fallen by more than 40 % over the three observation periods, there is still a long way to go to meet the 'no net land take' policy target for 2050.

In all three observation periods, EEA data show that agricultural areas were the most likely to be converted to artificial surfaces, reducing the amount of land available for food and feed production. This results in increased fragmentation and loss of natural habitats. Furthermore, artificial areas create plots that are isolated from functional ecosystems and can lead to increased flood risk and more frequent rapid surface runoff ([9]). Moreover, sealed lands cannot store carbon and thereby contribute to greenhouse gas emissions and climate change.

Soil sealing is the most intense form of land take and is essentially an irreversible process. It destroys or covers soils with layers of partly or completely impermeable artificial material such as asphalt and concrete ([10]). Increases in the area of sealed land can be used to estimate land-use change for human use or intensification. Between 2006 and 2018, the area of sealed soil in the EU grew by 3 605 km^2 or 3.4 %. In 2018, 2.7 % of the EU area was covered with impervious materials. Across Member States, the share of sealed soil area ranged from below 1 % in Sweden and Finland to around 10 % in Belgium and the Netherlands up to 18 % in Malta.

The area at risk of severe soil erosion by water has decreased slightly in the EU

Between 2010 and 2016, the area at risk of severe soil erosion by water in the EU fell by

0.9 %

Soil is a resource that provides multiple benefits to society, including the provision of raw materials, food production, storage, filtration and the transformation of many substances, including water, carbon and nitrogen. Maintaining soil health ensures the continued provision of these benefits. While soil erosion by water poses the biggest threat to EU soils, multiple erosion processes, including water, tillage, wind and crop harvesting erosion contribute to soil degradation simultaneously or subsequently. Co-occurring processes may enhance and trigger each other or lead to self-reinforcing feedback loops, and thus enhance the severity of soil degradation ([11]).

More than 5 % of the non-artificial erodible land area in the EU is estimated to be at risk of severe soil erosion by water (referring to soil loss of more than 10 tonnes per hectare per year). Overall, water erosion is the major cause of soil displacement, both quantitatively (51 % of the total displacement) and spatially (57 % of the total area) ([12]). Hotspots are found in particular in Mediterranean areas and some Alpine regions, mainly due to a combination of steep topography and high rainfall erosivity ([13]). Modelling results show that water erosion could rise by up to 22.5 % by 2050 compared with today due to climate change and increased erosivity ([14]). Other erosion processes are tillage erosion (36 % of the total displacement), wind erosion (10 %) and crop harvesting (2.7 %) ([15]). These processes often occur almost unnoticed without leaving substantial geomorphic evidence but may act as a trigger and enhance soil degradation. Accordingly, evidence suggests that countries such as Denmark and the Netherlands, which are considered to be little affected by water erosion, are very prone to wind erosion risks ([16]).

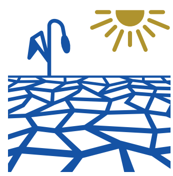
Efforts to address and mitigate soil erosion by water have helped to reduce the estimated EU land area at risk of severe soil erosion by water, from 198 607 square kilometres (km^2) in 2010 to 196 853 km^2 in 2016, equalling a decrease of 0.9 %. This represents a considerable slowdown compared with the period 2000 to 2010, when the estimated area at risk fell by 12.6 %.

Between 2010 and 2016, arable land experienced the greatest reduction in area at risk of soil erosion compared with other land types ([17]). Here, improvements due to the implementation of agro-environmental standards under the Common Agricultural Policy (CAP) may have helped to reduce the mean rate of soil loss by water erosion. This includes the application of soil conservation practices such as reduced tillage, preservation of a minimum soil cover, reduction in the area of bare soils, contour farming along slopes, maintenance of terraces and stone walls, and extended use of grass margins ([18]). Nevertheless, the cost of lost agricultural productivity due to water erosion in the EU is estimated at around EUR 1.3 billion annually, and the cost of removing an estimated 135 million m^3 of accumulated sediment due to water erosion is estimated at roughly EUR 2.3 billion annually ([19]).

The area impacted by drought increased considerably in 2022

The effects of drought reduce nature's capacity to provide a wide range of environmental, social and economic benefits. They affect the EU's ability to achieve its climate change mitigation target through reduced carbon sequestration and have implications for adaptation and the implementation of the EU's biodiversity and soil strategies. Drought also hampers the ability to achieve the ambitions of the CAP and the goals of the European Green Deal, the Farm to Fork Strategy and the Biodiversity Strategy. Reducing the severity of drought impacts and strengthening the resilience of ecosystems to climate change induced droughts is thus vital.

In 2022, Europe experienced its hottest summer and the second warmest year on record, resulting in the largest total area impacted by drought, with more than 630 000 km^2 being affected. This corresponds to 15.7 % of the EU area and is almost four times the area of the long-term average of 167 000 km^2 over the period 2000 to 2022 ([20]).
Between 2000 and 2022, there was an increasing trend in drought-impacted areas in the EU due to low precipitation, high evaporation and heatwaves. These conditions are exacerbated by climate change ([21]) and contribute to worsening ecosystem conditions ([22]). Over the period from 2017 to 2022, the 10-year moving average of drought impact on ecosystems in the EU increased by 84.0 %. Expressed in terms of the EU area affected by drought, this indicator changed from 4.1 % to 15.7 % over the same period. A look at the underlying annual data shows strong fluctuations, with the area affected by drought almost tripling in some years. There are also large variations between countries. In 2022, Luxembourg, Belgium and Slovenia showed ecosystems impacted by drought on more than 50 % of their country area.



15.7 %
of the EU area was affected by drought in 2022

Biodiversity

Terrestrial ecosystems have been protected under the Birds Directive since 1979 and the Habitats Directive since 1992. Both Directives form the main pillar for the protection of Europe's biodiversity and ecosystems. Under these Directives, Member States are required to designate and manage Special Protection Areas (SPAs; Birds Directive) and Sites of Community Importance/Special Areas of Conservation (SCIs/SACs; Habitats Directive). These sites, collectively known as the Natura 2000 network, should enable protected habitats and species to reach favourable conservation status in the EU. The Natura 2000 network is complemented by nationally designated terrestrial protected areas that are established under each Member State's national framework. The EU Biodiversity Strategy for 2030 includes a target for at least 30 % of EU land to be protected.

The EU is not on track to reach its 2030 target for terrestrial protected areas

26.0 %
of the EU land area were protected in 2021

In 2021, the EU and its Member States protected 1 075 959 km^2 of terrestrial habitats, covering 26.0 % of the EU's land area. This is an increase of only 7.2 % compared with 2011, when 1 003 558 km^2 (equalling 24.3 % of the EU's area) were protected. The designation of new protected areas has furthermore slowed over the past five-year period, stalling at 26.0 % since 2019. This means the EU is currently not on track to achieve its 30 % target by 2030 ([23]). The Member States with the largest protected areas relative to country size in 2021 included Luxembourg (55.8 %), Bulgaria (41.0 %) and Slovenia (40.4 %). In contrast, the shares of protected areas were smallest in Finland (13.3 %) and Ireland (13.9 %).

The latest assessment of the State of Nature in the EU reveals that many species and habitats of European interest are still in unfavourable conservation status. The conservation status of habitats did not improve over the reporting period (2013–2018), but for species other than birds a slight improvement can be stated. Across the EU, about a quarter (27 %) of species assessments and 15 % of the habitat assessments show a good conservation status, compared with 23 % and 16 %, respectively, reported in the assessment for the period 2007–2012. The majority of the assessments considered, however, have a poor or bad conservation status at EU level (63 % for species and 81 % for habitats). Moreover, a look at the trends reveals that only 6 % of species assessments and 9 % of habitat assessments showed improving trends in the reporting period, while 35 % and 36 % indicated a deteriorating trend at EU level, respectively.

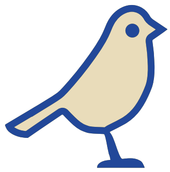
The State of Nature report also shows that fish and molluscs continue to have a particularly high proportion of species (around 30 % each) with a bad conservation status, while reptiles and vascular plant species have the highest proportion of good conservation status (36 % and 40 % respectively). Habitats in dunes, bogs, mires and fens have the highest share of assessments showing a bad conservation status (around 50 % each). Grasslands, which contain some species-rich habitats that are particularly suitable for pollinator species, also have one of the highest proportions of bad conservation status assessments (49 %).

Common birds and grassland butterflies are in long-term decline in the EU

Birds are sensitive to both human-induced and natural environmental change, making them good indicators of wider ecosystem health. Their widespread and diverse habitats also make them ideal for monitoring the results of conservation efforts.

The EU common bird index tracks the population abundance and diversity of a selection of common bird species in the EU, further typified by common forest and common farmland bird species. The index shows a 13.8 % decline of all common birds and a dramatic 39.9 % fall in the abundance of common farmland birds between 1990 and 2022. Common forest birds have declined slightly, with their index falling 3.4 % over the whole period.

The decline in common farmland birds has largely been attributed to agricultural intensification, which has reduced natural nesting habitats such as hedges, wetlands, meadows and fallow fields. Agro-chemicals, such as pesticides, and changes in ploughing times for cereals have also affected common farmland birds, disrupting their breeding and reducing available food sources, in particular insect populations (24).



Between 2007 and 2022, common bird populations in the EU declined by

7.5 %

Shorter-term trends show a continued decline for all common birds and common farmland bird populations. For all common birds there has been a 7.5 % decline since 2007 and a 2.5 % decline since 2017, while common farmland birds continued to show an even stronger decline, by 22.2 % since 2007 and 9.1 % since 2017.

Butterflies, which are among the most common plant pollinators, are well suited to act as signals of environmental and habitat health. They occur in a wide range of habitat types and are sensitive to environmental change. The grassland butterfly index is based on data from 18 Member States, measuring the population trends of 15 butterfly species within the national Butterfly Monitoring Schemes (25). According to estimates from these monitoring efforts, butterfly populations declined by 29.5 % between 1991 and 2020, signifying a dramatic loss of grassland biodiversity. Overall, grassland butterfly populations fell by 24.3 % between 2005 and 2020 and by 28.9 % between 2015 and 2020.

The main causes for this decline can be attributed to land use changes in rural areas, in particular stemming from intensification of agricultural grasslands, and deposition of nitrogen in protected areas, mainly in North-western Europe. In the rest of Europe, grassland abandonment is a threat (26). The increased duration, frequency and intensity of heatwaves and droughts as a result of climate change have also contributed to the decline of grassland butterflies over the past decade. While moderate climate warming aided a temporary increase in butterfly populations between 2002 and 2012, the increasing frequency of extreme temperature led to even stronger declines in the subsequent years (27).

Between 2005 and 2020, grassland butterfly populations in Europe shrank by

24.3 %

While butterflies show a decline in non-urban areas, they have been stable within urban areas across Europe, suggesting that parks and other green parts of the urban environment are becoming increasingly suitable and are being managed in a butterfly-friendly way. However, the situation of butterflies in urban areas requires further research, as different studies offer contrasting findings (28).

Main indicators

Share of forest area

LONG TERM Time series too short

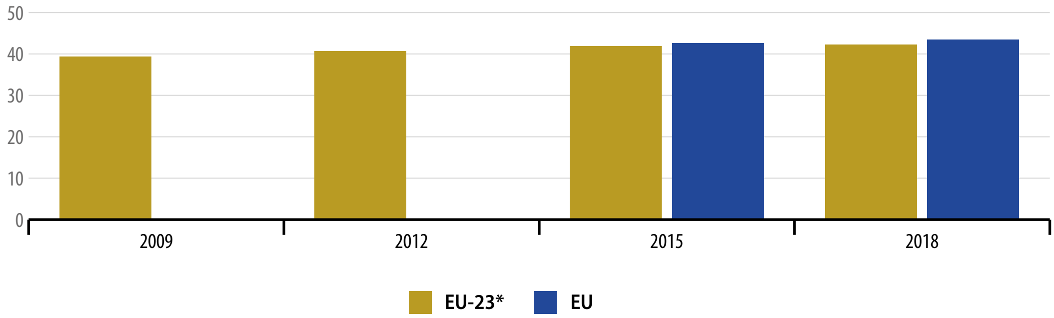
SHORT TERM 2015–2018

This indicator measures the proportion of forest ecosystems in comparison to the total surface area. Data used for this indicator is derived from the Land Use and Cover Area frame Survey (LUCAS). The LUCAS land use and land cover classification has been adapted to FAO forest definitions, distinguishing between the categories 'forests' and 'other wooded land' ([29]).

FIGURE 15.1

Share of forest area, EU, 2009–2018

(% of total area)

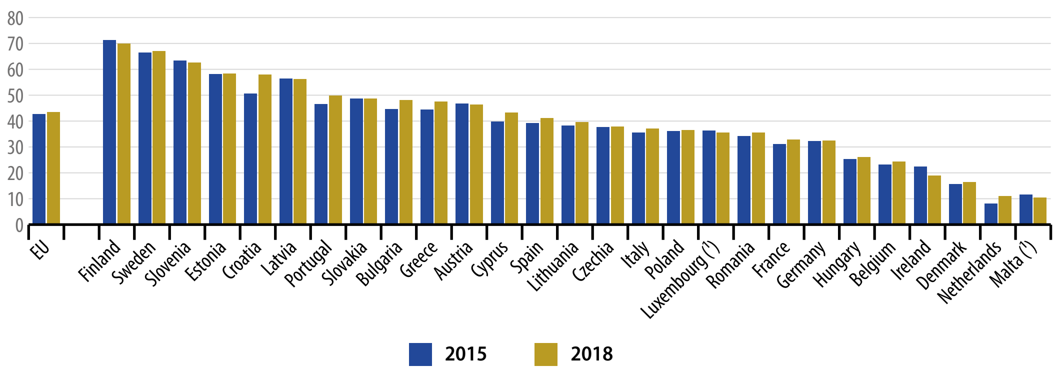


Note: EU-23* refers to an aggregate including the UK but excluding Bulgaria, Croatia, Cyprus, Malta and Romania.
Source: Eurostat (online data code: sdg_15_10)

FIGURE 15.2

Share of forest area, by country, 2015 and 2018

(% of total area)



([1]) Data have lower reliability.
Source: Eurostat (online data code: sdg_15_10)

Area at risk of severe soil erosion by water

This indicator estimates the area at risk of severe erosion by water such as rain splash, sheet-wash and rills (soil loss greater than 10 tonnes per hectare and year). This area is expressed in square kilometres (km²) and as a percentage of the total non-artificial, erodible area in the country. The numbers are estimated using soil erosion susceptibility models. Data presented in this section stem from the JRC's soil erosion database.

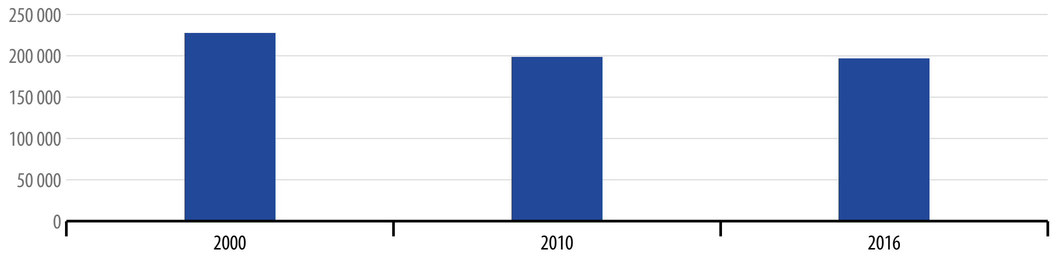
LONG TERM
2000–2016

SHORT TERM
2010–2016

FIGURE 15.3

Area at risk of severe soil erosion by water, EU, 2000, 2010 and 2016

(km²)

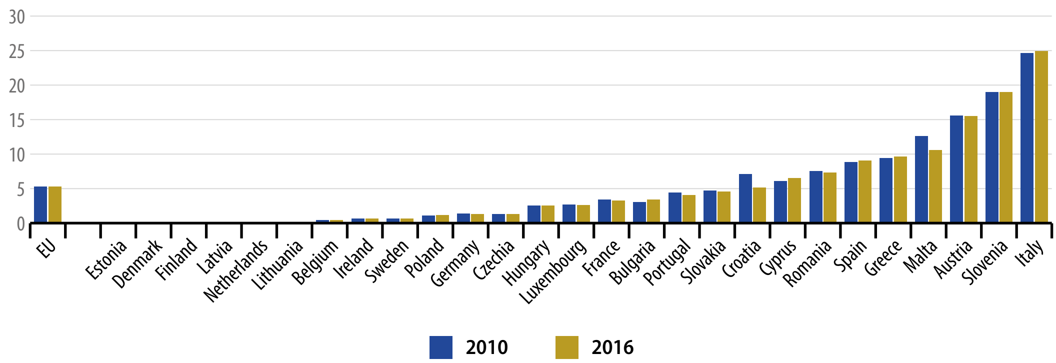


Source: Joint Research Centre (Eurostat online data code: sdg_15_50)

FIGURE 15.4

Area at risk of severe soil erosion by water, by country, 2010 and 2016

(% of the non-artificial erodible area)

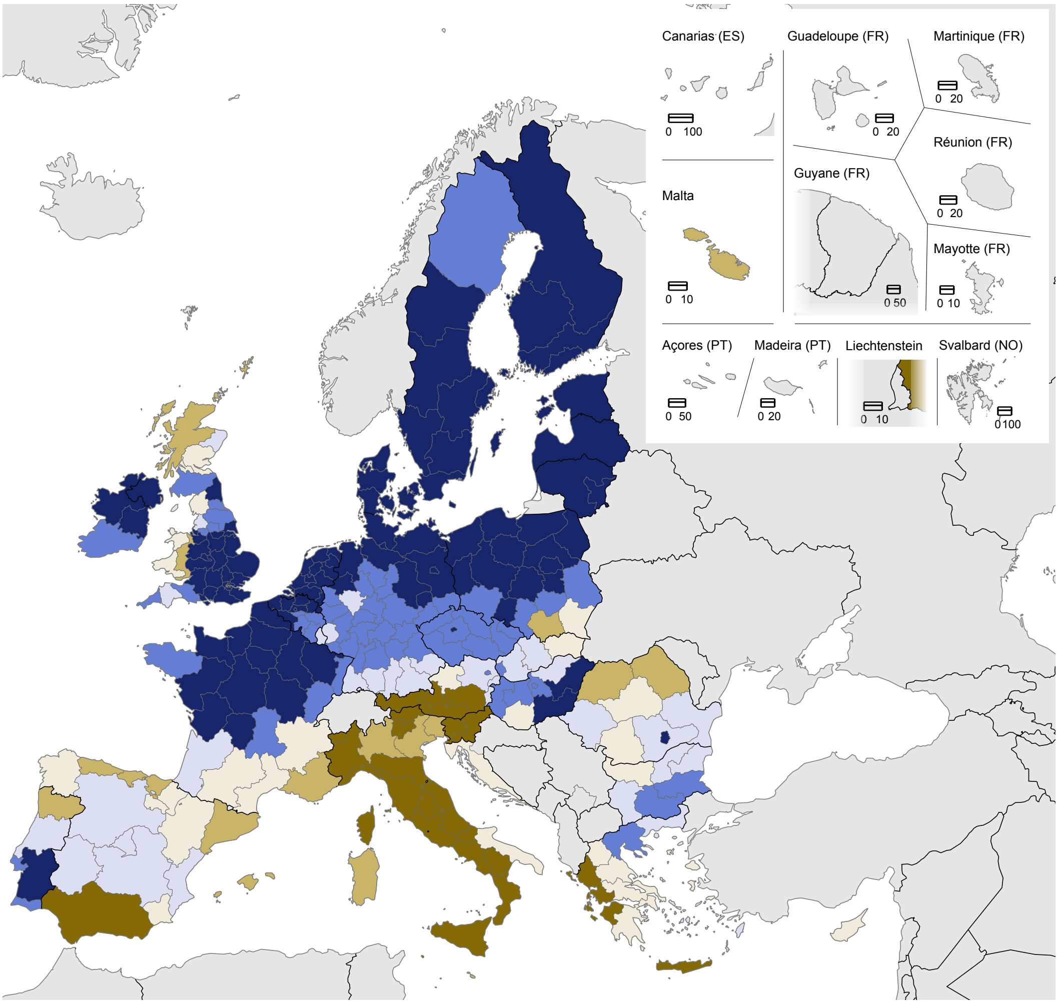


Source: Joint Research Centre (Eurostat online data code: sdg_15_50)

MAP 15.1

Area at risk of severe soil erosion by water, by NUTS 2 region, 2016

(% of the non-artificial erodible area)



EU = 5.31

- < 0.5
- 0.5 – < 2.5
- 2.5 – < 5.31
- 5.31 – < 10
- 10 – < 15
- ≥ 15

Administrative boundaries: © EuroGeographics © UN–FAO © Turkstat. Cartography: Eurostat – IMAGE, 05/2024
Source: Eurostat (online data code: aei_pr_soiler)

Source: Eurostat (online data code: aei_pr_soiler)

Drought impact on ecosystems

This indicator shows the area impacted by drought by monitoring negative anomalies in vegetation productivity in areas with a severe soil moisture deficit during the growing season (more than one standard deviation from the long-term average — observed through remote-sensing data collected at 500×500 meters resolution by the Copernicus EMS European Drought Observatory of the European Commission Joint Research Centre ([30])). The indicator covers only agricultural droughts with soil moisture deficits causing reduced vegetation productivity due to insufficient precipitation, as opposed to hydrological droughts, which occur when low water supplies become apparent in streams, reservoirs, and groundwater levels, usually after many months of meteorological drought.

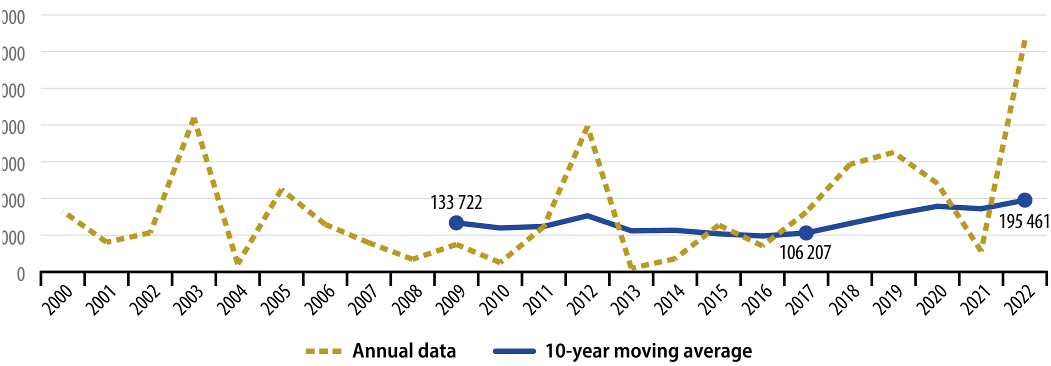
LONG TERM
2009-2022

SHORT TERM
2017–2022

FIGURE 15.5

Area impacted by drought, EU, 2000–2022

(km²)

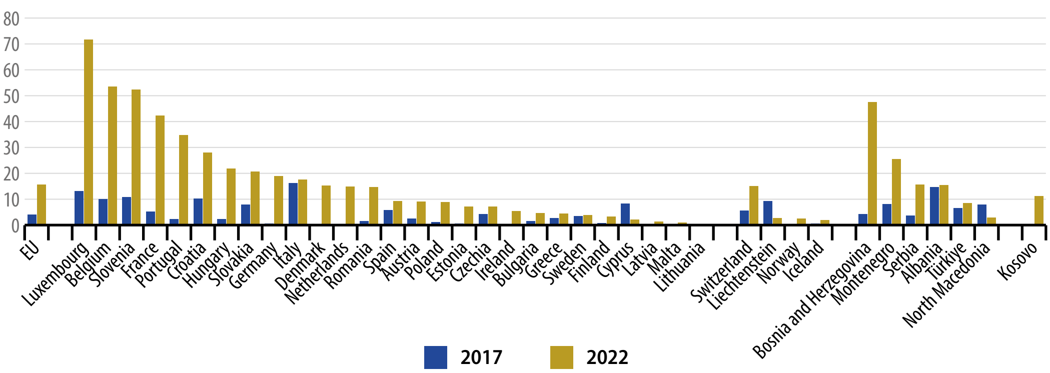


Note: The annual data points for the 10-year moving average refer to the average over the 10-year period up to these years.
Source: EEA (Eurostat online data code: sdg_15_42)

FIGURE 15.6

Area impacted by drought, by country, 2017 and 2022

(% of country area)



Source: EEA (Eurostat online data code: sdg_15_42)

Terrestrial protected areas

LONG TERM 2011–2021

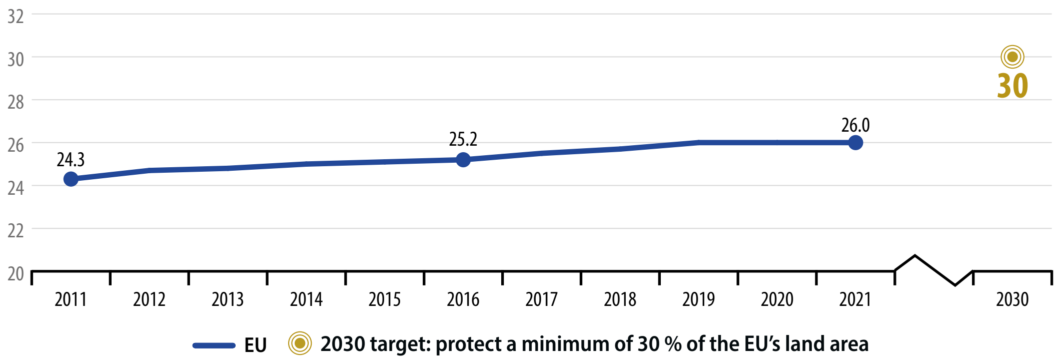
SHORT TERM 2016–2021

This indicator measures the extent of terrestrial protected areas, comprising nationally designated protected areas and Natura 2000 sites. A nationally designated area is an area protected by national legislation. The Natura 2000 network comprises both marine and terrestrial protected areas designated under the EU Habitats and Birds Directives with the goal to maintain or restore a favourable conservation status for habitat types and species of EU interest. The EU biodiversity strategy aims to protect at least 30 % of land and sea in Europe including both nationally designated sites and Natura 2000 sites. Data provided by the Member States to the Commission are consolidated at least yearly by the European Environment Agency and the European Topic Centre on Biological Diversity (EEA ETC/BD) and collected by European Commission Directorate-General for the Environment.

FIGURE 15.7

Terrestrial protected areas, EU, 2011–2021

(% of total area)

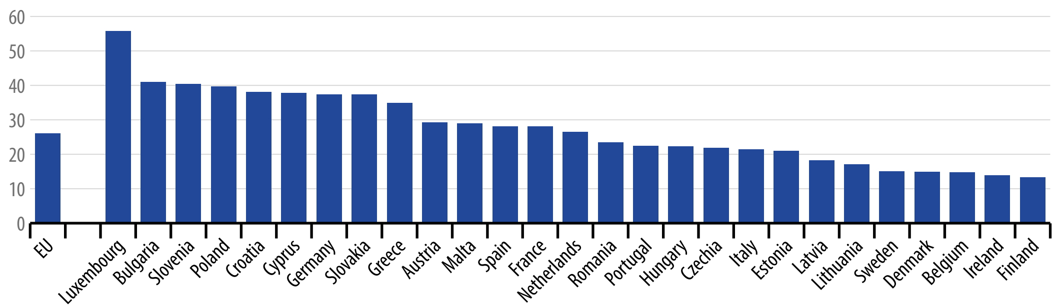


Source: EEA (Eurostat online data code: sdg_15_20)

FIGURE 15.8

Terrestrial protected areas, by country, 2021

(% of total area)



Source: EEA (Eurostat online data code: sdg_15_20)

Common bird index

This indicator is an index integrating the abundance and diversity of a selection of common bird species associated with specific habitats for feeding and nesting. Rare species are excluded, although some species common in certain Member States may be considered rare in others. Three groups of bird species are represented: common farmland species (39 species), common forest species (34 species) and all common bird species (168 species; including farmland species, forest species and common generalists' species). The indices are presented for EU-aggregates only and with smoothed values. The index draws from data produced by the European Bird Census Council and its Pan-European Common Bird Monitoring Scheme programme. Data coverage has increased from nine to 25 EU Member States over the period 1990 to 2014, with 26 countries covered as of the reference year 2015 ([31]).

LONG TERM
* ** 2007–2022

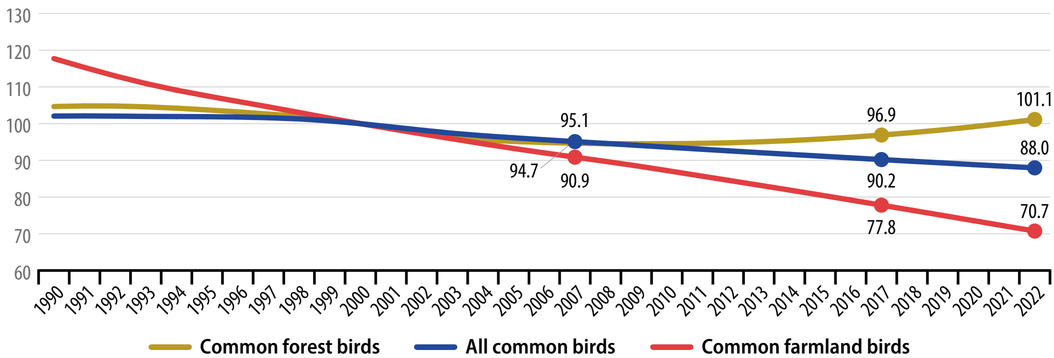
SHORT TERM
* ** 2017–2022

* All common birds
** Common farmland birds

FIGURE 15.9

Common bird index, by type of species, EU, 1990–2022

(index 2000 = 100)



Note: The EU aggregate changes depending on when countries joined the Pan-European Common Birds Monitoring Scheme.
Source: European Bird Census Council (EBCC), National BirdLife organisations, Royal Society for the Protection of Birds (RSPB), Czech Society for Ornithology (CSO) (Eurostat online data code: sdg_15_60)

Grassland butterfly index

LONG TERM
2005–2020

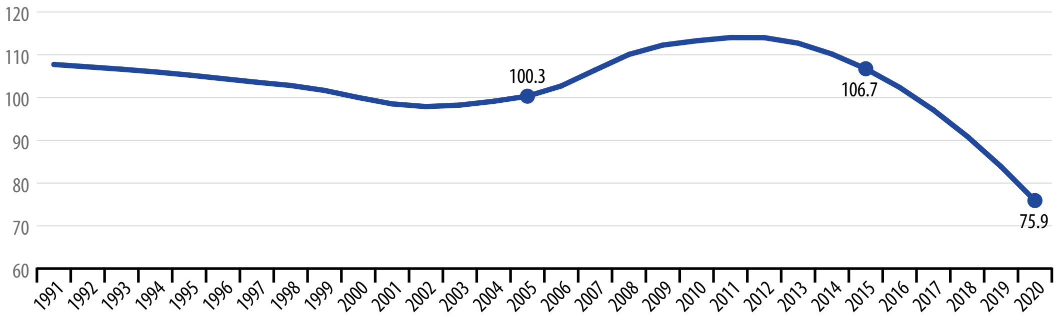
SHORT TERM
2015–2020

This indicator measures the population trends of 15 butterfly species at EU-level. The index is presented as an EU-aggregate only and with smoothed values. The indicator is based on data from 18 EU Member States (Austria, Belgium, Czechia, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Romania, Slovenia, Spain and Sweden) ([32]). The data are integrated and provided by the Butterfly Conservation Europe, European Butterfly Monitoring Scheme partnership, SPRING project. For technical details see the European Grassland Butterfly Indicator 1990–2020 report.

FIGURE 15.10

Grassland butterfly index, EU, 1991–2020

(index 2000 = 100)



Source: Butterfly Conservation Europe, European Butterfly Monitoring Scheme partnership, SPRING project (Eurostat online data code: sdg_15_61)

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Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

SDG 16 calls for peaceful and inclusive societies based on respect for human rights, protection of the most vulnerable, the rule of law and good governance at all levels. It also envisions transparent, effective and accountable institutions.

Peace and security are prerequisites for sustainable development, in line with the integrated nature of the 2030 Agenda. Peace, security, democracy, the rule of law and respect for fundamental rights are also founding values of the EU. Monitoring SDG 16 in an EU context focuses on personal security, access to justice and trust in institutions within the EU. The progress towards SDG 16 has been mixed in all these areas. While over the past few years deaths due to homicide or assault and the perceived occurrence of crime, violence and vandalism have fallen considerably, the number of victims of trafficking in human beings in the EU has increased. Government expenditure on law courts has grown significantly and more than half of Europeans consider their justice system to be independent, although this share has declined over the past five years. The assessment of corruption in the EU has remained stable.

Indicators measuring progress towards SDG 16, EU

Indicator	Period	Annual growth rate	Assessment	More info
Peace and personal security				
Standardised death rate due to homicide	2006–2021	– 3.4 %		page 305
	2016–2021	– 1.2 %		
Population reporting crime, violence or vandalism in their area	2010–2020	– 2.0 %		page 307
	2015–2020	– 4.1 %		
Victims of trafficking in human beings	2008–2022	2.4 %		page 308
	2017–2022	5.4 %		
Access to justice				
General government total expenditure on law courts	2007–2022	2.8 %		page 309
	2017–2022	4.2 %		
Perceived independence of the justice system: very or fairly good	Time series too short for long-term assessment		:	page 310
	2018–2023	– 0.4 %		
Trust in institutions				
Corruption Perceptions Index	2012–2023	0.1 %		page 311
	2018–2023	0.0 %		

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

Policy context

Peace and personal security

In 2020, the European Commission set out a new EU Security Union Strategy for the period from 2020 to 2025. It maps out the main actions, tools and measures to ensure European security, both in the physical and digital worlds, and across all parts of society. The strategy identified three priorities: fighting organised crime and human trafficking, countering terrorism and radicalisation, and fighting cybercrime.

In 2021, the Commission adopted the EU Strategy on Combatting Trafficking in Human Beings (2021–2025). The strategy takes a comprehensive approach by covering prevention, reduction of the demand, a reinforcement of investigations and criminal justice, protection and empowerment of the victims and the international dimension of combating this crime.

Access to justice

Improving the effectiveness of justice systems in Member States has been identified as a key component for structural reforms in the European Semester. The Rule of Law Report assesses the situation of Member States' justice systems and the EU Justice Scoreboard complements it by monitoring the efficiency, quality and independence of Member States' justice systems.

The European Democracy Action Plan from 2020 aims to empower citizens and build more resilient democracies across the EU.

Trust in institutions

With the adoption of the Stockholm Programme, the Commission has been given a political mandate to measure efforts in the fight against corruption and to develop a comprehensive EU anti-corruption policy.

In EU legislation, the fight against corruption is covered by the 1997 Convention on fighting corruption involving officials of the EU or officials of Member States and the 2003 Framework Decision on combating corruption in the private sector.

Overview and key trends

Peace and personal security

Safety is a crucial aspect of a person's life. Insecurity is a common source of fear and worry, and negatively affects quality of life. Physical insecurity includes all the external factors that could potentially put an individual's physical integrity in danger. Crime is one of the most obvious causes of insecurity. Analyses of physical insecurity usually combine two aspects: the subjective perception of insecurity and the objective lack of safety. In this chapter, subjective perception of insecurity is monitored by perception of crime, while objective security is measured by two indicators — homicide death rate and victims of human trafficking.

The EU has become a safer place to live

Homicide is one of the most serious crimes. In the EU, deaths due to homicide have fallen steadily since 2006, reaching a rate of 0.7 deaths per 100 000 people in 2021. This corresponds to a reduction of 41 % over the assessed 15-year period. The improvement has continued in the short-term period since 2016, albeit at a somewhat slower pace. The decrease in homicides in the EU has gone hand in hand with improvements in people's perception of crime, violence or vandalism. Since 2010, the share of people reporting the occurrence of such problems in their area has fallen in the EU. In 2020, 10.7 % of the population felt affected by these issues, which is 2.4 percentage points less than in 2010 and the lowest value recorded.

0.7
deaths per 100 000 people in the EU in 2021 were caused by homicides

The perception of being affected by crime, violence or vandalism differs across socio-demographic sub-groups of the EU population and across degrees of urbanisation. In 2020, 13.7 % of the population living in households with an equivalised disposable income below the poverty threshold — set at 60 % of the national median equivalised income — felt affected by such problems. However, this was the case for only 10.2 % of the population living in households above the poverty threshold in that year. Similarly, in 2020 the perceived occurrence of crime, violence or vandalism in cities (16.3 %) was almost three times higher than in rural areas (5.8 %) and almost twice as high as in towns and suburbs (8.4 %) (1).

The fear of victimisation paradox: when objective and subjective measures of physical insecurity do not match

National figures show that the perceived exposure to crime, violence or vandalism in 2020 was eight times higher in the most affected country (19.1 % of the population in Bulgaria) than in the least affected country (2.4 % in Croatia). However, country differences in this subjective indicator need to be treated with caution. Research suggests that crime rates from police registers and the subjective exposure to crime may differ, as population groups with low victimisation rates may be particularly afraid of crime (the so-called 'fear of victimisation paradox') (2). This is, for instance, the case in Ireland and Malta, which have the lowest death rates due to homicide across the EU, but have relatively high shares of people who say they feel affected by crime or other problems in their area (see Figures 16.2 and 16.4). In contrast, death rates due to homicide were the highest in the Baltic countries, which had rather low shares of people feeling affected by crime, violence or vandalism in their neighbourhood. It should, however, be acknowledged that this comparison

10.7 %
of the EU population reported crime, violence or vandalism in their area in 2020

may not capture the full picture, as forms of crime other than homicide also contribute to perceived insecurity.

Men are more likely to die from homicide, while women are more likely to be victims of violence in their homes and sexual assaults

Deaths due to homicide in the EU show a remarkable gender gap. While death rates due to homicide have fallen for both sexes, they remain about twice as high for men (0.9 deaths per 100 000 persons in 2021, compared with 0.4 deaths per 100 000 persons for women) ([3]). Worldwide, the gap is even bigger since 81 % of all homicides are committed against men and boys ([4]).

However, while men have a higher overall risk of being killed, women have a significantly higher risk of being killed by their intimate partners or family members. A study by the United Nations Office on Drugs and Crime (UNODC) and UN Women shows that intimate partner- or family-related homicides accounted for 56 % of women who were killed in 2021 globally, while this was only the case for 11 % of male homicides ([5]). On the EU level, women are about twice as likely as men to be victims of intentional homicide by family and relatives or their intimate partner. In 2022, 0.4 out of 100 000 women were victims of such homicide, compared with only 0.2 per 100 000 men ([6]). This is an issue of concern when considering the broader concept of violence against women, encompassing all forms of physical, sexual and psychological violence.

Data from Eurostat's official crime statistics on intentional homicide and sexual offences show that women are much more likely to be victims of such crimes than men. In 2022, 64 out of 100 000 women were victims of sexual assault, and 38 out of 100 000 women were victims of rape. The rates were significantly lower for men, with 11 per 100 000 men for sexual assault and 4 out of 100 000 men for rape ([7]).

The prevalence of homicide and other types of violence varies greatly across the EU. However, cross-country comparisons of the crime statistics should be made with caution. Comparability is affected by different legal definitions concerning offenders and victims, different levels of police efficiency and the stigma associated with disclosing cases of violence against women ([8]) (see the chapter on SDG 5 'Gender equality' on page 109 for more information on gender-based violence).

The number of detected victims of trafficking in human beings increased strongly in 2022

Human trafficking is a global crime that degrades people to commodities and exploits them for profit. Sexual and labour exploitation are the most common purposes of trafficking but forced begging, forced criminality and organ trafficking are also prevalent forms of exploitation ([9]). Human trafficking destroys individuals' lives by depriving people of their dignity, freedom and fundamental rights. In the EU, the number of victims of human trafficking increased by almost 30 % over the past five years, reaching 2.3 per 100 000 people in 2022 — the highest value on record. This corresponds to 10 093 registered victims the same year, reflecting a 41 % increase compared with 2021. The actual number is likely to be significantly higher, since many victims remain undetected ([10]). The sharp increase in the number of victims of human trafficking in 2022 can be attributed to the fact that armed conflicts, natural and man-made disasters, and displacement increase the number of victims of trafficking exploited within and outside crisis areas ([11]). Several Member States signalled that Russia's military aggression against Ukraine contributed to higher awareness of this crime, prompting the introduction of preventive measures which have led to a recent increase in the detection of victims ([12]).

2.3
per 100 000 people were victims of trafficking in human beings in the EU in 2022

Women in the EU are more likely to be victims of human trafficking than men, with a rate of 2.7 per 100 000 people, as opposed to 1.7 per 100 000 people for men in 2022. This gap has significantly narrowed over the years, as the rate for women has declined by 3.3 % since 2008, while for men it has increased by 153.8 %. This is also in line with global figures that show that the share of women and girls in detected victims of human trafficking in the world decreased from 84 % in 2004 to 60 % in 2020 ([13]).

In 2022, sexual exploitation was the predominant form of exploitation in the EU Member States, accounting for 41.4 % of victims of trafficking, which was the lowest prevalence on record. The share of labour exploitation has been increasing over the years and almost reached the same share as sexual exploitation — 41.1 % in 2022. Other exploitative purposes, including organ removal, use for benefit fraud, criminal activities and forced begging, accounted for 17.5 % in 2022 ([14]).

Access to justice

Well-functioning justice systems are an important structural condition on which EU Member States base their sustainable growth and social stability policies. Whatever the model of the national justice system or the legal tradition in which it is anchored, quality, independence and efficiency are among the essential parameters of an 'effective justice system'. As there is no single agreed way of measuring the quality of justice systems, the budget actually spent on courts is used here as a proxy for this topic. Moreover, judges need to be able to make decisions without interference or pressure from governments, politicians or economic actors, to ensure that individuals and businesses can fully enjoy their rights. The perceived independence of the justice system is used to monitor this aspect.

EU expenditure on law courts has grown over the past few years

In the EU, general government expenditure on law courts has risen by 51.2 % since 2007, reaching EUR 51.1 billion in 2022. In per capita terms, this corresponds to a 47.3 % increase from EUR 77.2 per inhabitant in 2007 to EUR 113.7 per inhabitant in 2022. However, when viewed as a share of total government expenditure, spending on law courts remained stable at 0.7 % between 2007 and 2019. In 2020, the share decreased to 0.6 % of total expenditure, largely due to increases in other government expenditure to mitigate the economic and social impact of the COVID-19 pandemic and remained at this level through 2021 and 2022. In relation to GDP, expenditure on law courts has also been stable since 2007, at 0.3 % of GDP ([15]).

51
billion euros were spent by governments on law courts across the EU in 2022

Just above half of the EU population considers the justice system to be sufficiently independent

In 2023, 53 % of EU inhabitants rated the independence of the courts and judges in their country as 'very good' or 'fairly good', one percentage point lower than in 2018. At the same time, the perception of 'very bad' or 'fairly bad' increased by 2 percentage points, from 34 % to 36 %. Interference or pressure from government and politicians was the most likely reason for a bad rating of perceived independence of courts and judges ([16]). The opinion about the independence of courts and judges varied significantly across Member States. While in Finland, Denmark and Austria, the majority of respondents (86 %, 86 % and 83 %, respectively) rated the independence of their courts and judges as 'very good' or 'fairly good', this was only the case for 22 % of respondents in Croatia and 23 % in Poland ([17]).

Age, employment status, education and experience with the justice system seem to have a notable effect on the perception of the independence of the justice system. In 2023, 59 % of 15- to 24-year-old respondents in the EU gave a good rating, compared with 51 % of respondents aged 55 or over. Employees (58 %) were more likely to give a good rating than self-employed people (53 %), manual workers or people who were not employed (50 % each). The longer people remained in education, the more likely they were to rate the independence of courts and judges as good: 55 % of those who completed education aged 20 or above gave a good rating, compared with 41 % of those who completed education aged 15 or younger. Notably, respondents who had been involved in a dispute that had gone to court were more evenly split between those who rated their system as good (46 %) or bad (47 %) than those who had not been to court (54 % good, 35 % bad) ([18]).

Trust in institutions

Effective justice systems are a prerequisite for the fight against corruption. Corruption causes social harm, especially when it is orchestrated by organised crime groups to commit other serious crimes, such as trafficking in drugs and humans. Corruption can undermine trust in democratic institutions and weaken the accountability of political leadership. It also inflicts financial damage by lowering investment levels, hampering the fair operation of the internal market and reducing public finances.

Corruption perception in the EU has stagnated since 2016

64
out of 100 was the EU's score in the Corruption Perception Index in 2023

As there is no meaningful way to assess absolute levels of corruption in countries or territories on the basis of hard empirical evidence, capturing perceptions of corruption of those in a position to offer assessments of public-sector corruption is currently the most reliable method of comparing relative corruption levels across countries. According to Transparency International's Corruption Perceptions Index (CPI), the EU scored 64 on a scale from 0 (highly corrupt) to 100 (very clean) in 2023. This was 21 points more than the world average score of 43. The EU's score remained stable at this level since 2016, indicating there were no significant changes in corruption perception in Europe.

On a country level, EU countries continued to rank among the least-corrupt globally in 2023 and made up more than a half of the global top 10 least-corrupt countries. Within the EU, northern European countries achieved the best scores, with Denmark, Finland and Sweden leading the ranking. At the other end of the scale, Hungary, Bulgaria and Romania showed the highest levels of perceived corruption across the EU, ranking at positions 76, 67 and 63, respectively, on the global list (comprising 180 countries in total) ([19]).

Country rankings in the CPI largely correspond to analogous answers collected in 2023 through a Eurobarometer survey ([20]), in which Finland, Denmark and Sweden were identified as having the least corruption. Responses to this survey, however, paint a more pessimistic picture of corruption levels across the EU than the CPI. In all but six countries, at least half of respondents considered corruption a widespread national problem. For the EU as a whole, this translates into an average of 70 % of respondents sharing this perception in 2023. This share has fallen by 6 percentage points since 2013. The proportion of population who thinks corruption in their country is rare was 26 % in 2023.

There is a notable relationship between the CPI and the perceived independence of the justice system. Countries with a high CPI ranking, such as Denmark, Finland or Sweden, also show a high share of the population rating the independence of the justice system as 'good' (see Figures 16.10 and 16.12). Conversely, countries with less optimistic ratings of the justice system's independence also tend to have lower CPI scores, for example Bulgaria and Croatia. As both indicators are based on people's perceptions, however, a causal relationship between the effectiveness of the justice system and the occurrence of corruption cannot be inferred based on these data. Effective justice systems are nevertheless considered to be a prerequisite for fighting corruption ([21]).

Trust in EU institutions has fluctuated over the past few years

Confidence in political institutions is key for effective democracies. On the one hand, citizens' confidence increases the probability that they will vote in democratic elections. On the other hand, it provides politicians and political parties with the necessary mandate to take decisions that are accepted in society.

Trust in three of the EU's main institutions — the European Parliament, the European Commission and the European Central Bank — has experienced periods of growth and decline throughout the past two decades. After a drop in trust for all three institutions in 2020, data from autumn 2023 indicate that they have regained some trust, with 49 % of the population expressing their confidence in European Parliament, 46 % in the European Commission and 45 % in the European Central Bank ([22]). Throughout the years, the European Parliament has remained the most trusted of the three institutions surveyed.

The economic crisis may have played a role in the decline in trust in EU institutions observed between 2007 and 2015, while the COVID-19 pandemic might have influenced the drop in 2020. High inflation levels due to pressure on energy, food and other commodity prices as a result of Russia's aggression against Ukraine might have caused a decline in trust in the EU Institutions in 2022 and 2023. However, surveys show that citizens tend to only have a general idea about the EU and lack a deeper knowledge of the role and powers of the EU institutions, making confidence in the EU more dependent on contextual information than on actual governance ([23]).

Main indicators

Standardised death rate due to homicide

This indicator tracks deaths due to homicide and injuries inflicted by another person with the intent to injure or kill by any means, including 'late effects' from assault (International Classification of Diseases (ICD) codes X85 to Y09 and Y87.1). It does not include deaths due to legal interventions or war (ICD codes Y35 and Y36). The data are presented as standardised death rates, meaning they are adjusted to a standard age distribution to measure death rates independently of the population's age structure.

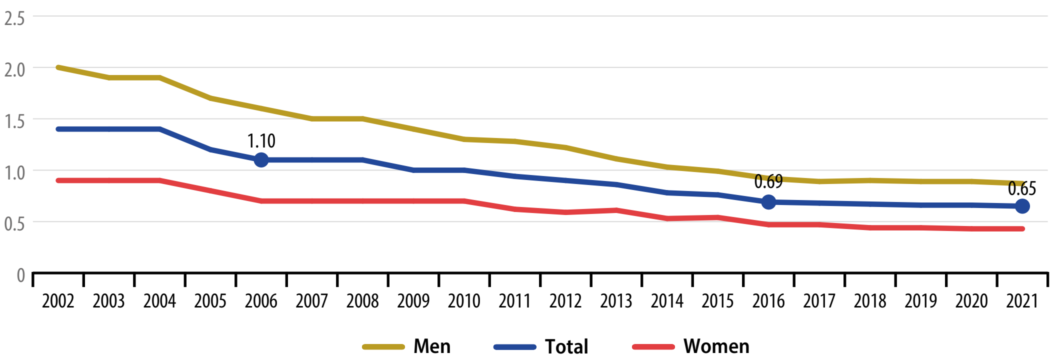
LONG TERM
2006–2021

SHORT TERM
2016–2021

FIGURE 16.1

Standardised death rate due to homicide, by sex, EU, 2002–2021

(number per 100 000 persons)

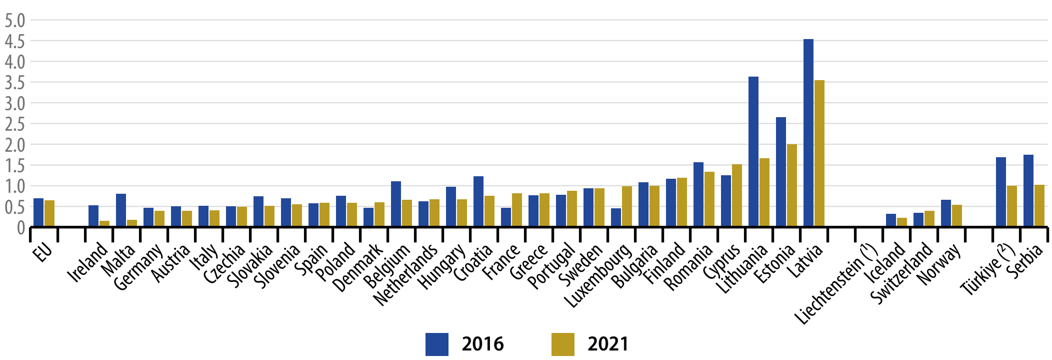


Note: Data for 2002–2010 are estimated.
Source: Eurostat (online data code: sdg_16_10)

FIGURE 16.2

Standardised death rate due to homicide, by country, 2016 and 2021

(number per 100 000 persons)

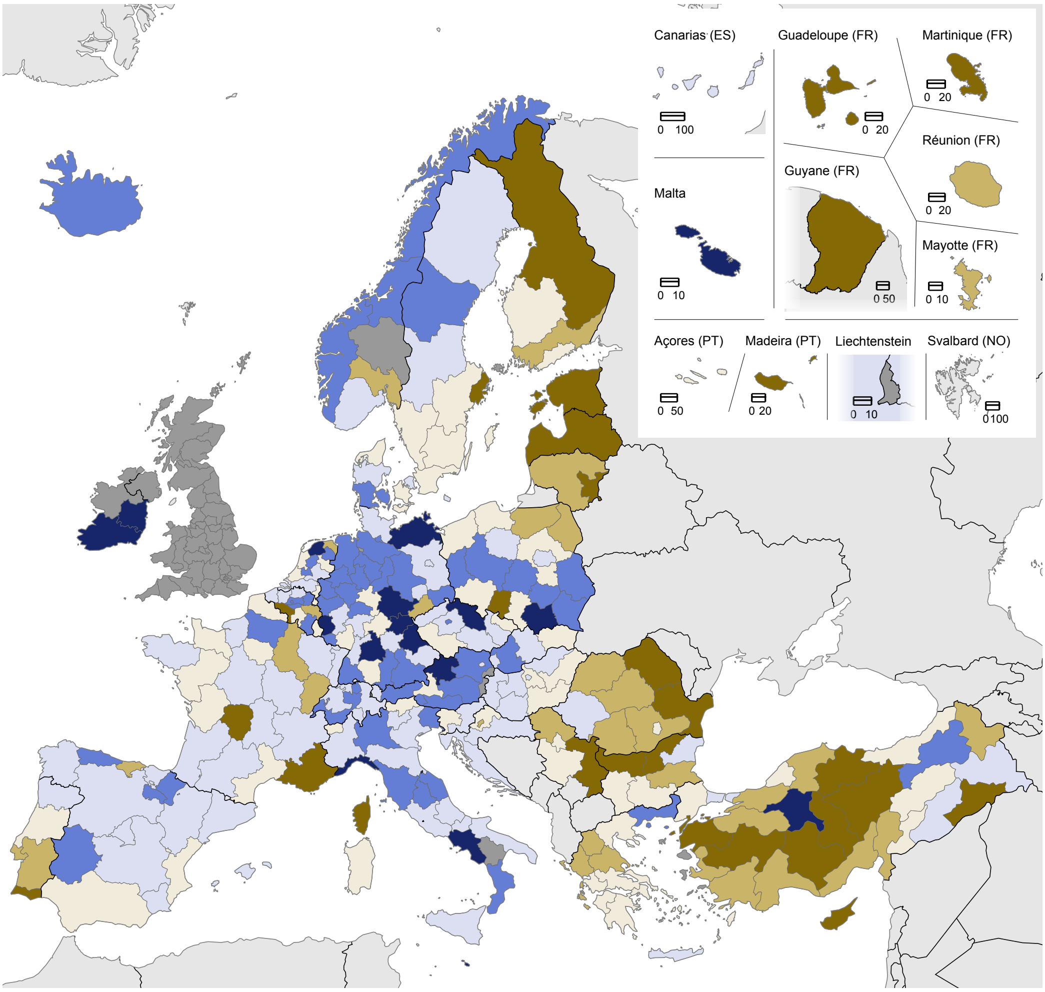


(1) 2017 data (instead of 2016).
Source: Eurostat (online data code: sdg_16_10)

MAP 16.1

Standardised death rate due to homicide, by NUTS 2 region, 2021

(number per 100 000 persons)



EU = 0.65

- < 0.2
- 0.2 – < 0.4
- 0.4 – < 0.65
- 0.65 – < 1
- 1 – < 1.5
- ≥ 1.5
- Data not available

Administrative boundaries: © EuroGeographics © UN–FAO © Turkstat. Cartography: Eurostat – IMAGE, 05/2024
Source: Eurostat (online data code: hlth_cd_asdr2)

Source: Eurostat (online data code: hlth_cd_asdr2)

Population reporting crime, violence or vandalism in their area

This indicator shows the share of the population who reported facing the problem of crime, violence or vandalism in their local area. This describes the situation where the respondent feels crime, violence or vandalism in the area to be a problem for the household, although this perception is not necessarily based on personal experience. The data stem from the EU Statistics on Income and Living Conditions (EU-SILC).

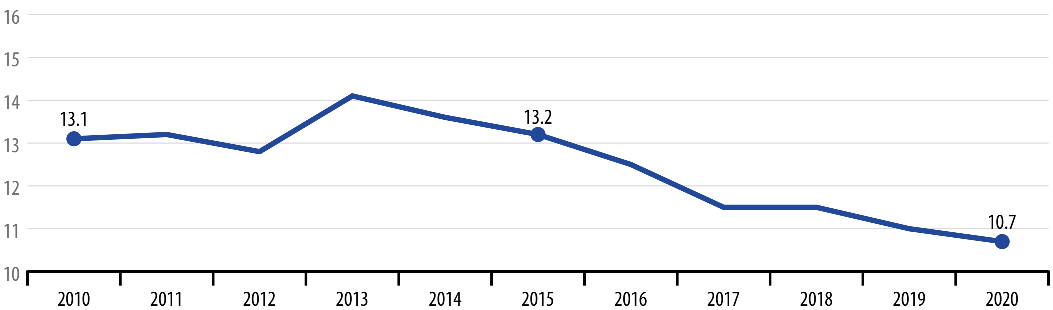
LONG TERM
2010–2020

SHORT TERM
2015–2020

FIGURE 16.3

Population reporting occurrence of crime, violence or vandalism in their area, EU, 2010–2020

(% of population)



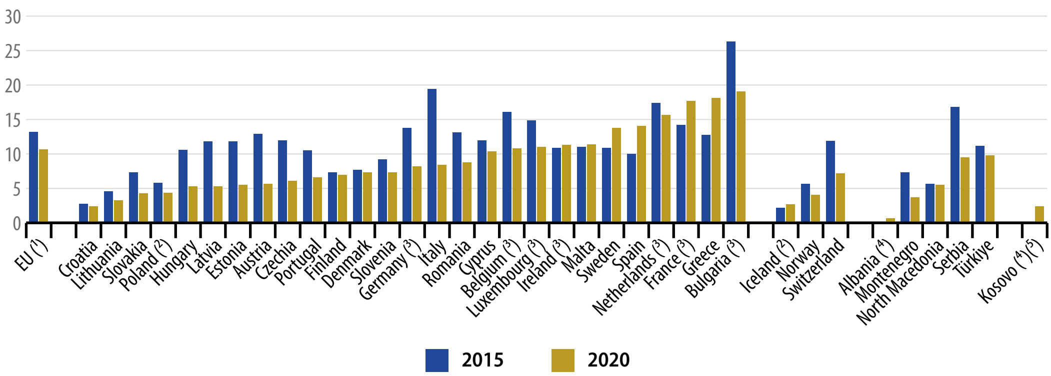
Note: Estimated data. The frequency of the data collection has been changed from annually to every three years, meaning no data were collected for 2021 and 2022.

Source: Eurostat (online data code: sdg_16_20)

FIGURE 16.4

Population reporting occurrence of crime, violence or vandalism in their area, by country, 2015 and 2020

(% of population)



(1) Estimated data.
(2) 2019 data (instead of 2020).
(3) Break(s) in time series between the two years shown.
(4) No data for 2015.
(5) 2018 data (instead of 2020).

Source: Eurostat (online data code: sdg_16_20)

Victims of trafficking in human beings

LONG TERM
2008–2022

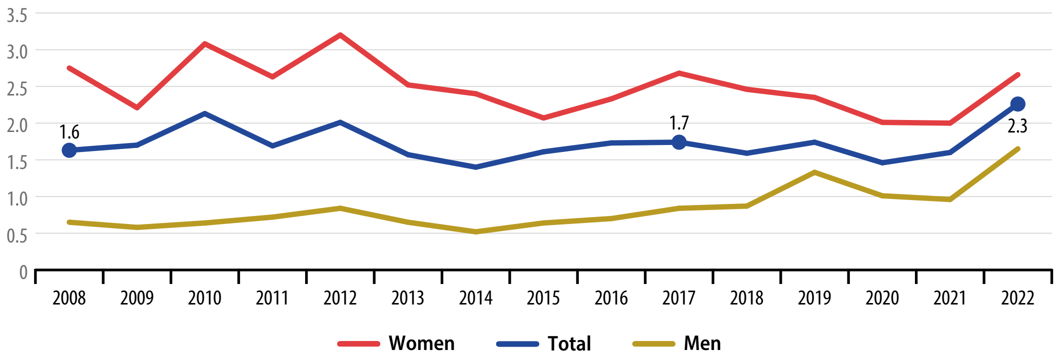
SHORT TERM
2017–2022

This indicator shows victims of trafficking in human beings as defined under Article 2 of the Directive 2011/36/EU. A registered victim can include a person who has been formally identified as a victim of trafficking in human beings by the relevant formal authority in a Member State or a person who has met the criteria of the EU Directive but has not been formally identified by the relevant formal authority as a trafficking victim or who has declined to be formally or legally identified as trafficked.

FIGURE 16.5

Victims of trafficking in human beings, by sex, EU, 2008–2022

(number per 100 000 persons)

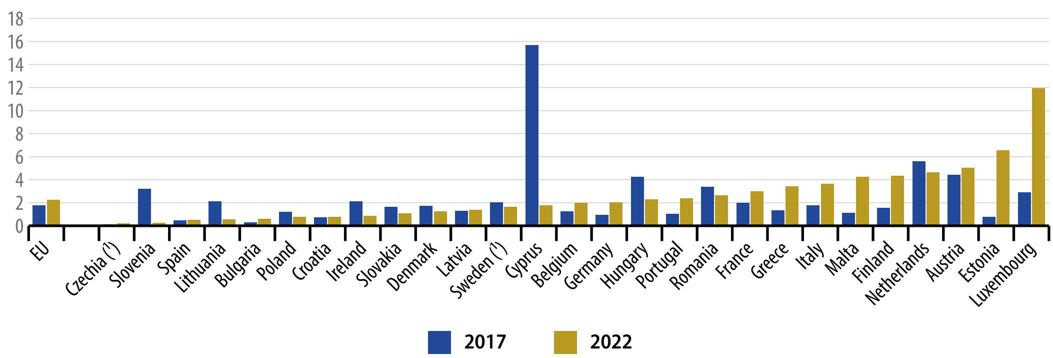


Source: Eurostat (online data code: sdg_16_70)

FIGURE 16.6

Victims of trafficking in human beings, by country, 2017 and 2022

(number per 100 000 persons)



(¹) 2016 data (instead of 2017).
Source: Eurostat (online data code: sdg_16_70)

General government total expenditure on law courts

This indicator refers to the general government total expenditure on law courts. It includes expenditure on the administration, operation or support of civil and criminal law courts and the judicial system, including enforcement of fines and legal settlements imposed by the courts. The operation of parole and probation systems, legal representation and advice on behalf of government or on behalf of others provided by government in cash or in services are also taken into account. Law courts include administrative tribunals, ombudsmen and the like, but excludes prison administrations.

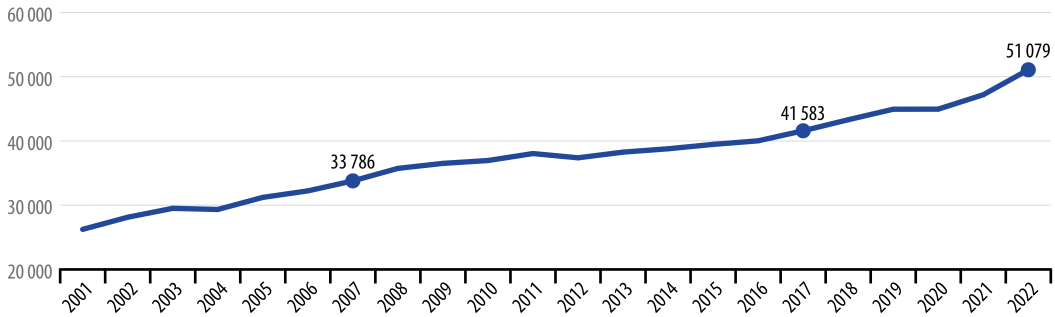
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 16.7

General government total expenditure on law courts, EU, 2001–2022

(million EUR)

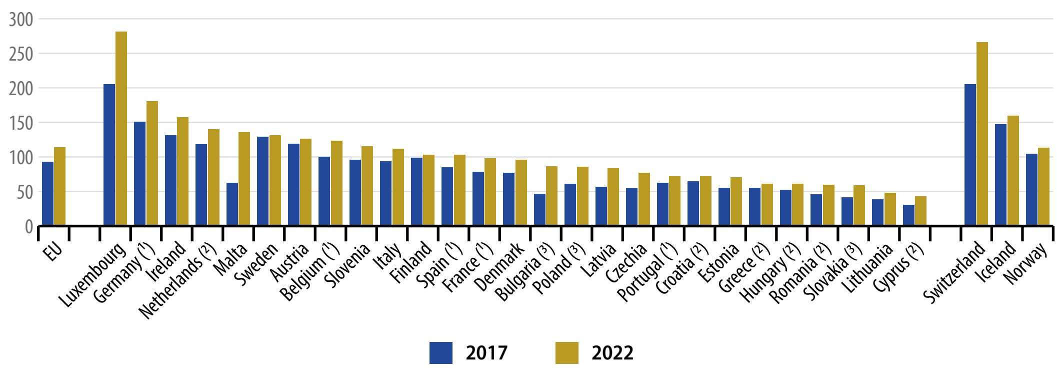


Source: Eurostat (online data code: sdg_16_30)

FIGURE 16.8

General government total expenditure on law courts, by country, 2017 and 2022

(EUR per inhabitant)



(1) 2022 data are provisional and/or estimated.
(2) 2022 population data are provisional and/or estimated.
(3) Break(s) in population data time series between the two years shown.
Source: Eurostat (online data code: sdg_16_30)

Perceived independence of the justice system: very or fairly good

X LONG TERM Time series too short

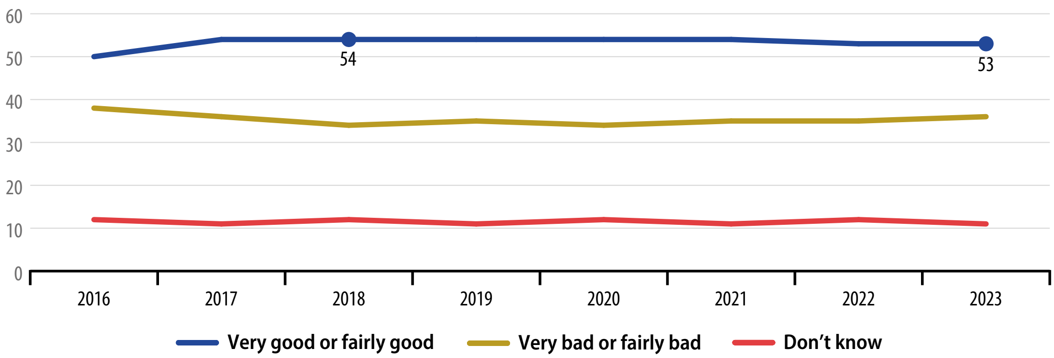
SHORT TERM 2018–2023

This indicator is designed to explore respondents' perceptions about the independence of the judiciary across EU Member States, looking specifically at the perceived independence of the courts and judges in a country. Data on the perceived independence of the justice system stem from annual Flash Eurobarometer surveys, which started in 2016 on behalf of the European Commission's Directorate-General for Justice and Consumers.

FIGURE 16.9

Perceived independence of the justice system, EU, 2016–2023

(% of population)

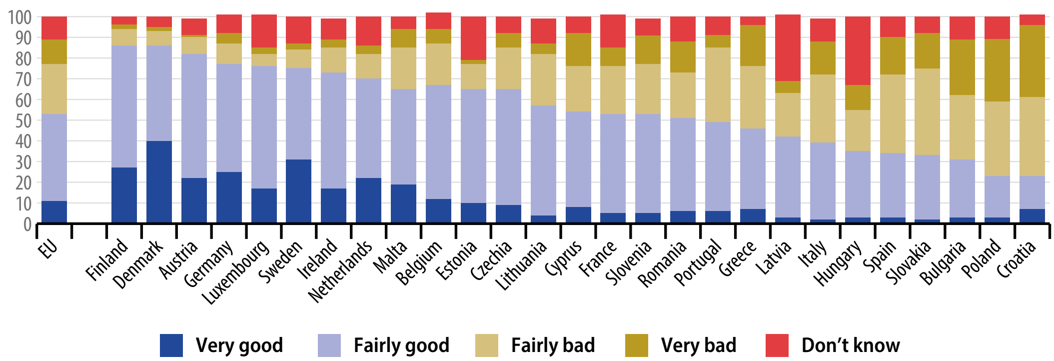


Note: 2016–2020 data are estimated; break in time series in 2021.
Source: European Commission services, Eurobarometer (Eurostat online data code: sdg_16_40)

FIGURE 16.10

Perceived independence of the justice system, by country, 2023

(% of population)



Source: European Commission services, Eurobarometer (Eurostat online data code: sdg_16_40)

Corruption Perceptions Index

This indicator is a composite index based on a combination of surveys and assessments of corruption from 13 different sources and scores. It ranks countries based on how corrupt their public sector is perceived to be, with a score of 0 representing a very high level of corruption and 100 representing a very clean country. The sources of information used for the Corruption Perception Index (CPI) are based on data gathered in the 24 months preceding the publication of the index. The CPI includes only sources that provide a score for a set of countries/territories and that measure perceptions of corruption in the public sector. For a country/territory to be included in the ranking, it must be included in a minimum of three of the CPI's data sources. The CPI is published by Transparency International.

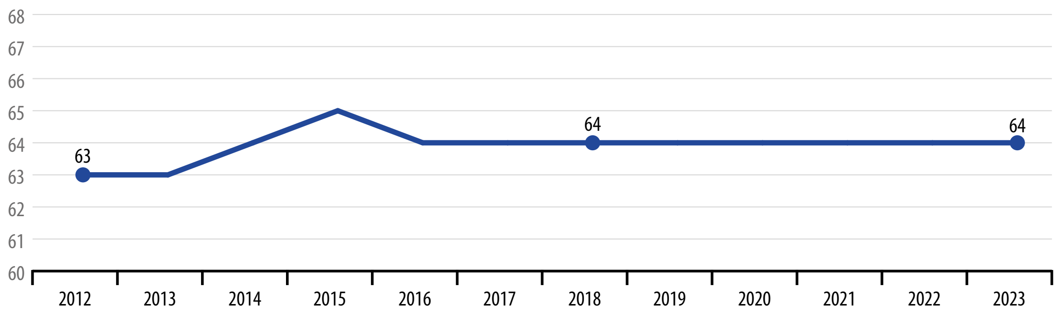
LONG TERM
2012–2023

SHORT TERM
2018–2023

FIGURE 16.11

Corruption Perceptions Index, EU, 2012–2023

(score scale of 0 (highly corrupt) to 100 (very clean))

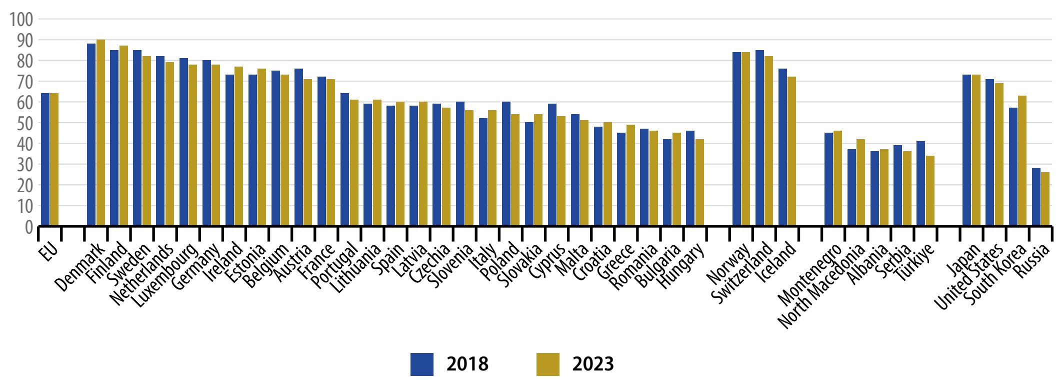


Source: Transparency International (Eurostat online data code: sdg_16_50)

FIGURE 16.12

Corruption Perceptions Index, by country, 2018 and 2023

(score scale of 0 (highly corrupt) to 100 (very clean))



Source: Transparency International (Eurostat online data code: sdg_16_50)

Notes

(1) Source: Eurostat (online data code: ilc_mdvdw06).

(2) See for example: Rader, N. (2017), *Fear of Crime*, Oxford Research Encyclopedia of Criminology.

(3) Source: Eurostat (online data code: sdg_16_10).

(4) UNODC and UN Women (2022), *Gender-related killings of women and girls (femicide/feminicide)*, United Nations Office on Drugs and Crime, p. 5.

(5) Ibid.

(6) Source: Eurostat (online data code: crim_hom_vrel).

(7) Source: Eurostat (online data code: crim_hom_soff).

(8) For more information see Eurostat metadata on Crime and criminal justice (crim) and European Union Agency for Fundamental Rights (2014), *Violence against women: an EU-wide survey, Main results*, Publications Office of the European Union, Luxembourg, pp. 25–26, 32.

(9) UNODC, *Human Trafficking FAQs*.

(10) European Commission (2021), *EU Strategy on Combatting Trafficking in Human Beings*, COM(2021) 171 final.

(11) UNODC (2022), *Global Report on Trafficking in Persons 2022*, p. 38.

(12) Eurostat (2024), Statistics Explained: Trafficking in human beings statistics.

(13) UNODC (2022), *Global Report on Trafficking in Persons 2022*, p. xi.

(14) Eurostat (2024), Statistics Explained: Trafficking in human beings statistics.

(15) Source: Eurostat (online data code: gov_10a_exp).

(16) European Commission (2023), *Flash Eurobarometer 519, Report on Perceived independence of the national justice systems in the EU among the general public*, p. 2.

(17) Ibid, p. 5.

(18) Ibid, p. 6.

(19) Transparency International (2024), *Corruption Perceptions Index 2023*.

(20) European Commission (2023), *Special Eurobarometer 534 on Citizens' attitudes towards corruption in the EU in 2023*, pp. 17–18.

(21) Also see European Commission (2016), *European Semester Thematic Factsheet on Effective Justice Systems*.

(22) European Commission (2023), *Standard Eurobarometer 100, Public Opinion in the European Union*, p. 75.

(23) European Research Centre for Anti-Corruption and State-Building (ERCAS) & Hertie School of Governance (2015), *Public integrity and trust in Europe*, Berlin, p. 19; and Eurofound (2022), *Fifth round of the Living, working and COVID-19 e-survey: Living in a new era of uncertainty*, Publications Office of the European Union, Luxembourg.

Strengthen the means of implementation and revitalise the global partnership for sustainable development

SDG 17 calls for a global partnership for sustainable development. It highlights the importance of macroeconomic stability and of mobilising financial resources for developing countries. It also stresses the importance of trade and equitable rules for governing it. The goal also emphasises the importance of access to science and technology, in particular internet-based information and communications technology.

Partnership is at the essence of the EU and an overarching principle to approach the SDGs within and beyond the EU boundaries. Monitoring SDG 17 in an EU context focuses on global partnership, financial governance, and access to technology. Over the assessed five-year period, the EU's progress in the area of global partnership was mixed. On the one hand, imports from developing countries have grown, and the EU is currently on track towards its official development assistance (ODA) target, which is in part due to the support to Ukraine. On the other hand, despite the increase in ODA, overall EU financing to developing countries has declined. Additionally, financial governance within the EU remains a challenge, as exemplified by a falling share of environmental taxes in total tax revenues and high levels of general government gross debt. Meanwhile, access to technology in the EU progressed, with a significant increase in the share of households connected to high-speed internet.

Indicators measuring progress towards SDG 17, EU

Indicator	Period	Annual growth rate	Assessment	More info
Global partnership				
Official development assistance (target)	2007–2022	Observed: 2.5 % Required: 2.5 %	↑	page 321
	2017–2022	Observed: 4.3 % Required: 3.1 %	↑	
EU financing to developing countries	2007–2022	– 1.3 %	↓	page 323
	2017–2022	– 4.9 %	↓	
EU imports from developing countries	2008–2023	4.4 %	↑	page 324
	2018–2023	7.7 %	↑	
Financial governance within the EU				
General government gross debt	2008–2023	1.5 %	↓	page 325
	2018–2023	0.4 %	↘	
Share of environmental taxes in total tax revenues	2007–2022	– 1.3 %	↓	page 326
	2017–2022	– 3.8 %	↓	
Access to technology				
Share of households with high-speed internet connection (target)	Time series too short for long-term assessment		:	page 327
	2017–2022	Observed: 20.2 % Required: 9.9 %	↑	

Note: See Annex II for a description of the methodology used for the compound annual growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target (marked with a target sign), both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given. See Table A.1 in Annex I for the full list of EU policy targets considered for monitoring in this report.

Policy context

Global partnership

In its New European Consensus on Development, the EU collectively committed to provide 0.7 % of gross national income (GNI) as official development assistance (ODA) to all developing countries within the timeframe of the 2030 Agenda. To target resources to where the need is greatest, especially least developed countries (LDCs) and countries in states of fragility and conflict, the EU also undertakes to meet collectively the target of 0.20 % of ODA/GNI to LDCs by 2030.

The new innovative and flexible Neighbourhood Development and International Cooperation Instrument NDICI-Global Europe, including the European Fund for Sustainable Development Plus (EFSD+), helps mobilise private-sector financing and maintain 'duty free and quota free' market access to LDCs as set out in the Addis Ababa Action Agenda (AAAA). The Samoa agreement, signed 2023, is the new overarching framework for EU relations with African, Caribbean and Pacific countries.

The EU's 'Generalised Scheme of Preferences' allows developing countries to pay less or no duties on their exports to the EU. The Everything But Arms arrangement grants duty-free and quota-free access for all LDC products except arms and ammunition. The EU also provides significant amounts of 'aid for trade', with the aim of supporting trade-related infrastructure and building productive capacity.

Launched in 2021, Global Gateway is the EU strategy to support partner countries to boost smart, clean and secure links in digital, energy and transport sectors, and to strengthen health, education and research systems. Its implementation has strongly benefitted from the Team Europe approach, aiming at mobilising up to EUR 300 billion in investments by the end of the Multiannual Financial Framework (MFF) of 2021–2027.

In 2021, the EU renewed its Multilateralism Strategy to further the cooperation on global challenges such as peace and security, human rights and the rule of law, sustainable development, public health and climate change.

In 2022, the Commission reaffirmed the EU's commitment to champion decent work at home and around the world. Also in 2022, the EU reached a provisional agreement on a Carbon Border Adjustment Mechanism (CBAM), a tariff on carbon-intensive imports to encourage cleaner production processes globally, and the EU external energy engagement in a changing world was presented as part of the REPowerEU Plan.

Financial governance within the EU

The Treaty on the Functioning of the European Union (TFEU) requires a Member State's annual government deficit-to-GDP ratio to not exceed 3 %, and that government debt as a ratio of GDP should be limited to 60 %. In February 2024, the European Parliament and the Council reached agreement on an ambitious reform of the EU's economic governance framework, aimed at strengthening Member States' debt sustainability and promoting sustainable and inclusive growth in all Member States.

Access to technology

In the 2020 Digital Strategy, the EU committed to developing a Global Digital Cooperation Strategy that will reflect the SDGs. The 2030 Digital Compass presents a vision for Europe's digital transformation and sets the target of all European households to be covered by a gigabit network by 2030.

Overview and key trends

Global partnership

To achieve the SDGs, partnerships are necessary between governments, the private sector, civil society and other parties. Wealthier economies such as the EU can support the implementation of the 2030 Agenda in developing countries through public and private, domestic and international resources. These resources can be both financial and non-financial ([1]). This chapter focuses on the former. Overall, the global partnership indicators show a mixed picture for the EU over the past few years.

The EU supports country-led development through a range of financial support mechanisms

In 2015, in the Addis Ababa Action Agenda, all countries recognised that international public finance plays an important role in complementing countries' domestic efforts to mobilise public resources, especially in the poorest and most vulnerable countries. Official development assistance (ODA), other official flows (OOFs), private flows, such as foreign direct investment (FDI), grants by non-governmental organisations (NGOs) and officially supported export credits ([2]) are some of the financial flows from the EU and its Member States to developing countries.

126.3
billion EUR were spent by the EU on financing to developing countries in 2022

Regarding the total volume of financial flows from the EU to developing countries, the Organisation for Economic Co-operation and Development (OECD) estimates that total public and private EU financing to developing countries amounted to EUR 126.3 billion in 2022. When accounting for inflation, this is about the same level as the financial flows provided by the EU around 2010, but is — in part substantially — lower than the amounts provided between 2014 and 2019. While OOFs and grants by NGOs have remained rather marginal, ODA and private flows combined have accounted for at least 95 % of total EU financing for development since 2014. Overall, ODA has been the most reliable and steady financial flow from the EU to developing countries, while private flows have varied strongly over the years. The overall reduction in EU financing to developing countries over the past five-year period is a result of strong cuts in private flows of 64 %, while ODA has grown by 38 % since 2017.

Official development assistance: a long struggle to meet targets

The idea that donor countries should contribute 0.7 % of their gross national income (GNI) to ODA has been on the international agenda for half a century. The EU is collectively committed to provide 0.7 % of GNI as ODA within the timeframe of the 2030 Agenda, as affirmed in the New European Consensus on Development. Member States that joined the EU after 2002 have committed to provide 0.33 % of their GNI for ODA. As a whole, the EU spent 0.58 % of its GNI on ODA in 2022, which is significantly higher than the 0.49 % provided in 2021. This increase notably includes but also goes beyond support to Ukraine. If the EU can maintain this increase over the next few years, the 2030 target is within reach. Nevertheless, only three EU countries — Luxembourg, Sweden and Germany — achieved the 0.7 % target in 2022, meaning additional efforts will be needed to meet the collective EU target by 2030.

0.58 %
of the EU's gross national income was spent on ODA in 2022

The EU remains the world's biggest ODA donor

In 2022, the EU maintained its position as the biggest ODA donor globally, providing about EUR 92.1 billion. This figure refers to the combined ODA provided by the 27 EU Member States and EU institutions. Moreover, with 0.58 % in 2022, the EU's overall ODA/GNI ratio was significantly higher than for most other Development Assistance Committee's (DAC) donors such as Canada, Japan or the United States.

The EU seeks to support least developed countries in particular

To direct resources where they are most needed — least developed countries (LDCs) and countries in states of fragility and conflict — the EU has a target to collectively provide 0.15–0.20 % of GNI to LDCs in the short term, reaching 0.20 % within the timeframe of the 2030 Agenda. In 2022, the EU's collective official development assistance to LDCs accounted for 0.10 % of GNI, a slight decrease compared to previous years. The EU has thus not progressed towards its 0.20 % target over the past few years. In 2022, only two Member States — Luxembourg and Sweden — exceeded the targeted GNI ratio of ODA to LDCs.

ODA is only a part of several financing mechanisms

The EU seeks to ensure that developing countries can combine aid, investment and trade with domestic resources and policies to build capacity and become self-reliant. ODA, for example, can be used as a catalyst to mobilise other financial resources such as domestic tax revenues or resources from the private sector. Other innovative instruments have been developed, such as blending grants with loans, guarantees or equity from public and private financiers.

EU financial support, combined with domestic and private revenues, can provide a basis for achieving the 2030 Agenda's goals, allowing for investment in social services, clean energy, infrastructure, transport and information and communications technologies. In the best case, developing countries could leapfrog some of the unsustainable modes of production and consumption that industrialised countries use.

EU imports from developing countries have increased in recent years

Trade's potential contribution to sustainable development has long been acknowledged. This is reflected in the EU's 2021 Trade Policy Review, along with the European Green Deal which stresses the contribution that trade policy can make to achieving the EU's ambition on sustainable development.

Exports can create domestic jobs and allow developing countries to obtain foreign currency, which they can use to import necessary goods. Better integration of developing countries into world markets may reduce the need for external public flows. Several of the SDGs refer to the importance of trade for sustainable development. However, it needs to be noted that the EU's trade-related indicators do not provide insights on whether the products in question are produced in an environmentally and socially sustainable manner.

Between 2008 and 2023, EU imports from developing countries almost doubled from EUR 676 billion to EUR 1 292 billion, which corresponds to an increase of 4.4 % per year on average. Over the short term, since 2018, imports have grown even more strongly, by 7.7 % a year on average. The increase since 2018 was mainly driven by growth in imports from lower middle income countries and China, whose imports rose by around 62 % and 50 %, respectively.

Imports from developing countries to the EU as a share of imports from all countries outside the EU increased from 43.5 % in 2008 to 51.3 % in 2023. Similar to 2021 and 2022, developing countries (including China) thus accounted for slightly more than half of all extra-EU imports in 2023. China (excluding Hong Kong) alone accounted for 20.4 % of EU imports in 2023. This is remarkably higher than the share of imports from the United States, which accounted for 13.8 %. Conversely, the almost 50 countries classified as least developed by the UN accounted for just over 2 % of all EU imports in 2023 ([3]).

'Aid for trade' is a part of ODA that is targeted at trade-related projects and programmes. It aims to build trade capacity and infrastructure in developing countries, particularly least developed countries. The EU and its Member States were the leading global providers of aid for trade in 2020, providing EUR 23 billion, or 47 % of global aid for trade. Just three donors — the EU institutions as well as Germany and France — provided 90 % of this overall sum. The share of aid for trade to LDCs was 13 % of overall aid for trade in 2020, two percentage points lower than in the three years before ([4]).

1 292
billion EUR was the value of EU imports from developing countries in 2023

Financial governance within the EU

To help other countries to advance their economies, the EU's own economies must also remain on a sustainable development path. Macroeconomic stability in the EU is therefore one pillar of the Union's contribution to implementing the SDGs. In addition, the EU seeks to make its economy greener. In a global context, where consumption patterns in one region can severely impact production patterns elsewhere, it is particularly important that prices reflect the real costs of consumption and production. They should include payments for negative externalities caused by polluting activities or other activities that damage human health and the environment. Moreover, the EU has pointed out that environmental taxes may offer opportunities to reduce taxes in other areas, for example on labour.

The EU's government debt-to-GDP ratio has started falling again after its COVID-19-related peak

According to the Treaty on the Functioning of the European Union, government debt should not exceed 60 % of GDP in EU Member States. As a consequence of the COVID-19 crisis and related public spending, the EU's overall debt-to-GDP ratio rose sharply in 2020 to reach 90.0 %, which is a 12.2 percentage point increase compared with 2019. Since then, however, the EU's debt-to-GDP ratio has fallen again, reaching 81.7 % in 2023. While this is 8.3 percentage points lower than the 2020 peak, it is still 1.8 percentage points higher than the 2018 value of 79.9 %.

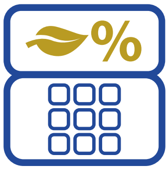
In 2023, Member States' debt-to-GDP ratios ranged from 19.6 % in Estonia to 161.9 % in Greece. Thirteen EU countries exceeded the 60 % threshold in 2023 and five Member States had debt-to-GDP ratios above 100 %. Between 2018 and 2023, the strongest reductions in debt-to-GDP ratios were reported by Greece (– 24.5 percentage points), Portugal (– 22.4 percentage points) and Cyprus (– 21.2 percentage points). In contrast, the ratios rose strongest in Romania (+ 14.4 percentage points), France (+ 12.4 percentage points) and Czechia (+ 11.9 percentage points).

In 2023, general government gross debt in the EU as a ratio to GDP was
81.7 %

'Greening' the taxation system remains a challenge

Environmental taxes help to provide the right price signals and incentives to producers, users and consumers to encourage less polluting consumption and to contribute to sustainable growth. They may also provide opportunities to reduce taxes in other areas, for example on labour, and if revenue for adequate social protection is protected, they can offer a win-win option for addressing both environmental and employment issues, as laid out in the EU's Action Plan for Fair and Simple Taxation. Environmental taxes support the transition to a climate-neutral economy ([5]). As indicated in the Communication on Business taxation for the 21st century as regards the EU tax mix, behavioural taxes, such as environmental and health taxes, continue to be of growing importance for EU tax policies. Well-designed environmental taxes help to support the green transition by sending the right price signals, as well as implementing the polluter pays principle. They also generate revenue that could compensate some of the needed labour tax cuts.

In 2022, environmental taxes accounted for only 5.0 % of total tax revenues in the EU, which is a new record low in the time series since 2000. In comparison, labour taxes accounted for 50.6 % in 2022 (6). Energy taxes constituted the main part of environmental taxes, accounting for 3.9 % of tax revenues in 2022, followed by transport taxes with a share of 0.9 %. In comparison, taxes on pollution and resources — the third component of environmental taxes — remained negligible, accounting for only 0.2 % of total tax revenues in 2022 (7). The share of total environmental taxes has fallen considerably since 2017, when they accounted for 6.1 % of tax revenues. Across Member States, the share of environmental taxes in total tax revenues ranged from 3.2 % in Luxembourg to 15.3 % in Bulgaria in 2022. Compared with 2017, their share has decreased in almost all EU countries. Only four countries — Bulgaria, Greece, Romania and Poland — reported increases in the share of environmental taxes over this period.



In 2022, the share of environmental taxes in total tax revenues in the EU was

5.0%

The ratio of labour to environmental taxes shows how much higher a country's share of labour tax revenues is than its share of environmental taxes. In 2022, this ratio ranged from 2.2 in Bulgaria to 15.1 in Luxembourg. It has increased in most Member States since 2017, indicating a relative shift in taxation from environment to labour across the EU (8).

EU Member States spend around 2 % of their GDP to protect the natural environment

The decline in the prioritisation of environmental taxation is partly reflected in national environmental expenditures. National expenditure on environmental protection measures the amount of resources a country uses to protect the natural environment. It includes current expenditure on environmental protection activities, investments in these activities and net transfers to other parts of the world. At EU level, environmental protection expenditure amounted to EUR 342 billion in 2022, which corresponds to 2.2 % of GDP. Across the Member States, expenditure ranged from 3.6 % of GDP in Austria to 0.9 % in Ireland and Luxembourg in 2021 (9).

Access to technology

In today's economies and societies, digital connections are crucial. Instant communication between individuals, bank transfers, office work, public dissemination of information and data analysis are only some of the activities that depend on the internet. Regions without fast internet connections have serious social and economic disadvantages in a digitalised world. As a result, making Europe fit for the digital age is one of the Commission's six priorities for 2019 to 2024. The aim is to make the digital transformation work for people and businesses while helping to achieve the target of a climate-neutral Europe by 2050.

Considerable progress has been made in rolling out high-speed internet coverage across the EU

The uptake of high-speed internet coverage — referring to fibre connections or other networks offering similar bandwidth — has improved considerably over the past few years across the EU. While only 29.2 % of EU households enjoyed such connectivity in 2017, this share has risen considerably, reaching 73.4 % in 2022. If high-speed internet roll-out continues at this pace, the EU will reach 100 % coverage well ahead of 2030. Connectivity has also improved in

73.4%

of EU households had high-speed internet coverage in 2022

rural areas [10]. Between 2017 and 2022, the share of rural households with a fixed high-speed internet connection increased from 10.6 % to 45.1 % across the EU.

At Member State level, Malta had already achieved a 100 % fixed high-speed internet connectivity for all households in 2019. In 2022, it was followed by the Netherlands (97.8 %), Denmark (96.3 %) and Romania (95.6 %). In contrast, fixed high-speed internet connections were the least widespread in Greece, with only 27.8 % of households enjoying such connectivity. All remaining Member States had connection to high-speed internet rates above 50 % in 2022.

Main indicators

Official development assistance

Official development assistance (ODA) is provided by governments and their executive agencies to support economic development and welfare in developing countries. ODA must be concessional in character, having a grant element that varies in proportion depending on the recipient. Eligible countries are included in the Organisation for Economic Development and Cooperation's (OECD) Development Assistance Committee (DAC) official list of ODA recipients. ODA disbursements and their purpose are reported by donors to the OECD. A new methodology to calculate the ODA value of concessional loans is applied from 2018 data onwards and affects the comparability of data with previous years. Additionally, a new methodology for calculating total ODA to LDCs is applied from 2020 data onwards, by including regional ODA known to benefit LDCs (on top of the bilateral net ODA to LDCs and imputed multilateral ODA to LDCs). Member States undertake to achieve the target to provide 0.7 % of their gross national income (GNI) towards ODA, while those which have achieved that target commit to remaining above it; Member States which joined the EU after 2002 will strive to increase their ODA/GNI spend to 0.33 %.

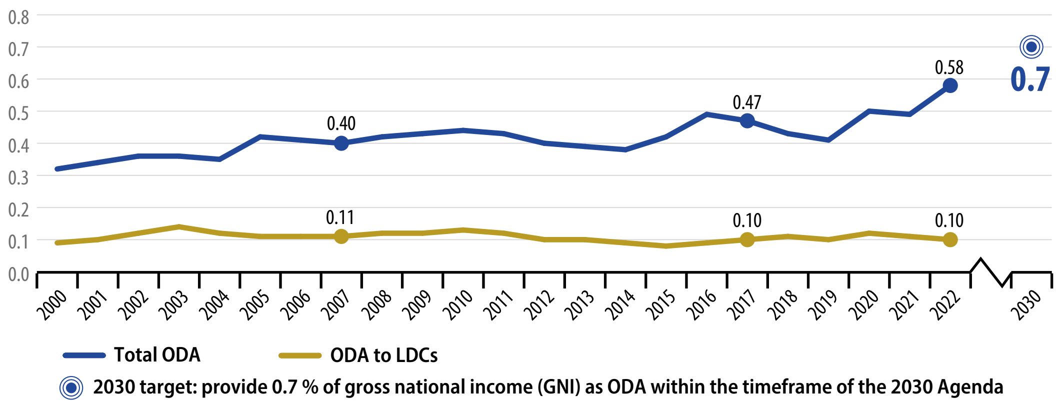
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 17.1

Official development assistance as share of gross national income, EU, 2000–2022

(% of GNI)

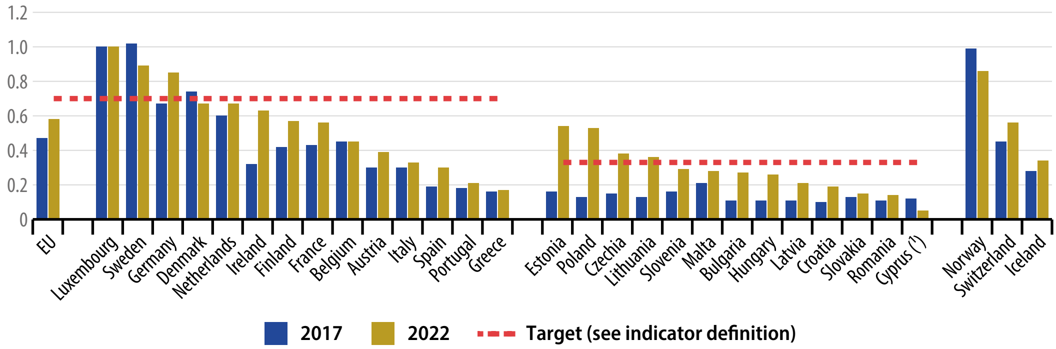


Note: Break in time series for total ODA in 2018 and for ODA to LDCs in 2020. Data for total ODA include the 27 Member States' ODA and EU institutions' ODA not imputed to Member States or other donors. Data for ODA to LDCs include the 27 Member States' ODA to LDCs and EU institutions' regional ODA known to benefit LDCs (excluding the component of the latter that could be imputed back to the UK).
Source: European Commission services calculations based on OECD data (Eurostat online data code: sdg_17_10)

FIGURE 17.2

Official development assistance as share of gross national income, by country, 2017 and 2022

(% of GNI)

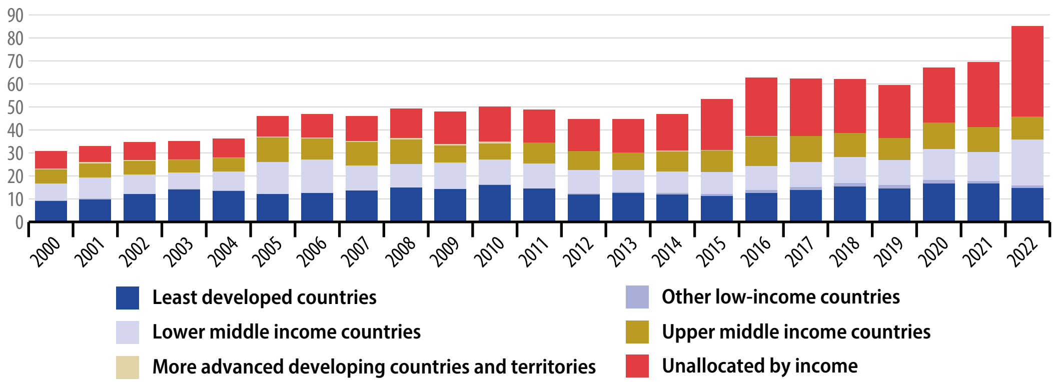


Note: Break in time series in 2018 (all countries). Data for 'EU' include the 27 Member States' ODA and EU institutions' ODA not imputed to Member States or other donors.
([1]) 2018 data (instead of 2017).
Source: European Commission services calculations based on OECD data (Eurostat online data code: sdg_17_10)

FIGURE 17.3

Official development assistance, by recipient income group, EU, 2000–2022

(EUR billion, constant prices (2021))



Note: Break in time series for ODA to LDCs and to the unallocated category in 2020; data include the 27 Member States' bilateral net ODA and imputed multilateral ODA as well as, starting from 2020, Member States' and EU institutions' regional ODA known to benefit LDCs (excluding the component of the latter that could be imputed back to the UK), while deducting this regional amount from the unallocated category.
Source: European Commission services calculations based on OECD data.

EU financing to developing countries

EU financing to developing countries takes a number of forms. These, as documented by the OECD, include: official development assistance (ODA) (public grants or concessional loans with the aim of supporting economic development and welfare); other official flows (OOFs) (public flows that are not focused on development or with a grant element of less than 25 %); private flows (direct investment, bonds, export credits and multilateral flows); grants by non-governmental organisations (from funds raised for development assistance and disaster relief); and officially supported export credits. Data stem from the OECD (DAC).

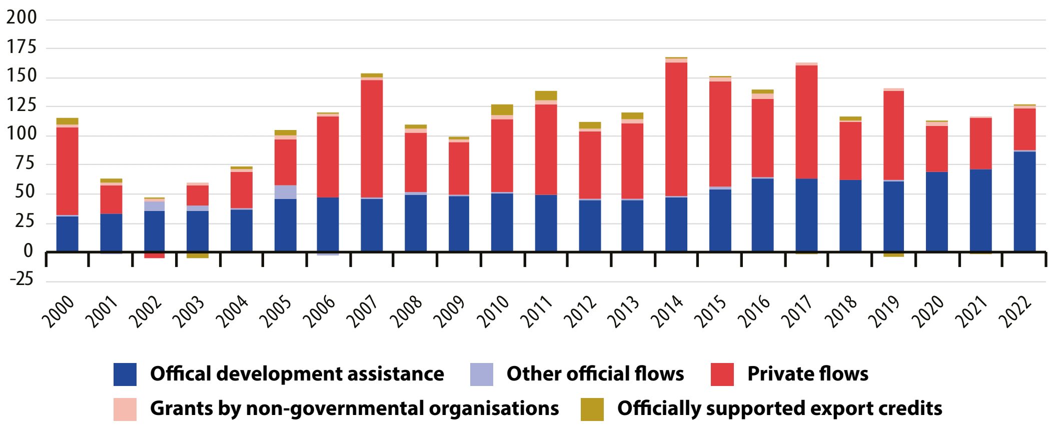
LONG TERM
2007–2022

SHORT TERM
2017–2022

FIGURE 17.4

EU financing to developing countries, by financing source, EU, 2000–2022

(EUR billion, constant prices)



Source: OECD (Eurostat online data code: sdg_17_20)

EU imports from developing countries

LONG TERM 2008–2023

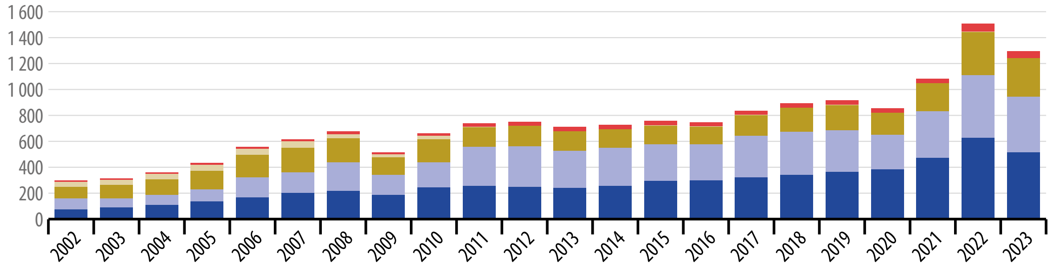
SHORT TERM 2018–2023

This indicator is defined as the value (at current prices) of EU imports from the countries on the DAC list of ODA beneficiaries. It indicates to what extent products from these countries access the EU market. Information for this indicator is provided by enterprises with a trade volume above a set threshold and is collected on the basis of customs declarations. This information is then adjusted by Member States to account for the impact of trade under this threshold.

FIGURE 17.5

EU imports from developing countries, by country income group, EU, 2002–2023

(EUR billion, current prices)

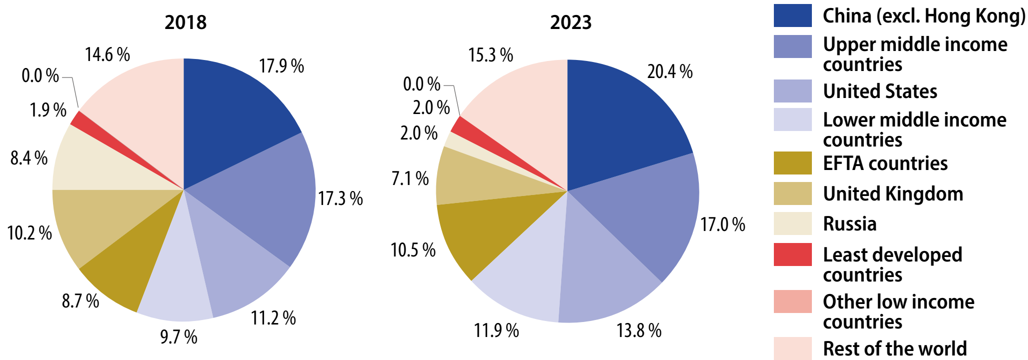


Source: Eurostat (online data code: sdg_17_30)

FIGURE 17.6

Extra-EU imports, by trading partner, EU, 2018 and 2023

(%)



Source: Eurostat (online data codes: sdg_17_30 and ext_lt_maineu)

General government gross debt

The Treaty on the Functioning of the European Union (TFEU) defines this indicator as the ratio of general government gross debt at the end of the year to gross domestic product at current market prices. For this calculation, general government gross debt is defined as the total consolidated gross debt at nominal (face) value in the following categories of government liabilities, as defined in ESA 2010: currency and deposits, debt securities and loans. The general government sector comprises central government, state government, local government and social security funds. The TFEU states that a Member State's government debt-to-GDP ratio should be limited to 60 %.

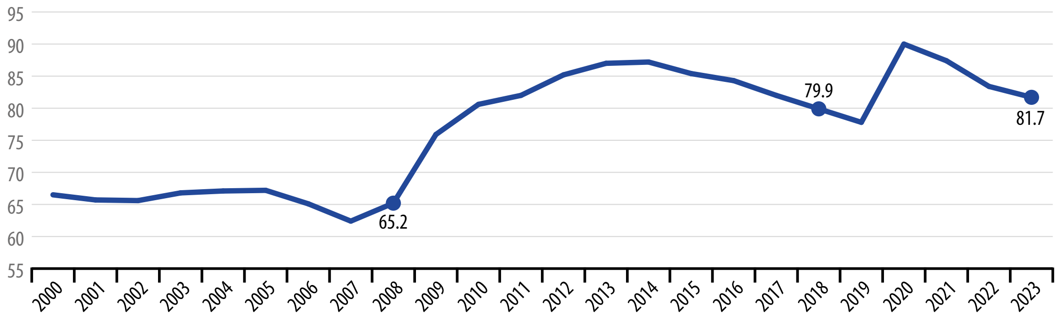
LONG TERM
2008–2023

SHORT TERM
2018–2023

FIGURE 17.7

General government gross debt, EU, 2000–2023

(% of GDP)

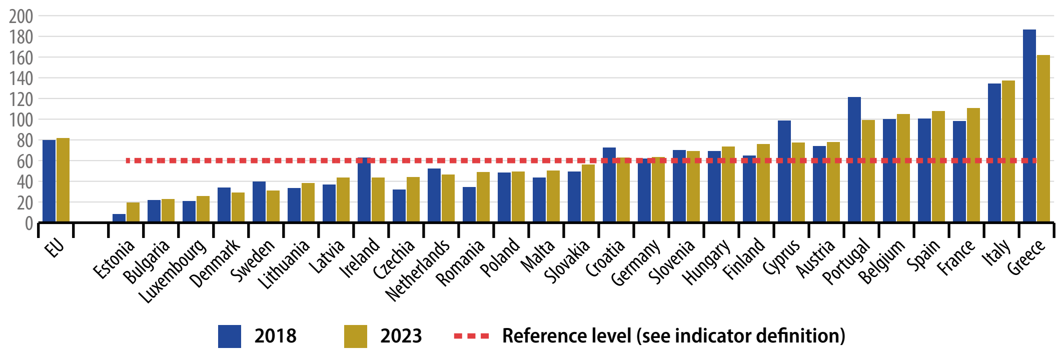


Source: Eurostat (online data code: sdg_17_40)

FIGURE 17.8

General government gross debt, by country, 2018 and 2023

(% of GDP)



Source: Eurostat (online data code: sdg_17_40)

Share of environmental taxes in total tax revenues

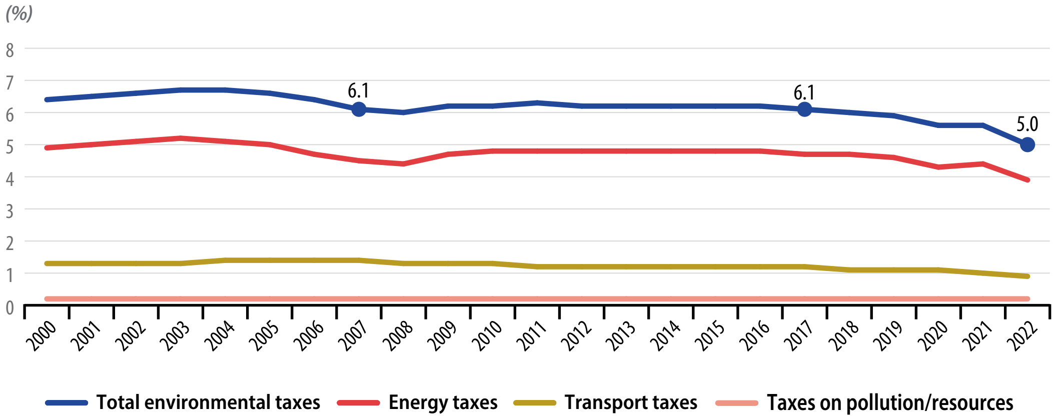
LONG TERM 2007–2022

SHORT TERM 2017–2022

Environmental taxes are defined as taxes based on a physical unit (or proxy of it) of something that has a proven, specific negative impact on the environment. There are four types of environmental taxes: energy taxes, transport taxes, and pollution taxes and resource taxes.

FIGURE 17.9

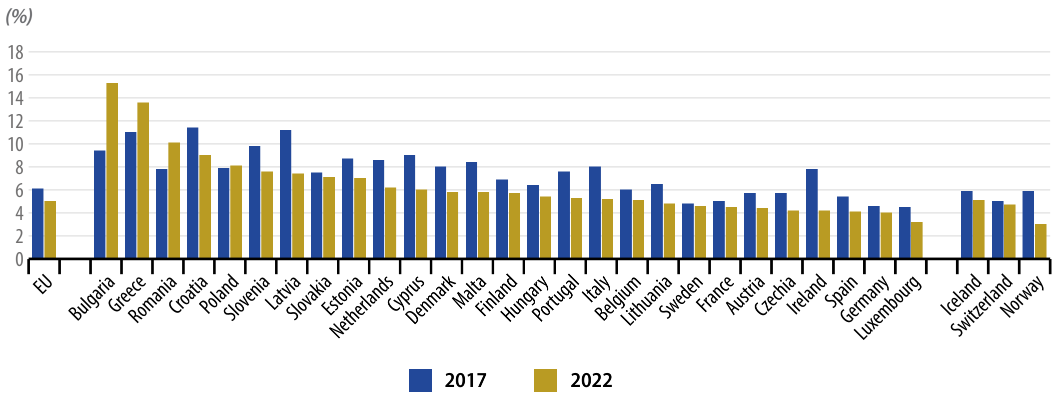
Share of environmental taxes in total tax revenues, EU, 2000–2022



Source: Eurostat (online data codes: sdg_17_50 and env_ac_tax)

FIGURE 17.10

Share of environmental taxes in total tax revenues, by country, 2017 and 2022



Source: Eurostat (online data code: sdg_17_50)

Share of households with high-speed internet connection

This indicator measures the share of households with fixed very high capacity network (VHCN) connection. Very high capacity network means either an electronic communications network that consists entirely of optical fibre elements at least up to the distribution point at the serving location, or an electronic communications network capable of delivering, under usual peak-time conditions, similar network performance in terms of available downlink and uplink bandwidth, resilience, error-related parameters, and latency and its variation. The data are collected for the Broadband Coverage in Europe studies published by the European Commission. Data until 2018 refer to fibre to the premises (FTTP) only, while data from 2019 onwards refer to both FTTP and Data Over Cable Service Interface Specification (DOCSIS) 3.1. DOCSIS allows adding high-bandwidth data transfer to existing cable television systems.

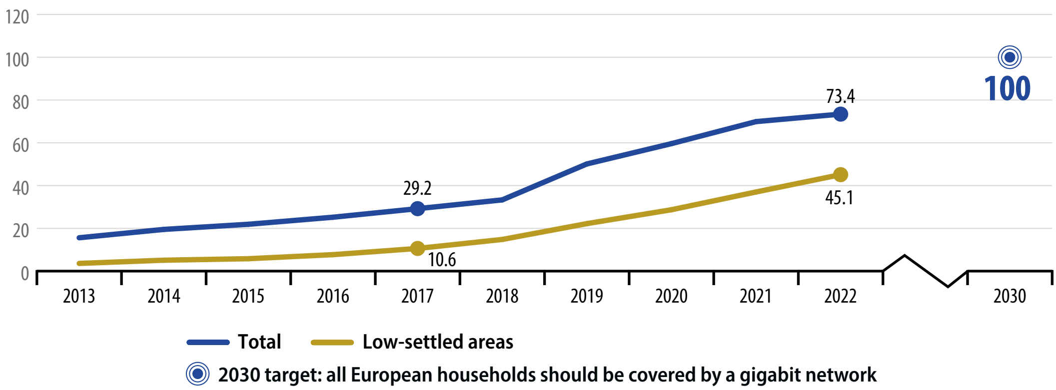
LONG TERM Time series too short

SHORT TERM 2017–2022

FIGURE 17.11

High-speed internet coverage, by type of area, EU, 2013–2022

(% of households)

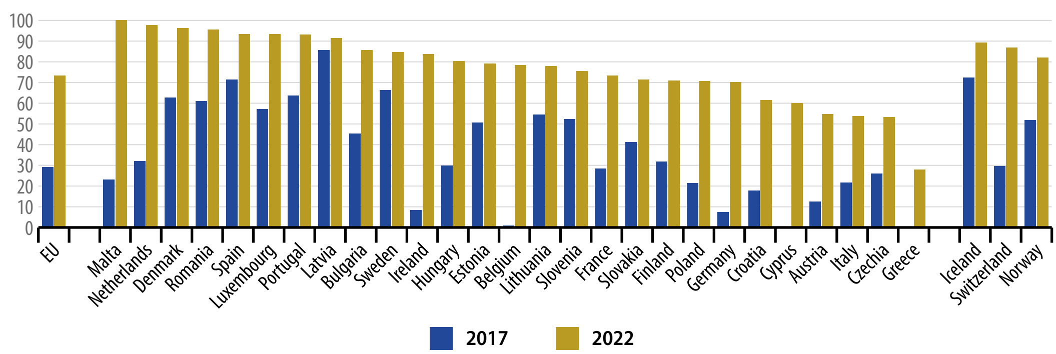


Source: European Commission services, Eurostat (online data code: sdg_17_60)

FIGURE 17.12

High-speed internet coverage, by country, 2017 and 2022

(% of households)



Source: European Commission services, Eurostat (online data code: sdg_17_60)

Notes

(1) Non-financial resources include domestic policy frameworks, effective institutions and support for good governance, democracy, rule of law, human rights, transparency and accountability; see also the Addis Ababa Action Agenda (AAAA).

(2) The OECD defines export credits as loans for the purpose of trade and which are not represented by a negotiable instrument. They may be extended by the official or the private sector. If extended by the private sector, they may be supported by official guarantees; see http://www.oecd.org/dac/dac-glossary.htm#Export_Credits.

(3) Source: Eurostat (online data code: ext_lt_maineu).

(4) European Commission (2023), *EU Aid for Trade Progress Report 2022*.

(5) European Environment Agency (2023), *The role of (environmental) taxation in supporting sustainability transitions*, Briefing.

(6) Taxes on labour are generally defined as all personal income taxes, payroll taxes and social contributions of employees and employers that are levied on labour income (both employed and non-employed). Data on labour taxes stem from the DG Taxation and Customs Union ('Data on Taxation' webpage).

(7) Source: Eurostat (online data code: env_ac_tax).

(8) Source: calculations based on data from DG Taxation and Customs Union ('Data on Taxation' webpage) and Eurostat (online data code: env_ac_tax).

(9) Source: Eurostat (online data code: ten00135).

(10) In the context of the EU's digital agenda scoreboard indicators, rural areas are defined as those with less than 100 people per square kilometre.

The EU in the world and the spillover effects of EU consumption

The EU in the world: a focus on selected SDG indicators

To end poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity, it is not enough that only a few countries in the world achieve the SDGs. Instead, the 2030 Agenda must be fulfilled by the entire international community. This section shows the situation in the EU and in other major economies of the world, based on six indicators from the EU SDG indicator set. The selected EU indicators are fully aligned with the global UN indicators. Table III.1 lists the economies selected for the comparison and illustrates their shares in global GDP, population and land area. Together, these economies accounted for 80 % of global GDP, 62 % of the global population, and 60 % of the global land area in 2022. The presentation of the indicators is organised according to the three dimensions of sustainability — social, economic and environmental. The respective graphs include those countries for which data are available.

Monetary poverty (SDG 1)

Thanks to a wide range of measures employed by Member State governments to reduce poverty, such as unemployment benefits, sickness benefits, progressive taxation, social and employment services, the EU's at-risk-of-poverty rate after social transfers was the lowest among the major world economies, at 16.5 % in the income year 2021 ([1]). For comparison, in the same year the United States' at-

TABLE III.1

GDP, population and land area of the selected countries, 2022

(global share in %)

	GDP	Population	Land area ([1])
EU	**15.4 %**	**5.6 %**	**3.1 %**
Argentina	0.7 %	0.6 %	2.1 %
Australia	1.0 %	0.3 %	5.9 %
Brazil	2.3 %	2.7 %	6.4 %
Canada	1.4 %	0.5 %	6.8 %
China	18.2 %	17.9 %	7.2 %
India	7.1 %	17.8 %	2.3 %
Indonesia	2.4 %	3.5 %	1.5 %
Japan	3.5 %	1.6 %	0.3 %
Mexico	1.8 %	1.6 %	1.5 %
Russia	3.1 %	1.8 %	12.6 %
Saudi Arabia	1.3 %	0.5 %	1.7 %
South Africa	0.6 %	0.8 %	0.9 %
South Korea	1.6 %	0.6 %	0.1 %
Türkiye	2.0 %	1.1 %	0.6 %
United Kingdom	2.3 %	0.8 %	0.2 %
United States	15.3 %	4.2 %	7.0 %
Total	**80.1 %**	**61.8 %**	**60.1 %**

([1]) 2021 data.

Source: World Bank ('GDP, purchasing power parity (PPP), current international $'), Eurostat (online data code: demo_gind), United Nations, Department of Economic and Social Affairs, Population Division ('Total population by sex') and FAOSTAT, Land use ('Land area') risk of poverty rate was 22.7 %, meaning that almost a quarter of the country's population was at risk of poverty. The numbers were even higher in countries with lower GDP per capita, such as Mexico, Brazil and South Africa (see Figure III.1).

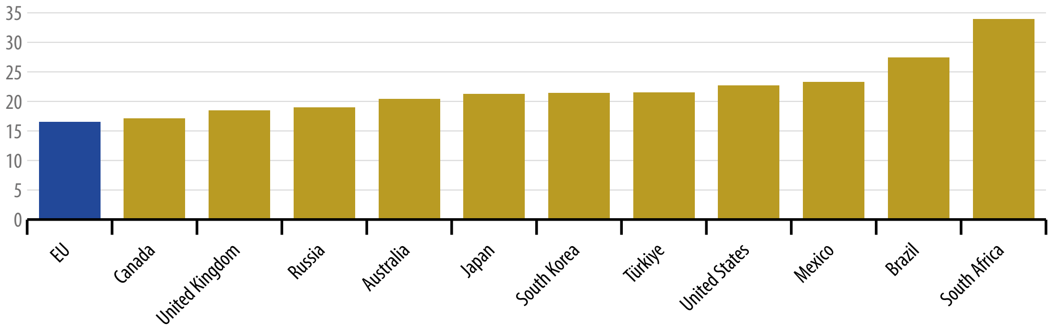
Income inequality (SDG 10)

Among the world's major economies, the EU has one of the lowest income inequalities, with the income quintile share ratio being at 4.74 in the income year 2021, second only to Canada (4.6 in 2021). In many other big economies of the world (see Figure III.2), this ratio was between 5.1 (Russia) and 7.1 (USA). Income inequality was highest in South Africa, with the income quintile share ratio at 32.4 in 2017. This means the richest 20 % of the South African population earned more than 30 times more than the poorest 20 %.

FIGURE III.1

Persons at risk of monetary poverty after social transfers

(% of population)



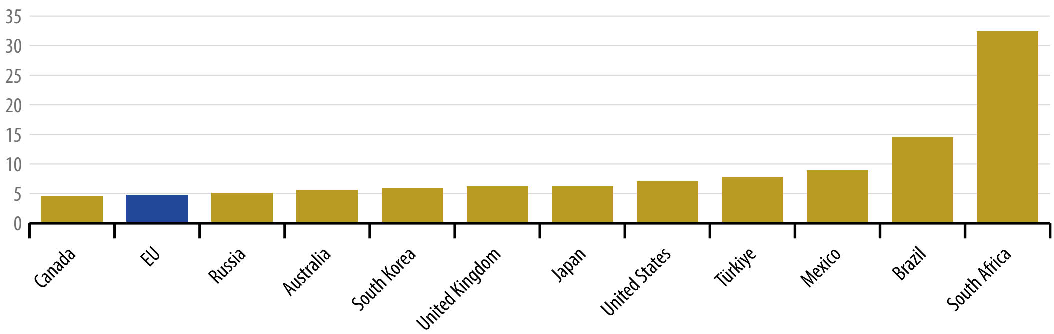
Note: Data refer to income years 2016 (Brazil), 2017 (Russia, South Africa), 2018 (Japan), 2020 (Australia, Mexico, Türkiye) and 2021 (EU, Canada, South Korea, United Kingdom, United States).

Source: Eurostat (online data code: sdg_01_20; also see page 50) and OECD ('Poverty rate based on disposable income, 60% of the national median disposable income')

FIGURE III.2

Income quintile share ratio

(ratio)



Note: Data refer to income years 2016 (Brazil), 2017 (Russia, South Africa), 2018 (Japan), 2020 (Australia, Mexico, Türkiye) and 2021 (EU, Canada, South Korea, United Kingdom, United States).

Source: Eurostat (online data code: sdg_10_41; also see page 199) and OECD ('Quintile share ratio (disposable income)')

Employment (SDG 8)

While the EU employment rate is mainly monitored for the age group 20 to 64, global data for the employment rate are only available for the age group 15 to 64 (²). In 2023, the EU's employment rate for this age group was 70.4 %. This is higher than in many major economies of the world (see Figure III.3), such as South Korea, Indonesia or Argentina, but lower than in Japan (77.3 %), Canada (75.8 %) or the United States (72.0 %).

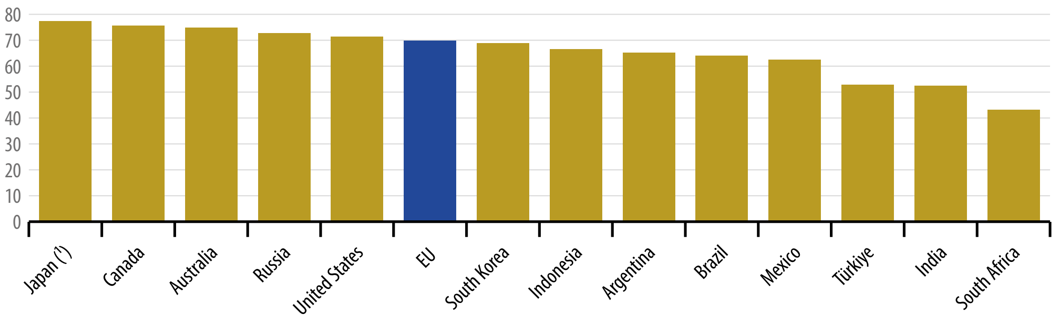
Research & development intensity (SDG 9)

Research & development (R&D) intensity measures gross domestic expenditure on R&D as a share of GDP. In 2021, the EU spent 2.27 % of its GDP on R&D, which is lower than several other high-income countries such as South Korea, the USA and Japan, which reported R&D intensities of 4.93 %, 3.46 % and 3.30 %, respectively (see Figure III.4). In the same year, China, which is an upper-middle income country (³), also surpassed the EU in its R&D intensity, by spending

FIGURE III.3

Employment rate, 2023

(% of population aged 15 to 64)



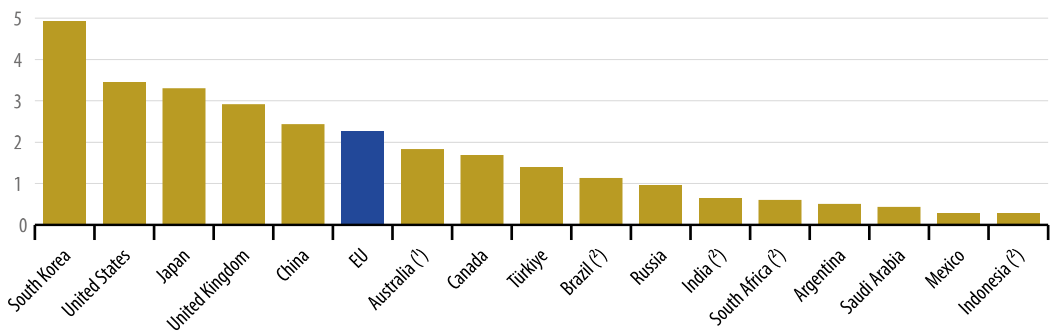
(¹) 2020 data. (²) 2021 data. (³) 2022 data.

Source: Eurostat (online data code: lfsi_emp_a; also see page 167) and ILOSTAT (calculations based on 'Working-age population by sex, age and labour market status (thousands)')

FIGURE III.4

Gross domestic expenditure on R&D, 2021

(% of GDP)

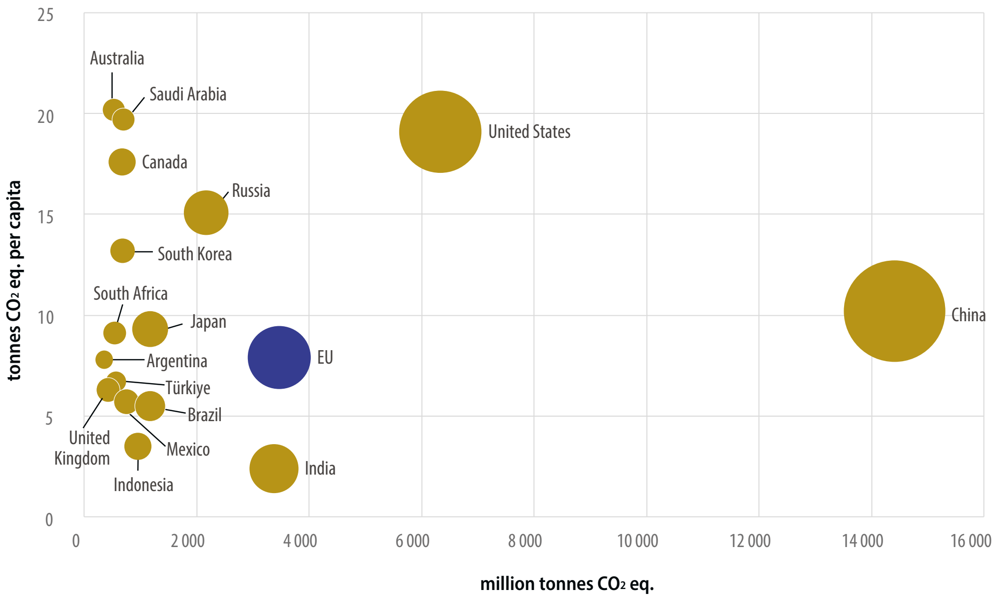


(¹) 2019 data.
(²) 2020 data.

Source: Eurostat (online data code: sdg_09_10; also see page 181) and UNESCO Institute for Statistics ('GERD as a percentage of GDP')

FIGURE III.5

Total greenhouse gas emissions, 2021



Note: Emissions from land-use and forestry (LULUCF) and from international aviation and shipping are not included in the data. The size of the bubbles corresponds to the cumulative emissions over the period 2000 to 2021.

Source: Climate watch ('PIK-PRIMAP historical emissions' ([13])); also see page 252.

2.43 % of its GDP on R&D. However, the EU had a higher R&D intensity than other high-income countries, such as Canada and Australia, and also surpassed many middle-income economies. The EU's R&D intensity was also higher than the world average (1.93 % in 2021), but lower than in some regions of the world, such as South-Eastern Asia (2.71 %) and Northern America (3.32 %), and also lower than the average of high-income countries (2.76 %).

Greenhouse gas emissions (SDG 13)

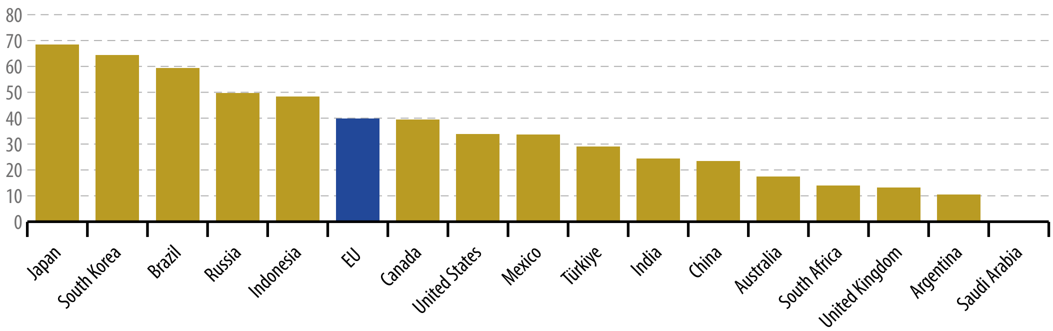
In 2021, the EU's greenhouse gas (GHG) emissions reached 7.7 tonnes per capita. This was around two and a half times less than in Australia (20.2 tonnes per capita), Saudi Arabia (19.7 tonnes per capita) or the USA (19.1 tonnes per capita). In the same year, the EU's per capita emissions were one of the lowest among other high-income economies (see Figure III.5), second only to the UK (6.3 tonnes per capita). Nevertheless, the EU's emissions were higher than in several other major economies, such as India, Indonesia and Mexico. The EU's emissions were also higher than the world average (6.3 tonnes per capita), but considerably lower than the OECD average (11.2 tonnes).

When comparing GHG emissions in absolute terms, China's emissions were by far the highest in 2021, with 14.4 gigatonnes (Gt), followed by the USA (6.3 Gt), the EU (3.5 Gt) and India (3.4 Gt). In terms of cumulative emissions over the period 2000 to 2021, China contributed 231 720 Gt, which is almost as much as the combined emissions of the United States (153 140 Gt) and the EU (89 770 Gt).

FIGURE III.6

Share of forest area, 2021

(%)



Source: FAO Land Use data; also see page 288.

Share of forest area (SDG 15)

According to FAO data, the EU's share of forest area constituted 39.9 % in 2021 ([4]). This was higher than in many other major economies of the world, such as the United States, Mexico, Australia or India (see Figure III.6). Among the G20 economies, Japan had the largest proportion of forest area, at 68.4 %, followed by South Korea at 64.3 %. Saudi Arabia, with most of its terrain being a desert, only had 0.5 % of its territory covered by forests. Between 2000 and 2021, the share of forest area remained stable or increased slightly in most of the world's major economies. Notable exceptions include Brazil and Indonesia, where the forest area shrunk by 6.7 and 5.6 percentage points, respectively.

Globally, 31.2 % of land area was covered by forest in 2021. Among the regions, South America had the highest share of forest area, at 48.2 %, followed by South-eastern Asia at 46.7 %. In contrast, only 3.3 % of land in Central Asia was covered by forest. It should be noted that a country's share of forest area depends not only on land management but also on natural factors such as climate, soil and topography.

Estimating the spillover effects of EU consumption

In a globalised world, countries' actions towards sustainable development may positively or negatively influence other countries and their capacity to achieve their SDGs. Therefore, governments and societies need to consider the impact that their domestic policies and behaviour may have beyond national borders, to avoid negative environmental, social and economic externalities and to foster sustainable development on a global scale. The impact that activities in one sector, region or country have on other sectors, regions or countries are called spillover effects (or simply 'spillovers'). Spillovers may result from deliberate transboundary actions, such as official development assistance (ODA), or be an unintended consequence of domestically focused policies or of the consumption of natural resources embodied in trade ([5]).

International spillovers and policy relevance within the EU context

The trade policy review emphasises the need for EU trade policy to be compatible with a more sustainable growth model, as put forward by the Green Deal. One of its objectives is to make supply chains more sustainable by addressing the impacts of the EU's consumption and trade on the rest of the world, in particular by promoting sustainability standards.

The carbon border adjustment mechanism (CBAM) applies in its transitional phase since October 2023. It addresses the risk of carbon leakage, which occurs when industries transfer polluting production to other countries with less stringent climate policies, or when EU products are replaced by more carbon-intensive imports. The CBAM requires importers to buy certificates to account for embodied emissions in certain carbon-intensive products, mirroring the EU Emissions Trading System (EU ETS).

In February 2022, the Commission adopted a proposal for a Directive on corporate sustainability due diligence. The aim of this Directive is to foster sustainable and responsible corporate behaviour and to anchor human rights, international labour standards and environmental considerations in companies' operations and corporate governance. The new rules will ensure businesses address any adverse impacts of their actions, including in their value chains inside and outside Europe.

In November 2021, the Commission proposed a Regulation to minimise EU-driven deforestation and forest degradation. The new rules promote the consumption of 'deforestation-free' products to decrease the EU's impact on global deforestation embodied in imported agricultural products, thereby reducing greenhouse gas emissions and biodiversity loss.

Spillover effects can be calculated in different ways. Prominent methods use consumption-based accounts ([6]), thereby focusing on international environmental, social and economic impacts that are driven by domestic consumption. Spillover effects in this chapter are measured by four indicators: carbon dioxide (CO_2) footprint, material footprint, land footprint and gross value added (GVA). CO_2 footprint and GVA have been estimated with the FIGARO multi-regional input-output model ([7]), while material and land footprints use different, less detailed models. For more information, please see the explanatory note on the Eurostat website.

To put the EU's emissions and consumption into perspective, data are compared with the EU's share of the global population (see Table III.2). In 2021, the EU's population was 447 million people, which represented 5.7 % of the world population, compared with 5.9 % five years before ([8]).

TABLE III.2

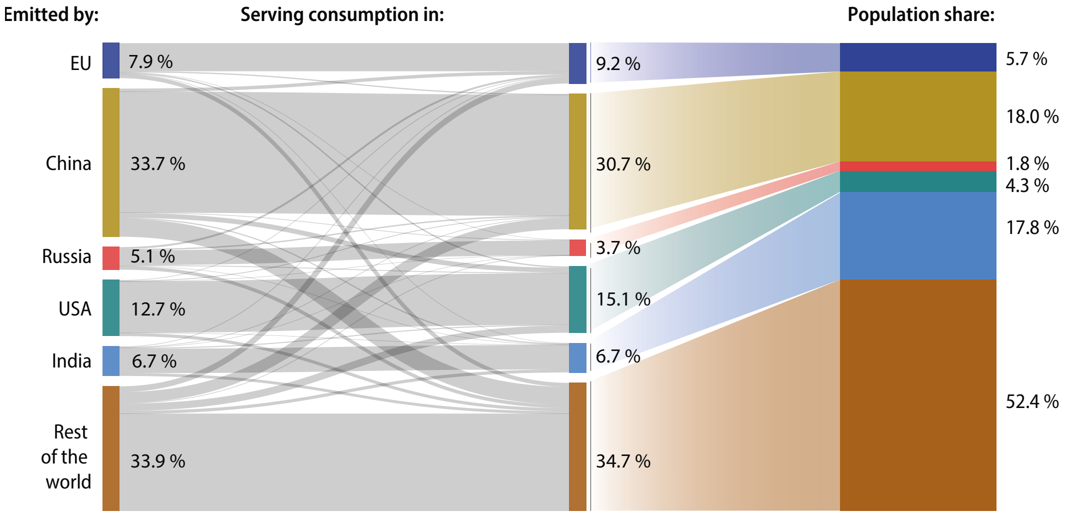
EU's population and footprints, 2016 and 2021

	2016	2021	Change 2016-2021	EU share in 2021
Population	445.2 million	446.9 million	0.4 %	5.7 %
CO_2 footprint	3.6 Gt	3.5 Gt	– 4.6 %	9.2 %
Material footprint	6.3 Gt	6.6 Gt	5.1 %	6.8 %
Cropland footprint ([1])	116 million ha	116 million ha	– 0.1 %	8 %
GVA	10 781 billion EUR	12 512 billion EUR	16.0 %	16.2 %

([1]) The data refer to 'harvested area for primary crops'.

FIGURE III.7

Comparison of CO_2 emissions from a production and consumption perspective with world population, 2021



Source: Eurostat, JRC (estimates based on FIGARO data as well as demo_gind and https://population.un.org/wpp/)

CO_2 footprint

The CO_2 footprint, or carbon footprint, measures carbon dioxide emissions classified by final use of products in the EU. In other words, it measures the amount of CO_2 emissions that can be traced back to consumption within the EU's borders. It comprises both the emissions originating in the EU and those originating abroad but serving the EU's consumption. The CO_2 footprint has been estimated using the FIGARO input-output model.

In 2021, 9.2 % of the global CO_2 emissions could be traced back to the EU

Comparing the EU with other economies of the world puts the effects of EU's consumption on other countries into perspective. As shown in Figure III.7, 9.2 % of the global CO_2 emissions could be traced back to the EU's consumption in 2021. This indicates that the EU generates a disproportionally high share of the world's emissions when compared with its share of the global population (5.7 %).

However, a similar pattern can also be seen for the other main economies of the world. With a population of 1.43 billion, China's share of the world population was 18.0 % in 2021, while its consumption accounted for almost a third (30.7 %) of the world's emissions in that year. An even larger discrepancy between the shares in population and in global CO_2 emissions could be observed for the United States. While the country was home to 4.3 % of the world's population, its share in global emissions was more than three times higher, at 15.1 %. India, on the other hand, hosted 17.8 % of the global population, but caused only 6.7 % of global CO_2 emissions. The rest of the world (excluding China, EU, the USA, India and Russia) accounted for more than half (52.4 %) of the world population, while only 34.7 % of global CO_2 emissions could be attributed to these countries in 2021.

Almost a third of the CO_2 emissions serving EU consumption are generated outside the EU

As illustrated in Figure III.7, most of the CO_2 emissions serving consumption in the world's main economies are also generated in these countries, meaning that none of these countries is generating more emissions abroad than it does domestically.

In 2021, 2.4 gigatonnes (Gt), corresponding to 69 % of the total CO_2 emissions serving the EU's consumption, were generated in the EU, while 1.1 Gt of global CO_2 emissions serving EU consumption originated from non-EU countries. From these non-EU countries serving EU's consumption, China had the largest share with 0.3 Gt or around 28 %. This reflects that China is the EU's main trading partner for imports: in 2021, the share of EU total imports (in value) originating from China amounted to 22.2 % ([9]).

In 2021, Russia accounted for 0.17 Gt CO_2 emissions serving the EU's consumption ([10]), followed by the United States and India (0.05 Gt each). Notably, while embodied emissions from Russia exceeded those from the US, the share in the value of US imports in total EU imports was higher (11.0 %) than from Russia (7.7 %) ([11]). This might be explained by the fact that a substantial part of imports from Russia were semi-manufactured low-value products such as steel ([12]), which generate relatively high CO_2 emissions during their production.

The EU's CO_2 footprint increased between 2016 and 2021

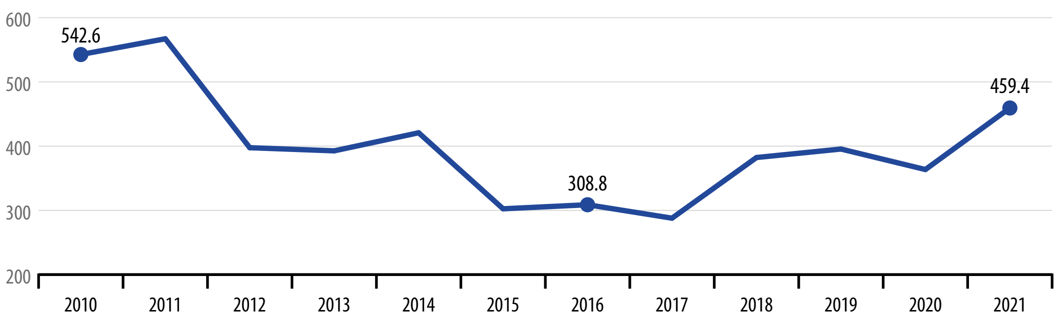
Between 2010 and 2021, the CO_2 emissions embodied in imported goods and services for the EU's consumption had been higher than the emissions embodied in the EU's exports, making the EU a net importer of CO_2 emissions. In 2021, the volume of CO_2 emitted in the rest of the world serving EU consumption stood at 1.1 Gt, while 0.6 Gt CO_2 were emitted by the EU economy to produce goods that were exported to the rest of the world. This resulted in a net import of 0.5 Gt of CO_2 emissions.

Between 2010 and 2021, the physical trade balance of the EU's CO_2 footprint decreased by 15.3 % (see Figure III.8). This indicates that in 2021 the EU's spillover effects caused by consumption were less than 11 years earlier. However, this progress was mostly achieved between 2011 and 2017. In the short-term period between 2016 and 2021, the EU's net imports increased by almost 50 %. This growth in net imports of CO_2 emissions was driven by an increase in imports and a simultaneous decrease in exports.

FIGURE III.8

Net imports of CO_2 emissions, EU, 2010–2021

(million tonnes)

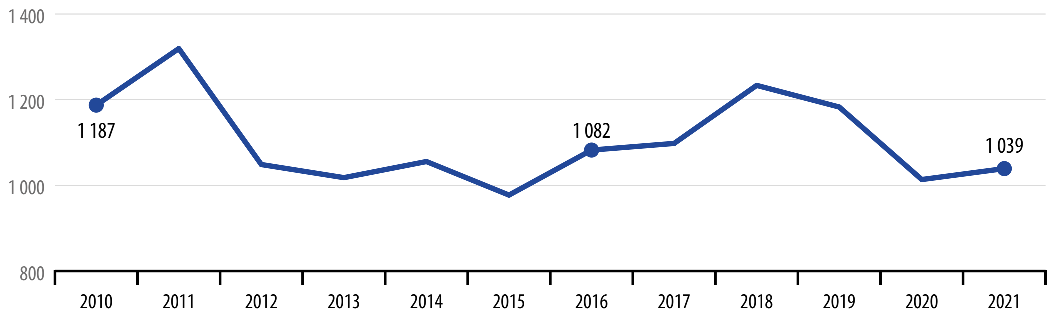


Source: Eurostat, JRC (estimates based on FIGARO data)

FIGURE III.9

Net imports of raw materials, EU, 2010–2021

(million tonnes)



Source: Eurostat (online data code: env_ac_rme) and materialflows.net

Material footprint

The material footprint, also referred to as raw material consumption, shows the amount of materials required along the supply chains of the goods and services finally consumed in a country. Eurostat estimates the material footprint by calculating the actual weight of materials extracted to produce the traded goods — the so-called raw material equivalents of imports and exports — instead of the weight of the goods crossing country borders. In other words, the weight of processed goods traded internationally is converted into the corresponding raw material extraction that was required to make them. This is typically two to three times more than the actual weight of the exported goods.

Since the material footprint captures resources used along international supply chains to produce final goods, it is a useful tool for assessing spillovers in material consumption. It highlights the increasing spatial separation of production and consumption and the relocation of environmental impacts associated with material extraction. All raw materials extracted and used worldwide are allocated to domestic final consumption. Thus, outsourcing of material-intensive extraction and processing does not reduce a country's overall material footprint. The material footprint is measured with the help of single region input–output modelling.

The EU consumed 6.8 % of the world's raw materials in 2021

In 2021, the EU population consumed 6.6 Gt of raw material, which corresponds to 6.8 % of the raw material consumed globally. The EU's share of global raw material consumption was thus around 1 percentage point above its population share. Of all the raw materials serving the EU's consumption, 4.2 Gt or around 64 % were extracted in the EU, while 2.4 Gt were extracted outside the EU's borders. This means that around one-third of the raw materials needed for EU consumption were imported.

The EU's net imports of raw materials have decreased slightly since 2016

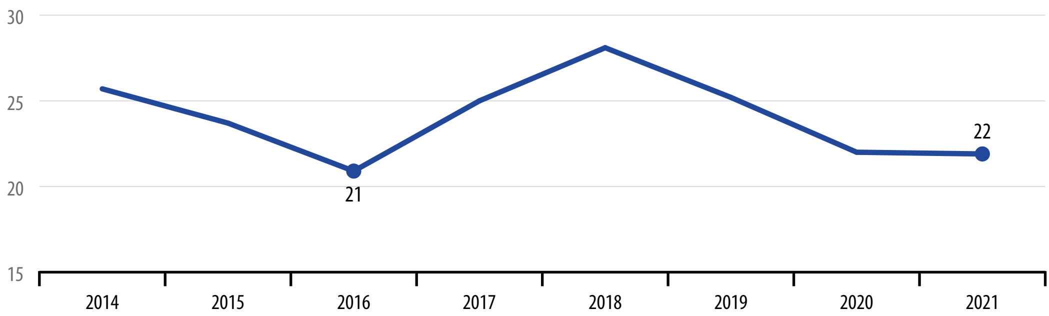
In 2021, the EU was a net importer of raw materials, meaning that the amount of materials needed for its consumption extracted outside the EU (2.4 Gt) exceeded the amount of materials exported to third countries for their consumption (1.3 Gt).

Figure III.9 shows that between 2010 and 2021 the trade of raw materials in the EU became somewhat more balanced. While in 2010 net imports of raw materials for EU consumption constituted 1.2 Gt, this value dropped to 1.0 Gt in 2021 — a decrease of around 12 %. Between 2016 and 2021, net imports decreased by around 4 %. Over this period, the strongest drop occurred in 2020, when net imports fell by around 14 % compared with the previous year,

FIGURE III.10

Net imports of cropland, EU, 2014–2021

(million ha)



Source: JRC, Eurostat, FAOSTAT (Land use)

most probably due to the reduced economic activity during the onset of the COVID-19 pandemic.

Land footprint

The land footprint — or virtual land — refers to the estimated amount of land needed to produce one unit of a given final product consumed in a country, regardless of where in the world the land was. Land footprints highlight the EU's dependency on foreign land embodied in goods and services consumed within the EU. While land use itself does not show concrete and direct environmental impacts, it may serve as a proxy for the pressure on ecosystems and biodiversity stemming from production and consumption systems. This chapter focuses on cropland that is used to cultivate crops. The data are modelled based on land use coefficients of imported agricultural products.

In 2021, crops cultivated for the EU's consumption utilised 8 % of the global cropland

In 2021, the EU consumed crops cultivated on an equivalent of about 116 million hectares (ha) of cropland located both inside and outside the EU, representing about 8 % of the world's cropland.

Crops produced within the EU's borders required 66 million ha of land, while 50 million ha outside the EU were used for crops serving EU consumption. At the same time, crops exported by the EU required around 28 million ha of cropland. The discrepancy between the imported and exported cropland makes the EU a net importer of around 22 million ha of cropland, which is about 23 % of EU cropland and about the size of Belgium, the Netherlands, Denmark, Slovenia and Austria together. Since 2016, the EU's net imports of cropland required for cultivating crops for EU consumption have increased by around 5 % (see Figure III.10). This increase can be largely attributed to an increase in imported cropland over this period while exported cropland remained stable.

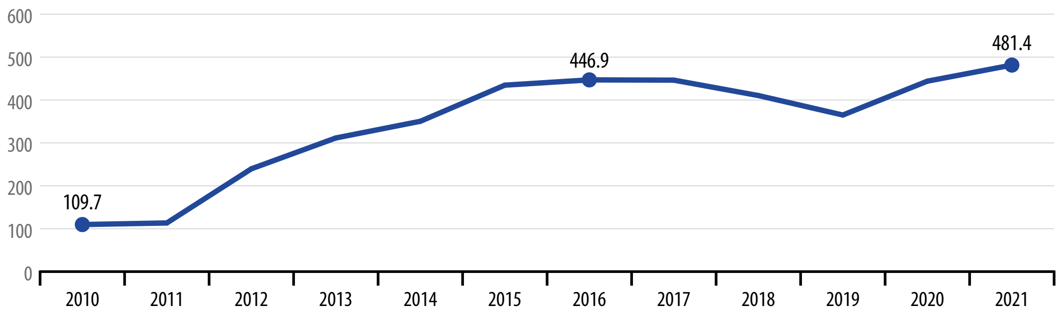
Gross value added (GVA)

GVA is the difference between an economy's output and intermediate consumption (excluding taxes less subsidies on products), and is the main element of GDP. It is a good approximation of the size of the economy from a production perspective. FIGARO data allow GVA to be estimated for economies inside and outside the EU and therefore can be used to show the economic value generated outside the EU for consumption inside the EU.

FIGURE III.11

Gross value added generated by net exports, EU, 2010–2021

(EUR billion)



Source: Eurostat, JRC (estimates based on FIGARO data)

The EU is a net exporter in value added terms

In 2021, total value added generated by the EU final demand was about EUR 12 500 billion. From this amount, around EUR 1 669 billion or 13 % were generated in non-EU economies. By comparison, value added generated in the EU by the non-EU final demand was around one-third higher, at EUR 2 151 billion. This makes the EU a net exporter in value added terms and mirrors the export surplus of the EU economy.

Since 2010, the value added generated outside the EU by the EU final demand has increased by around 40 %, while the value added generated in the EU by non-EU final demand has increased by around 66 %. This means that the gap between the value added generated in the EU by non-EU final demand and the one generated outside the EU by EU final demand has been widening, making the EU a larger exporter in value added terms over time, although the trend has slowed over the past five years.

Notes

(1) The term 'income year' is used to emphasize that the data refer to the year for which survey respondents provide their income data, which might differ from the year in which the data are collected. For the EU, data are collected through EU-SILC and are labelled according to the year of the data collection, meaning that data labelled as 2022 refer to people's incomes in 2021.

(2) To note that setting a lower boundary for the age group at 15 years results in higher employment numbers in countries where compulsory education for young people ends at 15 years or earlier. This is the case for Brazil, Japan, Russia, South Africa South Korea and for 7 out of the 27 Members States in the EU; see European Education and Culture Executive Agency (2023), *Compulsory education in Europe 2023/2024*.

(3) The World Bank divides economies into four income groups, based on their gross national income (GNI) per capita: low, lower-middle, upper-middle, and high income. For more details see the World Bank's website.

(4) The data presented here are sourced from the FAO and are thus not comparable with the data on forest area presented in the chapter on SDG 15 'Life on land', which are derived from Eurostat's Land Use and Cover Area frame Survey (LUCAS).

(5) OECD/EC-JRC (2021), *Understanding the Spillovers and Transboundary Impacts of Public Policies Implementing the 2030 Agenda for More Resilient Societies: Implementing the 2030 Agenda for More Resilient Societies*, OECD Publishing, Paris.

(6) 'Production-based' means, for example, direct observation of CO_2 emissions as they are generated, while 'consumption-based' refers to, for example, CO_2 emissions that are generated throughout the supply chain and are hence 'embodied' in the products and services consumed. These CO_2 emissions are generated before the products are consumed, in different locations, and scattered across supply chains that may involve many countries. To get the full picture of the net balance of a country or region in terms of inward and outward spillover effects, a combination of both approaches is needed.

(7) FIGARO stands for 'Full International and Global Accounts for Research in input-Output analysis' and comprises the EU inter-country supply, use and input-output tables (EU IC-SUIOTs). FIGARO tables are a new statistical product for economic modelling. Since 2021, they are produced annually, linking national accounts with data on business, trade and jobs for EU Member States and 18 main EU trading partners; a 'rest of the world' region completes the FIGARO tables. For more information on FIGARO, see European Commission, FIGARO tables: EU inter-country supply, use, and input-output tables.

(8) Calculations based on Eurostat (online data code: demo_gind) and https://population.un.org/wpp/.

(9) Source: Eurostat (online data code: ext_lt_maineu).

(10) CO_2 contained in energy carriers such as crude oil or gas and imported into the EU is not included in the exporting country emission account, but will show up in the importing country's balance when combusted for power generation. The CO_2 emitted in Russia for serving EU consumption is therefore not a result of Russian gas imported into the EU.

(11) Source: Eurostat (online data code: ext_lt_maineu).

(12) Source: Eurostat (online data code: ds-018995).

(13) Gütschow, J., Jeffery, M. L., Gieseke, R., Gebel, R., Stevens, D., Krapp, M., and Rocha, M. (2016), *The PRIMAP-hist national historical emissions time series*, Earth Syst. Sci. Data, 8, 571–603.

Annexes

Annex I: Policy targets considered in this report

Eurostat’s SDG monitoring reports provide an assessment vis-à-vis SDG-related EU objectives and targets (see Annex II for a detailed description of the assessment approach). Table A.1 lists the EU policy targets considered for assessing indicator trends in this 2024 edition, together with the respective EU policy documents in which these targets were set. In the tables in the beginning of each of the 17 thematic chapters of this report, the indicators assessed against an EU policy target are marked with a ‘target’ symbol (🎯).

TABLE A.1

EU policy targets considered for assessing indicator trends

Indicator	Target	Policy reference
People at risk of poverty or social exclusion (SDG 1)	Reduce the number of people at risk of poverty or social exclusion by 15 million by 2030, including at least 5 million children	European Pillar of Social Rights Action Plan
Area under organic farming (SDG 2)	At least 25 % of the EU's agricultural land should be under organic farming by 2030	Farm to Fork strategy
Use and risk of chemical pesticides (SDG 2)	Reduce the use and risk of chemical pesticides by 50 % by 2030 compared to a three-year baseline (average for the period 2015 to 2017)	Farm to Fork strategy
Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$) (SDG 3, SDG 11)	Reduce the health impacts of air pollution by at least 55 % by 2030 compared to 2005	Zero Pollution Action Plan
Road traffic deaths (SDG 3, SDG 11)	Halving the overall number of road deaths in the EU by 2030 compared with 2019	EU road safety policy framework 2021–2030
Total consumption of antibiotics in the community and hospital sectors (SDG 3)	Reduce the total consumption of antibiotics in humans by 20 % by 2030 compared with the baseline year 2019	Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach
Low achievers in reading, maths and science (SDG 4)	The share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15 % by 2030	European Education Area
Participation in early childhood education (SDG 4)	At least 96 % of children between 3 years old and the starting age for compulsory primary education should participate in early childhood education and care by 2030	European Education Area
Early leavers from education and training (SDG 4)	The share of early leavers from education and training should be less than 9 % by 2030	European Education Area
Tertiary educational attainment (SDG 4, SDG 9)	The share of 25- to 34-year-olds with tertiary educational attainment should be at least 45 % by 2030	European Education Area
Gender employment gap (SDG 5)	Halve the gender employment gap by 2030 compared with 2019	European Pillar of Social Rights Action Plan
Positions held by women in senior management (SDG 5)	At least 40 % of the underrepresented sex must be represented in non-executive boards of listed companies by 2026	Directive (EU) 2022/2381
Primary and final energy consumption (SDG 7)	Reduction of energy consumption of at least 11.7 % in 2030 compared with the projections of the 2020 EU Reference Scenario, so that the EU's final and primary energy consumption amount to no more than 763 Mtoe and 992.5 Mtoe in 2030	Directive (EU) 2023/1791

Indicator	Target	Policy reference
Share of renewable energy in gross final energy consumption (SDG 7, SDG 13)	Raise the share of renewable sources in the EU's gross final consumption of energy to at least 42.5 % by 2030	Directive (EU) 2023/2413
Young people neither in employment nor in education and training (NEET) (SDG 8)	Decrease the rate of young people neither in employment, nor in education or training (NEETs) aged 15 to 29 to 9 % by 2030	European Pillar of Social Rights Action Plan
Employment rate (SDG 8)	At least 78 % of the population aged 20 to 64 should be in employment by 2030	European Pillar of Social Rights Action Plan
Gross domestic expenditure on R&D (SDG 9)	Increasing combined public and private investment in R&D to 3 % of GDP	Council Recommendation on a Pact for Research and Innovation in Europe
Share of households with high-speed internet connection (SDG 9, SDG 17)	By 2030, all European households should be covered by a gigabit network	2030 Digital Compass
Recycling rate of municipal waste (SDG 11)	Increase the share of municipal waste that is recycled or prepared for re-use to at least 60 % (by weight) by 2030	Directive (EU) 2018/851
Average CO_2 emissions per km from new passenger cars (SDG 12, SDG 13)	Reduce average CO_2 emissions from new passenger cars to 49.5 g CO_2/km by 2030	Commission Implementing Decision (EU) 2023/1623
Circular material use rate (SDG 12)	Double the EU's circular material use rate until 2030 (relative to 2020)	Circular Economy Action Plan
Net greenhouse gas emissions (SDG 13)	Reduce net greenhouse gas emissions by 55 % until 2030 compared to 1990	European Climate Law
Net greenhouse gas emissions from land use, land use change and forestry (LULUFC) (SDG 13)	Net greenhouse gas removals in the LULUCF sector should reach 310 million tonnes of CO_2 equivalent by 2030	Fit for 55 package
Marine protected areas (SDG 14)	Protect a minimum of 30 % of the EU's sea area by 2030	EU Biodiversity Strategy for 2030
Terrestrial protected areas (SDG 15)	Protect a minimum of 30 % of the EU's land area by 2030	EU Biodiversity Strategy for 2030
Official development assistance (SDG 17)	Provide 0.7 % of gross national income (GNI) as ODA by 2030	The new European Consensus on Development

Annex II: Methodological notes

Data coverage and sources

Data in this report are mainly presented for the aggregated EU level, referring to the current EU composition (27 Member States). In addition to the EU Member States, data for the EU candidate countries and potential candidates as well as the countries of the European Free Trade Association (EFTA) are included in the country-level comparisons throughout the report when available, complementing the EU-level analysis. When data availability allows, global comparisons of the EU with other large economies in the world (such as the United States, Japan and China) are also presented.

To reflect the 2030 Agenda's 15-year scope, the analysis of trends is, as far as possible, based on data for the past 15 years. However, for several indicators, in particular those based on the EU Statistics on Income and Living Conditions (EU-SILC), data are only available from 2010 or 2015 onwards.

The data presented in this report were extracted in late April 2024. Most of the data used to compile the indicators stem from the standard Eurostat collection of statistics through the European Statistical System (ESS), but a number of other data sources have also been used, including other European Commission services, the European Environment Agency (EEA), the European Institute for Gender Equality (EIGE) and the OECD.

Eurostat online data codes, such as sdg_01_10, allow easy access to the most recent data on the Eurostat website [1]. The website also contains a section dedicated to the EU SDG monitoring, which provides key findings of the most recent Eurostat monitoring of the EU's progress towards the SDGs, information and data on the EU SDG indicators, and data visualisation tools to see whether EU members make progress towards the SDGs. One of these visualisation tools is SDGs & me, which allows users to explore trends and compare their country to other European countries. The SDGs at a glance page gives users a quick overview of the progress towards each of the SDGs and its sub-goals on an EU level. Additionally, the SDG country overview visualisation tool allows users to find out how their country performs for the SDGs compared to the EU average. The section moreover features the full SDG indicators database and provides useful information on the data. Further explanatory notes are also available in a methodology section. The information provided on the Eurostat website is complemented by a Statistics Explained webpage that presents the full range of statistical subjects covered by Eurostat in an easy-to-understand way.

Treatment of breaks in time series

Breaks in time series occur when the data collected in a specific year are not comparable with the data from previous years. This could be caused by a change in the classification used, the definition of the variable, the data coverage or other reasons. Breaks in time series could affect the continuity and consistency of data over time. However, it should be noted that such breaks may not necessarily undermine the reliability of the time series.

While preparing this monitoring report, a case-by-case assessment of breaks in times series has been conducted to determine the extent to which a break would affect the assessment of an indicator. In cases where a break was considered significant enough to affect the assessment of an indicator trend or the comparability between countries, the analysis of the indicator was adjusted accordingly. Breaks in times series are indicated throughout the report in footnotes below the graphs.

Assessment of indicator trends

This publication provides an assessment of indicator trends against SDG-related EU objectives and targets. The assessment method considers whether an indicator has moved towards or away from the sustainable development objective, as well as the speed of this movement. The method focuses on developments over time and not on the 'sustainability' of the status ([2]).

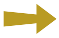
Ideally, the trends observed for each indicator would be compared against theoretical trends necessary to reach either a quantitative target set within the political process or a scientifically established and accepted threshold. However, this approach is only possible for a limited number of indicators, where an explicit quantified and measurable target exists for the EU. In the remaining cases, a transparent and simple approach across the indicators is applied to avoid ad hoc and subjective value judgments. The two approaches are explained in more detail below.

The assessment of indicator trends is visualised in the form of coloured arrows (see Table A.2). The direction of the arrows shows whether the indicators are moving in a sustainable direction or not. This direction does not necessarily correspond to the direction in which an indicator is moving. For example, a reduction of the long-term unemployment rate, or of greenhouse gas emissions, would be represented with a green upward arrow, as reductions in these areas mean progress towards the sustainable development objectives.

Depending on whether there is a quantitative EU policy target, two cases are distinguished, as shown in Table A.2. For indicators with a quantitative target, the arrows show if, based on past progress, the EU is on track to reach the target. For indicators without a quantitative target, the arrows show whether the indicator has moved towards or away from the sustainable development objective, and the speed of this movement. The assessment method therefore differs slightly for these two types of indicators, as explained further below.

TABLE A.2

Assessment categories and associated symbols

Symbol	With quantitative target	Without quantitative target
	Significant progress towards the EU target	Significant progress towards SD objectives
	Moderate progress towards the EU target	Moderate progress towards SD objectives
	[Category not applicable]	No progress towards nor movement away from SD objectives
	Insufficient progress towards the EU target	Moderate movement away from SD objectives
	Movement away from the EU target	Significant movement away from SD objectives
:	Calculation of trend not possible (e.g. time series too short or break in time series)	

As far as possible, indicators are assessed over two periods:

- **Long term**, which is based on the evolution of the indicator over the past 15-year period (usually 2007 to 2022 or 2008 to 2023). The long-term trend is also calculated for shorter time series as long as the available data cover a period of at least 10 years. In exceptional cases, for example when data are not available in an annual time series, a 16-year period is used.
- **Short term**, which is based on the evolution of the indicator during the past five-year period (usually 2017 to 2022 or 2018 to 2023). In a few exceptional cases, the short-term trend is calculated for shorter time periods, as long as the available data cover a period of at least three years.

Two arrows — one for the long-term and one for the short-term assessment — are therefore usually shown for each indicator, providing an indication of whether the underlying trend has been persistent or has shown a turnaround at a certain point in time.

Method 1: Indicators without quantitative targets

In case there is no quantified target, it is only possible to compare the indicator trend with the desired direction. An indicator is making progress towards the SD objectives if it moves in the desired direction, and is moving away from the SD objectives if it develops in the wrong direction. The assessment is based on the 'compound annual growth rate' (CAGR) formula, which assesses the pace and direction of an indicator trend. The CAGR formula uses the data from the first and the last years of the analysed time span and calculates the annualised rate of growth of an indicator (given in % per year) between these two data points:

$$(1)\ CAGR = \left(\frac{y_t}{y_{t_0}}\right)^{\frac{1}{t-t_0}} - 1$$

where: t_0 = base year, t = most recent year, y_{t0} = indicator value in base year, y_t = indicator value in most recent year.

To ensure a consistent approach throughout the report, the CAGR formula is applied to all indicators irrespective of their unit, meaning that it is also used for indicators already given as percentages (such as employment or poverty rates). The trend assessment is based on comparing the calculated growth rate of an indicator with a certain threshold, which is set at 1 % growth per year. The 1 % threshold is easy to communicate, and Eurostat has used it in its monitoring reports for more than 10 years. It is discerning enough to ensure there is a significant movement in the desired direction. Furthermore, it allows a nuanced picture to be presented, with a sufficient number of indicators falling into all categories ([3]). The threshold should not be confused with the level of EU ambition on a given topic. It should also be noted that for some indicators, such as loss of biodiversity, any movement away from the SD objectives might be irreversible and lead to environmental, economic and social changes, thus affecting many SDGs simultaneously. The development of indicators with growth rates between 0.15 % and – 0.15 % is considered neutral and depicted with a dark gold arrow symbol. Table A.3 shows the applied thresholds and the associated symbols.

TABLE A.3

Thresholds for assessing trends of indicators without quantitative targets

Growth rate (CAGR) in relation to desired direction	Symbol
≥ 1 %	↑
< 1 % and ≥ 0.15 %	↗
< 0.15 % and > – 0.15 %	→
≤ – 0.15 % and > – 1 %	↘
≤ – 1 %	↓

Method 2: Indicators with quantitative targets

The assessment of trends for indicators with targets is based on the CAGR described above and takes into account concrete targets set in relevant EU policies and strategies (see Table A.1). In this case, the actual (observed) growth rate is compared with the (theoretical) growth rate that would have been required up to the most recent year for which data are available to meet the target in the target year. This comparison is done for both the long-term (past 15 years) and short-term (past 5 years) periods and does not take into account projections of possible future developments of an indicator. The calculation of actual and required indicator trends is based on the CAGR formula and includes the following three steps:

Actual (observed) growth rate:

$$\text{(2a)}\quad CAGR_a = \left(\frac{y_t}{y_{t_0}}\right)^{\frac{1}{t-t_0}} - 1$$

where: t_0 = base year, t = most recent year, y_{t0} = indicator value in base year, y_t = indicator value in most recent year.

Required (theoretical) growth rate to meet the target:

$$\text{(2b)}\quad CAGR_r = \left(\frac{x_{t_1}}{y_{t_0}}\right)^{\frac{1}{t_1-t_0}} - 1$$

where: t_0 = base year, t_1 = target year, y_{t0} = indicator value in base year, x_{t_1} = target value in target year.

Ratio of actual and required growth rate:

$$\text{(2c)}\quad R_{a/r} = \frac{CAGR_a}{CAGR_r}$$

Table A.4 shows the thresholds applied for the $R_{a/r}$ ratio and the resulting symbols. As the assessment is based on the comparison of the actual to the required growth rate, a neutral category (as included in Table A.3 above) is not applicable in this case.

TABLE A.4

Thresholds for assessing trends of indicators with quantitative targets

Ratio of actual and required growth rate	Symbol
≥ 95 %	↑
< 95 % and ≥ 60 %	↗
< 60 % and ≥ 0 %	↘
< 0 %	↓

The growth rates (CAGR) upon which the arrow symbols are based are provided in the overview tables in the beginning of each chapter. For indicators with quantitative targets, the note gives the compound annual growth rates observed for the two assessment periods as well as the growth rates that would have been required to meet the target in the target year. For indicators without quantitative targets, only the observed compound annual growth rates are given.

Table A.1 shows the EU policy targets that have been considered for assessing indicator trends over the long- and short-term periods, to give an indication of whether the developments observed mean indicators are on track to meet their respective target in the target year.

Method for calculating average scores at the goal level

In the synopsis chapter of this report, average scores of the indicators are used to rank the 17 SDGs according to their level of progress over the short-term period (past 5 years). The calculation of average scores at the goal level is based on the calculations described above for the indicators that have been selected to monitor the respective SDG. For indicators without quantitative targets, the CAGR (see formula (1) above) is used. For indicators with quantitative targets, the ratio of actual to required growth (see formula (2c) above) is used.

To account for the variability of growth rates within the assessment categories used in this report (see Tables A.3 and A.4 above), the calculation of average scores at the goal-level is based on transforming the individual indicator assessments (which represent categorical data) into numerical data. To this end, the growth rates and ratios calculated according to the formulas described above are inserted into a scoring function to calculate a score ranging from + 5 (best score) to – 5 (worst score) for each indicator. The average scores on the goal level are then calculated as the arithmetic mean of the individual scores of the indicators selected for monitoring the respective goal (including both main and multipurpose indicators). Consequently, these goal-level scores can also range from + 5 (best score) to – 5 (worst score).

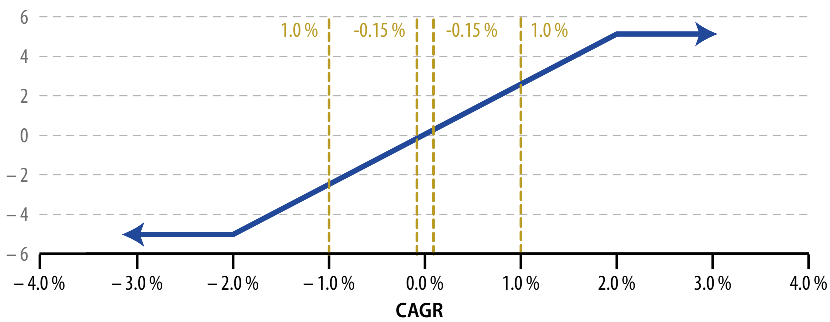
Even though the scoring functions differ for indicators with and without quantitative target, the scores at the threshold points in Tables A.3 and A.4 are harmonised to ensure that indicators with and without quantitative targets have the same 'weight' when calculating the average score at the goal level. As such, the threshold values shown in Tables A.3 and A.4 result in scores of + 2.5, 0 and – 2.5, respectively. Indicators for which trends cannot be assessed (for example due to insufficient time series) are not considered for the average score on the goal level. Note that the scoring functions use broader cut-off points than the thresholds shown in Tables A.3 and A.4 in order to allow for larger variability in the scores (an indicator with a CAGR of, for example, 1.1 % per year receives a different score than an indicator with a CAGR of, for example, 5.0 % per year, although they both fall into the same assessment category of Table A.3).

Scoring function for indicators without quantitative targets

Figure A.1 below shows the scoring function for indicators without quantitative targets. In this case, the scoring function is a linear transformation, with cut-off points set at growth rates (CAGR) of 2.0 % and – 2.0 %. Indicators with a growth rate of exactly 0.0 % receive a score of 0. Indicators with growth rates of 2.0 % or above in the desired direction receive a score of + 5, indicators with growth rates of 2.0 % or above in the wrong direction receive a score of – 5.

FIGURE A.1

Scoring function for indicators without quantitative target



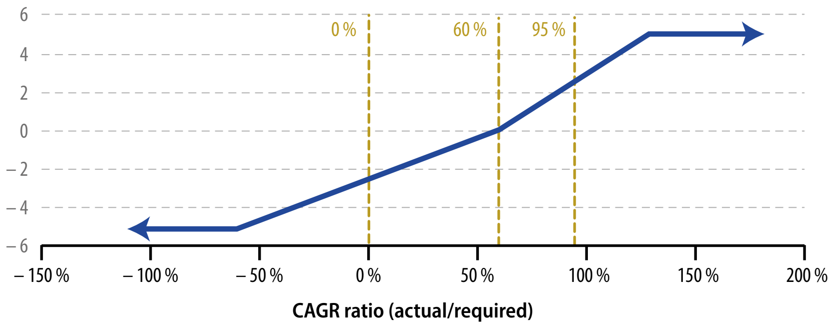
Note: The orange dotted lines represent the thresholds used for defining the assessment category of the indicator, as shown in Table A.3. The resulting scores are harmonised between indicators with and without targets (see Figure A.2).

Scoring function for indicators with quantitative targets

Figure A.2 below shows the scoring function for indicators with quantitative targets. The scoring function is not linear in this case, with cut-off points set at CAGR ratios (actual to required growth) of 130 % and – 60 % (ratios below zero indicate a movement away from the target). Indicators with a CAGR ratio of 60 % receive a score of 0. Indicators with CAGR ratios of 130 % or above receive a score of + 5, indicators with CAGR ratios of – 60 % or below receive a score of – 5. The nonlinear slope of the scoring function for indicators with targets is a result of the harmonisation of the two scoring functions with respect to the threshold levels shown in Tables A.3 and A.4, which has been done to ensure that indicators with and without quantitative targets have the same 'weight' when calculating the average score at the goal level.

FIGURE A.2

Scoring function for indicators with quantitative target



Note: The orange dotted lines represent the thresholds used for defining the assessment category of the indicator, as shown in Table A.4. The resulting scores are harmonised between indicators with and without targets (see Figure A.1).

Annex III: Geographical aggregates and countries

Geographical aggregates

EU	The 27 Member States of the European Union since 1 February 2020 (BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE)
EEA	The member countries of the European Environment Agency (EEA) are the EU Member States plus IS, LI, NO, CH and TR
G20	Group of 20 (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Türkiye, the United Kingdom, the United States as well as the European Union and the African Union)

Note that EU aggregates are back-calculated and therefore do not necessarily represent the composition of the EU in a given year. Data relating to the current EU aggregate are presented for periods before the UK left the EU in 2020, as if it had never been a Member State. The abbreviation 'EU' used in texts is usually referring to the current composition. Deviations from this principle are pointed out in each individual case.

Countries

European Union Member States

BE	Belgium
BG	Bulgaria
CZ	Czechia
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia

LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden

European Free Trade Association (EFTA)

IS	Iceland
LI	Liechtenstein
NO	Norway
CH	Switzerland

EU candidate countries

BA	Bosnia and Herzegovina
ME	Montenegro
MD	Moldova
MK	North Macedonia
GE	Georgia
AL	Albania
RS	Serbia
TR	Türkiye
UA	Ukraine

Potential candidates

XK	Kosovo ([4])

Other European countries

UK	United Kingdom

Notes

(1) In this report, online data codes are given as part of the source below each table and figure. When clicking on the online data code, the reader is directly led to the indicator table showing the most recent data. Alternatively, the data can be accessed by entering the data code in the search field on the Eurostat website. The indicator table also contains a link to the source dataset, which generally presents more dimensions and longer time series.

(2) The following study discusses and analyses the differences in assessment methods of status (in a given year) and progress (change over time) for the EU Member States: Hametner, M., Kostetckaia, M. (2020), *Frontrunners and laggards: How fast are the EU member states progressing towards the sustainable development goals?*, Ecological Economics 177.

(3) Higher thresholds (for example, 2 %) have been tested and finally rejected, since they make the overall picture less interesting, as a vast majority of indicators would fall in the two 'moderate' categories.

(4) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.

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Print: KS-05-24-071-EN-C
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Sustainable development in the European Union

Monitoring report on progress towards the SDGs in an EU context

2024 edition

The EU is fully committed to the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), adopted by the United Nations in September 2015. Eurostat monitors the EU's progress towards the SDGs along a set of 102 indicators. The EU indicator set has been carefully selected in cooperation with a large number of stakeholders based on criteria of statistical quality and relevance in an EU policy context. The indicators are assessed annually over both a short-term (past five years of available data) and a long-term (15-year) period. This report is the eighth in the series. It also looks at the impact of some recent developments in the SDGs based on quarterly and monthly data. In addition, it includes a section on the EU in the world and the spillover effects of EU consumption.

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