

Education and Training Monitor 2024

Comparative report



DISCLAIMER

This publication is based on SWD(2024)500. The 2024 Education and Training Monitor's comparative report was prepared by the European Commission's Directorate-General for Education, Youth, Sport and Culture, with contributions from the Directorate-General for Employment, Social Affairs and Inclusion. The report is accompanied by 27 [country reports](#) and an online [Monitor Toolbox](#), with the most prominent data and sources used to analyse progress towards achieving EU-level targets. Authors are grateful for the input from the European Education and Culture Executive Agency, the Eurydice network, the Joint Research Centre (JRC), Eurostat, the European Centre for the Development of Vocational Training (Cedefop), and the International Association for the Evaluation of Educational Achievement (IEA). The Education Committee of the Council of the EU and the Standing Group on Indicators and Benchmarks (EDUC) were consulted during the drafting phase.

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Contents

Foreword.....	3
Executive summary.....	4
Introduction.....	7
CHAPTER 1 Learning for sustainability	9
1.1. Sustainability competences	10
1.2. Opportunities to learn.....	16
1.2.1. Curricula and pedagogies	16
1.2.2. Building teacher capacity.....	19
CHAPTER 2 Early childhood education and care	22
2.1. Broadening participation.....	22
2.2. ECEC for sustainability.....	27
CHAPTER 3 School education	29
3.1. Early school leaving.....	29
3.1.1. Upper secondary educational attainment for all.....	29
3.1.2. Prevention, intervention, and compensation.....	33
3.2. Learning outcomes.....	37
3.2.1. Underachievement and top performance.....	37
3.2.2. Equity in learning outcomes.....	41
CHAPTER 4 Vocational education and training.....	46
4.1. Work-based learning, employability, and learning mobility.....	46
4.2. VET for sustainability.....	49
CHAPTER 5 Higher education	51
5.1. Tertiary educational attainment.....	51
5.2. Learning mobility in tertiary education	59
CHAPTER 6 Adult learning.....	65
6.1. The need for broader participation	65
6.2. Adult learning for sustainability.....	68
Conclusion.....	70

Foreword

Climate change is a defining challenge of our era. It poses important threat to people all over the world, also in Europe. It can only be tackled if we steer our societies and economies toward sustainability through a collective effort at the global level, underpinned by education and training. Everyone needs to do their part.

The European Education Area must equip pupils, students and teachers with the knowledge and skills to navigate both the green and digital transitions. This inclusive process needs to benefit learners of all ages, inspiring young people to become agents of change while at the same time upskilling and reskilling experienced workers.

This year's Education and Training Monitor focuses on sustainability learning, highlighting the progress and gaps in teaching sustainability competences. While many national education systems already support the development of whole-school approaches to sustainability - combining knowledge, skills and attitudes - there is still room to deepen the focus on sustainability competences. This is crucial for creating fair, intergenerational change.

The Monitor also takes stock of progress towards achieving the European Education Area. Recent PISA results reveal a worrying decline in basic skills among young Europeans, putting us further from EU-level targets. The impact of COVID-19 is evident, but longer-term challenges persist.

The gap in educational outcomes based on socio-economic background is especially stark. It underscores the need for continued efforts to prevent early school leaving and improve foundational skills.

I hope that the evidence presented in the report will spark a meaningful discussion and action among policymakers, practitioners and stakeholders, and that it will help shape future policies for a sustainable and resilient society. Because education and training are important factors in shaping our common future.

Iliana Ivanova

European Commissioner for Innovation, Research,
Culture, Education and Youth



Executive summary

The Education and Training Monitor is the European Commission's annual report on EU countries' progress towards reaching EU-level targets in education and training. It comprises a comparative report, 27 [country reports](#), and an online [Monitor Toolbox](#) with key indicators and sources. The 2024 edition focuses on learning for sustainability. This builds on the [2022 Council Recommendation](#) on learning for the green transition and sustainable development and a new conceptual framework for monitoring learning for sustainability. The focus on learning for sustainability is based on the [2021 Council Resolution](#) on a strategic framework for European cooperation in education and training towards the European Education Area (EEA), and follows the 2022 focus on equity in education and 2023 focus on the teaching profession.

Learning for sustainability

Learning for sustainability is often left to individual schools or teachers, limiting its impact on the competences of young people to act for sustainability.

Learning for sustainability is about the holistic and interdisciplinary learning experiences that enable students to embody sustainability values, vision, and mindset. Sustainability competences enable learners to understand and critically analyse complex economic, environmental, and social systems, while empowering them to take individual and collective action towards the green transition. Young people subscribe to sustainability values, with 83.6% believing in the importance of making changes to one's personal life to become more environmentally friendly. A foundational knowledge of sustainability is present too, though ranging widely across EU countries (from the highest level in Denmark to the lowest in Bulgaria). However, the fact that only few young people act for sustainability in daily life (29.8%) may point at a lack of support and encouragement to link knowledge to action.

Schools can play a role in nurturing acting for sustainability. Most EU education systems have started helping schools develop whole-school approaches to learning for sustainability. However, the curricular coverage across the EU remains limited. For instance, futures literacy, which can help learners turn complacency or eco-anxiety into action and resilience, remains the least covered of all sustainability competences. There also seems to be a tendency to focus on low-impact actions rather than complex sustainability challenges, with school principals mostly reporting activities such as differential waste collection (83.9%). Finally, teachers feel prepared to teach about sustainability despite a lack of pre-service or in-service training, leaving transformative (action-oriented) pedagogies not widely adopted. All in all, only 42.1% of young people report having had a good opportunity to learn about sustainability in school.

EU-level target areas

Entry into early childhood education is delayed depending on a country's policy measures to increase enrolment.

At 93.1% in 2022, the overall share of children between the age of 3 and the start of compulsory primary education enrolled in early childhood education and care (ECEC) was up by 0.6 percentage points compared with 2021 and 1.9 compared with 2014. Recent progress has been remarkable in Portugal and Lithuania due to reforms. Participation

varies by age, with older children showing higher rates in all EU countries, as attendance is often compulsory the year before entering primary education. For younger children, a legal entitlement to ECEC may exist, even if provision may not be free. This might explain the substantial participation gap (15.8 percentage points) between children at risk of poverty or social exclusion and those not at risk. As for learning for sustainability, the relevant topics are covered in the ECEC guidelines of most EU education systems. However, the target age and the depth of coverage vary a lot.

A minimum level of educational attainment is challenged by absenteeism, out-of-school rates, and early school leaving among specific at-risk groups.

Early school leaving is becoming less prevalent across the EU, though still affecting 9.5% of all 18-24-year-olds, or around 3.1 million young people. Country variation is increasing, and young people with disabilities (22.2%) and first-generation non-EU migrants (23.0%) remain at serious risk. The problem combines issues of school dropout (most evident in vocational tracks) and out-of-school rates (with an estimated 1.3 million young people in the target age range not enrolled in upper secondary education). Only 64.1% of young people whose parents have a low level of education reach the level of upper secondary education themselves. Most EU education systems promote monitoring actions to prevent early school leaving, accompanied by individual education plans that especially target learners with special educational needs or migrant backgrounds. Wellbeing and absenteeism have received particular attention since the COVID-19 pandemic.

Record-high underachievement in basic skills among today's 15-year-olds could jeopardise Europe's future competitiveness and societal resilience.

Underachievement in basic skills is on the rise across the EU, with record-high rates for reading (26.2%), mathematics (29.5%), and science (24.2%). This is bound to pose a hardship for today's youth and could jeopardise Europe's competitiveness moving forward. School closures during COVID-19 may have played their part, even if a decline in performance was already under way for several EU education systems. Looking at a more severe measure of underachievement (in all three school subjects at the same time), the outsized effects of a student's socio-economic background went from bad to worse. Disadvantaged learners used to be at a 5.5 times higher risk of severe underachievement and are now at a 6.1 times higher risk when compared to their advantaged peers. Inequity is most pronounced in Romania, Slovakia, Bulgaria, and Hungary, and is strongly linked to school segregation.

Work-based learning in vocational education and training (VET) shows the highest country variability of all EU-level target areas.

At EU level, the share of work-based learning in VET (64.5% in 2023) exceeds the 2025 EU-level target of at least 60%. The employment rate of recent VET graduates (81.0%) is the highest on record since 2014, putting the EU on track to reach the target of 82% by 2025. Countries that do well on both work-based learning and employability include Germany, the Netherlands, and Austria. Countries that perform poorly on both counts include Romania and Italy. On average, recent VET graduates who experienced work-based learning have higher employment rates (84.8%) than those who did not (71.5%). The latest estimates suggest that 5.1% of medium-level VET learners had a mobility experience abroad, far below the 2030 EU-level target of at least 12%. As for learning for sustainability, EU countries are reforming their VET systems, with new or updated curricula, greener infrastructure, and training for teachers and trainers.

The persistent expansion of tertiary education is not reflected in the number of entrants in ICT.

The tertiary educational attainment rate of 25–34-year-olds continues to increase, reaching 43.1% in 2023. Educational attainment at tertiary level is now the most common level of attainment among young adults in the EU, though substantial differences remain within countries. To support equal access to tertiary education, EU countries provide direct and indirect financial support. Disadvantaged students can receive needs-based grants in almost all EU education systems – even though the share of the student population covered varies a lot – and subsidies are available to cover meals, transport, and accommodation in 18 systems across the EU. As an example of the link between tertiary education and the labour market, there have been no substantial improvements in the number of entrants and graduates in ICT, despite the 2030 EU-level target of 20 million ICT specialists.

An incomplete picture of learning mobility in tertiary education suggests low uptake and a substantial imbalance at national level between sending to and hosting from abroad.

In 2022, the outward mobility rate was only 11.0% at EU level, 12 percentage points lower than the target set for 2030. However, figures are likely to be underestimated due to several limitations affecting learning mobility data. Such data cover graduates obtaining their degree abroad and graduates who only had a short stay abroad, the latter mainly financed by Erasmus+. Inward degree mobility varies a lot between countries in terms of shares and regions of origin. This depends, among other things, on historical ties, geographical proximity, and shared languages. Overall, 30% of inward degree mobility to EU countries also originated from EU countries in 2022. Intra-EU mobility accounted for more than half of all inward degree mobility in one third of EU countries. Mobility in the EU tends to be highly imbalanced in terms of countries that mostly send students abroad versus countries that mostly host students from other EU countries.

Adult participation in learning is low and progressing too slowly, particularly among key target groups most in need of reskilling and upskilling.

At 39.5% in 2022, adult participation in learning is not on track to reach the EU-level targets. Participation rates are not only uneven across EU countries (from 9.5% in Bulgaria to 66.5% in Sweden). They are also substantially lower among key target groups of adults most in need of reskilling and upskilling. Examples are adults who are low qualified (18.4%), aged 55 and over (29.9%), unemployed (26.8%), outside the labour force (23.7%), or living in the EU's rural areas (34.4%). These results are likely to only exacerbate existing inequalities. Sustainability is being incorporated into training offers, for instance through changes to curricula, increases in relevant training opportunities, and investments in infrastructure. However, the low participation rates of the target groups most in need risk generating unequal development of sustainability competences and pose employability challenges during the green transition.

Introduction

The Education and Training Monitor is the European Commission's annual report on EU countries' progress towards reaching EU-level targets in education and training, most notably the ones adopted as part of the [2021 Council Resolution](#) on a strategic framework for European cooperation in education and training towards the European Education Area (EEA)¹. The Monitor comprises this comparative report, 27 [country reports](#), and an online [Monitor Toolbox](#) with key indicators and sources².

EU-level targets connected to the EEA	'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.'	Chapter 2
	'The share of early leavers from education and training should be less than 9% by 2030.'	Chapter 3
	'The share of underachievement in reading, mathematics, and science should be less than 15% by 2030.'	Chapter 3
	'The share of eighth graders' underachievement in computer and information literacy should be less than 15% by 2030.' ³	[Monitor Toolbox]
	'At least 60% of recent VET graduates should have experienced work-based learning as part of their VET programme by 2025.'	Chapter 4
	'The share of 25-34-year-olds with tertiary educational attainment should be at least 45% by 2030.'	Chapter 5
	'At least 47% of adults aged 25-64 should have participated in learning during the last 12 months by 2025.'	Chapter 6

The comparative report features contributions from the European Education and Culture Executive Agency (EACEA), the Eurydice network, the Joint Research Centre (JRC), Eurostat, the European Centre for the Development

of Vocational Training (Cedefop), and the International Association for the Evaluation of Educational Achievement (IEA). The Education Committee of the Council of the EU, and the Standing Group on Indicators and Benchmarks (SGIB)⁴ were consulted during the drafting phase.

The comparative report looks at the most noticeable differences across EU countries and striking changes over time. It tracks progress towards reaching the EU-level targets connected to the EEA and complements this with numerous supporting indicators to shed light on context and possible policy levers. In addition, reference is made to other EU-level targets tracked by the European Commission in formal childcare, vocational education and training (VET), ICT, learning mobility, and adult learning. This connects the Education and Training Monitor to other European Commission work strands such as the European Pillar of Social Rights Action Plan and the Digital Decade.

The 2024 edition starts off with a focus on learning for sustainability, building on a new conceptual framework for monitoring learning for sustainability. The focus on learning for sustainability is a direct response to the [2021 EEA strategic framework Resolution](#) and the [2023 Council Resolution](#) on the EEA, following the 2022 focus on equity in education and 2023 focus on the teaching profession.

Other EU-level targets	'At least 45% of children below the age of 3 participate in formal childcare, with specific targets applying to EU countries that have yet to reach the 2002 goals.'	Chapter 2
	'The share of employed graduates from VET should be at least 82% by 2025.'	Chapter 4
	'In VET, the share of vocational learners who do part of their studies abroad (learning mobility) should be at least 12% by 2030.'	Chapter 4
	'At least 20 million people should be employed as ICT specialists by 2030.'	Chapter 5
	'The share of tertiary graduates with a learning mobility experience abroad should be at least 23% by 2030.'	Chapter 5
	'At least 60% of adults aged 25-64 should have participated in learning during the last 12 months by 2030.'	Chapter 6

- 1 Referred to in the remainder of this report as the 2021 EEA strategic framework Resolution.
- 2 The Education and Training Monitor covers all EU education systems. The online [Monitor Toolbox](#) also includes the results for the EEA/EFTA and candidate countries, whenever data are available.
- 3 The EU-level target on eighth graders' underachievement in computer and information literacy is not covered in this edition of the Education and Training Monitor. This is because the underlying data were not available during the drafting phase. The data are from the International Computer and Information Literacy Study (ICILS), as conducted by the International Association for the Evaluation of Educational Achievement (IEA). The online [Monitor Toolbox](#) features links to ICILS 2023 data as published on 12 November 2024.

- 4 The SGIB is an informal expert group advising the European Commission on evidence and monitoring of education and training systems within the open method of coordination.

With its findings, the 2024 Education and Training Monitor supports the EU's latest political ambitions in education and training. The European Commission's [2024-2029 Political Guidelines](#) call “for a radical step change [...] for all types of training and education”. Education and training play a key role in equipping people of all ages, from early childhood education to adult learning, with the competences essential for civic participation, engagement, and societal resilience. Equally, the [2024 Letta report](#) on the EU single market and the [2024 Draghi report](#) on the future of European competitiveness highlight how increased investments in education and training help respond to economic challenges to do with productivity, innovation, skills gaps, and labour shortages. This will allow the EU to be better prepared for the digital, green, and demographic transitions in an uncertain international context, while ensuring social inclusion.

The 2024 Education and Training Monitor is complemented by other European Commission monitoring reports in the field of education and training. Firstly, the [2024 European Commission report](#) on investing in education shows that education had one of the largest drops in investment among the various public policy sectors between 2019 and 2022. Since the COVID-19 pandemic, investment in education has faced stronger competition from other public functions, and therefore receives a lower share of total public expenditure than in the previous decade. This happened as public authorities took multiple measures to support the economy and public health in 2020–2021 in response to the pandemic. Although most of the measures were discontinued or gradually phased out in 2022, new measures have since been introduced to face the energy crisis and support Ukraine in the wake of Russia's invasion⁵.

Secondly, a [2024 European Commission report](#) on the inclusion of displaced children from Ukraine captures another persistent challenge faced by EU education systems, as well as the deep solidarity and agility of its schools. The report presents the results of a survey for the 2023/2024 school year. An estimated 700 000 displaced children from Ukraine are enrolled in schools

across the EU, from early childhood education and care to upper secondary education. The educational authorities have mobilised extensive support for students, families, teachers, and educational institutions across all levels of education, and most EU countries require children from Ukraine to attend local schools. Moreover, EU countries have implemented measures to support teachers working with Ukrainian pupils, including professional development and training, teaching materials, and staff recruitment, including from Ukraine.

Finally, a [2024 European Commission report](#) on the OECD's PISA 2022 results shows that the share of students not able to reach a minimum competence benchmark in reading, mathematics, and science has increased in most countries compared to the previous PISA 2018 results. At the same time, the share of students reaching a high level of competence has declined across the board in reading and mathematics compared to PISA 2018. The report also touches upon student wellbeing, noting that a sense of belonging at school is rather high, but that a sizeable proportion of students is exposed to bullying, with possible negative effects on their educational performance. The 2024 Education and Training Monitor is the first edition since the release of the PISA 2022 results, and its data are used in various sections throughout the comparative report, most notably in Chapter 3 on school education.

This comparative report has 6 chapters. Chapter 1 focuses on learning for sustainability, with an analysis of sustainability competences and the opportunities to learn about sustainability in school education. Chapters 2 to 6 cover the EU-level target areas from early childhood education and care all the way to adult learning. These chapters also touch upon learning for sustainability at levels of education and training outside of school education. All chapters of the comparative report overlap to some extent, given that education and training sectors are closely intertwined⁶. The 2024 Education and Training Monitor's comparative report and country reports are structured the same way and are backed up by the online [Monitor Toolbox](#), with all key sources and data organised by country and theme.

5 The report on investing in education also captures the state of play on counterfactual education policy evaluation, [mapping recent studies using counterfactual policy evaluation](#) in education in Europe to assess the success of policies and programmes. The [Learning Lab on Investing in Quality Education and Training](#) aims to promote a culture of evaluation in education policy and provide knowledge and resources to identify how to make EU education systems more effective, efficient and equitable. Its activities cover three main areas: (i) capacity building on evaluation methodologies; (ii) collaborative work among EU countries; and (iii) analysis and evaluation of education policies.

6 For instance, school-based initial vocational education and training features the same challenges as included under school education in this report, whereas the participation of adults in formal learning may involve continuing vocational education and training or tertiary education.

Chapter 1. Learning for sustainability



Learning for sustainability can be defined as the holistic and interdisciplinary learning experiences that enable learners to embody sustainability values, vision, and mindset⁷. These learning experiences help learners understand and critically analyse complex economic, environmental, and social systems. They encourage learners to live and work sustainably, contribute to the green transition, and actively participate in restoring and maintaining ecosystems. Moreover, they enable learners to take individual and collective action for a sustainable future for all.

This chapter brings together the latest evidence on learning for sustainability. It starts with various aspects of sustainability competences, before moving on to educational opportunities for young people to nurture these competences. In the context of broader European Commission priorities, learning for sustainability is about

capacity building in support of the European Green Deal and the commitment to climate neutrality as enshrined in EU law⁸.

The [2022 Council Recommendation](#) on learning for the green transition and sustainable development⁹ highlighted the specific challenges posed by the complexities of a ‘whole-person approach’¹⁰ and a ‘whole-school approach’¹¹ and the essential role of monitoring. This chapter builds on a dedicated [2024](#)

7 This definition stems from the [2024 study](#) supporting the monitoring framework for learning for sustainability. Sustainability means prioritising the needs of all life forms and of the planet by ensuring that human activity does not exceed planetary boundaries. It considers (interconnected) environmental, economic, and social dimensions. Holistic learning is an approach to education that engages all aspects of the learner, including the heart, head, and hands, sometimes referred to as the socio-emotional (heart), cognitive (head), and behavioural (hands) dimensions of learning.

8 The UN Committee on the Rights of the Child underlines that all children should be equipped with the skills necessary to face expected environmental challenges. It also stresses how climate change impacts various child rights enshrined in the UN Convention.

9 See also the [2022 Staff Working Document](#) underpinning the European Commission proposal for the [2022 Council Recommendation](#) on learning for the green transition and sustainable development, as well as the [2023 Council Conclusions](#) on skills and competences for the green transition.

10 At the core of learning for sustainability is the whole-person approach, which goes beyond subject-centred and knowledge-focused teaching and assessment and acknowledges values, attitudes, envisioning, and action for change. This may be at odds with school education approaches that focus on learning facts about the past or present, without future-focused perspectives.

11 Learning for sustainability relies on a whole-school approach, which seeks to make sustainability part of the lived and taught experience in schools. This not only comprises the interdisciplinary aspect, but also sustainable learning environments and external partnerships.

[study](#) supporting the monitoring framework for learning for sustainability¹². The study provides greater clarity via a conceptual framework and indicators that can be drawn upon to monitor learning for sustainability (see Box 1). The focus here is on school education, with subsequent chapters touching upon learning for sustainability at other levels of education and training.

1.1. Sustainability competences

Figure 1 illustrates the level of foundational knowledge about sustainability¹³ among eighth graders (age 13–14), comparing EU countries¹⁴ and socio-economic backgrounds. The indicator is calculated as a subscale of civic knowledge – covering, among other things, various civic principles (such as sustainability) and various civic institutions and systems (such as economic systems and state institutions)¹⁵. In terms of cognitive domains, this foundational sustainability knowledge is about knowing, but also about reasoning and applying¹⁶. Results range from 445.5 in Bulgaria (more than half a standard deviation below the 500-point average of



“About 84% of students value sustainability, but not even 30% take action.”

all participating countries¹⁷) to 551.3 in Denmark (more than half a standard deviation above the average)¹⁸.

Parental educational attainment (one of various proxies for socio-economic background¹⁹) is positively correlated with the sustainability knowledge score in all EU countries. On average, eighth graders whose parents have a low level of educational attainment score 76.3 points lower (458.5) than those whose parents have a high educational attainment (534.7). This gap is above 100 points in Slovakia (143.5), Poland (125.3), Slovenia (120.1), Lithuania (109.5), and Sweden (108.5).

12 The study is titled ‘Monitoring Learning for Sustainability: Developing a Cross-EU Approach’. This chapter is a first attempt to present the latest available data for capturing the key policy areas conceptualised in the study. It is only a first step in a collaborative effort to strengthen the evidence base on sustainability as taught and learnt across EU education systems.

13 Foundational knowledge about sustainability is needed to understand the basic facts and science behind sustainability challenges (for instance, facts about global warming, ocean acidification, sea level rise) in order to achieve critical thinking and navigate disinformation. For more information on foundational knowledge about sustainability, see the [2024 study](#) supporting the monitoring framework for learning for sustainability.

14 In total, 17 EU education systems participated in ICCS 2022: Bulgaria, Croatia, Cyprus, Denmark, Estonia, France, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, and Sweden. Denmark did not meet sample participation requirements, so its results should be interpreted with caution. Germany also participated with two benchmarking regions (North Rhine-Westphalia and Schleswig-Holstein). For more information, see the [ICCS 2022 International Report](#) and the [ICCS 2022 European Report](#).

15 The indicator captures sustainable development issues (environmental, economic, and social). It is sourced from the [2022 International Civic and Citizenship Education Study](#) (ICCS) as conducted by the [International Association for the Evaluation of Educational Achievement](#) (IEA). Results are highly correlated with the overall ICCS 2022 score for civic knowledge.

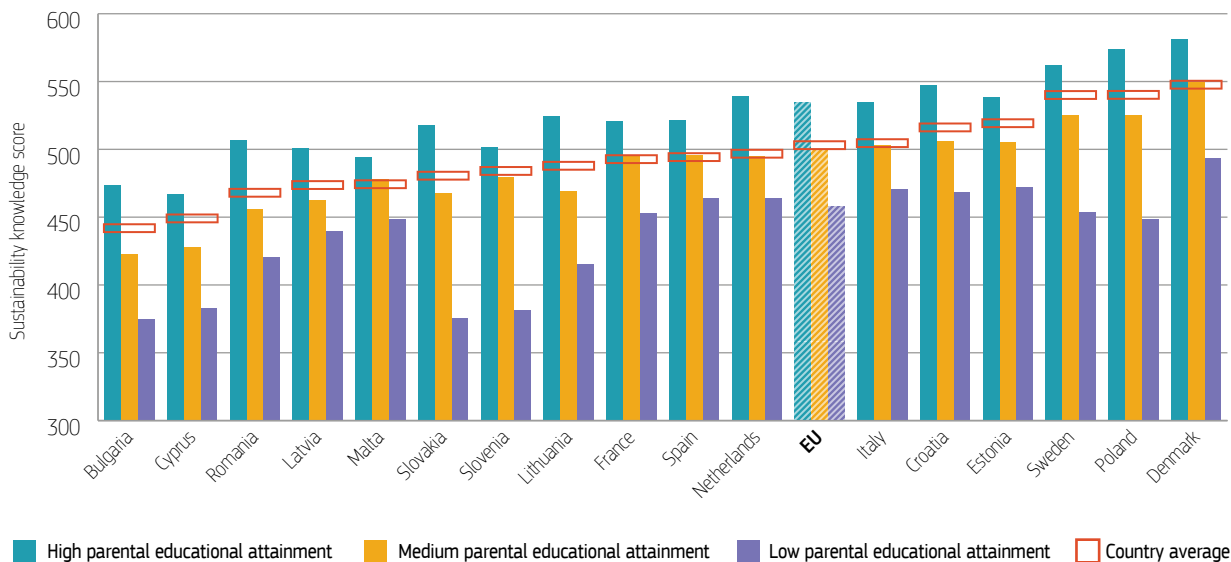
16 As examples, and in increasing order of difficulty, items in this domain would be either multiple choice or open questions asking the students to ‘associate reducing waste from plastic packaging with living sustainably’, to ‘identify that sustainable development is relevant to the whole world’, to ‘relate the responsibility for environmental protection to the actions of individual people,’ or to ‘identify likely strategic aims of a programme of ethical consumption’.

17 Scores were set to a mean of 500 and a standard deviation of 100 among all participating countries. The average for all participating EU countries is 506.7.

18 For an earlier exploration of young people’s environmental sustainability competences using PISA 2018 data, see this [2022 OECD report](#).

19 Two other proxies for socio-economic background yield similar, if less pronounced, patterns. Firstly, a standard classification of parental occupation is grouped into 4 categories. Contrasting managers, professionals, and technicians on the one hand with plant and machine operators and assemblers plus elementary occupations on the other, a knowledge score gap of 59.6 is found across the EU, topping 80 score points only in Bulgaria (95.5), Romania (86.1), and Slovakia (84.1). Secondly, having over 200 books at home rather than fewer yields an average score point advantage of 49.8. This is not only a smaller effect but also more evenly spread across EU countries. [Monitor Toolbox](#)

Figure 1. **Foundational knowledge about sustainability varies between EU countries and by socio-economic background**

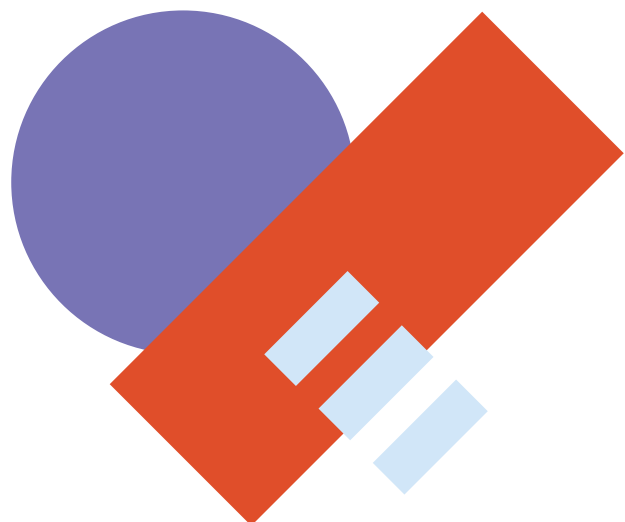


Source: European Commission (Joint Research Centre) calculations, based on a special extraction of data from the 2022 International Civic and Citizenship Education Study (ICCS). [Download data](#) [Monitor Toolbox](#) Note: the score has a mean of 500 and a standard deviation of 100 among all participating ICCS 2022 countries; countries are displayed in ascending order according to the country's average score.

Eighth graders' migrant background has a more uneven effect across EU countries than parental educational attainment. Students with both parents born abroad have a 38.7-point disadvantage. The disadvantage is negligible in Bulgaria, Cyprus, and Malta, but more pronounced in Slovakia (93.8)²⁰. Finally, girls score a bit higher than boys on the sustainability knowledge scale in all EU countries, yielding a 20.3-point difference on average and relatively prominent gaps in Bulgaria (36.6), Sweden (33.9), and Lithuania (33.3)²¹. By contrast, in the Netherlands, the gender gap is only 8.5 points.

20 Another proxy for migrant background is whether the language spoken at home corresponds to the test language. The results are somewhat similar, with an average gap of 48.3 points, smaller effects in Cyprus and Malta, and a prominent outlier status for Slovakia (102.7). However, Bulgaria records a substantial gap when using this indicator (74.2) whereas Romania no longer does (18.2 compared to 72.2 when looking at parental country of birth). [Monitor Toolbox](#)

21 [Monitor Toolbox](#)

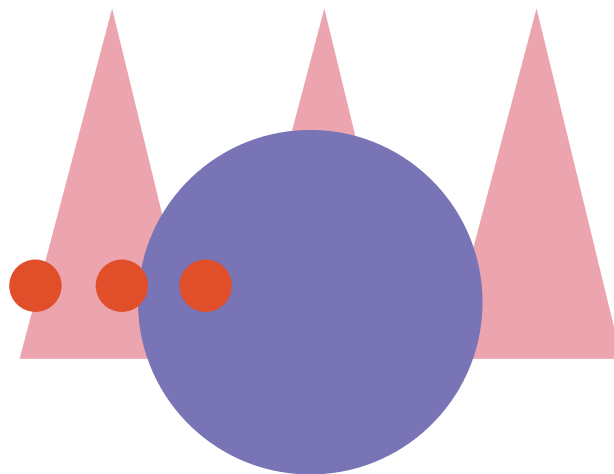


Box 1. Monitoring learning for sustainability

The 2024 study 'Monitoring Learning for Sustainability: Developing a Cross-EU Approach' is based on extensive literature reviews and focus grouping. It proposes a conceptual framework for the system-level implementation of learning for sustainability in compulsory education across the EU. The conceptual framework is organised around five key policy areas: (i) policy, coordination, and strategic frameworks; (ii) curriculum, pedagogy, and assessment; (iii) building the capacity of educators; (iv) sustainable learning spaces and places; and (v) community connections and external partnerships²². The study also maps the available data needed to monitor inputs, processes, outputs, and outcomes for all five key policy areas, with two major sources used throughout this chapter²³.

The study acknowledges a trade-off between the multifaceted complexity of learning for sustainability as a concept and the need to limit the administrative burden that measuring progress places on EU countries. The proposed solution is to keep combining multiple sources but build on existing infrastructures for data collection, adding to and amending existing surveys for their next rounds of data collection. Some aspects of the key policy areas can already be captured, as evident in this chapter, whereas others still require further data development.

[GreenComp](#), the European reference framework for sustainability competences, looks beyond foundational knowledge in its focus on a combination of knowledge, skills, and attitudes²⁴. It covers four parallel and interconnected categories of sustainability competences: (i) embodying sustainability values; (ii) embracing complexity in sustainability; (iii) envisioning sustainable futures; and (iv) acting for sustainability. Figure 2 provides an overview of sustainability competences following the GreenComp approach and its 12 competences (in pink), supplemented by competences drawn from other frameworks (in pale blue)²⁵.



22 In addition, there is a horizontal focus, across all five key policy areas, on funding, quality assurance, and stakeholder involvement (the latter including young people themselves).

23 These are the [2024 Eurydice report](#) on learning for sustainability and the results of [ICCS 2022](#). It is also worth recalling that the OECD's PISA 2018 covered learning for sustainability, as captured in a [2022 OECD-European Commission report](#). Finally, there are the [national implementation reports](#) as part of the [UNECE Strategy on Education for Sustainable Development](#). Four reporting cycles have taken place (2007, 2010, 2015, and 2018), and another national reporting exercise is currently ongoing, using a new implementation framework.

24 According to the [2024 study](#) supporting the monitoring framework for learning for sustainability, the holistic and interdisciplinary learning experiences associated with sustainability education are about a sense of agency, supporting learners as they develop the mindset to address sustainability challenges and ready themselves for active participation in tackling them.

25 See the [2024 study](#) supporting the monitoring framework for learning for sustainability for further details.

Figure 2. An overview of sustainability competences

Embodying sustainability values					
Valuing sustainability	Promoting nature	Supporting fairness	Normative competences/ value judging	Values clarification	Critical emotional awareness
Embracing complexity in sustainability					
Socially critical thinking	Problem framing	Systems thinking	Holistic and interdisciplinary perspectives	Participation and cooperation in diverse groups	Strategy and planning
Envisioning sustainable futures					
Futures literacy/ anticipatory thinking	Negotiating visions	Constructing joint visions	Adaptability/flexibility	Exploratory thinking	Sustainability research and attentiveness
Acting for sustainability					
Advocacy and persuasion	Collective action	Individual initiative	Political agency	Decisiveness	

Source: [2024 study](#) supporting the monitoring framework for learning for sustainability. Note: GreenComp sustainability competences are in pink, supplemented by competences drawn from other frameworks in pale blue.

A comparison of indicators capturing ‘embodying sustainability values’ and indicators capturing ‘acting for sustainability’ suggests a competence gap. Across the EU, more than two thirds of eighth grade students are concerned about threats to the global environment, such as pollution (82.1%), water shortages (78.0%), or climate change (73.2%)²⁶. Students also believe strongly in the importance of making changes to one’s personal life to become more environmentally friendly (83.6%)²⁷.

Far fewer students report acting for sustainability in their daily life (29.8%), with shares ranging from 20.4% in the Netherlands to 34.3% in Italy²⁸. The highest shares of students reported reducing the use of electricity and reducing food waste (43.6% and

41.3%, respectively), but only 14.5% of all students had purchased used instead of new clothing often in the previous 12 months²⁹. Figure 3 illustrates the disconnect between values on the one hand and action on the other in every EU country, indicating that students’ belief in the importance of changing personal lifestyles does not necessarily translate into acting for sustainability³⁰.

26 [Monitor Toolbox](#)

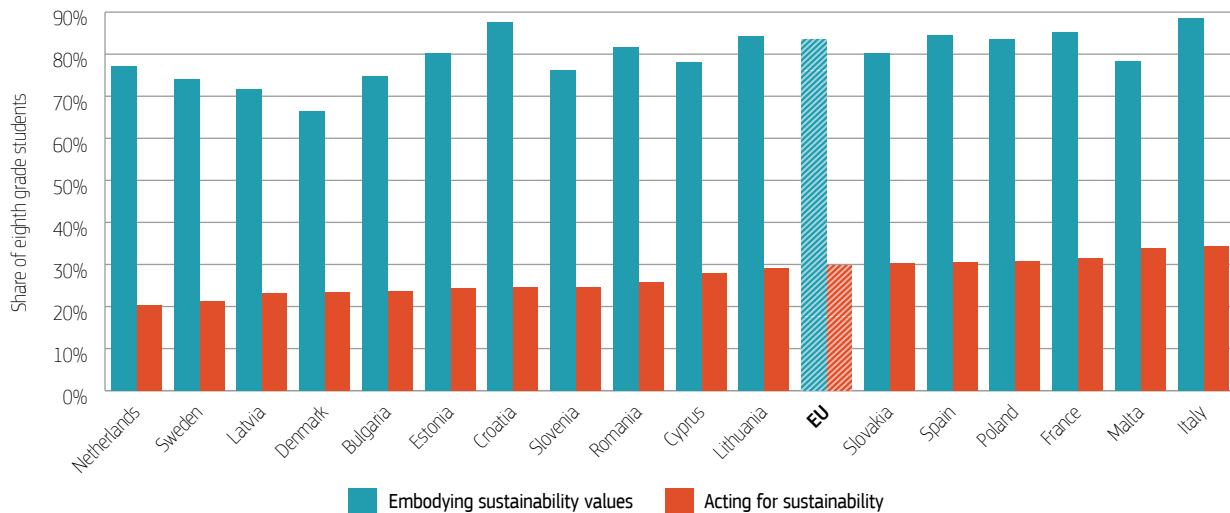
27 The least agreement is found in Denmark (66.5%) and the most in Italy (88.5%). [Monitor Toolbox](#) The proportion of individuals who consider climate change to be an important issue is generally higher among those with higher levels of educational attainment. In the OECD’s 2022 environmental policies and individual behaviour change (EPIC) survey, 68.4% of respondents with tertiary educational attainment deemed climate change and environmental issues personally important, compared to only 58.3% of respondents without such credentials. See the OECD’s [Education at a Glance 2024](#).

28 [Monitor Toolbox](#) PISA 2018 asked students about their acting for sustainability as well, albeit without asking about the frequency with which they took such actions. Across the EU, 37.5% of students reported acting for sustainability, ranging from 32.7% in Germany to 48.8% in Bulgaria. Examples of actions were similar. They included reducing energy usage at home (67.5%), choosing certain products for ethical or environmental reasons even if they are a bit more expensive (43.9%), participating in activities in favour of environmental protection (31.2%), or boycotting products or companies for political, ethical, or environmental reasons (23.4%).

29 An average of 17.7% avoided buying products with plastic packaging, 26.7% limited their use of plastic items, and 28.9% reduced water use. Other examples do not yield very different results. Within the previous 12 months, about a sixth of the students refused to buy goods whose production has negative environmental impacts (17.0%), that were produced by companies using child labour (16.8%) or by companies violating the social rights of their employees (15.7%). Most students purchased or asked their parents to purchase green goods (24.0%) or recyclable goods (20.4%). Only 13.1% of the students informed themselves or asked their parents to get informed about the social responsibility of companies before buying their products. [Monitor Toolbox](#)

30 Other sources confirm a disconnect between knowledge and awareness on the one hand and acting for sustainability on the other. The OECD’s [Education at a Glance 2024](#) draws upon the ‘4As framework’ (awareness, acknowledgement, attitude, and action) to assess ‘the cognitive and behavioural dimensions that shape an individual’s interaction with the environment’. Using data from PISA 2018, the report shows how the share of 15-year-olds from advantaged socio-economic backgrounds who are aware of climate change (88.4%) is on average about 20 percentage points higher than the share among those from disadvantaged socio-economic backgrounds (67.9%). Yet taking at least one pro-environmental action is even less prevalent among both groups, as reported by 39.8% of students from advantaged socio-economic backgrounds and 33.5% of students among disadvantaged socio-economic backgrounds.

Figure 3. Sustainability values do not go hand in hand with acting for sustainability



Source: European Commission (Joint Research Centre) calculations, based on ICCS 2022. [Download data](#) [Monitor Toolbox](#) Note: the indicator for embodying sustainability values captures the share of students agreeing with the statement that it is important to make changes to one's personal lifestyle to be more environmentally friendly; the indicator for acting for sustainability captures the average percentage of students reporting that they participate in the following activities often: purchasing used instead of new clothing, reducing water use, reducing electricity use, avoiding buying products with plastic packaging, reusing old items that are still in good condition, limiting their use of plastic items, reducing food waste, and repairing items rather than replacing them; countries are displayed in ascending order according to the acting for sustainability indicator.

Box 2. Assessing sustainability competences: examples from the 2024 Education and Training Monitor's country reports

The comparative evidence is scarce when it comes to schools' assessment frameworks targeting sustainability competences³¹. In [Bulgaria](#), the official school curriculum includes provision for assessing compulsory subjects that are directly related to learning for sustainability. The expected results and activities are assessed with special emphasis on practical skills. For example, the 'surrounding world' subject in first grade requires an oral assessment with focus on practical situations and skills. The assessment of other subjects may include observations, experiments, or research. Subjects like 'chemistry and protection of the environment' include skills for sustainability by raising students' awareness about environmental pollution, and use of natural resources.

In [Ireland](#), most students finish secondary school with a state examination, covering subjects with sustainability components such as science or geography. The exams on individual subjects are often combined with a second assessment, which is usually a project counting for 20% of the final grade. Starting in 2027, the new 'climate action and sustainable development' subject will be included in the exam for the leaving certificate. This exam will include two assessment components, including one written examination and one action project. The written part is planned to make up the bigger part of the grade (60%).

In [Malta](#), students finishing secondary education can make use of two different forms of assessment to prove their sustainability competences. Firstly, the 'secondary school certificate and profile' enables students to receive a certificate acknowledging several non-formal and informal learning tools covering extracurricular activities. Secondly, students have the option to pursue the secondary education certificate in 'environmental studies' and 'social studies' at the end of their compulsory education. For the social studies certificate, students need to write two papers. For the environmental studies certificate, two summative assessments are required, usually consisting of two written examination papers. Additionally, students need to deliver one project³².

- 31 Given the need to capture everything from knowledge to action, an 'authentic assessment' may be preferred. This asks students to apply their competences to real-world situations and may include elements of formative and summative assessment. Examples of such authentic assessment can be found in a [2023 input paper](#) of the EEA strategic framework working group on school education (sub-group on learning for sustainability). Moreover, useful platforms, such as the [SDG Fitness Test](#), are readily available for the design and implementation of assessment frameworks.
- 32 In EU countries where no country-level transformative assessment schemes are available, some individual schools have adopted alternative assessments. In a [2023 report](#), the EEA strategic framework working group on school education (sub-group on learning for sustainability) provided examples of schools in Finland, Denmark, and the Netherlands.

Neither a foundational knowledge of sustainability, nor subscribing to sustainability values, are enough for young people to become involved in and contribute to individual and collective action. On the contrary, knowledge and values alone can leave learners overwhelmed by the urgency and magnitude of the challenge, and eco-anxiety and eco-paralysis can set in³³. Education and training alone cannot be held accountable for a disconnect between knowledge and action. Equally, young people may be encouraged to act outside the reality of the school. Yet building sustainability competences may help learners overcome this cognitive dissonance³⁴. Education and training can play their part in fostering adaptability, creativity, and decisiveness³⁵.

Main takeaway

Learning for sustainability is about the holistic and interdisciplinary learning experiences that enable students to embody sustainability values, vision, and mindset. Sustainability competences enable learners to understand and critically analyse complex economic, environmental, and social systems, while empowering them to take individual and collective action towards the green transition. Young people subscribe to sustainability values, with 83.6% believing in the importance of making changes to one's personal life to become more environmentally friendly. A foundational knowledge of sustainability is present too, though ranging widely across EU countries (from the highest level in Denmark to the lowest in Bulgaria). However, the fact that only few young people act for sustainability in daily life (29.8%) may point at a lack of support and encouragement to link knowledge to action.

33 For more information on eco-anxiety and eco-paralysis, see a [2023 input paper](#) from the EEA strategic framework working group on school education (sub-group on learning for sustainability).

34 See the [2022 European Commission \(Joint Research Centre\) report](#) on GreenComp.

35 Concrete examples of key sustainability competences are plentiful. Looking back at Figure 2, systems thinking and holistic, interdisciplinary perspectives enable learners to engage with the whole of a problem or situation, approaching different elements of a system as interconnected rather than analysing them in isolation. Envisioning sustainable futures helps learners feel that the future is open and that it can be shaped collectively, while accepting uncertainty, ambiguity, and risk. The fourth category labelled acting for sustainability contains competences that encourage learners to take or request action, at individual and collective level, with a sense of agency and persuasion.

1.2. Opportunities to learn

Most EU education systems support schools in developing whole-school approaches to sustainability³⁶. This support takes the form of guidelines, webinars, pedagogical resources, best practices, handbooks, and teacher manuals. Specific aspects of whole-school approaches that are being supported include: (i) embedding sustainability in things like school development plans (18 systems); (ii) the design, monitoring, and evaluation of sustainability strategies (17 systems); and (iii) developing effective school leadership (14 systems)³⁷. However, as this section will show, curricular coverage is often limited, and teachers may lack the training to nurture a complex set of sustainability competences.

1.2.1. Curricula and pedagogies

All EU education systems include the topic of sustainability in their curricula³⁸. Sustainability competences are often included in an interdisciplinary way³⁹, as an explicit cross-curricular theme⁴⁰ or through project-based learning⁴¹. Another approach is to include sustainability in science subjects and citizenship education. Sustainability is included in the curricula as a separate, often optional,

subject in only 6 EU countries (Cyprus, Hungary, Romania, Slovenia, Spain, and Sweden)⁴².

However, when looking closer at the actual curricular coverage, the evidence shows that not all sustainability competences are targeted equally across the EU⁴³. As illustrated by Figure 4, relatively few education systems adopt a cross-curricular approach to competences related to embracing complexity (systems thinking), envisioning futures (futures literacy), and acting for sustainability (individual and collective action, political agency)⁴⁴. Among these, futures literacy remains the least covered competence in curricula across the EU⁴⁵. This is of concern, as futures literacy not only distinguishes learning for sustainability from related concepts, but also helps learners tackle complacency or eco-anxiety⁴⁶.

Furthermore, the reported examples of political agency rarely⁴⁷ include examples of learning outcomes that go beyond individual responsibility. Similarly, individual and

36 Exceptions are the German-speaking community of Belgium, Croatia, Greece, Latvia, the Netherlands, and Romania. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

37 See the [2024 Eurydice report](#). [Monitor Toolbox](#) Only 11 EU education systems report the coverage of learning for sustainability in school evaluations. Specific criteria related to learning for sustainability are covered by external school evaluations in Austria, the Flemish community of Belgium, Bulgaria, France, Germany, Hungary, Latvia, Lithuania, Malta, and Spain. They are covered by internal school evaluations in Austria, Cyprus, France, Hungary, Latvia, Lithuania, Malta, and Spain.

38 Already in 2018, about 88% of 15-year-olds across the EU attended schools in which formal curricula guided the teaching of climate change and global warming. In Estonia, France, Germany, Ireland, Lithuania, Poland, Romania, Slovenia, and Spain the share was over 95%. See a [2022 OECD-European Commission report](#).

39 Interdisciplinary learning is a crucial part of learning for sustainability, since sustainability has economic, environmental, and social dimensions. See the [2024 study](#) supporting the monitoring framework for learning for sustainability.

40 Only Denmark, Luxembourg, and the Netherlands do not include sustainability in the curriculum in a transversal way. All other EU education systems offer it as a cross-curricular theme with detailed instructions on its inclusion or, in the cases of Hungary, Poland, and Slovenia, as a general objective in education without such instructions. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

41 This means the inclusion of sustainability-focused cross-curricular modules or themes in national curricula, whereby students can learn about, experiment on and experience sustainability-related issues outside the regular disciplinary approach or subjects. Across the EU, about half of all education systems use project-based learning (Austria, Croatia, Cyprus, Denmark, Estonia, France, Greece, Luxembourg, Poland, Portugal, Romania, Slovenia, and Spain). See the [2024 Eurydice report](#). [Monitor Toolbox](#)

42 These optional separate subjects are only compulsory in Cyprus and Sweden (within a specialisation). See the [2024 Eurydice report](#). [Monitor Toolbox](#)

43 This is an underestimation of the full coverage of sustainability competences, as it excludes their inclusion in specific school subjects when not accompanied by a cross-curricular approach. However, no EU education system includes all sustainability competences in its curriculum without a cross-curricular approach. Across the EU, nine education systems cover all seven sustainability competences holistically in primary, lower secondary, and upper secondary education: Austria, Finland, France, Germany, Latvia, Lithuania, Malta, Portugal, and Sweden. In contrast, some systems do not adopt the cross-curricular approach at all (Denmark, Luxembourg, and the Netherlands). See the [2024 Eurydice report](#). [Monitor Toolbox](#)

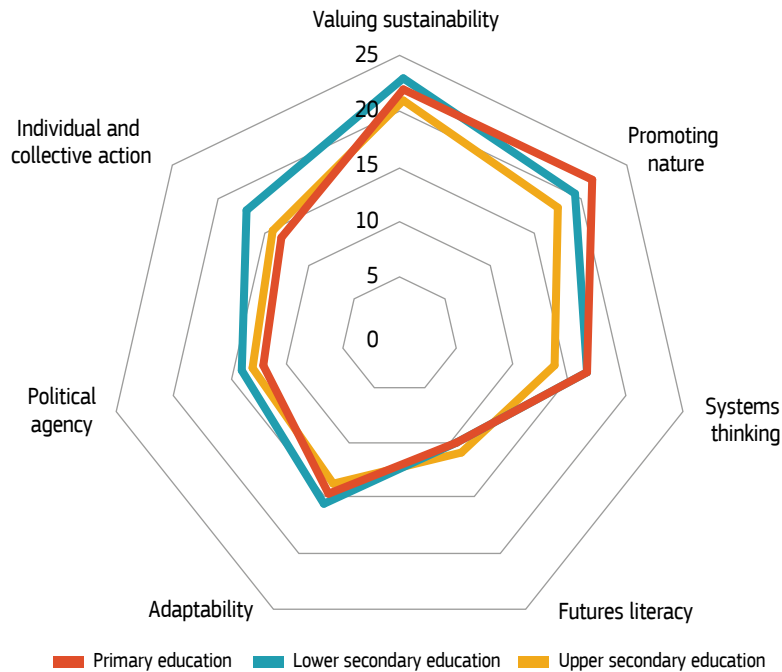
44 A distinction between levels of education should be made, with higher expectations of upper secondary education than of primary education. Political agency and individual and collective action are reported most at lower secondary level. Promoting nature is most common in primary education. Crucially, curricula at upper secondary education level are least likely to cover sustainability competences, even if futures literacy is slightly more common than in primary or lower secondary curricula. See the [2024 Eurydice report](#).

45 This finding remains the same when also including the non-interdisciplinary approach. Futures literacy is covered in an interdisciplinary way in 11 EU countries during primary and lower secondary education (Austria, Cyprus, Finland, France, Germany, Greece, Latvia, Lithuania, Malta, Portugal, and Sweden), and in 12 EU countries during upper secondary education (Austria, Croatia, Cyprus, Estonia, Finland, France, Germany, Greece, Latvia, Lithuania, Malta, and Portugal). See the [2024 Eurydice report](#). [Monitor Toolbox](#)

46 Futures literacy, sometimes referred to as future thinking or envisioning, is a crucial aspect of learning for sustainability, one that distinguishes it from related concepts such as education for sustainable development and environmental education. This competence area covers responsibility and action, and the development of the confidence and skills needed to help anticipate, participate in, and create alternatives. It contrasts with 'doomsday' future projections, which may disempower learners and result in eco-anxiety and eco-paralysis. It also contrasts with a focus on learning facts about the past or present, without teachers being trained to introduce future-focused perspectives in class.

47 Czechia, Cyprus, and Hungary. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

Figure 4. **Futures literacy is the least covered competence in curricula across the EU**



Source: [European Commission/EACEA/Eurydice \(2024\)](#). [Download data](#) [Monitor Toolbox](#) Note: the indicator captures the number of EU education systems covering each sustainability competence in their curricula with a cross-curricular approach; there are 29 systems in total, with the French, German-speaking, and Flemish communities of Belgium counted separately.

collective action is geared towards individual action and responsibility, whereas the few references to collective action and responsibility are often limited to action in the school or the local community. This inadequate curricular coverage is confirmed by a comprehensive [UNESCO project](#) completed in 2024.

Across the EU, only 48.0% of schools report that (nearly) all eighth grade students can take part in activities related to sustainability⁴⁸. An average of 52.8% of teachers confirm that they have engaged in such activities⁴⁹. A common example of sustainability activities concerns students contributing to the sustainability of the

school itself (see Box 3). This has the potential to bring together several strengths that distinguish learning for sustainability from other practices. However, for all these activities, the downside is a tendency to focus on low-impact activities rather than complex sustainability challenges⁵⁰.

48 Schools implement different types of activities in which some or most students participate. For example, 46.5% of schools implement activities designed to encourage environmentally friendly behaviours in students, ranging from 5.2% in the Netherlands to 66.4% in Poland. It is even more common for schools to offer activities designed to promote students' respect for the environment, with 92.3% of schools having undertaken such activities, ranging from 68.5% in Sweden to 98.9% in Lithuania. However, not every student may have the opportunity to participate, as some principals report offering sustainability-related activities only to 'most' or 'some' of the students. [Monitor Toolbox](#)

49 [Monitor Toolbox](#) As a concrete example, 57.9% of teachers have carried out activities designed to increase awareness about the environmental impact of excessive consumption of resources, with the figures ranging from 27.6% in the Netherlands to 79.3% in Italy.

50 The tendency to overemphasise low-impact activities is confirmed in a [2024 OECD report](#) on rethinking education in the context of climate change.

Box 3. Sustainable learning environments

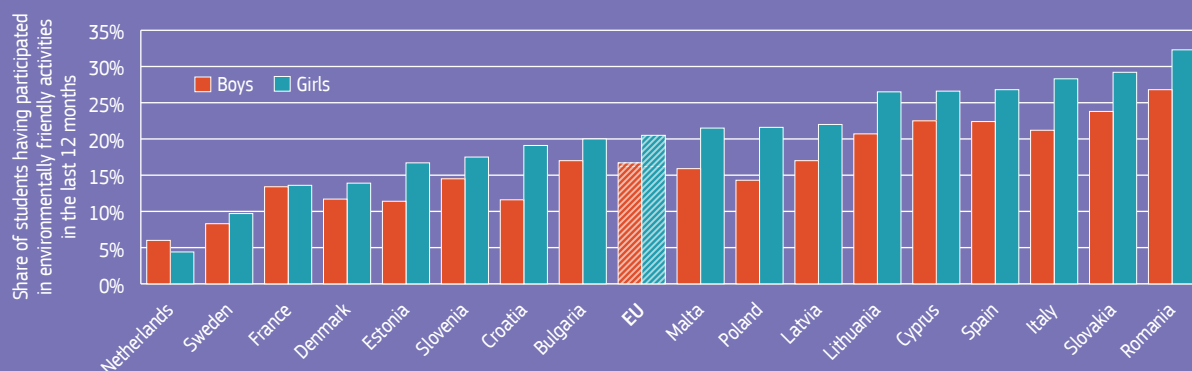
According to the [2024 study](#) supporting the monitoring framework for learning for sustainability, the design and use of learning environments are crucial factors in enhancing sustainability competences. Infrastructure such as sustainable campus management and green spaces can help engage learners, parents, and the local community (for instance, showing how to save energy on buildings, how to reduce emissions, and how to contribute to reducing the environmental footprint).

Students' contribution to sustainable learning environments can be a powerful example of both the whole-school and whole-person approach, drawing upon knowledge, attitudes, and skills while fostering proactive engagement and participation. Such student contribution can also take the form of shared leadership, which is another strong enabler when it comes to learning for sustainability.

However, school principals tend to report low-impact activities such as differential waste collection (83.9%), with others such as re-allocation of food to those in need (18.8%) or the use of fair-trade products (33.4%) less commonly reported⁵¹. Overall, the tendency to focus on low-impact activities rather than complex sustainability challenges may suffice in primary education but becomes an issue in secondary education.

Across the EU, 20.5% of girls have participated in activities to make the school more environmentally friendly, compared to 16.7% of boys, an average gender gap of 3.8 percentage points (Figure 5)⁵². Girls are more likely to contribute to sustainable learning environments than boys in all EU countries with available data, except for the Netherlands. The biggest difference in participation between boys and girls can be seen in Croatia (7.5 percentage points).

Figure 5. **Girls are more likely to contribute to sustainable learning environments than boys**



Source: European Commission (Joint Research Centre) calculations, based on ICCS 2022. [Download data](#) [Monitor Toolbox](#) Note: the indicator captures the shares of female and male students reporting that they have participated in an activity to make the school more environmentally friendly within the last 12 months before the survey took place.

A few EU countries report investments in small-scale infrastructure that can be used for learning for sustainability. From primary to upper secondary education, financial support for bicycle facilities is available in 8 EU education systems⁵³, for recycling infrastructure in 9 systems⁵⁴, and for school gardens in 11⁵⁵. In some countries, schools have implemented projects on sustainable learning environments, such as 'climate playgrounds' in Belgium, where concrete surfaces were transformed into play mounds, or school buildings in France based on a 'biophilic' design, consisting mostly of wood and with plant-covered roofs⁵⁶. A European Commission study, due in early 2025, is exploring the design and adaptation of school buildings, grounds, and facilities. The study will map trends and review examples of learning spaces that facilitate sustainability learning and teaching.

51 [Monitor Toolbox](#)

52 [Monitor Toolbox](#)

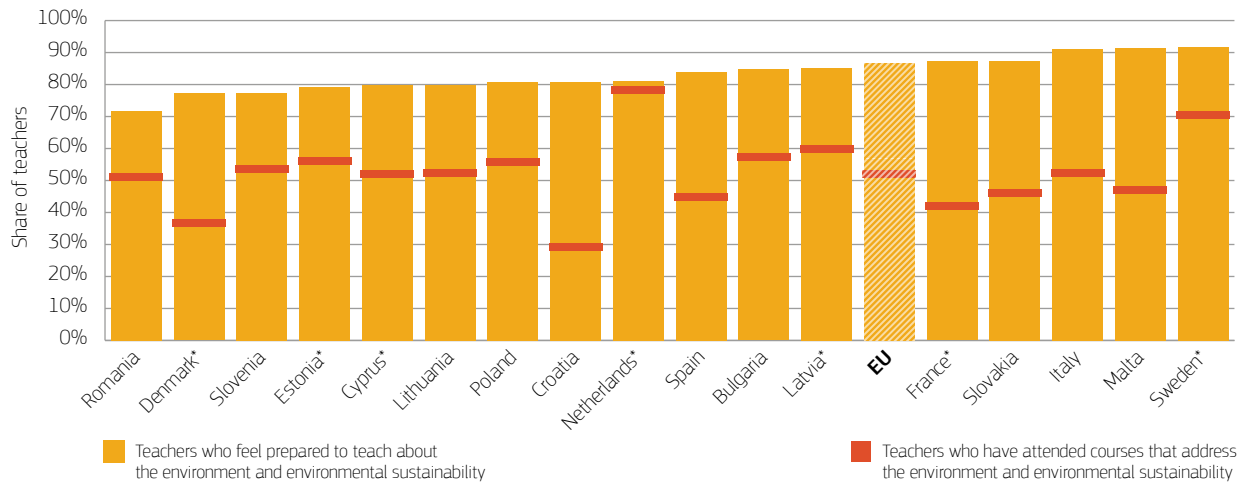
53 Cyprus, Ireland, Lithuania, Luxembourg, Malta, Portugal, Romania, and Spain. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

54 Cyprus, Czechia, Ireland, Lithuania, Luxembourg, Malta, Romania, Slovakia, and Spain. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

55 The Flemish community of Belgium, Bulgaria, Cyprus, Czechia, Ireland, Lithuania, Luxembourg, Malta, Romania, Slovakia, and Spain. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

56 See a [2023 ad hoc report](#) from the European Commission's network of experts working on the social dimension of education and training (NESET). More examples, including projects in Cyprus, Denmark, and the Netherlands, can be found in a [2023 input paper](#) of the EEA strategic framework working group on school education (sub-group on learning for sustainability).

Figure 6. Teachers may be underestimating the complexities of learning for sustainability



Source: ICCS 2022. [Download data](#) [Monitor Toolbox](#) Note: the indicator captures the share of teachers who feel very well or quite well prepared to teach about the environment and environmental sustainability, and the share of teachers who report having attended courses on these topics as part of pre-service or in-service training; countries not meeting sample participation requirements are marked with an asterisk.

Transformative pedagogical approaches are necessary for nurturing sustainability competences. Such pedagogies are action-oriented⁵⁷, characterised by elements such as self-directed learning, participation and collaboration, problem-orientation, inter- and transdisciplinary approaches, and the linking of formal, non-formal, and informal learning⁵⁸. Transformative approaches include asking students to explore different cultural perspectives (reported by 73.0% of teachers) or different social and economic perspectives (64.1%)⁵⁹. Less prevalent are the more action-oriented examples of working in small groups on different issues (46.5%), role play (20.0%), having students propose issues for subsequent lessons (18.4%), or projects that involve gathering information outside school, such as interviews in the neighbourhood (13.1%)⁶⁰.

57 Action competences concern sustainability competences that prepare and engage learners to act for sustainability and take responsibility at individual and collective levels. Action competences require learners to discuss, make value judgements, and critically evaluate future alternatives that can lead to the desired goal of sustainability. They also involve greater emphasis on the hands-on dimension of learning.

58 See the [2024 study](#) supporting the monitoring framework for learning for sustainability.

59 Here, teachers report conducting such activities to a large or a moderate extent in their classrooms. In 2018, PISA data showed that students had learnt how to solve conflicts with other people in their classroom (61.7%), participated in classroom discussions as part of the regular instruction (56.2%), had been invited by their teachers to express their opinion (46.9%), and analysed global issues together with classmates in small groups during class (46.7%). [Monitor Toolbox](#)

60 Here, teachers of civic-related subjects report conducting such activities often or very often. [Monitor Toolbox](#)

1.2.2. Building teacher capacity

Given the context of teacher shortages and pressures put on a teaching job⁶¹, learning for sustainability should not add disproportionately to teachers' already heavy workloads. Building teacher capacity is therefore primarily about providing education and training personnel with the right tools and support to steer the holistic and interdisciplinary learning experiences that define learning for sustainability⁶². At the same time, it is an opportunity for teachers to respond to a topic that resonates greatly with many of their students.

The environment and sustainability have become such a ubiquitous topic over the last few years that teachers risk misjudging their preparedness to educate young people about its complexities (Figure 6). In all EU countries with available data apart from the Netherlands, the proportion of teachers feeling prepared to teach about the environment and sustainability is substantially higher than the proportion of teachers who have learned about these topics and skills during initial teacher education or continuing professional development.

61 See the 2023 Education and Training Monitor's [comparative report](#) and the online [teachers' dashboard](#).

62 For example, the [2022 Council Recommendation](#) on learning for the green transition and sustainable development calls upon EU countries to support educators in using digital tools and technologies in their practice to enhance teaching and learning for the green transition and sustainable development.



86.8% of teachers feel prepared to teach about sustainability but only about half of all teachers have learned how to do this.”

While school curricula include sustainability competences in all EU countries, only 7 education systems have embedded sustainability competences in the general teacher competence framework⁶³, while another 4 have developed a specific competence framework for sustainability education⁶⁴. Only Austria, the French community of Belgium, and Germany include a wide array of sustainability learning objectives⁶⁵ in the initial education of all teachers in primary, lower secondary, and upper secondary education⁶⁶.



63 Denmark, France, Hungary, Ireland, Lithuania, Spain, and Sweden. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

64 Austria, Cyprus, Czechia, and Germany. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

65 Examples of such learning objectives concern key concepts, the interdependence of natural, socio-economic, and political systems, and individual versus group responsibility. See the [2024 Eurydice report](#).

66 This information is based on the latest available comparative overview (see the [2024 Eurydice report](#)). More recent and detailed information is available in the 2024 Education and Training Monitor's [country reports](#).

Box 4. Community connections and external partnerships

Collaborative partnerships between education institutions, the local community, and external organisations can support educators, foster community engagement, encourage non-formal education and lifelong learning, and contribute to resolving local challenges. Local experts may be able to provide specific sustainability-related knowledge that educators lack, or external locations may offer possibilities that the school cannot (such as science museums, national parks, or urban gardening initiatives). Much like sustainable learning environments (Box 3), such collaborations can enable learners to apply theoretical knowledge to real-world situations, boosting learner engagement⁶⁷.

Community connections and external partnerships receive the least focus across EU countries as a learning objective for teachers, both in initial teacher education⁶⁸ and in continuing professional development⁶⁹. Just over half of all EU education systems support sustainability school projects reaching out to NGOs (16 systems), public authorities (12 systems), and the general public (11 systems)⁷⁰. Schools engage with all 3 categories of non-school actors in Austria, Cyprus, Czechia, Estonia, Germany, Hungary, Malta, Portugal, Slovakia, and Spain⁷¹. Such sustainability school projects that include provision for engaging with the public are given both financial and non-financial support in 11 EU education systems⁷².

67 According to a [2023 report](#) from the EEA strategic framework working group on school education (sub-group on learning for sustainability), collaborative partnerships can provide opportunities to link informal, non-formal and formal education, leading to a better understanding of sustainability issues and practices and further strengthening systems thinking. Examples of such collaborations are site visits, practice projects, case studies, and participatory research. When it comes to students' connection to their local environment and community, a [2024 OECD report](#) shows that place-based education can increase learners' commitment to sustainable practices. This approach emphasises the interconnection of learning processes and the physical location of students and teachers, while linking to other pedagogies that are associated with sustainability learning (such as outdoor learning and community learning).

68 Only 5 systems include community connections and external partnerships in the regulations and guidelines for initial teacher education: Austria, the French community of Belgium, Germany, Hungary, and Slovenia. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

69 The development of partnerships to connect learners with the natural world, their local community, and the global community is mentioned in the regulations and schemes for continuing professional development in 14 EU education systems: Austria, the Flemish and French Communities of Belgium, Croatia, Cyprus, Czechia, Estonia, Finland, France, Greece, Ireland, Luxembourg, Malta, and Spain. In addition, Hungary covers these issues with accredited courses. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

70 See the [2024 Eurydice report](#). [Monitor Toolbox](#) In 5 EU education systems, the relevant competences reside with regional, local, or school authorities (Denmark, Finland, the Netherlands, Poland, and Sweden).

71 See the [2024 Eurydice report](#). [Monitor Toolbox](#)

72 Austria, Czechia, Estonia, France, Hungary, Ireland, Malta, Portugal, Slovakia, Slovenia, and Spain. Another 3 education systems provide financial support only (the French community of Belgium, Bulgaria, and Italy) and 3 only non-financial support (the Flemish community of Belgium, Cyprus, and Germany). Financial support is often provided indirectly by funding other organisations, especially NGOs, which in turn cooperate with schools to provide sustainability education. Non-financial support usually takes the form of the provision of guidelines. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

On average, continuing professional development appears to compensate for some of the gaps in initial teacher education, with most systems including learning for sustainability in on-the-job training⁷³. Here, learning objectives include: (i) understanding sustainability issues, concepts, and values⁷⁴; (ii) innovative and engaging pedagogies⁷⁵; and (iii) the interdisciplinary approach⁷⁶. However, little is known about the monitoring of actual participation rates, about incentives to ensure teachers' voluntary participation, or the effectiveness of innovative, hands-on, and transformative approaches in teacher training⁷⁷.

Virtually all EU education systems support teachers through teaching materials, resources, or guidelines⁷⁸ on how to integrate sustainability in teaching⁷⁹, and 22 systems also ensure the creation of dedicated networks and communities of practice⁸⁰. Reported less frequently are other teacher support measures such as units of

expertise (16 systems), sustainability education centres (12 systems), and school coordinators (9 systems). Only 6 EU education systems have special mentoring schemes (Austria, Cyprus, Czechia, Finland, France, and Malta)⁸¹.

In sum, learning for sustainability is often left to individual schools or teachers, limiting its impact on the competences of young people to act for sustainability. Already in 2019, [Eurobarometer](#) results suggested that 41% of young people across the EU believed topics like climate change, the environment, and eco-friendly behaviours were not taught sufficiently in school. A new [Eurobarometer](#) in 2024 suggests that 28% of young people do not agree that they have learned to take care of the environment during their education and training. And according to the large-scale survey used throughout this chapter, only 42.1% of eighth graders report having learned a lot about how to protect the environment, with figures below 30% in the Netherlands (27.6%), Estonia (29.4%), and France (29.8%)⁸².

- 73 In addition, specific sustainability-related training for school leaders is included in the regulations and schemes for continuing professional development in Austria, Cyprus, Czechia, Estonia, Ireland, Slovenia, and Sweden. Specific activities on sustainability leadership for teachers and school heads are included in Denmark, Finland, France, and Malta. See the [2024 Eurydice report](#). [Monitor Toolbox](#)
- 74 Sustainability issues, concepts, and values are covered by regulations and schemes for continuing professional development in all systems apart from the German-speaking community of Belgium, the Netherlands, Poland, and Romania. See the [2024 Eurydice report](#). [Monitor Toolbox](#)
- 75 Innovative and engaging pedagogies are covered by regulations and schemes for continuing professional development in all systems apart from the German-speaking community of Belgium, Croatia, Denmark, Germany, Italy, the Netherlands, and Portugal. See the [2024 Eurydice report](#). [Monitor Toolbox](#)
- 76 The interdisciplinary approach is covered by regulations and schemes for continuing professional development in all systems apart from the German-speaking community of Belgium, Germany, the Netherlands, Poland, Romania, and Slovenia. See the [2024 Eurydice report](#). [Monitor Toolbox](#)
- 77 For more information on teacher education, see a [2023 analytical report](#) from the European Expert Network on Economics of Education (EENEE). Moreover, as part of the UNECE [Strategy on Education for Sustainable Development](#), countries developed national implementation reports, with various indicators on initial teacher education and continuing professional development. The [latest national implementation reports](#) are from 2018.
- 78 The [2022 Staff Working Document](#) (underpinning the European Commission proposal for the [2022 Council Recommendation](#) on learning for the green transition and sustainable development) mentions a few obstacles in this context. While knowledge-based material is generally available, more guidance is needed for educators on suitable pedagogies, competences linked to sustainability, multidisciplinary approaches, and outdoor learning. Other obstacles include access restrictions (for example where subscription is necessary), teaching materials often being too broad and general, and the fact that searching for teaching materials, resources, or guidelines can be time-consuming. The [2018 national implementation reports](#) in the context of the UNECE [Strategy on Education for Sustainable Development](#) include indicators on the production and accessibility of teaching tools and materials, alongside additional information on quality control mechanisms for such materials.
- 79 The exceptions are the German-speaking community of Belgium and the Netherlands. See the [2024 Eurydice report](#). [Monitor Toolbox](#)
- 80 The exceptions are the German-speaking and Flemish communities of Belgium, Bulgaria, the Netherlands, Portugal, Slovenia, and Sweden. See the [2024 Eurydice report](#). [Monitor Toolbox](#)

Main takeaway

Schools can play a role in nurturing acting for sustainability. Most EU education systems have started helping schools develop whole-school approaches to learning for sustainability. However, the curricular coverage across the EU remains limited. For instance, futures literacy, which can help learners turn complacency or eco-anxiety into action and resilience, remains the least covered of all sustainability competences. There also seems to be a tendency to focus on low-impact actions rather than complex sustainability challenges, with school principals mostly reporting activities such as differential waste collection (83.9%). Finally, teachers feel prepared to teach about sustainability despite a lack of pre-service or in-service training, leaving transformative (action-oriented) pedagogies not widely adopted. All in all, only 42.1% of young people report having had a good opportunity to learn about sustainability in school.

- 81 As part of the [EU's Erasmus+ Teacher Academies \(2022-2025\)](#), three projects focus on educators' abilities to teach sustainability. TAP-TS provides learning and teaching resources on several topics to strengthen the sustainability education competences of teachers in initial training and continuing professional development. CLIMADEMY is a network focusing on how to teach climate change issues, offering (online) courses and resources to teachers. EduSTA emphasises competency-based learning and is specifically aimed at VET teachers.
- 82 [Monitor Toolbox](#)

Chapter 2. Early childhood education and care



2.1. Broadening participation

EU-level 2030 target:
‘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.’

EU-level 2030 target⁸³:
‘At least 45% of children below the age of 3 participate in formal childcare, with specific targets applying to EU countries that have yet to reach the 2002 goals.’

The EU is slowly advancing towards reaching its 2030 target set for the share of children between 3 years old and the starting age for compulsory primary education participating in early childhood education and care (ECEC). The rate stood at 93.1% in 2022, up by 0.6 percentage points since 2021. Most EU countries now have participation rates above 90%⁸⁴ and 7 of them⁸⁵ have reached the 2030 EU-level target of at least 96%. By contrast, Romania and Slovakia record below-80% rates in 2022⁸⁶. Between 2021 and 2022, 8 other EU countries recorded no progress or a decrease⁸⁷. On the other hand, there was a substantial year-to-year

83 Originating in the [2022 Council Recommendation](#) on early childhood education and care: the Barcelona targets for 2030, as part of the larger [European Care Strategy](#). This target is accompanied by specific targets for those countries that did not reach the EU-level targets set in 2002. These countries should increase participation in relation to their respective participation rates as follows: (i) by at least 90% for EU countries whose participation rate was under 20%; or (ii) by at least 45%, or until they reach a participation rate of at least 45%, for EU countries whose current participation rate is between 20% and 33%. The participation rate used as a reference was calculated as the 2017–2021 average participation rate in formal childcare of children under the age of 3.

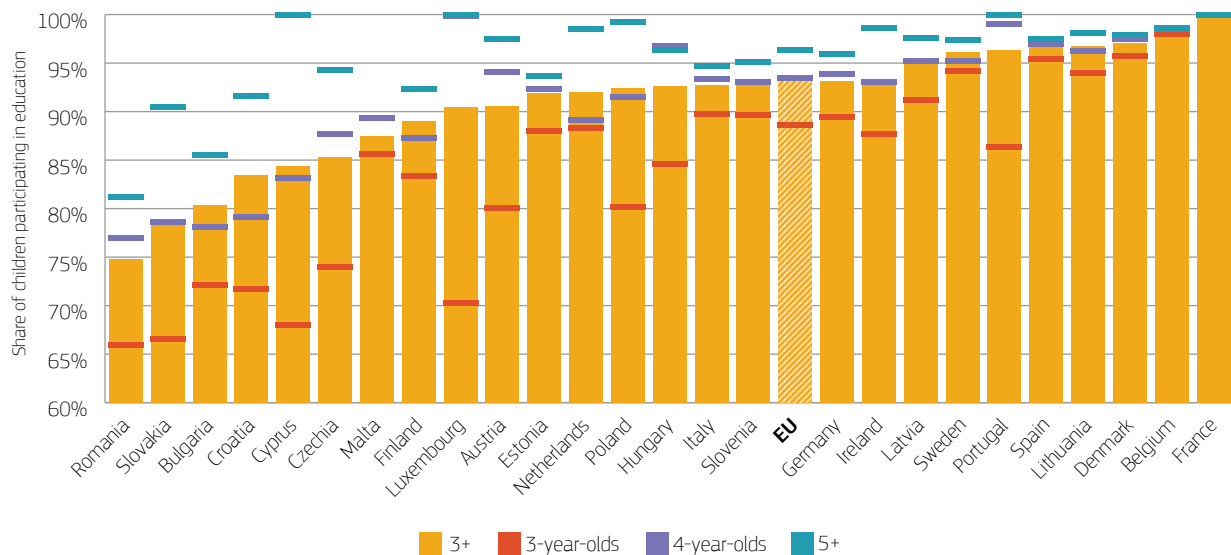
84 Above 90% ECEC participation rates are found across 19 EU countries. Regional and territorial disparities persist. The highest rates are generally recorded in the westernmost regions and lower rates across most eastern regions. [Monitor Toolbox](#). See the [2024 European Commission Communication](#) on a long-term vision for the EU's rural areas; the [2024 European Commission report](#) on economic, social, and territorial cohesion; the [2024 Eurostat regional yearbook](#); and the [2024 Eurofound report](#) on the role of human capital inequalities in social cohesion and convergence.

85 France, Belgium, Denmark, Lithuania, Spain, Sweden, and Portugal.

86 The Romanian rate decreased by 9.4 percentage points between 2021 and 2022 and by 0.8 percentage point between 2021 and 2022. The Slovakian rate was on a positive trend until 2020. [Monitor Toolbox](#)

87 Czechia, Cyprus, Germany, Hungary, the Netherlands, Romania, Finland, and Sweden. See the [2024 Education and Training Monitor's country reports](#) for more information.

Figure 7. **Participation in early childhood education and care from the age of 3 is lower the further away it is from compulsory schooling age**



Source: UNESCO-OECD-Eurostat (UOE) joint data collection 2022. [Download data](#) [Monitor Toolbox](#) Note: the age brackets' upper limits are defined by each country's starting age for compulsory primary education; data for Greece are not available; data for France, Malta, Poland, and Portugal are provisional.

increase in participation rates in Portugal (+5.8) and in Lithuania (+4.6) due to recent reforms⁸⁸.

Looking at a longer period, participation has risen by 1.9 percentage points since 2014, driven by a gradual extension of the age of every child's legal entitlement to ECEC or by the introduction of compulsory participation⁸⁹. Changes above 10 percentage points have been recorded in Ireland, Lithuania, Poland, Croatia, and Cyprus. The rate decreased in Romania, Malta, Bulgaria, Germany, Italy, and Denmark in the same period⁹⁰.

Meanwhile, participation increases progressively by age (Figure 7). Older children (age 5+) are more likely to attend ECEC (an average of 96.4% in 2022) than 3-year-olds, for whom most EU countries record rates below 90%, the average being 88.6% in 2022. Attendance is often compulsory⁹¹ for older children, as the year before the start of primary education is considered preparatory⁹². For 3-year-olds⁹³, ECEC is compulsory only in France and Hungary, while a legal entitlement to a place in ECEC exists in 13 EU countries (Figure 8), even if families may decide not to enrol their child⁹⁴.

88 See the 2024 Education and Training Monitor's country reports for [Lithuania](#) and [Portugal](#) for more information.

89 See a [forthcoming Eurydice report](#) on key data on ECEC. In addition, national efforts to improve quality may also have helped increase enrolment rates. See the 2024 Education and Training Monitor's [country reports](#) for more information.

90 Romania (-9.4 percentage points), Malta (-8.0), Bulgaria (-5.1), Germany (-2.7), Italy (-2.4), and Denmark (-0.4). See the 2024 Education and Training Monitor's [country reports](#) for more information.

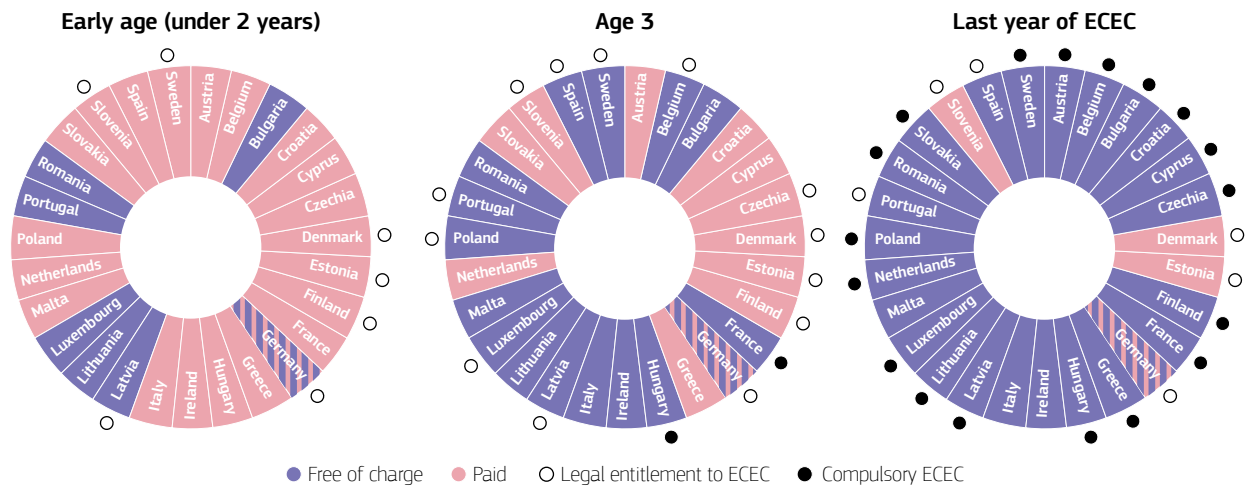
91 In 11 EU countries (Austria, Belgium, Croatia, Czechia, Finland, Latvia, Lithuania, Netherlands, Poland, Slovakia, and Sweden), attendance in ECEC is compulsory when children are 5 years old or over. In the other EU countries, compulsory ECEC either starts earlier (France and Hungary at age 3; Bulgaria, Cyprus, Greece, Luxembourg, and Romania at age 4) or does not exist. Maltese children are enrolled in primary education at age 5. See a [forthcoming Eurydice report](#) on key data on ECEC.

92 [SDG indicator 4.2.2](#) captures the participation rate in organised learning 1 year before the official primary entry age.

93 Only 7 EU countries (Denmark, Estonia, Finland, Germany, Latvia, Slovenia, and Sweden) guarantee a place in ECEC for every child from an early age (6-18 months), often immediately after the end of childcare leave. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

94 Participation is affected by parental background, monetary and material means, other household characteristics, and physical accessibility. For an analysis of the main reasons for not using formal childcare, see a [2022 European Commission report](#) on employment and social developments in Europe, as well as a [2020 Eurofound report](#) on access to care services.

Figure 8. **Only a few countries provide free-of-charge early childhood education and care for the youngest children**



Source: 2024 Eurydice system-level indicators. Monitor Toolbox

In countries with a legal entitlement to ECEC, provision is not necessarily free. Figure 8 shows that the availability of ECEC free of charge increases significantly at age 3 and becomes almost universal the year before entering primary education, when compulsory ECEC is more common. For the youngest children, in 21 EU countries, most families pay income-dependent fees, of which the levels⁹⁵ and regulation⁹⁶ affect accessibility and therefore also participation⁹⁷. ECEC provision can also be free of charge without a guaranteed place. In such cases, lack of infrastructure may hinder participation.

Box 5. The European Child Guarantee Monitoring Framework

A 2021 Council Recommendation established the European Child Guarantee, to prevent and combat social exclusion by guaranteeing that children in need have effective access to a set of key services, including free ECEC. Attending high-quality ECEC⁹⁸ is associated with improved cognitive skills, school readiness and later academic achievement, and, by extension, future employment prospects. These positive effects are stronger among children from disadvantaged socio-economic backgrounds.

To implement the European Child Guarantee, EU countries have prepared national action plans covering the period until 2030. These describe the existing and planned national and subnational policy measures. Every 2 years, countries are invited to report on progress achieved.

In addition, the European Commission and the Social Protection Committee have put in place a common monitoring framework to assess progress towards implementation, identify good practices, and foster mutual learning. The framework covers key aspects of the Child Guarantee, such as the size of its target group (children in need) and its effective and free access to ECEC, education, at least one healthy meal per school day, healthcare, and adequate housing.

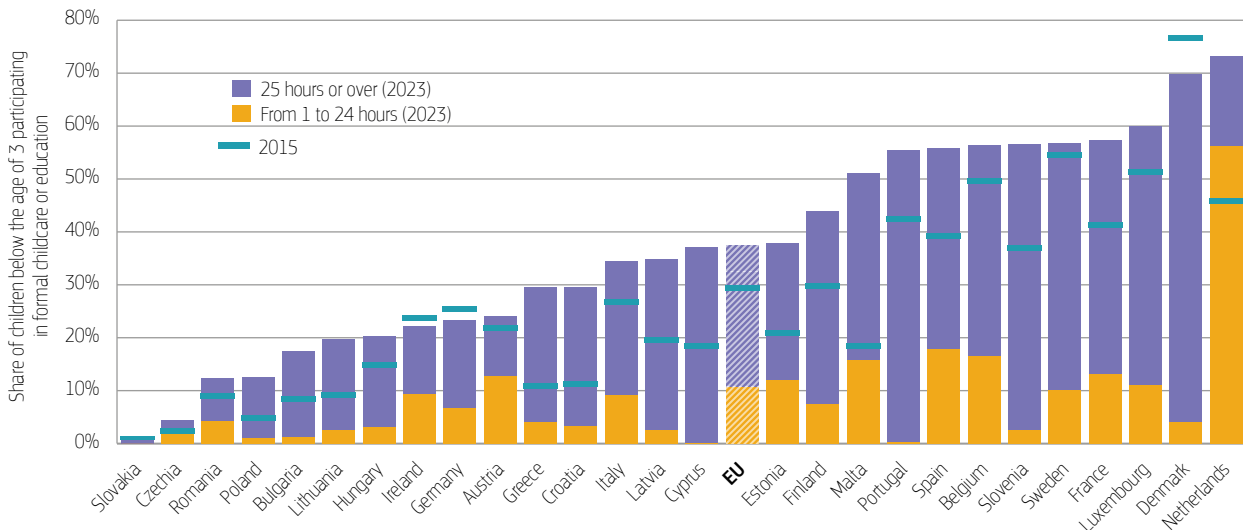
95 For a cross-country analysis of childcare support, see the [2022 OECD Family Database](#) and a [2022 OECD report](#) on net childcare costs in EU countries.

96 Moreover, the legal entitlement defines the number of guaranteed publicly subsidised or free-of-charge ECEC hours that every family can claim. The place guarantee for ECEC varies in terms of hours, from a full working week (30 hours or more) to less than 10 hours per week. The number of mandatory hours can also vary when participation is compulsory. The guarantee of full-time ECEC usually aims to relieve some work-life imbalances faced by working parents. See the [2024 Eurydice system-level indicators](#). Monitor Toolbox

97 Most countries subsidise ECEC settings directly and may, in addition, help families pay their ECEC costs. Tax relief is another common instrument. Partial compensation for fees paid by families for private provision can also be provided.

98 Poor quality ECEC can have detrimental effects on children's development. Aspects of ECEC quality include affordability, inclusiveness, a high-quality workforce with supportive working conditions, transparent and regular monitoring, good governance, and funding. See the [2019 Council Recommendation](#) on high-quality ECEC systems.

Figure 9. Participation in formal childcare or education of children below the age of 3 varies substantially across the EU



Source: Eurostat (EU statistics on income and living conditions). [Download data](#) [Monitor Toolbox](#) Note: break in time series for Belgium (2019), Denmark (2023), Germany (2020), Ireland (2019, 2020), France (2020, 2022), and Luxembourg (2020, 2022).

Participation under the age of 3 is much lower on average. Only 37.4% of children below 3 were in formal childcare⁹⁹ or education in 2023 and 26.7% participated at least 25 hours per week (Figure 9)¹⁰⁰. The rate is 7.6 percentage points lower than the dedicated 2030 EU-level target of at least 45%. However, the average participation rate in this age bracket has increased by 1.6 percentage points since 2022 and 7.5 percentage points since 2015. Substantial improvements of more than 15 percentage points were recorded in France, Spain, Estonia, Croatia, Cyprus, Greece, Slovenia, the Netherlands, and Malta between 2015 and 2023.

The EU average participation below age 3 masks substantial variation, with country-specific rates ranging from 1.0% in Slovakia to 69.8% in Denmark and 73.3% in the Netherlands. These figures reflect, among other things, differences in employment and childcare leave policies or in availability of ECEC infrastructure. Most families with children under the age of 3 face a

childcare gap¹⁰¹. This is a period when a family is not covered by adequate childcare leave, and the child does not have access to a guaranteed place in ECEC. In this case, families may opt for other types of childcare¹⁰², including informal arrangements¹⁰³ such as relying on relatives or other adults (who may also be called upon when the number of free-of-charge or subsidised hours does not fully meet the demand from families¹⁰⁴).

99 Formal childcare includes any kind of ECEC programmes regardless of content, in other words, early childhood educational development programmes and childcare provision not intentionally designed to support a child's development. In 2023, 11 EU countries reported that national ECEC services for children under the age of 3 did not meet the requirements to be classified as early childhood educational development programmes.

100 Participation is more prevalent over 25 hours in all EU countries apart from Czechia, Austria, and the Netherlands. [Monitor Toolbox](#)

101 See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

102 Other types of childcare include care by an unregulated childminder, grandparents, other household members (excluding parents), other relatives, friends, or neighbours. Such types of childcare may also be the first choice of parents who choose not to enrol their child in ECEC when attendance is not mandatory.

103 See the 2022 [OECD Family Database](#) for a more in-depth analysis of informal arrangements by age and socio-economic background.

104 Such informal childcare arrangements seem to complement the formal provision. At EU level, 2023 participation of children under the age of 3 in other types of childcare is more prevalent for less than 30 hours per week (15.6%) than it is for 30 hours or over (4.6%). The share of children under the age of 3 attending other types of childcare varies significantly across the EU, ranging from 4.4% in Finland to 42.9% in Greece. A similar trend exists for the older age group. The incompatibility of school hours with parents' working hours as well as a lack of out-of-school-hours services may be associated with the use of informal care also for older children. [Monitor Toolbox](#)

Box 6. Measures to increase participation in ECEC: examples from the 2024 Education and Training Monitor's country reports

Easing access to and improving participation in ECEC – especially when it comes to the most vulnerable children – are at the centre of EU countries' investment and policy efforts. In the Netherlands, a new policy initiative called the Young Child Development Programme started in autumn 2023. The programme aims to enhance equity by increasing the participation rates of disadvantaged children in early childhood education and preschool facilities and by making the transition from childcare to preschool smoother. The programme is connected to the National Programme for Liveability and Safety, an area-based initiative encompassing housing, health, and poverty in 20 urbanised neighbourhoods.

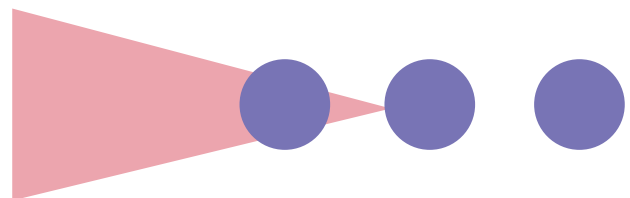
In March 2024, Cyprus adopted a reform to gradually extend compulsory pre-primary education from the age of 4 (instead of 4 years and 8 months), supported by the Recovery and Resilience Facility. Implementation has started from the 2024/2025 school year with the aim to be fully completed by 2031. Measures are planned to increase the affordability and quality of ECEC with the help of EU funds, namely the European Social Fund Plus, the Recovery and Resilience Facility, and the EU's technical support instrument. In particular, the expansion of capacities planned under the Recovery and Resilience Facility is a key investment.

Poland has launched a wide-ranging reform of childcare to improve its affordability and accessibility. Under the 2022-2029 'Active Toddler' programme, Poland has launched investments to create 102 577 new childcare places, supported by EU funds. In addition, it is planning a sustainable financing system for running childcare facilities. As of October 2024, working parents of children aged between 12-35 months can receive up to EUR 350 (EUR 442 for children with disabilities) per month to support childcare costs. The revised quality standards for childcare providers have undergone public consultation and are to be binding from January 2026.

Ensuring ECEC affordability is key to promoting the participation of disadvantaged children who benefit the most from it¹⁰⁵. However, in almost all EU countries, the share of children at risk of poverty or social exclusion who are in formal childcare or education is consistently lower than the share among children not at risk¹⁰⁶. The participation gap is 7.8 percentage points on average for children in the older age group (3+) and no less than 15.8 percentage points for children aged 0-2 (Figure 10)¹⁰⁷. In the youngest age bracket, the gap is over 25 percentage points in Cyprus, Finland, and Luxembourg – and tops 35 percentage points in France, Malta, and the Netherlands.



In countries with a legal entitlement to ECEC, provision is not necessarily free.”

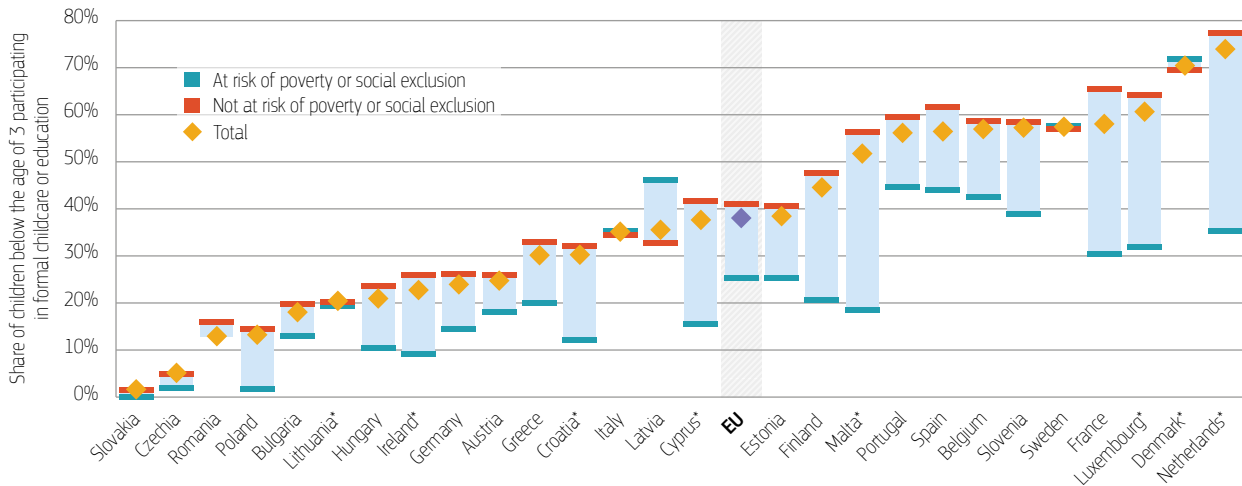


105 An early learning environment that provides opportunities to engage in stimulating activities and social interactions can compensate for the risks that children from disadvantaged backgrounds fall behind or do not reach their full developmental potential. See also a [2023 European Commission \(Joint Research Centre\) report](#) on early-life conditions and educational attainment.

106 Latvia is an exception, because its share of children at risk of poverty or social exclusion who are in formal childcare or education is comparatively high.

107 [Monitor Toolbox](#)

Figure 10. **Children at risk of poverty or social exclusion are less likely to participate in formal childcare or education**



Source: Eurostat (EU statistics on income and living conditions 2023). [Download data](#) [Monitor Toolbox](#) Note: countries are displayed in ascending order according to the share of children participating in formal childcare or education; low data reliability in the category 'at risk of poverty or social exclusion' is marked with an asterisk; data for Romania in the category 'at risk of poverty or social exclusion' are not available and have low reliability for the category 'not at risk of poverty or social exclusion'.

2.2. ECEC for sustainability

High-quality ECEC lays the groundwork for sustainability values, vision, and mindset¹⁰⁸. The early years are a crucial time for developing an environmental stewardship through close contact with nature. This contributes to closing the knowledge-action gap described in Chapter 1. Except for Ireland, Croatia, and the Netherlands¹⁰⁹, all EU countries refer to sustainability in their curricula for ECEC, usually within a broader area of learning or development, although there are some differences in terms of target age and depth of coverage. ECEC can build on well-established traditions to integrate learning for sustainability. Many pedagogies and practices, such as holistic and integrated approaches, align with effective learning for sustainability¹¹⁰.

Across the EU, the topics related to sustainability are mainly included as a subtopic within a broader area in ECEC curricula (Figure 11). Only in Denmark, Germany, Cyprus, and Finland does sustainability feature as one of the primary areas of learning or as a cross-curricular theme. When sustainability is integrated as a subtopic within broader areas of curricula for ECEC, it is subsumed under natural sciences, knowledge of the world, and knowledge of the environment. Additionally, references to sustainability may be found in non-thematic areas of educational guidelines, which focus on pedagogical principles, activities, or the learning environment. The depth of references varies significantly across countries, from concise mentions to detailed learning outcomes and activities¹¹¹.

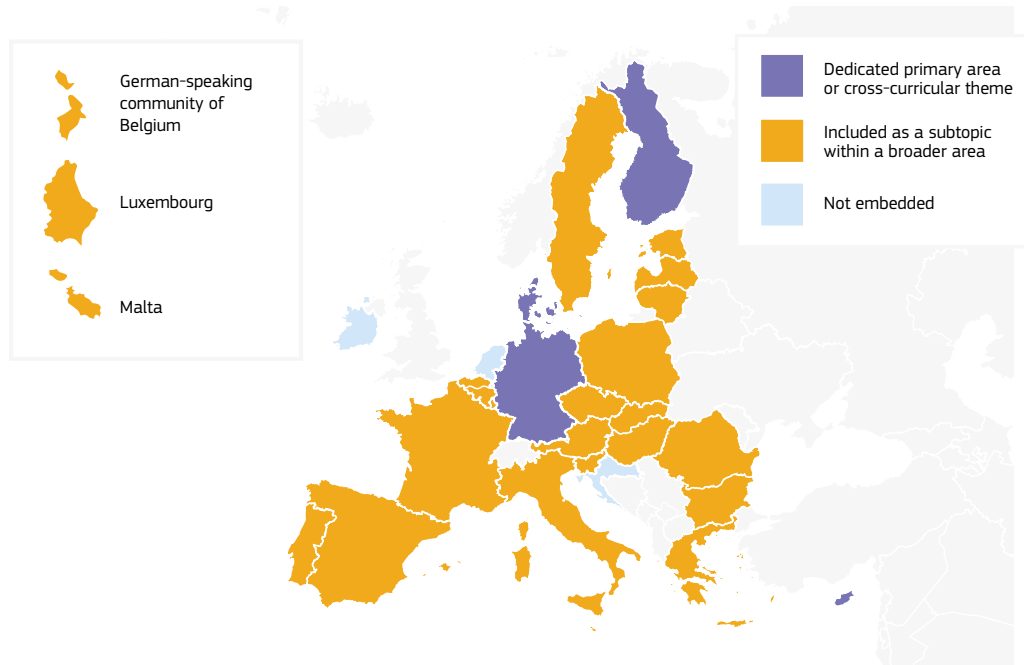
108 This section draws upon a [forthcoming Eurydice report](#) on key data on ECEC. See also the [2022 Staff Working Document](#) underpinning the European Commission proposal for the [2022 Council Recommendation](#) on learning for the green transition and sustainable development.

109 In Croatia and the Netherlands, sustainability is not addressed in national educational guidelines. In Ireland, sustainability topics included in the curriculum framework are formulated as suggested learning opportunities and are not mandatory for settings to follow. [Monitor Toolbox](#) See a [forthcoming Eurydice report](#) on key data on ECEC.

110 Other approaches are outdoor learning; experiential and project-based learning; and participation of parents and communities. See the [2022 Staff Working Document](#) underpinning the European Commission proposal for the Council Recommendation, as well as the [2023 Council Conclusions](#) on skills and competences for the green transition.

111 For instance, in the Flemish community of Belgium, references to learning for sustainability in the developmental aims for older children are succinct. The educational guidelines outline a single aim for science ('the preschoolers show an attitude of care and respect for nature'). By contrast, in Finland, sustainability is a cross-cutting theme of the national core curriculum for ECEC, which is included in the underlying values, operational culture, learning environment, the transversal competences, and the learning area 'exploring and interacting with my environment'. See a [forthcoming Eurydice report](#) on key data on ECEC.

Figure 11. **Sustainability is embedded in the ECEC guidelines in almost all EU countries**



Source: [European Commission/EACEA/Eurydice \(forthcoming\)](#). [Monitor Toolbox](#)

When it comes to the age range covered, the coverage of sustainability topics may encompass the entire ECEC phase, apply solely to the provision for younger children, or concern pre-primary education for older children exclusively. Variations mostly stem from the organisation of ECEC curricula¹¹² – whether they are integrated for the entire ECEC period or different by age group. Countries that issue integrated educational guidelines for the entire period of ECEC usually establish content on learning for sustainability from the earliest age. In 8 EU education systems¹¹³, there are no mandatory educational frameworks for children aged below 3. As such, there are no compulsory references to sustainability in these systems for younger children.

Main takeaway

At 93.1% in 2022, the overall share of children between the age of 3 and the start of compulsory primary education enrolled in early childhood education and care (ECEC) was up by 0.6 percentage points compared with 2021 and 1.9 compared with 2014. Recent progress has been remarkable in Portugal and Lithuania due to reforms. Participation varies by age, with older children showing higher rates in all EU countries, as attendance is often compulsory the year before entering primary education. For younger children, a legal entitlement to ECEC may exist, even if provision may not be free. This might explain the substantial participation gap (15.8 percentage points) between children at risk of poverty or social exclusion and those not at risk. As for learning for sustainability, the relevant topics are covered in the ECEC guidelines of most EU education systems. However, the target age and the depth of coverage vary a lot.

112 For more details about educational guidelines, see a [forthcoming Eurydice report](#) on key data on ECEC.

113 The Flemish and German-speaking communities of Belgium, Bulgaria, Czechia, Greece, Cyprus, the Netherlands, and Slovakia. [Monitor Toolbox](#) See a [forthcoming Eurydice report](#) on key data on ECEC.

Chapter 3. School education



3.1. Early school leaving

EU-level 2030 target:
‘The share of early leavers from education and training should be less than 9% by 2030.’

3.1.1. Upper secondary educational attainment for all

Across the EU, 9.5% of 18-24-year-olds had left education and training by 2023 without having attained upper secondary education, translating into about 3.1 million early school leavers¹¹⁴. The top performing countries are Croatia (2.0%), Poland (3.7%), and Greece

(3.7%), whereas Romania (16.6%)¹¹⁵, Spain (13.7%)¹¹⁶, and Germany (12.8%)¹¹⁷ are at the bottom¹¹⁸ (Figure 12). More than half (16) of all EU countries have reached the EU-level 2030 target of less than 9%, and the EU remains well on track to reach it¹¹⁹.

¹¹⁴ The indicator measures the share of the population aged 18-24 with at most lower secondary educational attainment and not in formal or non-formal education and training in the 4 weeks prior to the survey. The early school leaving rate is only 7.3% among 18-year-olds, increasing to 11.1% among 24-year-olds. Non-formal learning is low and uneven among 18-24-year-olds with at most lower secondary educational attainment, averaging 9.2% across the EU. [Monitor Toolbox](#)

¹¹⁵ Romanian figures are highest in the South-East (24.6%), Centre (21.0%), South-West Oltenia (19.5%), and South-Muntenia (17.3%) regions. [Monitor Toolbox](#)

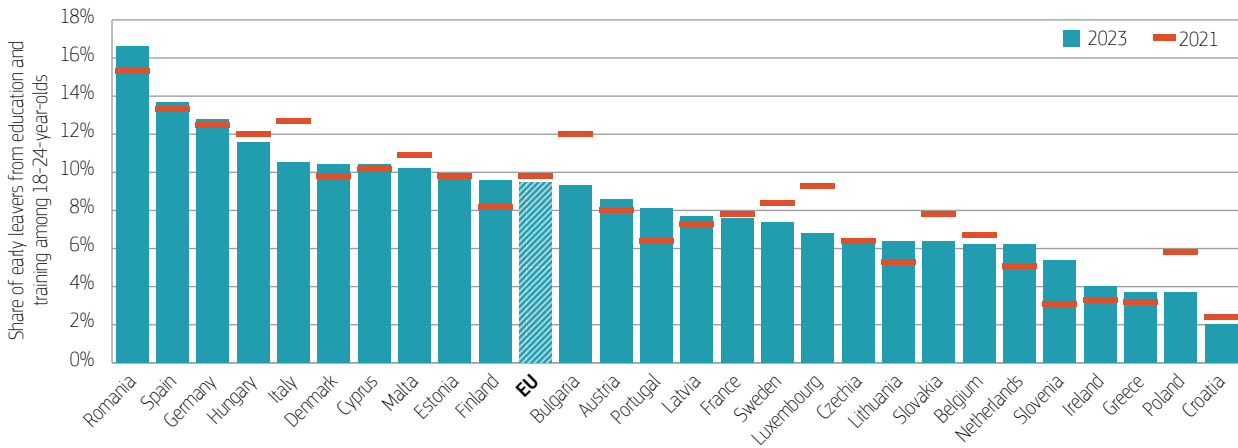
¹¹⁶ Spanish figures are highest in Ceuta (21.2%) and Melilla (20.4%), but also in the regions of Murcia (19.2%) and Balearic Islands (18.0%). [Monitor Toolbox](#)

¹¹⁷ German figures are highest in the regions of Weser-Ems (17.9%), Schleswig-Holstein (17.4%), and Lüneburg (17.3%). [Monitor Toolbox](#)

¹¹⁸ Regional outliers outside of the bottom-performing countries include outermost regions like French Guiana (21.7%) and Portugal's Azores (22.9%), but also the French island of Corsica (21.5%), Bulgaria's South-East region (18.5%), the Hungarian region of North-Hungary (18.5%), and the Italian islands of Sardinia (17.3%) and Sicily (17.1%). [Monitor Toolbox](#)

¹¹⁹ The trajectory still matches the [estimate](#) made by the European Commission (Joint Research Centre) in 2023, based on pre-COVID-19 data. The estimate puts the EU average at 8.4% by 2030, albeit with a confidence interval of 4 percentage points.

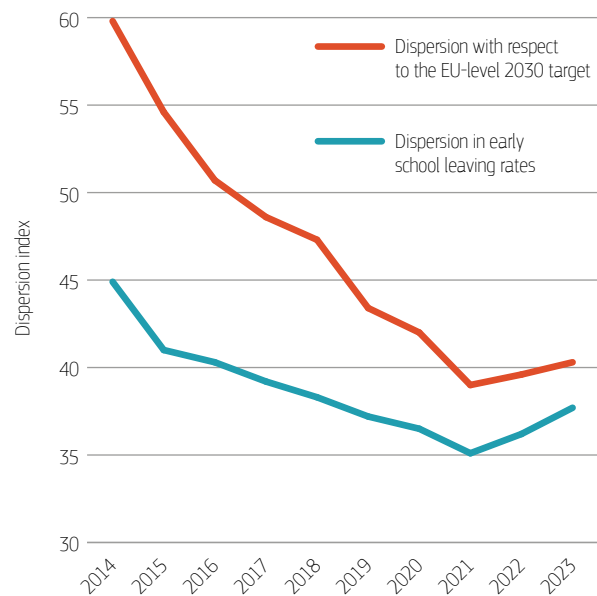
Figure 12. Recent progress in reducing early school leaving has been uneven across the EU



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: low data reliability for Croatia (2021, 2023) and Luxembourg (2023); a break in time series is recorded for Bulgaria (2022), Slovakia (2022), Cyprus (2023), and Slovenia (2023).

While the latest figures continue the steady decline recorded over the last decade¹²⁰, recent progress has been much more uneven across countries. Indeed, the average -0.3 percentage point change in early school leaving between 2021 and 2023 masks just as many positive country-specific trends as negative ones¹²¹. Figure 13 captures this phenomenon more accurately. It looks at the dispersion index over the last decade, which is a measure of country variation relative to the EU average and relative to the EU-level 2030 target. After a long positive convergence among EU countries, in recent years their progress has been diverging¹²².

Figure 13. Years of convergence among EU countries have come at a standstill



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: the dispersion in early school leaving rates is measured as the weighted coefficient of variation of the rates across the EU; the dispersion with respect to the EU-level 2030 target is measured as the quotient between the weighted standard deviation with respect to the 2030 target; weights are based on the 18-24-year-old population in each country.

120 The EU average early school leaving rate came down from 11.1% in 2014, albeit with a break in time series for 2021. [Monitor Toolbox](#) Regional and territorial disparities persist. See the [2024 European Commission Communication](#) on a long-term vision for the EU's rural areas; the [2024 European Commission report](#) on economic, social, and territorial cohesion; the [2024 Eurostat regional yearbook](#); and the [2024 Eurofound report](#) on the role of human capital inequalities in social cohesion and convergence.

121 A 2021-2023 decrease in early school leaving of 1 percentage point or more is recorded in Bulgaria (-2.7 percentage points), Luxembourg (-2.5), Italy (-2.2), Poland (-2.1), Slovakia (-1.4), and Sweden (-1.0). An equivalent increase over the same period is visible in Slovenia (2.3 percentage points), Finland (1.4), Portugal (1.7), Romania (1.3), the Netherlands (1.1), and Lithuania (1.1). Note that a break in time series is recorded for Bulgaria (2022), Slovakia (2022), and Slovenia (2023). [Monitor Toolbox](#)

122 For more information about convergence analysis, see Eurofound's [convergEU app](#) and the [2024 European Commission report](#) on employment and social developments in Europe.

In some countries, large shares of young people have not reached the level of upper secondary educational attainment, despite being beyond the theoretical target age in most EU education systems¹²³. The share of upper secondary educational attainment among 20-24-year-olds reached 84.1% in 2023¹²⁴, with progress for 2021-2023 even more uneven than the figure observed for early school leaving¹²⁵. Countries with an improvement of 2 percentage points or more in 2021-2023 show a stable trend across time¹²⁶, whereas countries with an equivalent deterioration over the same period¹²⁷ include cases with striking fluctuations from year to year¹²⁸. Top performers in terms of upper secondary educational attainment are Croatia (97.3%), Greece (95.4%), and Ireland (95.0%), while the lowest-performing countries are Germany (71.4%), Denmark (75.3%), and Spain (79.0%).

Young people may not reach the threshold of upper secondary education because they do not complete the level or because they are not enrolled in the first place. Firstly, completion rates¹²⁹ tend to be higher in upper secondary programmes with a general rather than a vocational orientation¹³⁰. Among the 15 EU education systems with available data, 8 record completion rates in general tracks of 90% or more¹³¹, with another 5 coming

in at 80% or more¹³². Only the French community of Belgium (63.8%) and Latvia (78.9%) are falling behind. In the vocational tracks, 10 out of 14 EU education systems record completion rates below 80%, with the lowest shares in Lithuania (54.9%) and Spain (63.4%)¹³³.

Secondly, a substantial number of young people are not enrolled in education at all, even at mandatory schooling age¹³⁴. Variations in out-of-school rates are summarised in Figure 14 and cannot be explained away by data accuracy issues¹³⁵. At age 14, which is still a mandatory schooling age (MSA) across all EU countries¹³⁶, out-of-school rates average 2.5%, with clear outlier status observed for Romania (15.2%) and Bulgaria (11.9%). Harmonising the end of MSA for comparative purposes¹³⁷, the last year before MSA ends has an average out-of-school rate of 3.1%, which picks up dramatically 1 year later (5.0%) and especially 2 years later (8.2%). On average, out-of-school rates¹³⁸ for lower secondary education are 2.2%¹³⁹, whereas for upper secondary education they are 6.8%¹⁴⁰. This translates into an estimated 432 000 and 1.3 million young people, respectively.

123 See a [2023 Eurydice report](#) on the structure of EU education systems.

124 More than half of all 20-24-year-olds have attained (at most) upper secondary education in its vocational tracks in Croatia (60.3%), Luxembourg (58.2%), Romania (57.5%), Czechia (53.0%), and Slovenia (52.8%). Tertiary educational attainment is less prevalent in this age bracket, yet still reaches over 25% in France (35.3%), Austria (30.0%), Cyprus (28.9%), Ireland (28.8%), Spain (28.1%), Belgium (26.1%), Malta (26.1%), and Portugal (26.1%). [Monitor Toolbox](#)

125 The share went down 0.9 percentage point between 2021 and 2022 across the EU on average and then back up again with 0.6 percentage point between 2022 and 2023. A break in time series is recorded for Cyprus (2023) and Slovenia (2023). [Monitor Toolbox](#)

126 Luxembourg (5.4 percentage points between 2021 and 2023), Sweden (4.8), Poland (2.3), Italy (2.2), and Bulgaria (2.1). [Monitor Toolbox](#)

127 Germany (-4.5 percentage points between 2021 and 2023), Slovenia (-3.8), Estonia (-2.6), Finland (-2.3), Malta (-2.2), and Romania (-2.0). [Monitor Toolbox](#)

128 In Germany, upper secondary educational attainment went down 5.8 percentage points between 2021 and 2022 and up again by 1.3 percentage points between 2022 and 2023. [Monitor Toolbox](#)

129 Data are reported in the OECD's [Education at a Glance 2023](#) and capture the share of entrants to upper secondary education completing the level by the end of its theoretical duration plus 2 years. As an alternative measure of completion rates, [UNESCO](#) captures the share of young people 3-5 years above the intended age for the last grade of primary, lower secondary, and upper secondary education.

130 See the [2023 Cedefop report](#) 'Stemming the tide: tackling early leaving from vocational education and training in times of crises'. Cedefop hosts the constantly updated [VET toolkit for tackling early leaving](#) and [VET toolkit for empowering NEETs](#). Chapter 4 of this comparative report features a closer look at vocational education and training.

131 These 8 systems are France (95.8%), Slovenia (95.2%), the Flemish community of Belgium (94.1%), Estonia (93.3%), Finland (91.7%), Spain (90.7%), Luxembourg (90.7%), and Italy (90.4%). [Monitor Toolbox](#)

132 Lithuania (88.7%), Denmark (86.8%), Portugal (85.8%), Sweden (83.9%), and Austria (81.1%). [Monitor Toolbox](#)

133 Interestingly, the French community of Belgium, the worst performer in terms of completion rates in the general tracks (63.8%), is the best performer in terms of completion rates in the vocational tracks (91.1%). Only Slovenia (86.1%), France (81.0%), and the Flemish community of Belgium (80.6%) reach 80% as well. There is no information on completion rates in vocational tracks for Denmark. [Monitor Toolbox](#)

134 By comparison, looking at the 18-24 age bracket used for early school leaving, on average only 62.4% of young people are still in education and training. The average varies from a participation rate of 82.6% among 18-year-olds to 30.0% among 24-year-olds. [Monitor Toolbox](#)

135 Comparing enrolment and population data, the indicator may unintentionally reflect non-resident populations enrolled in domestic programmes and resident populations enrolled in non-domestic programmes.

136 Mandatory schooling most often ends at age 16 across the EU. Exceptions are the 7 countries where mandatory schooling ends at or around age 15 (Austria, Croatia, Cyprus, Czechia, Greece, Poland, and Slovenia), and the 6 countries where it ends at age 18 (Belgium, Finland, France, Germany, Portugal, and Romania). In Germany, 4 federal states have a mandatory schooling age until age 19. See a [2023 Eurydice report](#) on compulsory education in Europe.

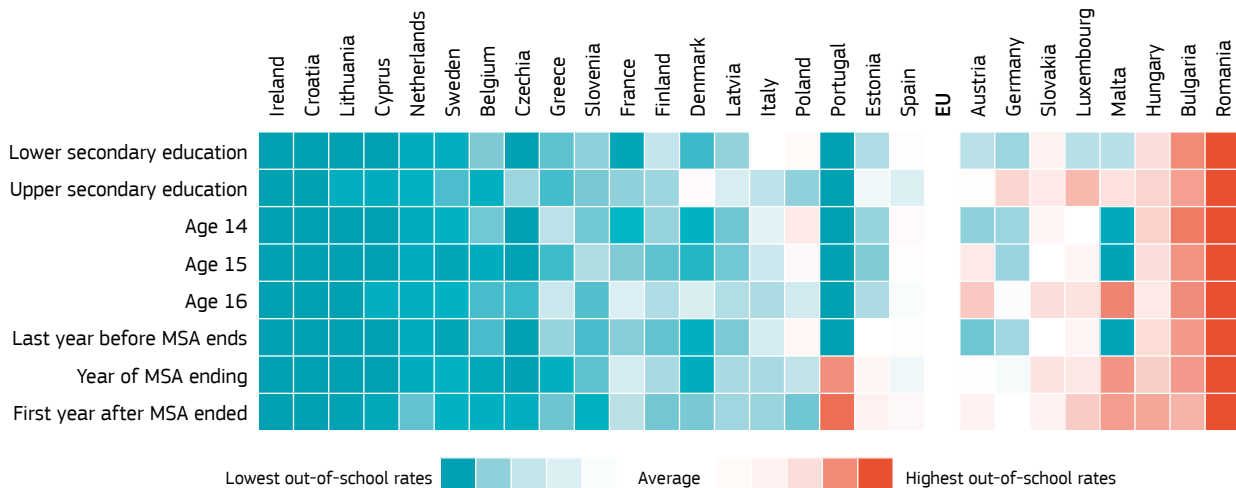
137 This means that the end of the mandatory schooling age is standardised across EU countries as 'year X', the year before MSA ends as 'year X-1', and the year after MSA ended as 'year X+1'. [Monitor Toolbox](#)

138 [UNESCO](#) also approximates out-of-school rates by level of education, measuring the share of young people not enrolled while in the official age range for primary education, lower secondary education, or upper secondary education. The latest calculations are from 2020 and cover all EU countries.

139 Including 15.9% in Romania and 11.1% in Bulgaria. [Monitor Toolbox](#)

140 Out-of-school rates at the level of upper secondary education are above 10% in Romania (25.0%), Bulgaria (16.5%), Luxembourg (13.9%), Hungary (11.1%), and Germany (10.8%). [Monitor Toolbox](#)

Figure 14. **The phenomenon of out-of-school rates hits Romania and Bulgaria in particular**



Source: Eurostat (UOE administrative data collection 2022). [Download data](#) [Monitor Toolbox](#) Note: MSA stands for mandatory schooling age; countries are displayed according to the weighted average across four categories of indicators: lower secondary education, upper secondary education, age, and MSA harmonisation; data for upper secondary education in Czechia correspond to 2021; all figures can be found in the downloadable Excel file.

None of these phenomena are spread equally within EU countries¹⁴¹. Firstly, men (11.3%) face a higher risk of early school leaving than women (7.7%), to such an extent that women have already reached the EU-level 2030 target in no fewer than 20 EU countries¹⁴². The gender gap is most pronounced in Italy (5.5 percentage points), Germany (4.8), and Spain (4.7), whereas it is negligible in Romania, Czechia, Greece, and Bulgaria. Upper secondary educational attainment (age 20-24) is less prevalent among men (81.6%) than it is among women (86.7%). Here, the gender gap is strongest in Denmark (9.6 percentage points), Malta (8.2), and Luxembourg (7.1), whereas men are at a slight advantage in Romania, Bulgaria, and Slovakia.

Secondly, having a disability has a substantial effect on the likelihood of leaving school before completing upper secondary education¹⁴³. Figures from 2022 suggest that early school leaving rates average 22.2% when 18-24-year-olds experience some or severe limitations in daily activities, compared to only 8.4% if they experience none¹⁴⁴. These figures remain higher for men (25.3% and 10.0%, respectively) than for women (19.5% and 6.6%)¹⁴⁵.

Thirdly, a young person's migrant status continues to have a big impact on the risk of early school leaving, with an average early school leaving rate of 23.0% among (non-EU) migrants¹⁴⁶. Among men, one in every four migrants is an early school leaver (25.7%). This drops to 13.4% for men born in the reporting country but whose parents were born outside the EU. Among women, one in every five migrants is an early school leaver (20.2%), versus only 7.2% women born in the reporting country

141 Geographically speaking, early school leaving rates are highest in the rural areas of Romania (27.5%), Bulgaria (18.8%), and Hungary (17.1%). Yet on average across the EU, suburban areas (10.6%) yield higher shares than rural areas (9.9%) or urban areas (8.6%). The countries with the highest early school leaving rates in suburban areas are Spain (15.0%), Cyprus (14.7%), and Germany (14.3%). Upper secondary educational attainment rates are lowest in the rural areas of Denmark (63.7%) and Romania (69.5%), as well as the suburban areas of Germany (67.4%). Across the EU, suburban areas average an 81.7% upper secondary educational attainment rate, compared to 84.7% recorded for rural areas and 85.5% for urban areas. [Monitor Toolbox](#) A forthcoming Eurofound report captures the role played by the degree of urbanisation over time and looks closer at early school leaving rates among jobless households in suburban and rural areas, magnifying these results even further.

142 Croatia (1.2%), Poland (2.4%), Ireland (2.9%), Greece (3.6%), Belgium (4.4%), Slovenia (4.9%), the Netherlands (5.2%), Latvia (5.5%), France (5.6%), Slovakia (6.0%), Lithuania (6.1%), Portugal (6.1%), Sweden (6.2%), Czechia (6.4%), Finland (7.3%), Italy (7.6%), Malta (7.6%), Austria (7.9%), and Estonia (8.0%). Luxembourg is included on the list despite no data for women in 2023 but below-9% rates in previous years. [Monitor Toolbox](#)

143 See also the work of WHO and UNESCO on health promoting schools. [Schools for Health in Europe \(SHE\)](#) aims to improve the health of children and young people in Europe, including reducing health inequalities.

144 The shares are even more dramatic when singling out the small group of young people with severe limitations due to health problems (42.0%). [Monitor Toolbox](#)

145 [Monitor Toolbox](#)

146 [Monitor Toolbox](#)



After a long positive convergence in early school leaving, recent progress has been much more uneven across EU countries.”

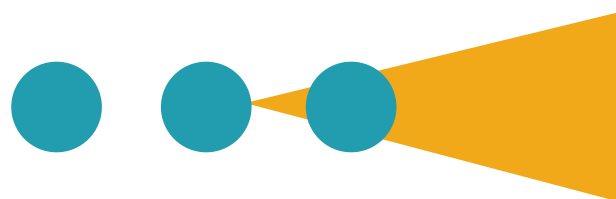
but whose parents were born outside the EU¹⁴⁷. On average, the longer it has been since these 18-24-year-olds arrived in the reporting country, the lower their risk of early school leaving¹⁴⁸. Many of these young people may have already left education and training in their country of origin.

Finally, socio-economic background remains underexplored in its relation to early school leaving and upper secondary educational attainment. Using a different source, upper secondary educational attainment rates can be broken down by levels of parental educational attainment¹⁴⁹. This confirms a strong intergenerational

pattern observed on previous occasions¹⁵⁰. On average across the EU, 92.9% of 20-24-year-olds whose parents have a high level of education are reaching (at least) the upper secondary level themselves. This is in contrast with 88.3% of young people whose parents have a medium level of education, and only 64.1% of young people whose parents have a low level of education¹⁵¹.

3.1.2. Prevention, intervention, and compensation

Successful strategies to tackle early school leaving tend to combine prevention, intervention, and compensation measures comprehensively and over a long time¹⁵². Apart from the German-speaking community of Belgium, Croatia, and Germany, all EU education systems have early warning systems or other monitoring actions in place to prevent early school leaving (Figure 15). Comprehensive early warning systems based on detailed student data only exist in 7 systems: Bulgaria, France, Hungary, Italy, Malta, Poland, and Romania. In other cases, education authorities mainly recommend monitoring school absences (11 systems) or monitoring risk factors through guidance and counselling services (8 systems).



147 These figures compare with an early school leaving rate of 9.5% for men and 6.4% for women who were born, as were their parents, in the reporting country. Furthermore, upper secondary educational attainment among 20-24-year-olds drops from the overall EU average of 83.9% to 61.5% among first-generation migrants born outside the EU. Second-generation migrants whose parents were born outside the EU have the same likelihood of upper secondary educational attainment (78.8%) as young people whose parents were born in another EU country (78.9%). [Monitor Toolbox](#)

148 [Monitor Toolbox](#) The analysis by years since arrival in the reporting country concerns all 18-24-year-olds not born in the reporting country, whether coming from another EU country or from outside the EU.

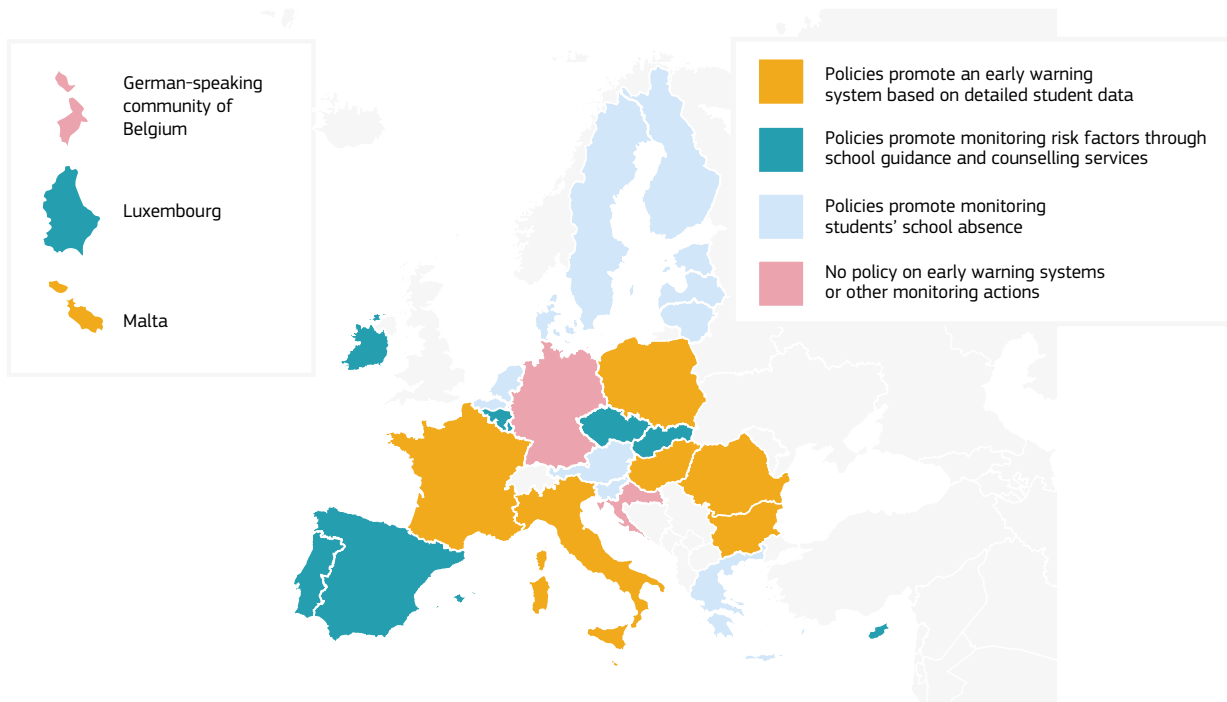
149 Instead of the EU Labour Force Survey 2023, the EU Adult Education Survey 2022 is used. This yields an EU average upper secondary educational attainment rate of 86.0%. [Monitor Toolbox](#)

150 For instance, the 2022 Education and Training Monitor's [comparative report](#) showed that early school leaving is 9 times more likely among young people whose parents have a low level of education than it is among young people whose parents have a high level of education.

151 [Monitor Toolbox](#) Low educational attainment means below upper secondary level, medium educational attainment means below tertiary level, high educational attainment means tertiary level. The effects of socio-economic background are picked up again in Section 3.2.2.

152 Financial and non-financial measures for (teachers working in) schools with many disadvantaged students are likely to contribute towards tackling early school leavers too. See Section 3.2.

Figure 15. **Early warning systems to prevent early school leaving take different forms across the EU**



Source: [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

All EU countries have policies in place on individual education plans¹⁵³. If specific groups of learners are targeted in such policies, this mostly concerns students with disabilities or special educational needs¹⁵⁴. Students from refugee or migrant backgrounds are explicitly mentioned in 11 EU education systems¹⁵⁵. Here too, socio-economic background remains underemphasised. Learners from disadvantaged socio-economic backgrounds are only targeted in policies on individual education plans in 7 countries (Hungary, Italy, Lithuania, Portugal, Romania, Slovakia, and Spain)¹⁵⁶.

Intervention efforts require the same whole-school approach that was emphasised in Chapter 1 as key to learning for sustainability¹⁵⁷. Two triggers for such

intervention efforts are absenteeism (Box 7) and student wellbeing¹⁵⁸, proxied for instance by a sense of belonging at school¹⁵⁹. A positive school climate is important in this context¹⁶⁰. The [previous edition](#) of the Education and Training Monitor's comparative report showed how most EU countries record policies on multidisciplinary support

- 153 In Denmark, individual action plans are subject to local/school autonomy. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)
- 154 Learners with disabilities or special educational needs are targeted in all EU education systems with policies on individual action plans apart from the French community of Belgium, the Netherlands, and Sweden. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)
- 155 The German-speaking community of Belgium, Cyprus, Greece, Italy, Latvia, Lithuania, Luxembourg, Portugal, Slovakia, Slovenia, and Sweden. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)
- 156 See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)
- 157 For more information, see a [2021 European Commission infographic](#) on whole-school approaches to reduce early school leaving.

- 158 For more information about wellbeing and mental health at school, see [2024 guidelines for education policymakers](#); [2024 guidelines for school leaders, teachers, and educators](#); and a [2024 factsheet](#) accompanying both publications. All were developed by the European Commission Expert Group on supportive learning environments for groups at risk of underachievement and for supporting wellbeing at school.
- 159 Results from OECD's PISA show that students across the EU felt a stronger sense of belonging at school in 2022 (71.8%) compared to 2018 (65.2%). The broadest agreement is now reported by students in Spain (86.1%), while fewest students feel like they belong at school in Romania (49.5%). [Monitor Toolbox](#) A [2023 OECD report](#) suggests that a strong sense of belonging is crucial for education systems' resilience and corresponds to better mathematics performance, higher safety at school, supportive teachers, less long-term absenteeism, and fewer grade repetitions. Disadvantaged students and those experiencing bullying report a weaker sense of belonging at school.
- 160 More than 1 000 children were consulted about 'feeling safe' via the [EU Children's Participation Platform](#), to inform the preparation of the [2024 European Commission Recommendation](#) on developing and strengthening integrated child protection systems in the best interests of the child. Children responses suggest that they consider schools safe when: (i) they feel listened to and respected; (ii) they receive appropriate educational provisions; and (iii) their (mental and physical) health and safety needs are met. Safety can be undermined by concerns about violence, in particular bullying. For further detail, see the recommendation's accompanying [Staff Working Document](#).

teams in and around schools. These teams commonly include numerous different professionals, such as psychologists, counsellors, and specialised teachers¹⁶¹. To gauge the accessibility of such multidisciplinary support teams, new data reveal whether learners' access is monitored or evaluated by top-level authorities. This is the case in less than half of all EU education systems¹⁶².

Box 7. Combating absenteeism

The notion of absenteeism among enrolled students includes several related concepts such as school refusal, school phobia, truancy, and absence from specific lessons. Factors leading to absenteeism can be student specific, family specific, school specific, or community specific¹⁶³. Long-term absenteeism refers to the situation where a student is absent from school for more than 3 consecutive months.

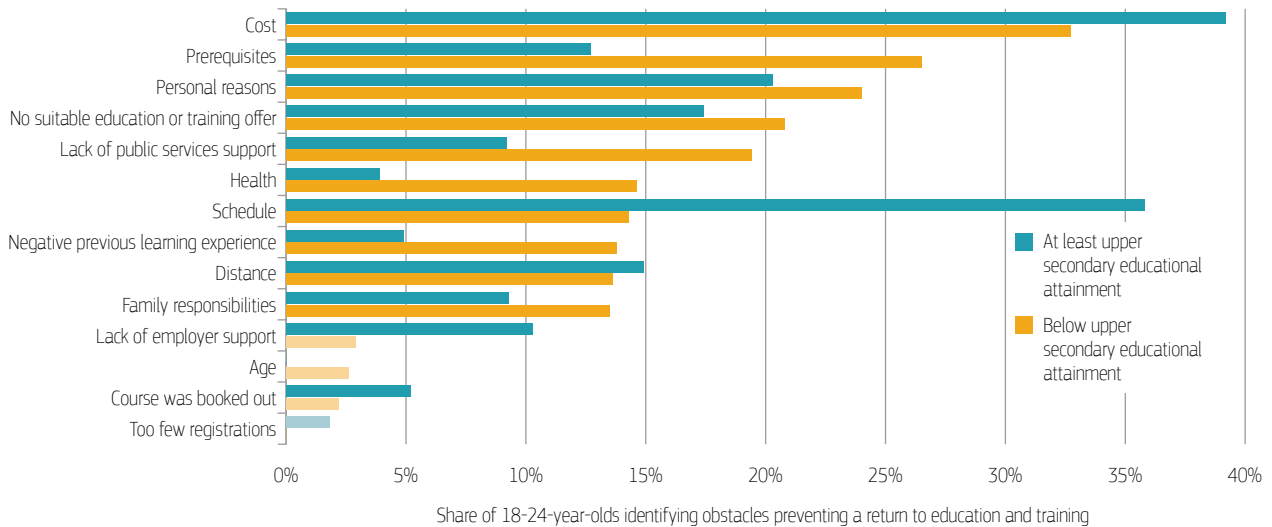
Recent evidence shows, that after the COVID-19 pandemic, the shares of long-term absenteeism were considerably higher among disadvantaged students (10.2% compared to 6.1% of advantaged students)¹⁶⁴. The most common reasons for not attending classes for several months are sickness (76.0%), boredom (22.7%), and feeling unsafe at school (19.2%)¹⁶⁵. Long-term absenteeism correlates with lower academic performance, higher probability of dropout, and behavioural issues. It also worsens the person's later chances on the labour market leading to lower income and higher rates of unemployment. Strategies to tackle absenteeism and help the recovery of students' learning include summer schools, the provision of online materials, wellbeing and mental health support, financial support for disadvantaged students, and targeted training of teachers¹⁶⁶.

Reaching out to and engaging early school leavers once they have left education and training poses a major challenge. This is why, alongside prevention and intervention measures, education and career guidance are important in secondary schools. It may be the only time many young people receive advice and learn about the various support mechanisms that are available to them should they ever need them. All EU education systems record policies on the topic of education and career guidance for when students are still in secondary school¹⁶⁷. Education and career guidance can be part of the compulsory curriculum in secondary education (20 systems) or promoted through work placements and job shadowing (16 systems)¹⁶⁸.

- 161 Findings came from a [2023 data collection](#) by the Eurydice network. Five EU education systems (the German-speaking community of Belgium, Croatia, Ireland, the Netherlands, and Romania) did not record policies on multidisciplinary support teams at all.
- 162 The Flemish community of Belgium, Czechia, Estonia, Hungary, Italy, Latvia, Luxembourg, Malta, Poland, Portugal, Slovakia, Spain, and Sweden. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)
- 163 See a [2024 OECD policy brief](#) on evaluating post-pandemic education policies and combating student absenteeism beyond COVID-19.
- 164 The source is the OECD's PISA 2022 and figures concern weighted averages of 22 EU countries: Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, and Sweden. [Monitor Toolbox](#)
- 165 The source is the OECD's PISA 2022 and figures concern weighted averages of 19 EU countries: Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, France, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, and Slovenia. [Monitor Toolbox](#)
- 166 See a [2024 OECD report](#) on post-pandemic education policies and combating student absenteeism beyond COVID-19.

- 167 The Netherlands is the only EU country where the topic of education and career guidance is a matter of local autonomy, but additional funding is provided for guidance activities. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)
- 168 See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#) The topic of education and career guidance does exist in primary schools too, albeit less prevalent. Guidance is promoted through internal or external services in 18 systems, through the compulsory curriculum in 12 systems, and through work placements and job shadowing in five systems. The topic of education and career guidance is not promoted at the level of primary education in Croatia, Cyprus, France, Germany, Ireland, Italy, the Netherlands, Portugal, and Slovenia.

Figure 16. **Early school leavers face obstacles in their return to education and training**



Source: Eurostat (Adult Education Survey 2022). [Download data](#) [Monitor Toolbox](#) Note: the indicator covers all 18-24-year-olds who have not participated in education or training over the preceding 12 months but indicate that they would want to; lighter coloured bars represent values with low reliability.

Once they have left education and training, over half of all early school leavers (53.7%) are not employed. Among them, only about one in two young people would like to work (56.9%)¹⁶⁹. Youth unemployment is more prevalent among young people without upper secondary educational attainment (18.6%) than it is on average (11.2%), and the risk of being neither in employment nor in education and training (NEET) is higher when a person lacks upper secondary educational attainment (12.9%) compared to the average (11.2%)¹⁷⁰.

Around a third (31.5%) of 18-24-year-olds without upper secondary educational attainment want to go back to education or training. Various perceived obstacles prevent them from doing so (Figure 16) and are markedly different from the ones identified by young people with (at least) upper secondary educational attainment. When it comes to reasons not to participate in education or training, young people without upper secondary educational attainment single out prerequisites, health, a lack of public services support, and negative previous learning experiences as obstacles much more than young people with upper secondary educational attainment

do¹⁷¹. The lack of a suitable education or training offer is obstacle number four among both groups¹⁷².

Main takeaway

Early school leaving is becoming less prevalent across the EU, though still affecting 9.5% of all 18-24-year-olds, or around 3.1 million young people. Country variation is increasing, and young people with disabilities (22.2%) and first-generation non-EU migrants (23.0%) remain at serious risk. The problem combines issues of school dropout (most evident in vocational tracks) and out-of-school rates (with an estimated 1.3 million young people in the target age range not enrolled in upper secondary education). Only 64.1% of young people whose parents have a low level of education reach the level of upper secondary education themselves. Most EU education systems promote monitoring actions to prevent early school leaving, accompanied by individual education plans that especially target learners with special educational needs or migrant backgrounds. Wellbeing and absenteeism have received particular attention since the COVID-19 pandemic.

169 [Monitor Toolbox](#)

170 The age bracket is 15-29. [Monitor Toolbox](#) The European Pillar of Social Rights Action Plan includes an objective to decrease the rate of NEETs to below 9% by 2030 by improving their employment prospects. For more data on NEETs, see the [2024 European Commission](#) report on employment and social developments in Europe.

171 Conversely, young people with upper secondary educational attainment identify schedules or lack of employer support more than young people without upper secondary educational attainment do.

172 While personal reasons and costs feature in the top three reasons not to participate for both groups, young people without upper secondary educational attainment also identify prerequisites as an obstacle, whereas schedules complete the top three for those with (at least) upper secondary educational attainment.

3.2. Learning outcomes

3.2.1. Underachievement and top performance

EU-level 2030 target:
‘The share of underachievement in reading, mathematics, and science should be less than 15% by 2030.’

Underachievement¹⁷³ is on the rise for reading, mathematics, and science. The 2030 EU-level target of an underachievement share below 15% remains out of reach for the foreseeable future. Meanwhile, top performance¹⁷⁴ is declining¹⁷⁵. This puts at risk not only the EU’s future competitiveness but also its societal resilience and preparedness. Figure 17 presents the latest results.

The average underachievement rate in reading reached a record 26.2% in 2022. Only Ireland and Estonia meet the 2030 EU-level target of less than 15%¹⁷⁶. The gap between the best-performing (Ireland) and worst-performing (Cyprus) EU country is almost 50 percentage points. At EU level, the underachievement rate rose by 3.7 percentage points between 2018 and 2022. Top performance in reading, meanwhile, decreased from 8.1% in 2018 to 6.5% in 2022, now ranging from 1.4% in Cyprus to 10.6% in Estonia.

In all countries (except for Cyprus and Slovenia), the performance decline between 2018 and 2022 was even larger in mathematics than in reading. For the EU as whole, underachievement in mathematics increased by 6.6 percentage points between 2018 and 2022. The average proportion of underachievement in mathematics now stands at a record 29.5% and only Estonia reaches the 2030 EU-level target of less than 15%¹⁷⁷. The spread between the best- and worst-performing countries

is widening, and the underachievement rate exceeds 45% in Bulgaria, Cyprus, Romania, and Greece. Top performance in mathematics decreased from 11.0% in 2018 to 7.9% in 2022, now ranging from 2.0% in Greece to 15.4% in the Netherlands.

The underachievement rate in science was somewhat lower than in the other two subjects tested in 2022, though still at a record 24.2% across the EU. Only Estonia meets the 2030 target¹⁷⁸. The size of the gap between the best-performing (Estonia) and the worst-performing (Cyprus) EU country is 41.7 percentage points. A relatively strong rise in underachievement in science already preceded the 2018 results¹⁷⁹ and continued between 2018 and 2022, increasing by another 2.0 percentage points at EU level¹⁸⁰. Top performance in science has remained comparatively stable, going from 6.3% in 2018 to 6.9% in 2022, and now ranges from 1.0% in Romania to 12.3% in Finland.



Underachievement in basic skills is at record-high levels, with the EU-level target out of reach for the foreseeable future.”

173 This is the share of students not reaching competence level 2 in the OECD’s Programme for International Student Assessment (PISA).

174 This is the share of students reaching at least PISA competence level 5.

175 For more information about PISA 2022 and its results for EU countries, see the [2024 European Commission report](#). Note that additional skills were assessed in PISA 2022, such as [creative thinking](#) and [financial literacy](#).

176 Ireland is the only country where both girls and boys would meet the 2030 EU-level target on underachievement. In Estonia, girls would meet the target. [Monitor Toolbox](#)

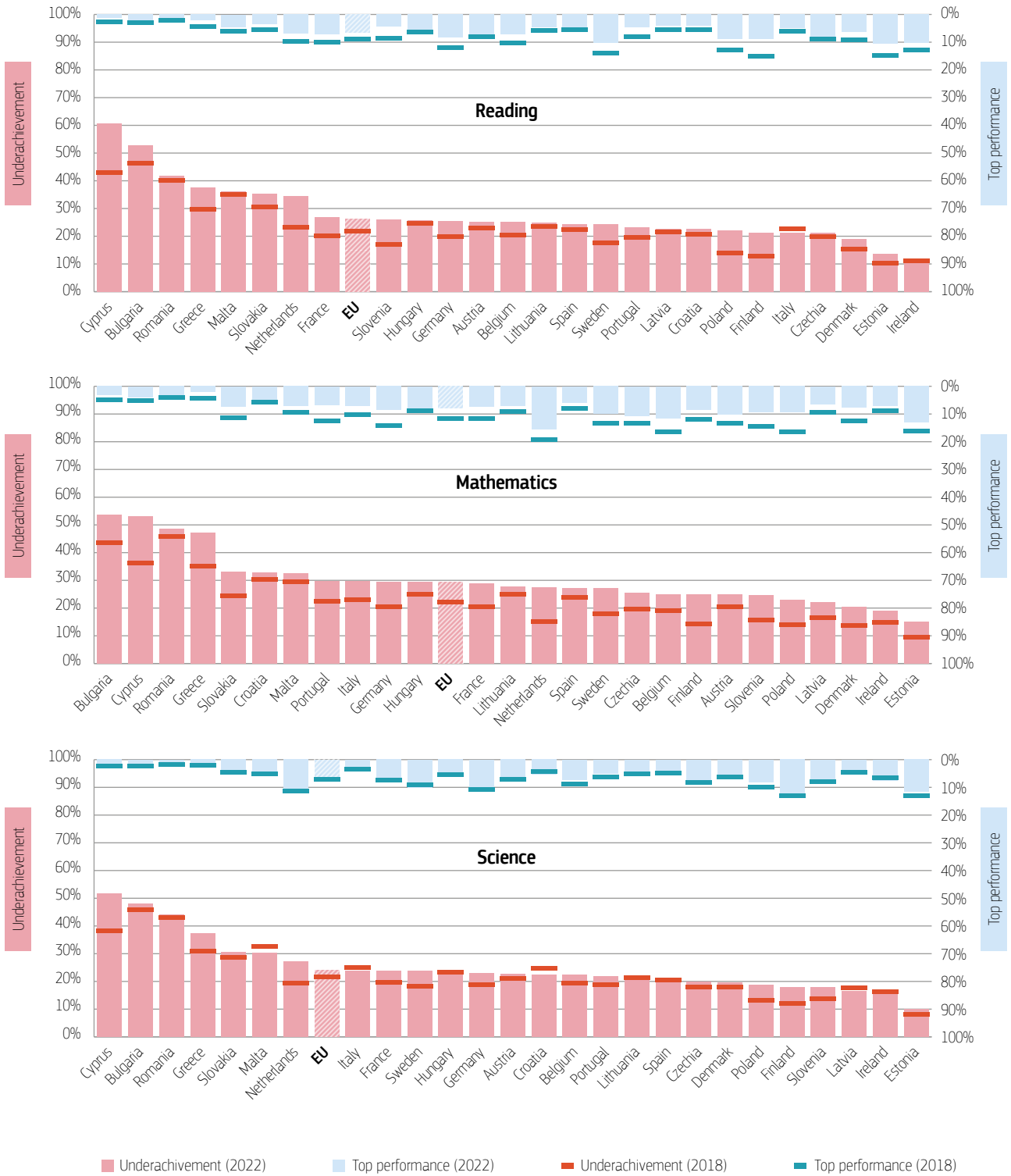
177 The EU-level 2030 target on underachievement is only met by girls in Estonia (with Estonian boys performing slightly above the target level of 15%). [Monitor Toolbox](#)

178 Estonia is the only country where both girls and boys would meet the 2030 EU-level target on underachievement. Girls would also meet the target in Ireland, Slovenia, and Finland. [Monitor Toolbox](#)

179 An increase of 5.4 percentage points between 2012 and 2018. [Monitor Toolbox](#)

180 For a total of 7.4 percentage points between 2012 and 2022, comparable to reading and mathematics. [Monitor Toolbox](#)

Figure 17. **Underachievement in reading, mathematics, and science is up, while top performance is down**



Source: European Commission calculations, based on OECD PISA 2018 and 2022. [Download data](#) [Monitor Toolbox](#) Note: underachievement equals PISA competence level 1 or below; top performance equals level 5 or 6; Luxembourg is omitted as it did not participate in PISA 2022; caution is required when interpreting 2022 data for Denmark, Ireland, Latvia, and the Netherlands because one or more PISA sampling standards were not met.

Gender gaps in underachievement are uneven across EU countries and subjects¹⁸¹. Differences are strongest in reading, with girls less likely to underachieve than boys by at least 5 percentage points and more likely to be among the top performers in all EU countries. Underachievement in mathematics shows no clear gender patterns, while top performance in mathematics is more prevalent among boys in all EU countries. Underachievement in science is slightly more common among boys than girls in all countries except Austria, but boys' top performance rates are somewhat higher than those of girls in almost all countries.

Box 8. Responses to PISA 2022: examples from the 2024 Education and Training Monitor's country reports

The OECD's PISA 2022 findings have reverberated across EU countries. Responding to underachievement and the effects of socio-economic background, France aims to bring about a general mobilisation in education to raise the overall performance of pupils. The objective is to strengthen the targeted support in French and mathematics through additional measures, including: (i) the rollout, from September 2024, of certified manuals in French and mathematics in preschools and primary schools; and (ii) the implementation of differentiated groups in French and mathematics according to students' needs within classes.

Responding to reports of bullying stemming from PISA 2022, Greece developed a national plan called 'breaking the silence' to tackle the increasing violence within educational establishments and bullying among pupils. The plan includes a special programme on school bullying and a national strategy against juvenile violence. A digital complaint platform for bullying incidents in schools has also been developed and will be used by students, parents, and teachers. A scientific board is currently working on establishing protocols for the evaluation, prevention, and handling of individual cases of school violence. There are also plans to increase the number of psychologists and to work on continuing professional development for staff.

Recent research at national level has shown that the COVID-19 pandemic worsened educational outcomes in many EU countries and that those pandemic-related learning losses are likely to persist without effective remedial policy action¹⁸². The findings above are consistent with this research, suggesting that school closures may have played a role in the performance drop observed between 2018 and 2022. However, several countries were experiencing declining performance trends in one or more school subjects already before the pandemic. Further research and analysis are needed to identify the full set of causes for these results, considering the specific features of the different EU education systems.



181 Migrant background is also associated with underachievement in basic skills. For instance, the most common pattern of underachievement in mathematics shows a large gap between students born abroad and students with a non-migrant background, while native-born students with parents born abroad partially catch up. A similar pattern is visible for reading and science. [Monitor Toolbox](#)

182 See a [2023 analytical report](#) from the European Expert Network on Economics of Education (EENEE) and a [2023 European Commission \(Joint Research Centre\) report](#) on learning losses during and after the COVID19 pandemic.

Box 9. Other learning outcomes

Basic skills are not the only learning outcomes for which new comparative data are available or forthcoming. Firstly, multilingual skills continue to be strengthened, which is most evident in the younger cohorts¹⁸³. Two out of three 18-24-year-olds across the EU report a good or proficient level in a second language (64.1%)¹⁸⁴. Half of them (50.3%) report that they know a third language¹⁸⁵ in which a total of 19.7% report medium or high fluency. Proficiency in a second language is better when compared to the previous birth cohort, now 25-34-year-olds, among whom 56.9% consider they can speak it fluently¹⁸⁶, and 44.3% report knowing a third language (17.9% of the total at a good or proficient level). However, the progress is far from meeting the aim to equip all young people with competences in two additional languages before the end of upper secondary education¹⁸⁷.

Secondly, civic knowledge is a crucial predictor of future democratic citizenship attitudes and behaviours among young people¹⁸⁸. On average, more than 60% of eighth grade students achieve at least Level B on the civic knowledge scale, which means they can demonstrate a specific knowledge and understanding of the most pervasive civic institutions, systems, and concepts¹⁸⁹.

Among the high performers are Croatia, Estonia, Denmark, Sweden, and Poland. On the other hand, countries such as Romania, Bulgaria, and Cyprus have lower percentages, with fewer than 50% of students reaching an adequate level of civic knowledge. The data reveal a varied landscape of civic knowledge across EU countries and underscore the importance of targeted educational policies to enhance civic knowledge and engagement among students across the EU.

Finally, the 2030 EU-level target of less than 15% underachievement in computer and information literacy is not covered in this edition of the Education and Training Monitor. This is because the underlying data were not available during the drafting phase. The data are from the International Computer and Information Literacy Study (ICILS) as conducted by the International Association for the Evaluation of Educational Achievement (IEA). The online [Monitor Toolbox](#) features links to ICILS 2023 data and findings as published on 12 November 2024. These findings are important in the context of the Digital Education Action Plan 2021-2027¹⁹⁰ and will be assessed further in the next edition of the Education and Training Monitor.

183 The source here is the Adult Education Survey (AES) 2022. Another source for self-reported multilingual skills is the [2024 Eurobarometer survey](#) on Europeans and their languages.

184 The share over the total population cohort exceeds 85% in Slovenia, Luxembourg, Latvia, and Cyprus, and falls below 45% in Ireland and Malta. [Monitor Toolbox](#)

185 This shows substantial variation across countries, with shares of 90% in Luxembourg and more than 75% in Finland, Slovenia, Latvia, and Estonia, compared to less than 30% in Bulgaria, Greece, Hungary, Romania, and Malta. [Monitor Toolbox](#)

186 A similar trend is observed in this birth cohort, recording a progress of 6.7 percentage points when compared to the same age bracket in 2016. [Monitor Toolbox](#)

187 See the [2019 Council Recommendation](#) on the teaching and learning of languages. Frequency and situations where other languages are used for social, learning and professional purposes, and other findings related to multilingualism are available in the results of the [2024 Eurobarometer survey](#).

188 The [2023 Council conclusions](#) on the contribution of education and training to strengthening common European values and democratic citizenship recognise that education for democratic citizenship contributes significantly to enhancing Europe's resilience during crises and periods of rapid and profound change. Furthermore, a [2023 issue paper](#) from the European Commission's Working Group on Equality and Values in Education and Training presents some of the major insights, findings, discussions, and inspirational practices that arose from its meetings and a peer learning activity in 2023.

189 The source is the IEA's ICCS 2022 (see Chapter 1). [Monitor Toolbox](#)

190 Responding to the strategic priorities of the Digital Education Action Plan 2021-2027, two Council Recommendations were adopted in November 2023: one on the key enabling factors for successful digital education and training, and one on improving the provision of digital skills and competences in education and training. The first [2023 Council Recommendation](#) promotes the necessary structural reforms at national level in the EU countries to enable significant progress in the digital transformation of education and training. It outlines a modern framework of governance, capacity-building, and investment for effective and inclusive digital education and training. The second [2023 Council Recommendation](#) addresses the need to widen the provision of digital skills and articulates the steps needed to promote digital competence development from early on and at all stages of education and training.

3.2.2. Equity in learning outcomes

In 2022, the European Commission started using a new indicator to capture equity in school education¹⁹¹. The indicator captures the outsized effect of learners' socio-economic background¹⁹² on one of the lowest thresholds in educational achievement: combined underachievement in reading *and* mathematics *and* science (here labelled 'severe underachievement')¹⁹³. Figure 18 illustrates the results for both 2018 and 2022.

At EU level, the severe underachievement rate grew from an average of 13.0% in 2018 to 16.1% in 2022, with substantial increases in Cyprus (14.6 percentage points), the Netherlands (9.4), and Bulgaria (6.4)¹⁹⁴. Severe underachievement increased disproportionately among young people from disadvantaged socio-economic backgrounds, from 23.3% to 28.8%¹⁹⁵. More than half of all disadvantaged 15-year-olds now risk severe underachievement in Bulgaria (62.6%), Romania (57.8%), and Cyprus (55.3%) and more than a third in an additional 4 EU countries: Slovakia (46.7%), Greece (38.8%), Hungary (35.4%), and Malta (35.1%)¹⁹⁶. By contrast, severe underachievement among young people with advantaged socio-economic backgrounds barely

changed, from an average of 4.2% in 2018 to 4.7% in 2022¹⁹⁷.

Inequity is increasing. The percentage point gap between young people with disadvantaged socio-economic backgrounds and their peers with advantaged socio-economic backgrounds changed from 19.1 in 2018 to 24.1 in 2022. Put simply, the situation went from bad to worse: disadvantaged learners used to be at a 5.5 times higher risk of severe underachievement and are now at a 6.1 times higher risk when compared to their advantaged peers. The gap has increased by 8 percentage points or more in the Netherlands (10.9), Romania (9.8), Slovakia (9.1), and Sweden (8.1). The 2022 gap ranges from the worst-performers Romania (48.8 percentage points), Bulgaria (46.1), and Slovakia (40.0) to the best-performers Estonia (6.7 percentage points), Ireland (11.6), Croatia (14.9), and Denmark (14.9)¹⁹⁸.

191 The indicator, also using data from the OECD's PISA, was introduced in the [2022 EEA Progress Report](#). It is further detailed in the report's accompanying [Staff Working Document](#) and in the 2022 Education and Training Monitor's [comparative report](#).

192 In PISA, students' socio-economic background is captured by the index of economic, social, and cultural status (ESCS). This is a composite index obtained by combining information about the education and occupation of the student's parents, as well as the material, educational, and cultural resources possessed by the student's family. The advantaged socio-economic background category comprises 25% of all students with the highest ESCS scores in the given country, whereas the disadvantaged socio-economic background category comprises 25% of all students with the lowest ESCS scores.

193 Even though socio-economic background is the single largest determinant of educational disadvantage, it is not the only one. Other determinants may or may not correlate with socio-economic background. These include gender, migrant status, language spoken at home, discrimination, and special educational needs, including disabilities. In addition, the equity indicator is itself an underestimation. Young people may not be in the PISA target population because of grade repetition, (very) early dropout, or are not enrolled in school in the first place. Others may be excluded from the PISA sample due to, for instance, insufficient proficiency in the assessment language or disabilities. An estimated 10.3% of all 15-year-olds in the EU are not covered by the assessment.

194 The change was not statistically significant in 6 EU countries (Croatia, Hungary, Ireland, Italy, Lithuania, and Malta) and negligible in 3 others (Estonia, Portugal, and Spain). [Monitor Toolbox](#)

195 The increase among young people with disadvantaged socio-economic backgrounds is most pronounced in Cyprus (16.2 percentage points), the Netherlands (13.8), Slovakia (11.5), and Bulgaria (10.0). The change was not statistically significant in Malta, Lithuania, Italy, Ireland, Portugal, Croatia, Estonia, and Hungary. [Monitor Toolbox](#)

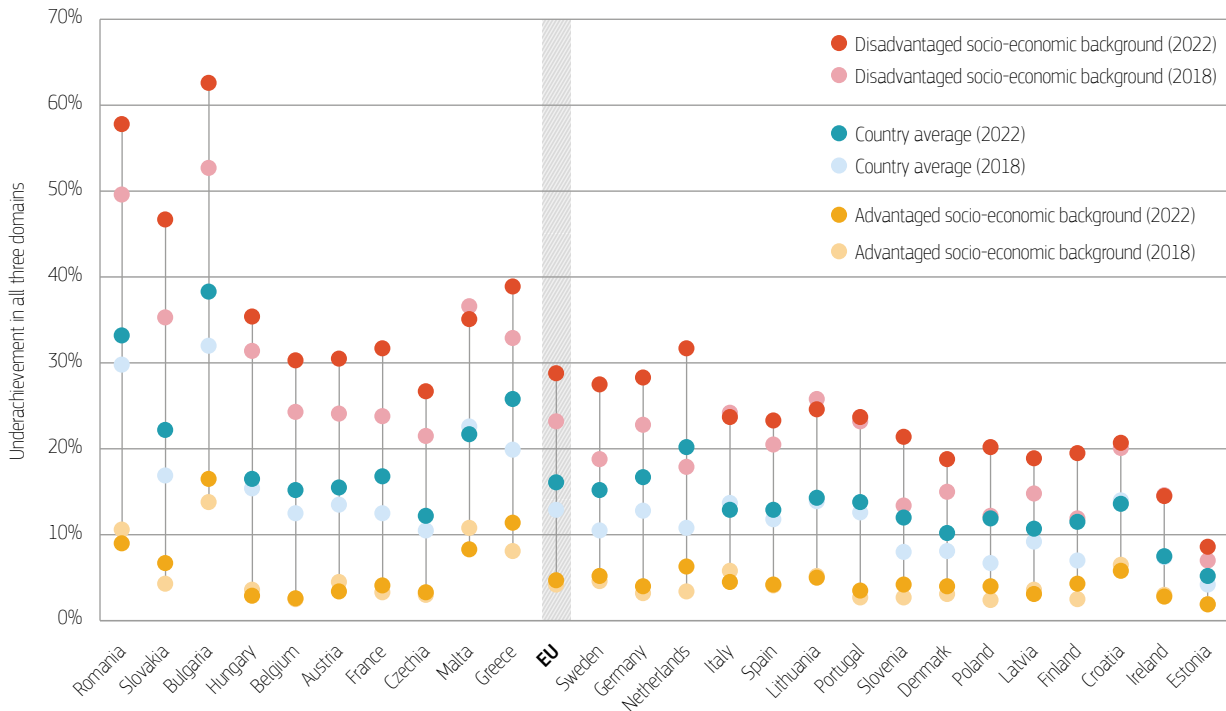
196 The risk is below 20% only in Estonia (8.6%), Ireland (14.5%), Denmark (18.9%), Latvia (18.9%), and Finland (19.5%). [Monitor Toolbox](#)

197 The change between 2018 and 2022 in severe underachievement among students with advantaged socio-economic status was statistically significant only in Cyprus, Finland, Greece, the Netherlands, and Slovakia.

198 There is no statistically significant difference between boys and girls in any EU country for the equity indicator. In other words, the effects of socio-economic status are comparable for both sexes. Nevertheless, severe underachievement is more prevalent among boys (18.0%) than girls (14.2%). This pattern is statistically significant in all EU countries apart from Belgium, Estonia, and Hungary in 2018, and Austria in 2022.



Disadvantaged learners are at a 6.1 times higher risk of severe underachievement than their advantaged peers.”

Figure 18. **Inequity in learning outcomes has increased in most EU countries**


Source: European Commission (Joint Research Centre) calculations, based on OECD PISA 2018 and 2022. [Download data](#) [Monitor Toolbox](#) Note: countries are displayed in descending order according to the 2022 gap between severe underachievement among 15-year-olds with disadvantaged socio-economic backgrounds and severe underachievement among 15-year-olds with advantaged socio-economic backgrounds; Luxembourg did not participate in PISA 2022 (its 2018 values are used in the country ordering).

The OECD reports a clear association between equity in learning outcomes¹⁹⁹ and ‘educational stratification’, which refers to the various ways that schools and education systems organise instruction for students with different abilities, behaviour, interests, and pace of learning²⁰⁰. As one example, Figure 19 plots the equity indicator against a measure of school segregation that

captures the likelihood of students from disadvantaged socio-economic backgrounds being concentrated in the same schools²⁰¹. There is a clear correlation between the two indicators, and the 4 worst-performing countries in terms of equity in learning outcomes are also the worst-performing countries in terms of school segregation (Romania, Bulgaria, Slovakia, and Hungary)²⁰².

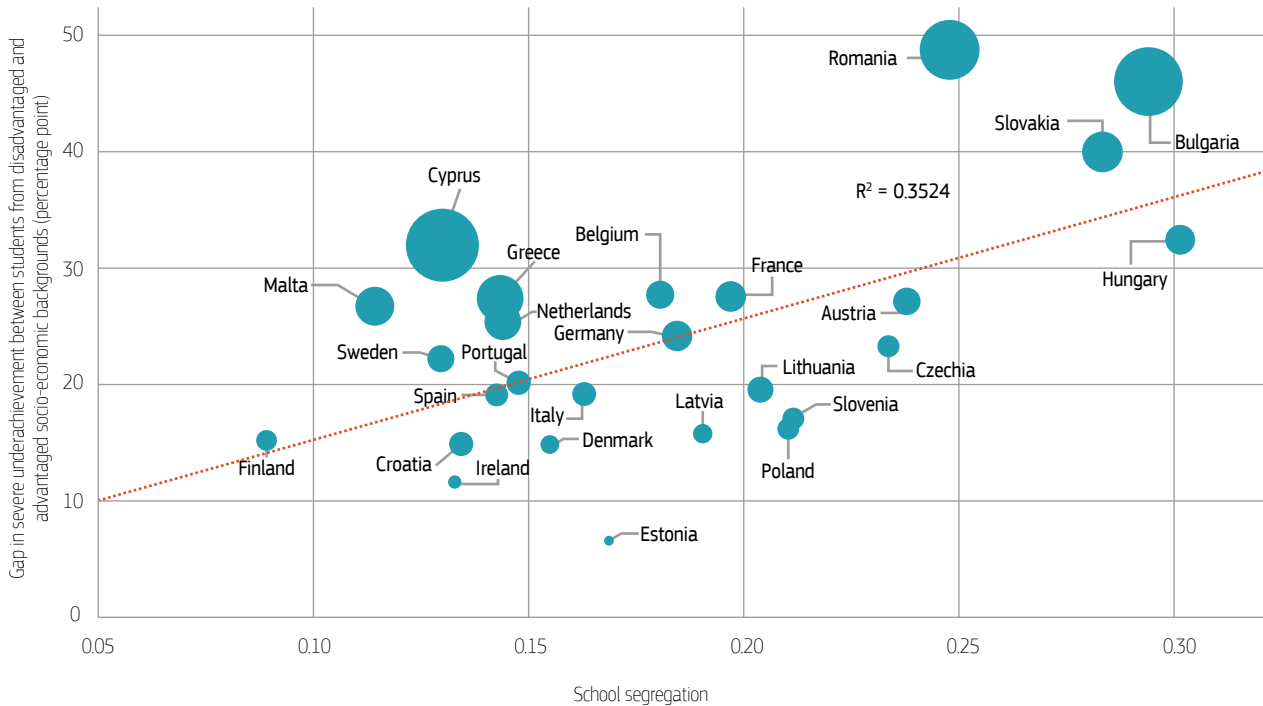
199 The OECD’s [Education at a Glance 2024](#) includes a broader look at equity in education, all the way from early childhood education and care to tertiary education.

200 A key finding from PISA 2022 is that in ‘equitable and high-performing education systems, almost all students had attended pre-primary school; few students had repeated a grade; socio-economically advantaged and disadvantaged students were not heavily concentrated in certain schools; students were tracked into different curricular programmes relatively late; and comparatively few students were grouped by ability between classes’. See a [2023 OECD report](#) on learning during and from disruption.

201 This specific measure of school segregation is sometimes referred to as the isolation index or the normalised exposure index. It quantifies the probability that a student from a disadvantaged socio-economic background is at school with students who are also from disadvantaged socio-economic backgrounds. The index is set between 0 (no segregation) and 1 (full segregation). Socio-economic segregation may be influenced by contextual factors such as residential segregation or the presence of streaming policies (often between general and vocational tracks) at age 15.

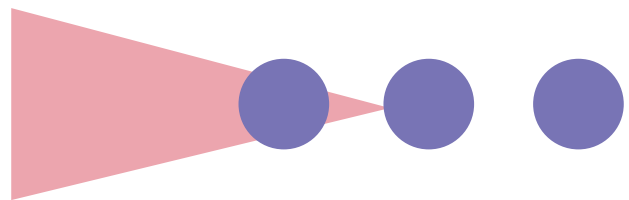
202 These countries do have regulations or recommendations in place on the socio-economic composition of schools and, in the case of Hungary, the possibility to adjust the school catchment area to diversify the school population. Policy response to educational segregation was captured by a [2023 data collection](#) among the Eurydice network.

Figure 19. School segregation is associated with higher likelihoods of inequity



Source: European Commission (Joint Research Centre) calculations, based on OECD PISA 2022. [Download data](#) [Monitor Toolbox](#) Note: bubble sizes denote each country's average share of severe underachievement, ranging from 5.2% in Estonia to 40.3% in Cyprus; school segregation quantifies the probability that a student from a disadvantaged socio-economic background is at school with students who are also from disadvantaged socio-economic backgrounds.

A lot of the measures to tackle inequities in school education, just like early school leaving, require the dedication and additional efforts of teachers, who already report heavy workloads across the EU (see Box 10). EU-wide, some 8 education systems do not report financial nor non-financial measures for teachers working in school with many disadvantaged students²⁰³. Additional allowances are provided in 12 EU countries²⁰⁴, and an increased basic salary exists only in 4 countries (Estonia, Hungary, Lithuania, and Romania). Non-financial measures mainly concern better working conditions (which are supported in most EU education systems), while a preferential next assignment (3 systems²⁰⁵) and faster career progress (only in France) are less common.



203 The German-speaking community of Belgium, Czechia, Denmark, Finland, Greece, Ireland, Luxembourg, and Malta. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

204 Austria, Bulgaria, France, Italy, Latvia, the Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, and Sweden. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

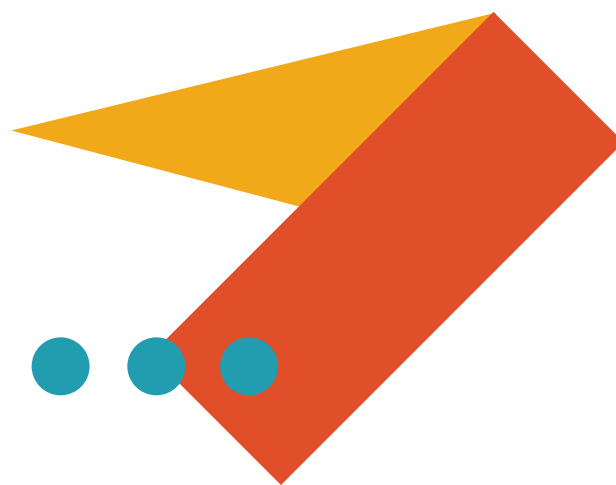
205 The French community of Belgium, France, and Spain. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

Box 10. Supporting a more attractive teaching job

The 2023 Education and Training Monitor zoomed in on the EU-wide challenge of teacher shortages and the attractiveness of a teaching job. The European Commission, in cooperation with the Standing Group on Indicators and Benchmarks (SGIB), developed an online indicator dashboard on the attractiveness of the teaching profession. The dashboard can be a compass to navigate through system-wide challenges and needs, such as recruitment and retention, comprehensive and continuous training, and the creation of attractive career paths with fair remuneration. Its primary purpose is to offer policymakers and stakeholders a broad comparison of enabling factors and potential policy levers for an attractive teaching job.

The dashboard's conceptual framework takes inspiration from a [2020 European Commission report](#)²⁰⁶, which emerged from a discussion on teacher and school leader careers that ran for over 18 months. The conceptual framework is built around the concepts of motivation, abilities, and opportunities, each with several policy-relevant indicators²⁰⁷. Looking at aspects that affect teachers' motivation, ownership over one's career looms large, but also factors such as a sense of control in the classroom, collegial leadership, and the value society attaches to teachers. The indicators for abilities focus on how prepared teachers are for their career, whether they receive the right training at the right time and whether they can fall back on support networks. Finally, for opportunities, the indicators give an indication of how accessible, flexible, and open teachers' careers are.

Figure 20 shows the prevalence of teacher training on diversity as well as student activities contributing to equity in learning outcomes. Across EU countries with available data, teacher training in special educational needs is most common (85.0%), followed by programmes and courses for students from disadvantaged socio-economic backgrounds (60.9%), teacher training in students' tolerance towards diversity²⁰⁸ (55.6%), and teacher training for teaching students with diverse backgrounds²⁰⁹ (54.8%). Less common are courses on gender equity, gender stereotypes, and gender diversity (38.3%) and language courses for those who need them (23.3%).

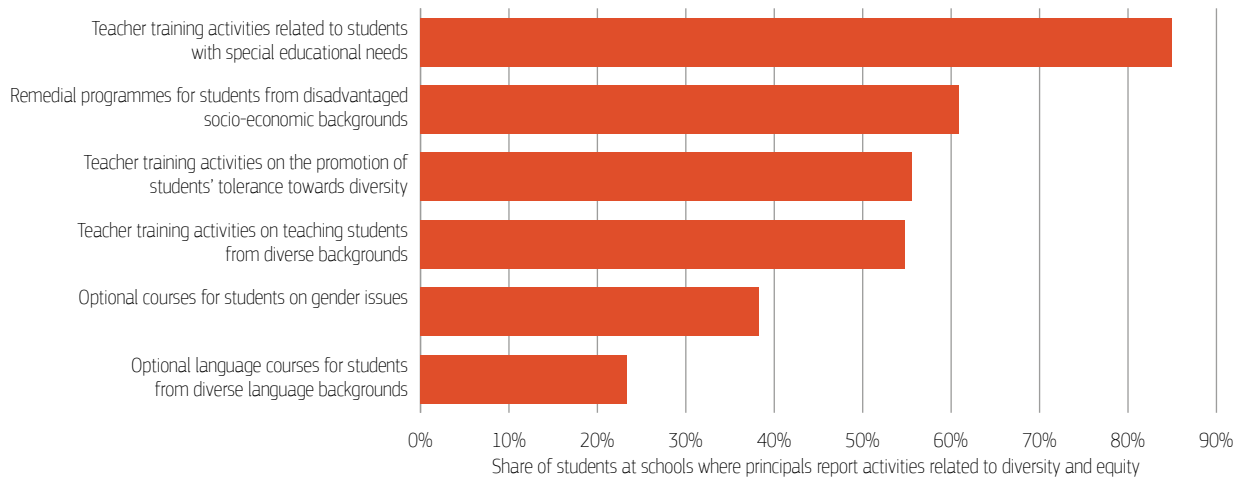


206 Developed by the Working Group on Schools as part of the previous strategic framework for European cooperation in education and training (ET2020).

207 The [Monitor Toolbox](#) also features the dashboard's underlying list of indicators and their sources. Avoiding placing additional administrative burdens on EU countries, the indicators are underpinned largely by pre-existing comparative data, which are inevitably outdated in some cases.

208 Such as dealing with negative feelings towards different cultures, languages, or ethnic groups, or towards gender, economic, and social differences.

209 Such training includes methods to differentiate instruction and to value students' diversity, as well as the inclusion of multicultural components.

Figure 20. **Equity issues are targeted through teacher training and student courses**

Source: European Commission (Joint Research Centre) calculations, based on ICCS 2022. [Download data](#) [Monitor Toolbox](#) Note: EU averages of 17 participating countries: Bulgaria, Croatia, Cyprus, Denmark, Estonia, France, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, and Sweden.

Finally, most countries provide additional funding from EU, national, or regional budgets to schools enrolling many disadvantaged students. Only Greece and Lithuania report no such additional funding²¹⁰. All remaining EU countries use national or regional budgets for this purpose²¹¹, and 13 education systems draw on the EU budget²¹².

Main takeaway

Underachievement in basic skills is on the rise across the EU, with record-high rates for reading (26.2%), mathematics (29.5%), and science (24.2%). This is bound to pose a hardship for today's youth and could jeopardise Europe's competitiveness moving forward. School closures during COVID-19 may have played their part, even if a decline in performance was already under way for several EU education systems. Looking at a more severe measure of underachievement (in all three school subjects at the same time), the outsized effects of a student's socio-economic background went from bad to worse. Disadvantaged learners used to be at a 5.5 times higher risk of severe underachievement and are now at a 6.1 times higher risk when compared to their advantaged peers. Inequity is most pronounced in Romania, Slovakia, Bulgaria, and Hungary, and is strongly linked to school segregation.

210 For further details, see the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

211 Additional funding from national or regional budgets goes to all schools with disadvantaged students in all but 6 of the remaining EU countries, which use it only for some schools (Cyprus, France, Germany, Hungary, Ireland, and Poland). See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

212 Of these 13 systems, 4 use the EU budget for all schools with disadvantaged students (the French community of Belgium, Croatia, Czechia, and Latvia), while 9 use it for some schools (Bulgaria, Cyprus, France, Italy, Poland, Portugal, Romania, Slovakia, and Spain). See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

Chapter 4. Vocational education and training



4.1. Work-based learning, employability, and learning mobility

EU-level 2025 target:
‘At least 60% of recent VET graduates should have experienced work-based learning as part of their VET programme by 2025.’

EU-level 2025 target²¹³:
‘The share of employed VET graduates should be at least 82% by 2025.’

EU-level 2030 target²¹⁴:
‘In VET, the share of vocational learners who do part of their studies abroad (learning mobility) should be at least 12% by 2030.’

Vocational education and training (VET) covers learning across a broad range of settings, including school-based learning or work-based training, at different levels of qualification²¹⁵. Across the EU, more than 10 million students take part in initial VET²¹⁶, at upper secondary (8.9 million) or post-secondary non-tertiary level (1.4 million). This means that over half (52.4%) of learners at a medium level of education²¹⁷ are in vocational programmes. Two thirds (68.5%) of VET learners at medium level are in programmes that give direct access to tertiary education. There are 1.4 million learners²¹⁸ in short-cycle tertiary education with a vocational orientation and, in addition, several EU countries offer vocational programmes at bachelor’s and master’s levels²¹⁹.

213 See the [2020 Council Recommendation](#) on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience.

214 See the [2024 Council Recommendation](#) ‘Europe on the Move’.

215 See the [2020 Council Recommendation](#) on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience.

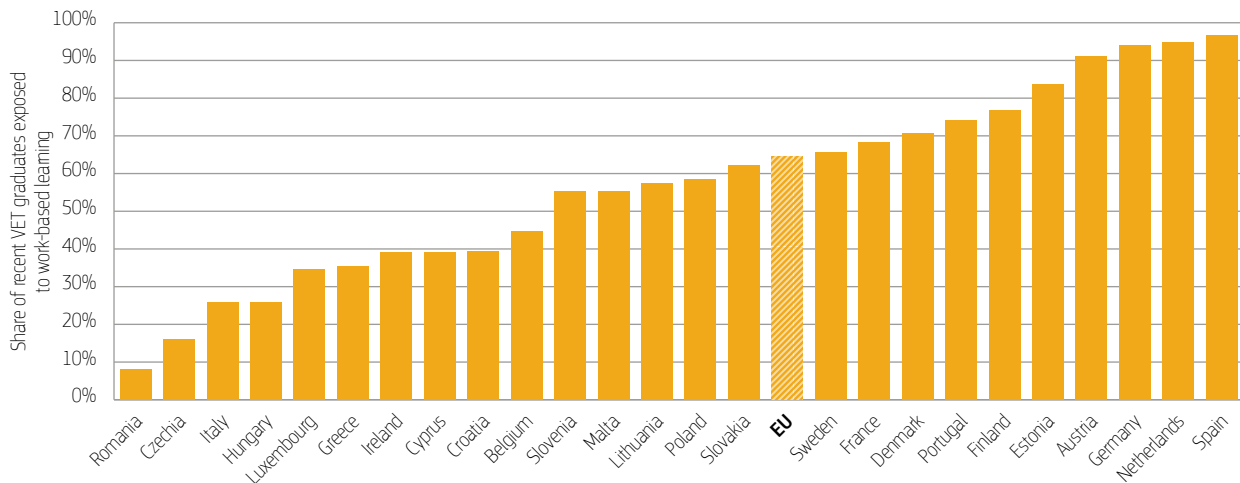
216 Initial VET typically takes place in a school-based environment, complemented by practical experience in training centres or companies.

217 Medium level education is the combination of upper secondary education and post-secondary non-tertiary education. This is the reference category for the indicators on work-based learning, employability, and learning mobility.

218 The gender balance in initial VET differs across educational levels. There are more male students in upper secondary education (58.2%), but a majority of female students (57.8%) in post-secondary non-tertiary education. In short-cycle tertiary education with a vocational orientation, there is near gender parity (50.9% male and 49.1% female students). Male students in initial VET mainly study ‘engineering, manufacturing and construction’ (44.5% of male students). Female students mainly study ‘health and welfare’ (25.8% of female learners), services (22.0%), and business, administration, and law (21.2%). [Monitor Toolbox](#)

219 There is currently no internationally agreed definition of programme orientation at these levels of education. See a [2022 OECD report](#) on higher vocational and professional tertiary education systems.

Figure 21. Work-based learning ranges from less than 10% to nearly 100% of recent VET graduates



Source: Eurostat (EU Labour Force Survey 2023). [Download data](#) [Monitor Toolbox](#) Note: no data available for Bulgaria and Latvia; low data reliability for Hungary, Cyprus, Malta, Poland, Finland, and Germany.

Recent VET graduates in the EU who were exposed to work-based learning have higher employment rates (84.8%) than those who did not (71.5%).”

Continuing VET mostly takes place outside the formal education system, typically in a work-based context. In 2022, nearly four out of ten (37.1%) working-age adults across the EU took part in (non-formal) job-related education and training²²⁰. Around two thirds of companies across the EU provide continuing VET to (some of) their staff (67.4% in 2020), with larger companies being more

likely than smaller ones to do so²²¹. Chapter 6 has more detailed information on participation in adult learning.

This section looks at work-based learning, employability, and learning mobility in VET. Firstly, work-based learning in VET helps to ensure its labour market relevance. It motivates pupils and students who are keen to gain practical experience and enables smooth transitions from school to work²²². The EU has set a target for at least 60% of recent medium-level VET graduates to have experienced work-based learning as part of their VET programme by 2025. At 64.5% in 2023, this target has been reached²²³.

220 [Monitor Toolbox](#) The data from the Adult Education Survey refer to the share of people aged 18 to 64 who take part in job-related non-formal education and training. The data in Chapter 6 refer to adults aged 25 to 64.

221 [Monitor Toolbox](#) The data from the Continuing Vocational Training Survey refer to training measures or activities that have as their primary objectives the acquisition of new competences or the development and improvement of existing ones and must be financed at least partly by companies, for their staff. The survey covers companies in EU countries with 10 or more people employed. For more details on company size and sector, see the 2023 Education and Training Monitor's [comparative report](#).

222 See a [2021 Cedefop Research Paper](#) on the role of work-based learning in VET and tertiary education.

223 Work-based learning in this context refers to experience gained at a workplace (besides or in addition to school-based learning or practical exercises at a training centre). The relevant work experience is part of the curriculum of the formal programme leading to the VET qualification (unlike most traineeships). Within these parameters, work-based learning varies a lot. Work experience can take place in different sectors and types of workplaces (companies, government institutions, or non-profit organisations), with varying duration (from 1 month to 1 year or longer). Learners may work under different contractual statuses (as dual learners with an employment contract, for example, or as apprentices) and conditions (paid or unpaid work experience). The indicator includes all VET graduates who left the VET programme 0-3 years ago, including graduates who are still in education and training.

There is, however, a lot of variation across EU countries (Figure 21). Work-based learning in VET is almost universal in some countries (Spain, Austria, the Netherlands, and Germany), but in others it is very much the exception (Romania and Czechia). Across the EU, work-based learning is slightly less common among female (63.9%) than among male (64.9%) VET graduates. Work-based learning is most common in VET programmes in health (74.3%) or business, administration, and law (69.3%). It is least common in VET programmes linked to ICT (53.8%) and the humanities (44.5%).

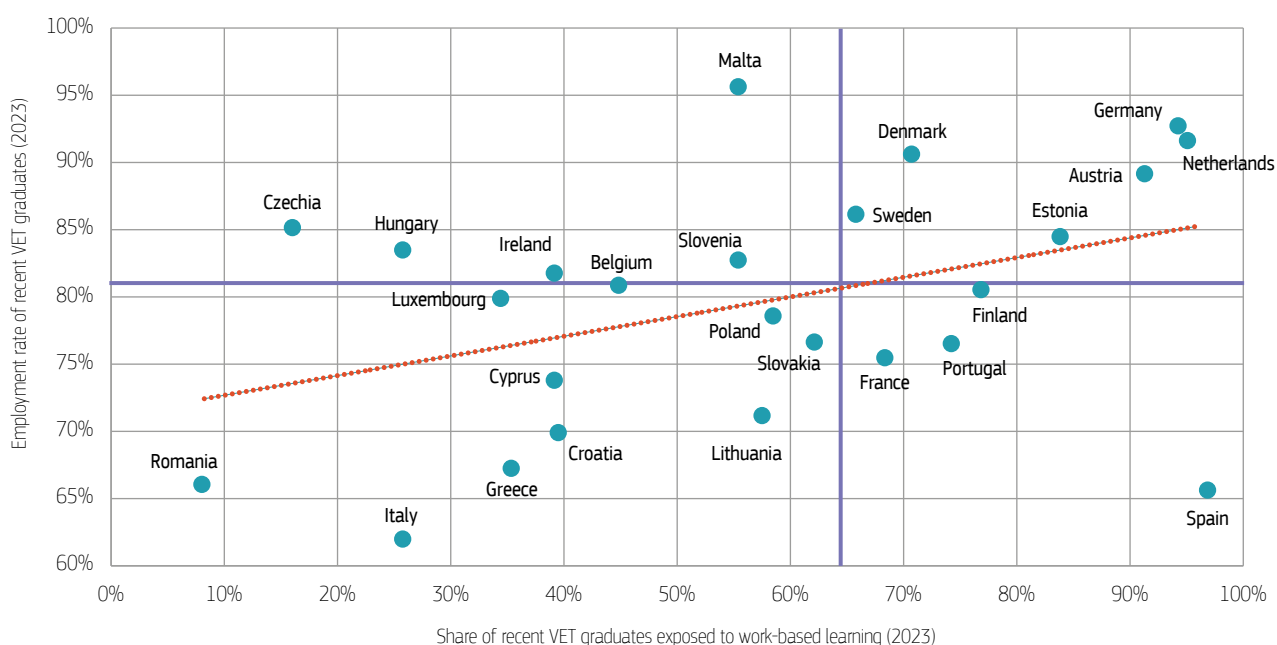
Secondly, recent VET graduates generally have good employment prospects. In 2023, 81.0% of young medium-level graduates who had completed their VET programme were in employment, putting the 2025 EU-level target of at least 82% within reach²²⁴. The latest data show a marked increase since 2022 (+1.2 percentage points), and the highest rate on record since 2014. At EU level, male graduates' employment rate is 1.7 percentage points higher than female graduates'

employment rate. This gap has gradually narrowed in recent years, from 5.6 percentage points in 2019²²⁵.

Country differences in the employment of recent VET graduates are substantial. Fewer than two out of three graduates are in employment in Italy, Spain, and Romania. In Malta, the Netherlands, Germany, and Denmark, the employment rate is above 90%.

As Figure 22 shows, there are countries that do well on both work-based learning and employment rates of recent graduates (such as Germany, the Netherlands, and Austria). Countries that perform poorly on both counts include Romania and Italy. The overall functioning of national labour markets is a factor, both in providing opportunities for work-based learning and the school-to-work transition of VET graduates. Still, there are several outliers: Spain's VET graduates had a lot of work-based learning, but the country has one of the lowest employment rates for VET graduates. The opposite is the case in Czechia and Hungary.

Figure 22. **Work-based learning and employability of VET graduates vary a lot across EU countries**



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: no work-based learning data for Bulgaria (78.4% employment rate) and Latvia (74.8%); low work-based learning data reliability for Germany, Cyprus, Hungary, Malta, Poland, and Finland; low employment rate data reliability for Cyprus, Latvia, Malta, and Slovenia.

224 This indicator captures the employment rates of 20-34-year-olds no longer in education and training, and who graduated 1-3 years previously from VET at upper secondary or post-secondary non-tertiary level. [Monitor Toolbox](#)

225 The gender gap was 4.5 percentage points in 2020, 4.2 in 2021, and 3.4 in 2022. [Monitor Toolbox](#)

Individually, recent VET graduates in the EU who experienced work-based learning have higher employment rates (84.8% in 2023) than those who did not (71.5%). The association between work-based learning and employment is particularly strong for the youngest VET graduates. Among graduates with work-based learning experience, employment rates exceed 80% from age 21 upwards. Graduates without any work-based learning experience reach this mark by age 24. This suggests that work-based learning expedites labour matching. Most employers give initial VET learners work-based learning opportunities, as a way of training them as future employees according to the employers' needs (89.8% of companies), and to select the best candidates for future employment (73.6%)²²⁶.

Thirdly, the [2024 Council Recommendation](#) 'Europe on the Move' (see also Section 5.2) set a new target for the mobility of VET learners, including apprentices, to reach 12% by 2030²²⁷. VET learners' mobility had steadily increased between 2014 and 2020, before a major interruption due to the COVID-19 pandemic. Demand for student mobility then picked up again strongly in 2022 and 2023.

The new 2030 EU-level target is measured as the share of learners and apprentices graduated from medium-level (upper secondary and post-secondary non-tertiary) VET programmes, who had a mobility period abroad during their studies. It includes flexible mobility opportunities under Erasmus+, such as short-term mobility, group mobility, blended mobility, and mobility linked to participation in skills competitions. The latest estimates, for 2022, suggest that 5.1% of medium-level VET learners took part in such mobility experiences²²⁸.

226 Monitor Toolbox

- 227 The 2030 EU-level target builds on the 2025 EU-level target on learning mobility in VET that was introduced in the [2020 Council Recommendation](#) on VET. The 2025 target stated that 8% of VET learners should have a learning mobility experience lasting a minimum of 10 days abroad. The ambition to reach the learning mobility targets has been accompanied by more resources for VET mobility in the 2021-2027 Erasmus+ programme.
- 228 This is a June 2024 European Commission estimate based on data from the Erasmus+ Dashboard and Eurostat (UOE administrative data collection). The estimate refers to the number of medium-level VET learners with mobility experiences abroad that started in 2022, reported by project beneficiaries and in the Erasmus+ Dashboard, expressed as a share of medium-level VET graduates in the same year using the UOE administrative data collection. Due to the transition between the old and new Erasmus programmes, the 2022 estimate is only available at EU level and includes projections based on historical data.

4.2. VET for sustainability

VET promotes skills for the green transition and sustainability, by developing both technical abilities and transversal competences²²⁹. In a circular economy, for instance, there is a growing need for workers who can not only renew equipment (technical skills), but also work together with people involved in different stages of a product's lifecycle (transversal skills)²³⁰.

Many occupations and sectors that are crucial for the green transition, such as construction, waste management, and energy, rely on skills acquired through medium-level initial VET. Given the labour and skills shortages in these sectors²³¹, and the underrepresentation of women, campaigns are being launched to attract more women to the relevant VET programmes²³². Continuing VET, in turn, plays a key role in upskilling and reskilling employees, teaching them how to apply new processes or technologies to reduce waste, save energy, and limit a company's carbon footprint²³³.

EU countries are addressing the green transition in their VET systems²³⁴. Updating VET curricula and programmes is crucial for sustainability in VET. Doing so takes various forms. Firstly, countries are introducing new programmes for emerging occupations (such as installers of photovoltaic energy systems²³⁵). Secondly, existing curricula and programmes are being updated to bring them in line with new technological or regulatory standards (for example in the automotive

- 229 The [Inter-Agency Working Group on Work-Based Learning](#) defined skills for the green transition as including skills and competences but also knowledge, abilities, values, and attitudes needed to live, work and act in resource-efficient and sustainable economies and societies.
- 230 See a [2023 Cedefop policy brief](#) on VET and skills development as springboards for the circular economy.
- 231 See a [2023 European Commission](#) report on employment and social developments in Europe; a [2022 EURES report](#) on labour shortages and surpluses; and a [2022 Cedefop briefing note](#).
- 232 See a [2023 European Commission report](#) on gender equality in the EU.
- 233 See a [2023 Cedefop briefing note](#) on key professions for the green transition.
- 234 This is in line with the [2020 Council Recommendation](#) on VET and the [2020 Osnabrück Declaration](#). A [2023 Cedefop briefing note](#) reviews the national implementation plans submitted in this context. The EEA strategic framework working group on vocational education and the green transition enables technical exchanges on greening VET (see, for instance, the [2023 compendium](#) and [2024 compendium](#) of inspiring practices). The [ReferNet](#) network of institutions created by Cedefop provides updates on recent developments in VET, including in the area of the green transition.
- 235 For instance, in Romania ([2024 compendium](#) of inspiring practices).

sector²³⁶ or food industry²³⁷). Thirdly, several countries have developed common core parts of VET curricula on sustainability, as a module in all VET programmes²³⁸, or by adding content under common headings (such as reducing pollution), adapted to the technical subject matter in question²³⁹. Several countries are investing in integrating the green transition into continuing VET²⁴⁰, or developing green programmes at higher VET levels²⁴¹.

Making the VET sector itself more sustainable requires changes to infrastructure²⁴². Chapter 1 focused on sustainable learning environments, particularly pertinent when it comes to VET. Upgrading and modernising laboratories and training centres gives VET learners an opportunity to work with state-of-the-art equipment to promote sustainable development hands-on²⁴³. Learning environments are being made more sustainable by improving the energy efficiency of buildings or generating renewable energy on-site. Several VET schools have involved their learners in these processes, to help them gain practical experience²⁴⁴.

As emphasised in Chapter 1, building teacher capacity is crucial for promoting sustainability. A specificity of VET is the role of trainers, notably those in companies²⁴⁵. Several countries have taken steps to include sustainability in teachers' initial and continuing

professional development²⁴⁶. International teaching and training staff mobility can support such efforts²⁴⁷.

Finally, promoting sustainability in VET requires skills intelligence on greening trends and evolving labour market needs. This involves state-of-the-art skills anticipation tools (such as forecasts, foresight, and big data) and close cooperation with people who work in this area (such as social partners and public employment services)²⁴⁸. EU countries are using the green transition as an opportunity to promote VET excellence, by bringing together a wide range of local and regional partners, including upper secondary and tertiary VET providers, employers, research centres, and social partners, and helping them co-create 'skills ecosystems'²⁴⁹.

Main takeaway

At EU level, the share of work-based learning in VET (64.5% in 2023) exceeds the 2025 EU-level target of at least 60%. The employment rate of recent VET graduates (81.0%) is the highest on record since 2014, putting the EU on track to reach the target of 82% by 2025. Countries that do well on both work-based learning and employability include Germany, the Netherlands, and Austria. Countries that perform poorly on both counts include Romania and Italy. On average, recent VET graduates who experienced work-based learning have higher employment rates (84.8%) than those who did not (71.5%). The latest estimates suggest that 5.1% of medium-level VET learners had a mobility experience abroad, far below the 2030 EU-level target of at least 12%. As for learning for sustainability, EU countries are reforming their VET systems, with new or updated curricula, greener infrastructure, and training for teachers and trainers.

236 For instance, in the Flemish community of Belgium where augmented reality is being used in VET on electric vehicles, hybrid vehicles, and autonomous driving systems (2024 compendium of inspiring practices).

237 For instance, the development of a national green culinary education standard in Denmark (2024 compendium of inspiring practices).

238 In Greece, the nation-wide apprenticeship class on green skills in the post-secondary year of initial VET contains a module on general knowledge, as well as a more specific part for each speciality (2024 compendium of inspiring practices).

239 In Germany, an updated nationwide standard for all trainees in the dual system on 'environmental protection and sustainability' is in force since 2021. Slovenia has included a technical module on 'sustainable development' in several upper secondary VET programmes (2023 compendium of inspiring practices).

240 In Denmark, earmarked funding was released for projects on greening continuing VET and upskilling, developing, and piloting courses on climate adaptation and the green transition, and on teacher training in specific sectors. See the 2024 Education and Training Monitor's country report for Denmark.

241 For example, the Italian reform of Higher Technological Institutions and Sweden's Yrkeshögskolan scheme (including a higher VET programme for solar energy managers).

242 Examples of actions to make VET institutions sustainable and green can be found in Cedefop's Timeline of VET policies in Europe.

243 Examples include Bulduri horticultural school in Latvia and Neobuild in Luxembourg.

244 For example, the Green School Energy project in Austria (2024 compendium of inspiring practices) and the Riga State Technical School in Latvia (2023 compendium of inspiring practices).

245 For instance, in Germany, the national initiative 'VET for Sustainable Development' to train in-company trainers (2023 compendium of inspiring practices).

246 See a 2022 Cedefop research paper on teachers and trainers in a changing world. In Austria, a new course for 'Sustainability Coordinator at Schools' was developed (2024 compendium of inspiring practices).

247 An example is the Itineris+ project under Erasmus+, where trainers from Belgium learned about practices in sustainable construction during a site visit in Finland (2023 compendium of inspiring practices).

248 See a 2024 Cedefop policy brief on skills anticipation trends, opportunities, and challenges.

249 For instance, France has established a national network of Centres of Vocational Excellence focused on the energy transition and eco-industry (2023 compendium of inspiring practices). Since 2020, Ireland has developed its National Network of Nearly Zero Energy Buildings (Nzeb) and Retrofit Centres of Excellence (2024 compendium of inspiring practices). At EU level, the Centres of Vocational Excellence initiative supports transnational collaborative networks aimed at driving innovation and excellence in VET. With EU support, centres have been set up that promote teaching for sustainable development and green innovation in VET. Sectoral centres focus on sustainable and renewable energy, ecological restoration, or promote sustainability in sectors including agrifood, hospitality, construction, fashion, textiles, manufacturing, and mobility.

Chapter 5. Higher education



5.1. Tertiary educational attainment

EU-level 2030 target:
‘The share of 25-34-year-olds with tertiary educational attainment should be at least 45% by 2030.’

EU-level 2030 target²⁵⁰:
‘At least 20 million people should be employed as ICT specialists by 2030.’

There has been a continuing expansion of tertiary education over the last decade across the EU. Tertiary educational attainment is now the most common level of attainment among young adults. In 2023, the tertiary attainment rate of 25-34-year-olds was 43.1%²⁵¹, up

1.1 percentage points from the previous year (Figure 23). The EU trend is positive overall, but there was a decrease in 14 countries between 2022 and 2023²⁵².

Looking at the long-term trend since 2014, the rate has increased in virtually all countries and by more than 7.2 percentage points at EU level²⁵³. The exceptions are Romania, Hungary, and Finland where a 2014-2023 decline has been recorded. Positive trends in the number of new entrants²⁵⁴ (students enrolled in tertiary education for the first time) are expected to sustain this growth and help the EU reach its 2030 target of at least 45%²⁵⁵, from which it is now only 1.9 percentage points away²⁵⁶.

250 See the [2022 Decision](#) of the European Parliament and of the Council establishing the Digital Decade Policy Programme 2030.

251 Among them, a master’s degree is the most common educational level attained (19.2%) closely followed by a bachelor’s degree (18.8%). Only 4.5% of young adults (25-34) have a short-cycle degree and fewer than 1% (0.7%) of 25-34-year-olds have a doctorate. [Monitor Toolbox](#)

252 Slovenia, Hungary, Romania, the Netherlands, Portugal, Finland, Belgium, Czechia, Lithuania, Latvia, Luxembourg, Greece, Estonia, and Ireland. [Monitor Toolbox](#)

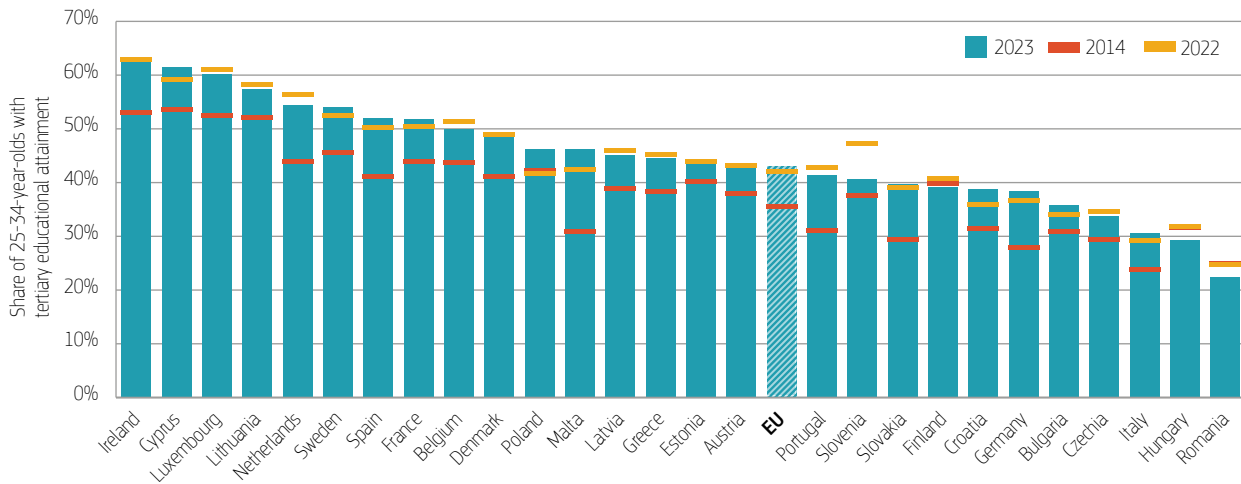
253 The rate has increased by more than 10 percentage points in Slovakia, Germany, the Netherlands, Spain, and Malta. [Monitor Toolbox](#)

254 [Monitor Toolbox](#)

255 See a [2023 European Commission \(Joint Research Centre\) report](#).

256 In 2023, 13 EU countries were above the 45% target. [Monitor Toolbox](#)

Figure 23. **The tertiary educational attainment rate has increased in the last decade in almost all EU countries**



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: break in time series for Bulgaria (2022), Croatia and Slovenia (2023), and for all countries in 2021.

Tertiary educational attainment also varies a lot within countries, with regional differences pronounced²⁵⁷. This creates imbalances in the availability of highly qualified people across regions, undermining economic, social, and territorial cohesion. Similarly, having a tertiary degree is less common in rural areas (31.7%) than in cities (53.3%)²⁵⁸, where most opportunities to acquire tertiary education – along with job opportunities – are concentrated. The urban-rural gap has increased slightly in the last decade (from 19.7 percentage points in 2014 to 21.6 percentage points in 2023)²⁵⁹.

Individually, migrant status and sex show strong patterns of inequality. Men (37.6%) are less likely to have obtained tertiary level qualifications than women (48.8%)²⁶⁰ and this gender gap has increased since 2014 at EU level²⁶¹. Adults aged 25-34 born outside the EU whose parents were also born outside the EU are the least likely to have obtained a tertiary degree (37.1% in 2023). This figure is 5.8 percentage points higher for adults born in the reporting country whose parents were born outside the EU, and it increases to 44.6% for adults born in the reporting country whose parents were also born there²⁶².

257 [Monitor Toolbox](#) Tertiary education rates tend to be higher in more developed (transition) regions than in less developed ones, and higher in north-western EU countries than in southern and eastern ones. Over 40% of regions in Italy, Romania, Czechia, and Hungary had rates below 30% in 2023. See the [2024 European Commission report](#) on economic, social, and territorial cohesion.

258 [Monitor Toolbox](#)

259 Low quality job opportunities and limited access to quality services such as education, health services, and other facilities in rural areas and less developed regions may contribute to these imbalances and reduce the possibilities of attracting and retaining people with tertiary education. See the [2024 European Commission Communication](#) on a long-term vision for the EU's rural areas; the [2024 European Commission report](#) on economic, social, and territorial cohesion; the [2024 Eurostat regional yearbook](#); the [2023 European Commission Communication on harnessing talent in Europe's regions](#); and the [2024 Eurofound report](#) on the role of human capital inequalities in social cohesion and convergence.

260 The gender gap varies from 4.9 percentage points in Germany to 24.2 percentage points in Estonia. Only seven EU countries have gaps that are below 10 percentage points. Between 2014 and 2023, the gap decreased in only nine EU countries. [Monitor Toolbox](#)

261 Only Malta, the Netherlands, and Sweden have policies for tackling gender equity issues that cover all institutions, include quantitative targets, envisage stakeholder consultations, and require quality assurance agencies to monitor whether higher education institutions address gender issues. Some 7 EU countries (Denmark, Estonia, Latvia, Lithuania, Poland, Slovakia, and Slovenia) and the German-speaking community of Belgium have no such policies. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

262 [Monitor Toolbox](#)

Box 11. Adapting tertiary education programmes to the demands of the green transition

Tertiary education can play a major role in preparing and empowering individuals and societies to be more sustainable, equipping graduates with the knowledge, skills, and attitudes needed for a rapidly changing global context. But it also means directing research and innovation towards managing the impacts of the climate emergency and exploring solutions. To do all this, higher education institutions are incorporating the concept of sustainability into their mission statements, programmes, and strategies. For instance, in the Flemish community of Belgium, Ghent University has integrated sustainability into a wide range of disciplines through a university-wide policy commitment to sustainability.

At the same time, higher education institutions in the EU are developing programmes to prepare the necessary specialists²⁶³. For instance, Malta has launched undergraduate and postgraduate programmes in environmental management and sustainability, environmental monitoring and assessment, and sustainable energy and development. At Finland's University of Helsinki, the institute of sustainability science offers multidisciplinary bachelor's and master's degrees in environmental change, global sustainability, and urban studies and planning. The 'CHARM-EU' alliance – a European university alliance – offers a joint master's degree in global challenges for sustainability, a transdisciplinary degree focused on water, food, and health to contribute to achieving the sustainable development goals and the European green deal. The 'Una Europa' and 'Aurora' alliances develop lifelong learning opportunities embedded in flexible learning modules such as micro-credentials in sustainability and climate change.

While the share of 25-34-year-olds with tertiary education has been increasing since 2014²⁶⁴, not everyone will have completed educational programmes by the end of their theoretical duration²⁶⁵. Figure 24 shows a wide variation across countries in completion rates within the theoretical duration of students starting bachelor's programmes, ranging from 21% in Italy and the French community of Belgium to 59% in Lithuania. The completion rate after 3 additional years increases for all countries, but it tends to increase more where the completion rate by the end of a programme's theoretical duration is lower. In every country for which data are available, women's completion rates are higher than men's²⁶⁶.

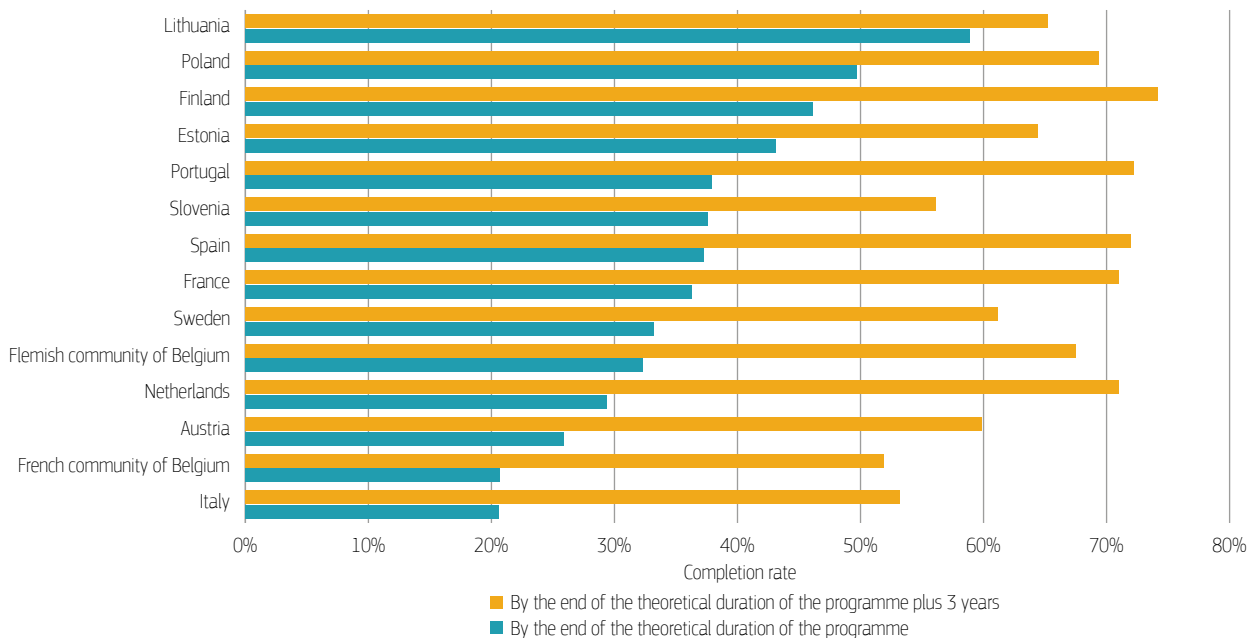
263 Skills gaps and shortages are being recognised as bottlenecks hindering progress in completing the green transition. See the [2024 OECD working paper](#) on green career guidance systems.

264 Not everyone can access tertiary education because of their socio-economic background, educational background, disabilities or special needs, insufficient guidance and support, and other obstacles. According to a [2022 Eurydice report](#) on equity and inclusion in tertiary education, admission policies to increase the participation of under-represented groups should be based on the following five elements: (i) a strategy for increasing participation of under-represented groups in all institutions' programmes; (ii) funding measures for increasing the participation in education in later life; (iii) atypical entry routes; (iv) quality assurance agencies to monitor whether higher education institutions correctly implement measures for admission to tertiary education; and (v) at least two characteristics (other than age and sex) are taken into account in designing measures for encouraging the participation of under-represented groups. Across the EU, 16 countries plus the French community of Belgium have a policy in place that covers at least four out of five of the elements listed above. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

265 Many factors can affect completion rates. Students may leave a programme because they realise they have chosen a subject or educational programme that is not suitable for them, or they find attractive employment opportunities before completing the programme. Higher education institutions can also provide flexible learning pathways, thereby increasing the number of students who may not graduate on time. However, these pathways are essential for students who cannot allocate all their time to their studies and may have to reconcile several obligations (such as their studies and employment). All that said, students' socio-economic background is a strong determinant of completing studies within length of time within which they are meant to be completed.

266 [Monitor Toolbox](#)

Figure 24. **Less than half of all students complete bachelor's programmes within the theoretical duration**



Source: OECD's [Education at a Glance 2022](#). [Download data](#) [Monitor Toolbox](#) Note: the indicator captures the completion rates of students who entered a bachelor's (or equivalent) programme and completed any tertiary level; the reference year is 2020 for all countries except the Netherlands (2019).

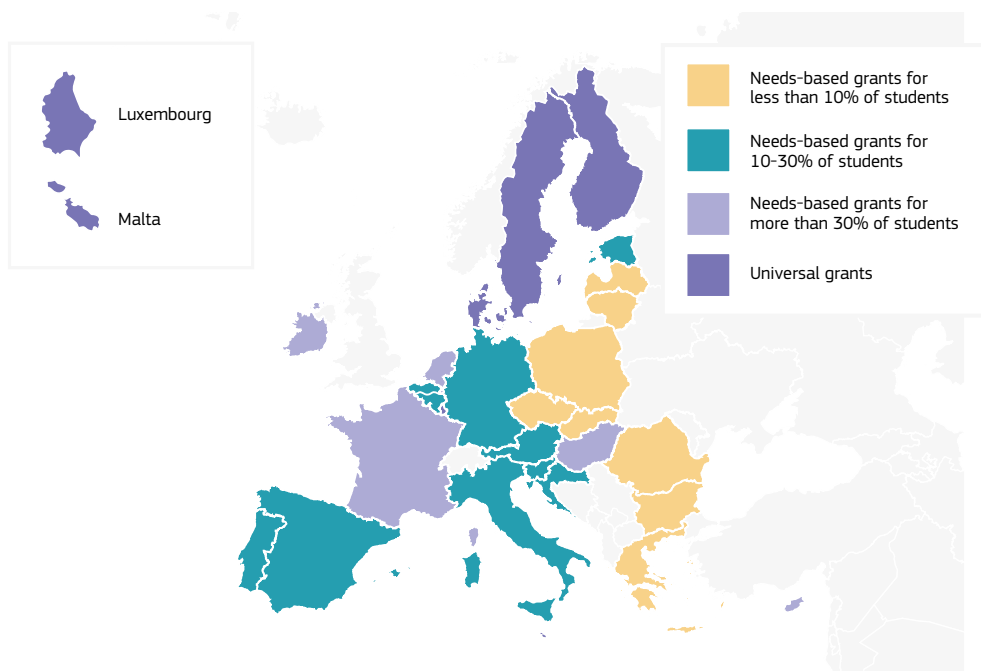
To increase completion rates and achieve equity at the same time, governments can use grants to give students from disadvantaged backgrounds equal opportunities²⁶⁷. In most EU education systems, grants are awarded based on a set of socio-economic criteria, the most frequent being family income. In 6 systems, needs-based grants are provided for under 10% of students in bachelor's programmes (Figure 25). This may mean that there has been a decision to support only students who

most need financial support, but it may also indicate a relatively low level of investment in student support. In 10 systems, needs-based grants are given to between 10-30% of students, and in 5 systems to over 30% of students. Universal grants – for which all students are eligible regardless of their socio-economic background – are provided in Denmark, Finland, Sweden, Luxembourg, and Malta²⁶⁸.

267 Providing higher education institutions with additional funding to help them increase completion rates cannot but indirectly benefit disadvantaged students as the measure would benefit all students. Conversely, giving disadvantaged students grants can help mitigate the effect of financial constraints on participation and completion.

268 However, the availability of grants does not preclude that the amount of money is sufficient to cover all student expenses. For more information about students' financial resources, see [Eurostudent VIII](#).

Figure 25. **Most EU countries provide needs-based grants to support the participation in tertiary education of more disadvantaged students**



Source: Bologna follow-up group data collection, [European Commission/EACEA/Eurydice \(2024\)](#). [Monitor Toolbox](#) Note: The data refer to bachelor students in the 2022/2023 academic year.

Indirect financial support can also be given to disadvantaged students to make participation in tertiary education more affordable for them. Subsidies are provided in 17 EU education systems²⁶⁹ to cover student accommodation (see also Box 12), transport, and meals²⁷⁰. Besides individual support, higher education

institutions may be supported by means of funding to help them reach agreed targets in widening access to and increasing the participation in (and completion of) tertiary education studies for disadvantaged groups. However, this happens in only a few EU countries, as shown in Figure 26²⁷¹.

269 These are the Flemish and French communities of Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Finland, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, Romania, Slovakia, and Slovenia. Sweden is the only country where there are no measures to support indirect costs. See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

270 However, the availability of subsidies does not preclude that they are sufficient to cover students' expenses, that the student accommodation is of appropriate quality, or that the subsidies meet the full demand for accommodation.

271 See the [2024 Eurydice system-level indicators](#). [Monitor Toolbox](#)

Box 12. Student accommodation across EU countries

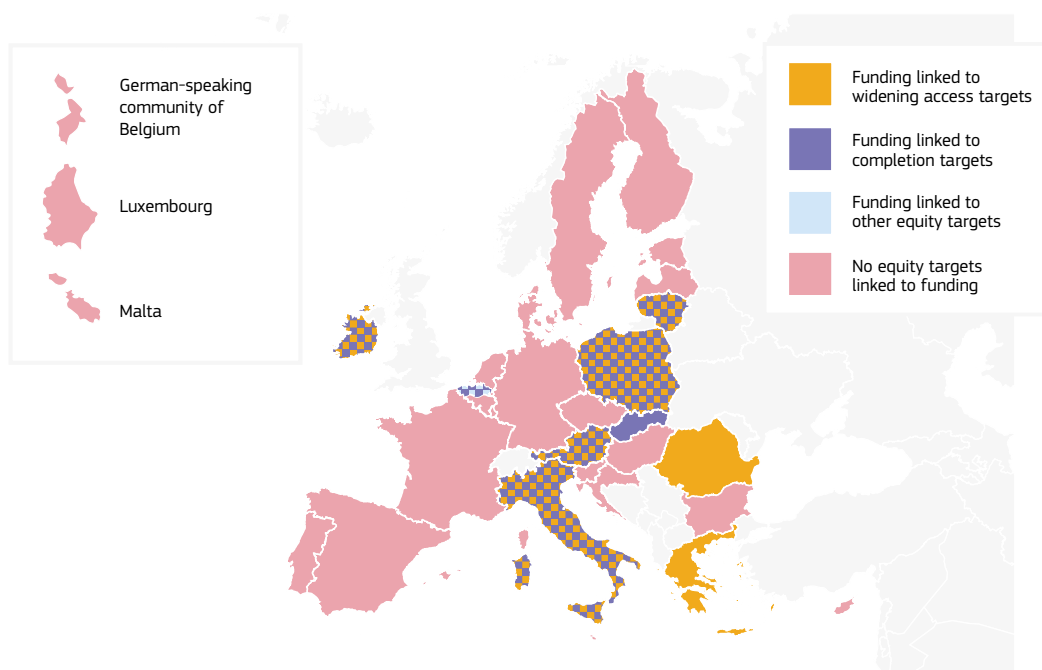
Investments in accommodation for tertiary students may help them access and complete tertiary studies. This is especially the case for students from rural areas or more disadvantaged regions, as well as for students with disabilities or special needs who need more accessible and inclusive facilities. High accommodation costs (notably in large metropolitan areas) may be a barrier to enrolling in tertiary education, sometimes forcing them to abandon their studies altogether²⁷². The EU is supporting countries in their efforts to improve the provision of student accommodation.

In 2019, Portugal launched a national plan for housing in tertiary education, as the existing offer supported only a small percentage (around 10%) of students in need of accommodation. Its implementation is being financially supported by the Recovery and Resilience Facility. With an allocation of EUR 516 million, a 78% increase in capacity is expected between 2021 and 2026. This includes the provision of 18 000 beds, the construction of new buildings, the rehabilitation of existing buildings, and the modernisation and expansion of existing student residences.

Through InvestEU, the EU provides a guarantee for investment in student housing, leveraging resources from public and private sources. For instance, a EUR 178 million investment was launched in 2023 to address housing shortages in the Limassol and Paphos areas of Cyprus. The project will also contribute to upgrading and expanding the learning and research facilities of the Cyprus University of Technology.

In 2023, with the support of the European Investment Bank, Ireland started investing about EUR 430 million to finance 2 700 new student beds. In January 2024, the government approved a long-term policy for developing student accommodation, as part of its 'housing for all' initiative. The initiative aims to develop standards to reduce the cost of construction and increase the pace of delivery, further increasing the amount of available student accommodation, and transforming vacant properties into housing for students.

Figure 26. Only a few EU countries link funding for higher education institutions to equity targets



Source: 2024 Eurydice system-level indicators. Monitor Toolbox

272 For more information about how student accommodation costs impact students' life and living conditions, see [Eurostudent VIII](#).

Computer and information literacy are part of most tertiary studies²⁷³ (such as data management and the application of AI), but in all EU countries there is a particularly severe shortage²⁷⁴ of digital experts. This could hinder the development, uptake, and use of emerging key technologies. In response to the demands of the digital transition²⁷⁵, the EU has set itself ambitious 2030 targets, such as the employment of 20 million ICT professionals²⁷⁶. For the EU to reach this target, the number of ICT tertiary graduates (3.9 per thousand among 20-29-year-olds in 2022²⁷⁷) should increase significantly in the medium term²⁷⁸. At 5.1% in 2022, the share of new entrants to ICT areas²⁷⁹ at tertiary level was among the smallest of all areas of study, including other science, technology, engineering, and mathematics (STEM) fields.

Gender differences²⁸⁰ are substantial, as Figure 27 shows. Out of all male new entrants, 9.0% chose ICT programmes in 2022, compared to 1.9% of women²⁸¹. Women make up the majority of tertiary graduates in all EU countries, but in ICT, only one in five (21.3%)²⁸² graduates is a woman. New female entrants to ICT programmes represent 20.2% of ICT entrants – and the share has increased by only 1.6 percentage points since 2016 – leaving ICT dominated by men.



With only 5.1% of new entrants choosing ICT fields, the shortage of digital experts faced by all EU countries is likely to remain critical.”

273 This is why a 2030 EU-level target was set for all learners' computer and information literacy, as early as age 13-14. This Education and Training Monitor does not cover the EU-level target, as the underlying data were not available during drafting. The data are from the International Computer and Information Literacy Study (ICILS) as conducted by the International Association for the Evaluation of Educational Achievement (IEA). The online [Monitor Toolbox](#) has links to ICILS 2023 data as published on 12 November 2024.

274 Persistent labour shortages are mainly found in healthcare, STEM (especially in ICT), construction, and some service occupations. This list also includes middle-skilled and low-skilled occupations requiring a medium-level vocational qualification. Overall, employers' difficulties in finding people with the right skills are not only due to a lack of skills among job applicants but also to an inability to attract and retain workers, whether because of poor working conditions, human resource management, or demographic developments. A limited supply of skilled workers risks causing persistent labour shortages in areas such as STEM and healthcare. See the [2023 European Commission report](#) on employment and social developments in Europe; the [2024 EURES Report](#) on labour shortages and surpluses; and the [2024 Draghi report](#) on the future of European competitiveness.

275 Like VET (Chapter 4), tertiary education plays a key role in preparing EU countries not only to respond to the digital transition but also to the broader needs of the labour market, population ageing, societal resilience and preparedness, the green transition, and calls for greater competitiveness.

276 In 2023, there were about 10 million ICT specialists at EU level. People with a tertiary degree represented 66.7% of the total number of ICT specialists. [Monitor Toolbox](#) See also a [2023 European Commission report](#) on the state of the Digital Decade.

277 [Monitor Toolbox](#)

278 Among people aged 25-64 with a tertiary qualification, only 5.1% have an ICT degree. [Monitor Toolbox](#)

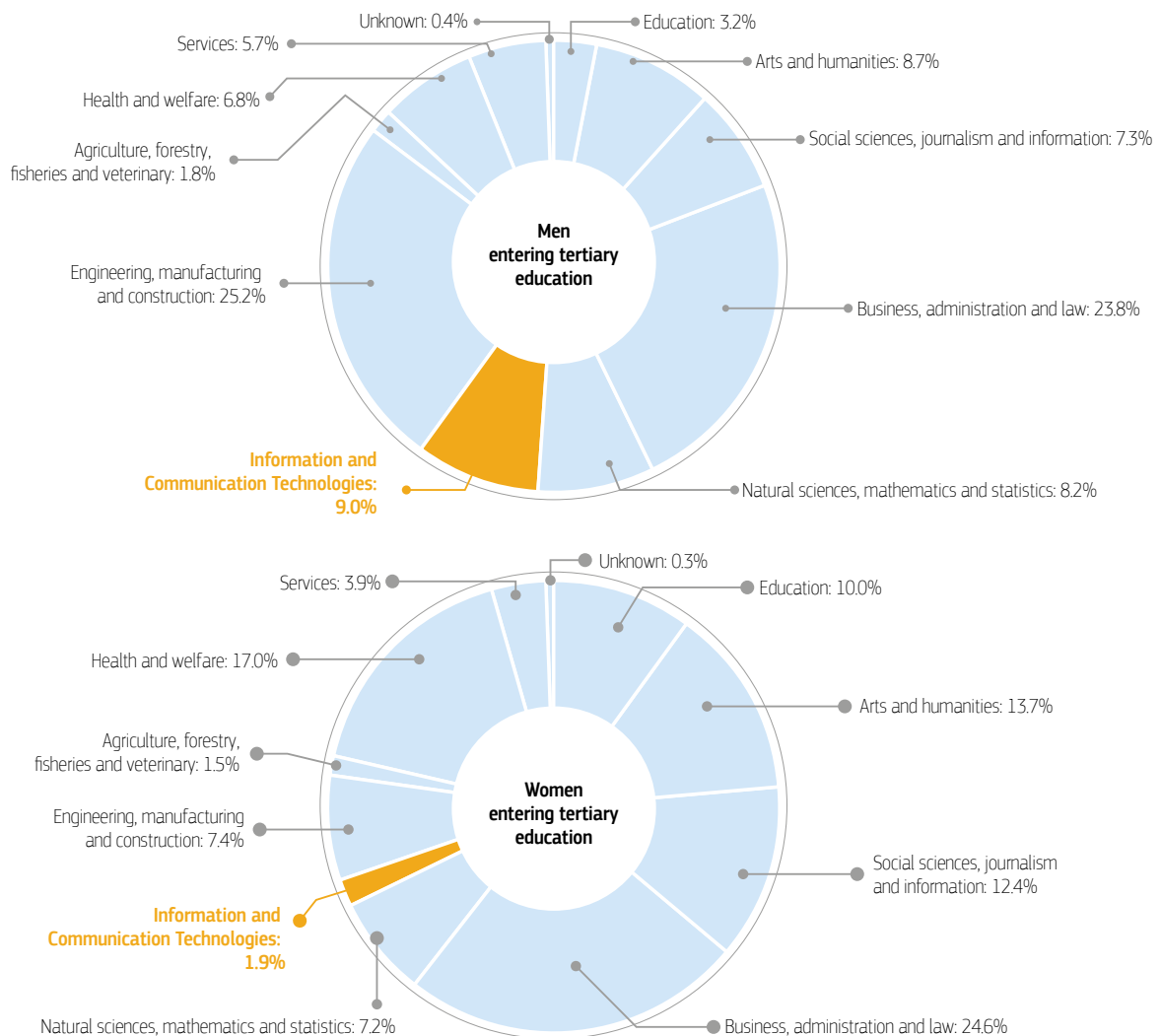
279 [Monitor Toolbox](#)

280 For more information, see a [2020 European Commission report](#) on gender differences in tertiary education; and a [2024 European Commission report](#) on how to address the gender gap in STEM education across educational levels.

281 The gender gap is less pronounced in the other two STEM areas: women represent 52.0% of new entrants to natural sciences, mathematics, and statistics; and 26.3% of new entrants to engineering, manufacturing, and construction. [Monitor Toolbox](#)

282 Female shares are higher for engineering, manufacturing, and construction (27.7%) and natural sciences, mathematics, and statistics (59.7%). [Monitor Toolbox](#)

Figure 27. **ICT areas attract a much smaller share of female entrants to tertiary education**



Source: Eurostat (UOE administrative data collection 2022). [Download data](#) [Monitor Toolbox](#)

As for the change between 2016 and 2022 in the distribution of new entrants by area of study, the share of new entrants to ICT programmes increased by less than one percentage point (0.7)²⁸³. It is unlikely that the target of 20 million ICT professionals will be reached unless more is done to increase interest in studying ICT²⁸⁴. Moreover, while the share of new entrants to ICT areas increased by 0.7 percentage point, the share entering engineering – another STEM area – decreased by 0.9

percentage point. This suggests that STEM areas are not attracting an increasing relative share of entrants²⁸⁵ despite the high demand for them on the labour market.

283 The number of new entrants in tertiary education increased by about 18% between 2016 and 2022, while the number of new entrants in ICT increased by 35.2% (from 191 499 to 259 013). [Monitor Toolbox](#)

284 This also concerns vocational education and training (Chapter 4), as the shortage of ICT specialists applies to medium-level occupations too.

285 Student outcomes at school level are one of the drivers of career aspirations. See a [2021 European Commission report](#) on girls' career aspiration in STEM.

Box 13. Addressing labour market needs in tertiary education

Improving tertiary education programmes' labour market relevance is an important means of tackling skills gaps and contributing to EU competitiveness²⁸⁶. For instance, under the 2021-27 National Plan for the Development of the Education System, adopted in 2023, Croatia introduced performance agreements and revised methods for internal quality assurance and the external evaluation of higher education institutions, as well as accreditation procedures and new study programmes.

Latvia is consolidating its tertiary education sector with a view to strengthening its STEM offer and increasing the number of STEM graduates, to respond to industry needs. Ongoing reforms include a new funding model to increase the autonomy of higher education institutions in allocating government funding internally to focus on course quality, and the introduction of a new PhD model to address the current lack of researchers.

At EU level, work to collect data on tertiary education graduates to improve the matching between tertiary education and labour market needs continues. Following a feasibility study and a first pilot survey in 2018, the EUROGRADUATE 2022 survey is the second pilot run of a European survey to track tertiary education graduates.

The EUROGRADUATE core target group covers all graduates who obtained a bachelor's or master's degree (or equivalent) in the academic years 2016/17 and 2020/21. Graduates have been asked about their education and work history, competences required in their job, mobility experiences, personal and social background, and social outcomes such as political engagement.

The 2022 pilot was rolled out in 17 European Economic Area pilot countries (Austria, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Germany, Greece, Hungary, Ireland, Italy, Latvia, Malta, Norway, Portugal, Romania, Slovakia, and Slovenia). For the next phase of EUROGRADUATE, the European Commission aims to cover 80% of the European Economic Area countries.

Main takeaway

The tertiary educational attainment rate of 25–34-year-olds continues to increase, reaching 43.1% in 2023. Educational attainment at tertiary level is now the most common level of attainment among young adults in the EU, though substantial differences remain within countries. To support equal access to tertiary education, EU countries provide direct and indirect financial support. Disadvantaged students can receive needs-based grants in almost all EU education systems – even though the share of the student population covered varies a lot – and subsidies are available to cover meals, transport, and accommodation in 18 systems across the EU. As an example of the link between tertiary education and the labour market, there have been no substantial improvements in the number of entrants and graduates in ICT, despite the 2030 EU-level target of 20 million ICT specialists.

5.2. Learning mobility in tertiary education

EU-level 2030 target²⁸⁷:

'The share of tertiary graduates with a learning mobility experience abroad should be at least 23% by 2030.'

The full picture of learning mobility in tertiary education remains unclear because of data limitations. In 2022, 10.9% of tertiary education²⁸⁸ graduates originating from EU countries²⁸⁹ had a learning mobility experience abroad. Graduate outward mobility²⁹⁰ appears to be well below the 23% target set for 2030. Only 4.2% of graduates graduated in a country that was not the one where they received their upper secondary school diploma, known as degree mobility, while 6.7% had a short stay abroad, known as credit mobility. However, several limitations affect learning mobility data (Box 14), which may lead to an underestimation of the EU average and of country performance.

287 See the [2024 Council Recommendation 'Europe on the Move'](#).

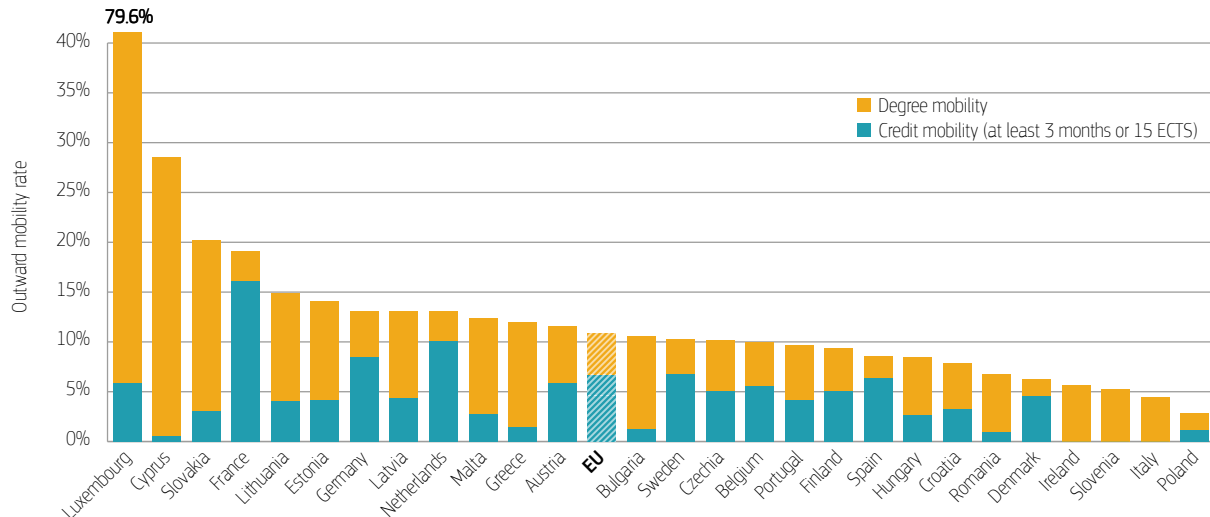
288 It refers to learning mobility at all levels of tertiary education, from short-cycle tertiary education to doctoral or equivalent level. [Monitor Toolbox](#)

289 Mobile graduates are defined by their country of origin. In this context, the country of origin is the country of prior education (the country where the upper secondary diploma was obtained).

290 The outward graduate mobility of a country is the sum of all graduates originating from the country who obtained their degree abroad (degree-mobile graduates) and graduates who obtained their degree in the country but spent a short period abroad (credit-mobile graduates). The outward mobility rate of a country is the number of degree- and credit-mobile graduates from that country divided by the number of graduates originating from the country. For more details, see a [2018 European Commission \(Joint Research Centre\) report](#).

286 See the [2024 Draghi report](#) on the future of European competitiveness on how to tackle skills gaps.

Figure 28. Considerable country differences in the shares of outward mobility



Source: European Commission calculations, based on the 2022 UNESCO-OECD-Eurostat (UOE) joint data collection and additional 2022 OECD data for degree-mobile graduates who graduated in the following non-EU countries: Australia, Brazil, Canada, Chile, Colombia, Israel, Japan, Korea, New Zealand, and the United Kingdom. [Download data](#) [Monitor Toolbox](#) Note: the indicator captures learning mobility at all levels of tertiary education, from short-cycle tertiary education to doctoral or equivalent level; when it is not possible to distinguish credit-mobile graduates who were also degree-mobile graduates, the inclusion of data on credit mobility may entail double counting (Croatia, Greece, and Hungary); credit mobility data in Belgium is available for the Flemish community only, resulting in an underestimation of the credit mobility rate; further details on the methodology are available in the downloadable file.

Considerable country differences emerge in the share of outward mobile graduates, as captured in Figure 28. Luxembourg and Cyprus have reached the 2030 EU-level target: Luxembourg with 79.6% mobile graduates, and Cyprus with 28.6% mobile graduates. Two other EU countries' mobility rates are above 15% (Slovakia and France), but Poland's and Italy's rates are below 5%. Total shares of outward mobility combine different types of mobility depending on the country. Credit mobility represents more than half of the total share of outward mobility in France, the Netherlands, Spain, Denmark, Sweden, Germany, Belgium, Finland, and Austria.

Short study periods or traineeships abroad²⁹¹ funded by EU programmes account for more than half of EU credit mobility (54.6%)²⁹² and of most EU countries' credit mobility. Exceptions are France, Sweden, the Netherlands, and Denmark, where graduates more often tend to organise their mobility independently or as part of other (inter)national programmes²⁹³. Over 95% of credit-mobile graduates from Slovakia, Latvia, Malta, Greece, Bulgaria, Romania, Cyprus, and Ireland went abroad under EU programmes²⁹⁴.



An estimated 10.9% of graduates have experienced learning mobility, with degree mobility accounting for 4.2% and credit mobility for 6.7%.”

291 This paragraph only refers to credit-mobile graduates who spent at least 3 months abroad. Information on the type of mobility scheme is not available for credit-mobile graduates who spent less than 3 months abroad.

292 [Monitor Toolbox](#) These data by type of mobility scheme refer to *all* credit-mobile graduates who spent at least 3 months abroad, not to only those graduates who were not also degree mobile. This means that they do not correspond to the credit mobility component used to monitor progress towards reaching the 2030 EU-level target.

293 Rates range from 62.8% in France to 53.7% in Denmark. [Monitor Toolbox](#)

294 This may be partly due to the lack of multilateral and bilateral national and institutional exchange programmes. Another reason could be the limited public and private resources for mobility available to graduates to finance their mobility.

Box 14. Monitoring progress towards the ‘Europe on the Move’ target on learning mobility in tertiary education

Learning mobility²⁹⁵ helps strengthen transnational cooperation in tertiary education, widening the reach of individual education institutions and education systems, and increasing their overall quality²⁹⁶. Moving abroad to study improves employability and adaptability²⁹⁷ and strengthens citizenship competences and values, including a European identity. Promoting learning mobility also attracts more talent to the EU, by having non-EU students graduate from EU education institutions and encouraging them, after graduating, to stay and work in the destination country²⁹⁸.

The [2024 Council Recommendation ‘Europe on the Move’](#) updates the 2011 learning mobility framework by expanding learning mobility opportunities – from young people to learners of any age, educators, and staff – and addressing new learning patterns, including blended learning. The Recommendation sets a new 2030 EU-level target²⁹⁹ on learning mobility in tertiary education, for at least 23% of all graduates to have had a learning mobility experience abroad.

The target refers to worldwide outward mobility. In other words, mobility from EU countries to both EU and non-EU

destinations. It includes: (i) outward degree mobility; (ii) outward credit mobility of a minimum of 3 months or 15 European Credit Transfer and Accumulation System (ECTS) credits (including both traineeships and study mobility); and (ii) shorter outward credit mobility of less than 3 months and at least 3 ECTS credits. These mobility experiences can be fully physical or blended (consisting of both a virtual and physical component).

Monitoring progress towards achieving the 2030 EU-level target on learning mobility in tertiary education is complicated by data limitations. Firstly, degree mobility is reported by the destination country (where graduates obtain their degree), meaning that EU countries are dependent on non-EU countries’ reporting³⁰⁰. Secondly, shorter credit mobility of less than 3 months is not yet reported by all EU countries³⁰¹. Insofar as data on shorter credit mobility are available, no information is provided about ECTS credits, and no clear distinction can be made between degree and credit mobility, with the risk of double counting when all mobility experiences are added up³⁰².

295 For the purpose of the [2024 Council Recommendation](#), learning mobility is defined as moving physically to a country other than the learner’s country of residence, to undertake studies, training, or non-formal or informal learning. The Recommendation covers all types of long-term and short-term learning mobility, including individual and group mobility, blended mobility (including its virtual components), credit mobility, and degree mobility. It covers learners, educators, and staff in all sectors of lifelong learning, including early childhood education and care, school education, VET, tertiary education, and adult learning, as well as young people, youth workers, and staff in sport.

296 The [European Universities initiative](#), which establishes alliances between higher education institutions to promote European values and improve the international competitiveness of European higher education institutions, includes a target of 50% mobility among participating institutions, covering virtual mobility too.

297 International student mobility also has country-level benefits. Mobile students can contribute to knowledge absorption, technology upgrading and capacity building not only in the host country but also in their home country, provided they return to their home country after their studies or maintain strong links with that country. See a [2020 analytical report](#) from EENEE.

298 The [European strategy for universities](#) highlights the importance of encouraging mobility between Europe and other regions of the world.

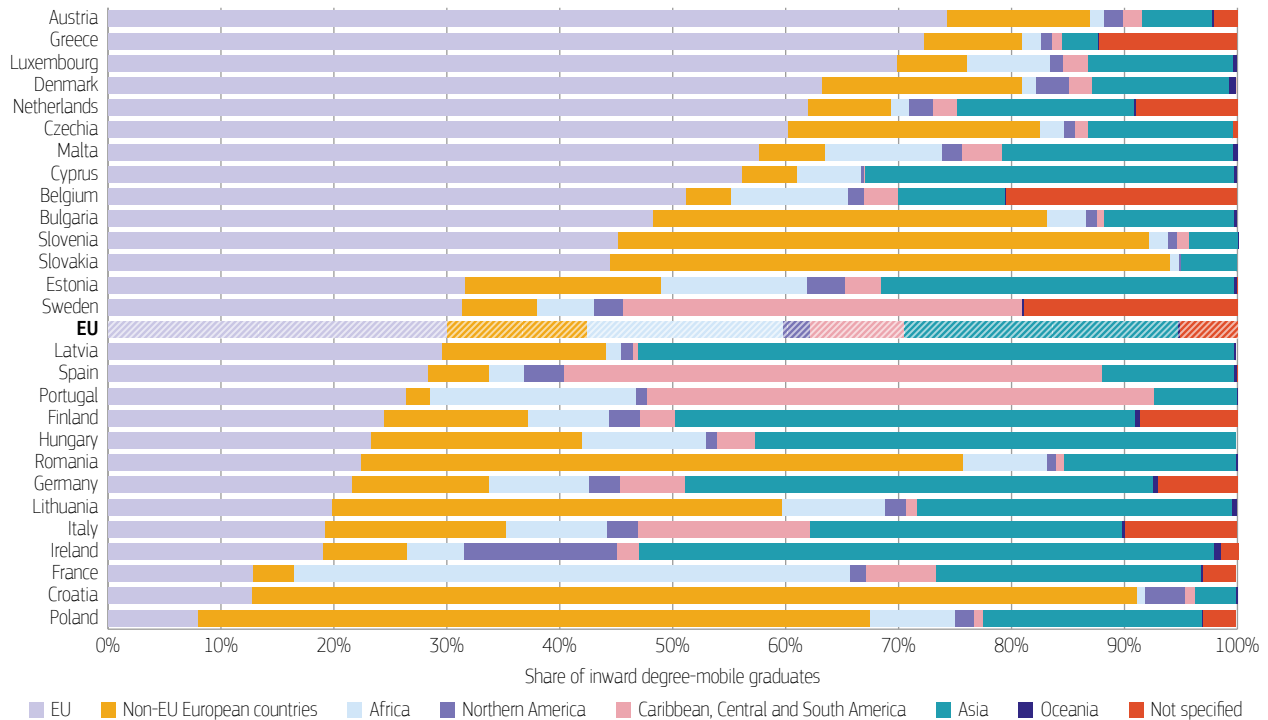
299 In VET, the share of vocational learners who benefit from a learning mobility experience abroad should be at least 12% (see Chapter 4).

300 For instance, the lack of data on degree-mobile graduates from the EU who graduated in the US has a major effect on the estimates, as EU students represent 5% of all mobile students in the US. But not even all EU countries report detailed information for each level of tertiary education on the country of origin of inward mobile graduates.

301 Data on shorter credit mobility were available in 2022 for the Flemish community of Belgium, Czechia, Estonia, Spain, Cyprus, Latvia, Lithuania, Malta, Austria, Romania, Slovenia, Slovakia, Finland, and Sweden.

302 The calculation of outward mobility rates is not the simple sum of degree- and credit-mobile graduates: graduates who are both degree and credit mobile should be identified to avoid double counting. When a student graduates in a country other than their country of origin, degree mobility takes precedence over any credit-mobile stays. The number of credit-mobile graduates should exclude those who are also degree mobile. There is the same double counting risk, to a lesser extent, for some countries for longer (at least 3 months) credit mobility. This is because not all EU countries provide information that makes it possible to identify credit-mobile graduates who were also degree mobile.

Figure 29. **Intra-EU degree mobility accounts for less than half of all inward degree mobility in most EU countries**



Source: UNESCO-OECD-Eurostat (UOE) joint data collection 2022. [Download data](#) [Monitor Toolbox](#) Note: the indicator captures learning mobility at all levels of tertiary education, from short-cycle tertiary education to doctoral or equivalent level.

Another indicator concerns *inward* degree mobility. In 2022, an average of 8.7%³⁰³ tertiary education graduates in the EU were inward degree mobile. The countries attracting the highest shares of inward degree-mobile graduates were Luxembourg³⁰⁴ (28.7%), Malta (28.6%), and the Netherlands (24.4%)³⁰⁵. Another 11 countries³⁰⁶ recorded shares between 20% and 10%. However, Greece, Italy, Croatia, Poland, and Romania have yet to reach shares of 5%. For most EU countries,

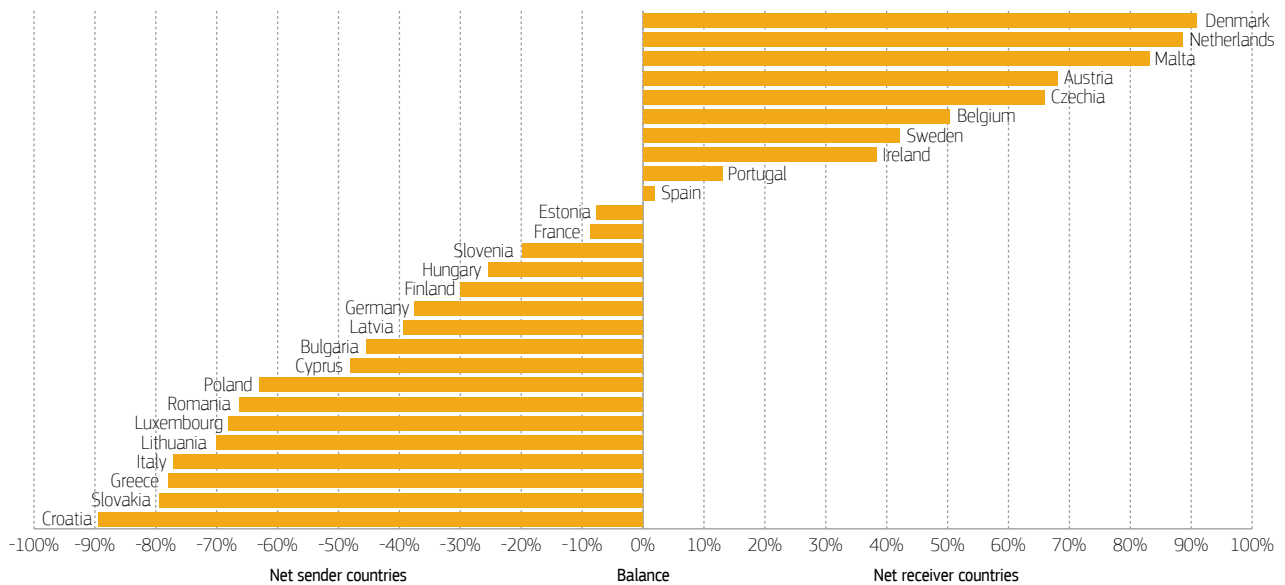
the higher the education level, the higher the shares of inward degree mobility. Across the EU, 1.4% of graduates in short-cycle degrees are degree mobile. The inward degree mobility rate increases to 5.8% at bachelor level, 14.6% at master level, and up to 25.9% among PhDs.

Figure 29 shows inward degree mobility data by region of origin. Differences between EU countries can be explained by historical ties, geographical proximity, and shared languages, among other reasons³⁰⁷. Overall, 30.0% of inward degree-mobile graduates came from EU countries in 2022, followed by Asia (24.2%), Africa (17.3%), and non-EU European countries (12.4%). Marked differences exist across countries. Intra-EU mobility accounted for more than half of all inward degree mobility in 9 countries (and above 70% in Austria, Greece, and Luxembourg). Conversely, in Poland, Croatia, and France, less than 15% of mobile graduates came from another EU country.

- 303 Inward mobile graduates are graduates in a country who come from another EU or non-EU country. A country's inward mobility rate is calculated as the number of inward degree-mobile graduates in the country divided by the total number of that country's graduates. For more details on how the rate is calculated, see a [2018 European Commission \(Joint Research Centre\) report](#).
- 304 This may include 'frontier' graduates, who commute to Luxembourg for study purposes. However, commuters are correctly considered degree mobile if they study at tertiary level in a country other than the one where they obtained their upper secondary level certificate. It is not residence, but participation in the education system abroad, that defines mobility.
- 305 Interestingly, these 3 countries have the highest shares of 25-34-year-olds with tertiary educational attainment who graduated in another EU or non-EU country (Luxembourg 80.9%; Malta 36.5%; the Netherlands 13.5%). This may be because people remain in the country after studying there due to, for instance, attractive working conditions. Other countries with rates higher than 10% are Austria (19.0%), Belgium (13.2%), Cyprus (52.5%), Germany (16.5%), Estonia (11.3%), and Ireland (23.0%). [Monitor Toolbox](#)
- 306 Latvia, Germany, Sweden, France, Belgium, Ireland, Hungary, Denmark, Czechia, Estonia, and Austria. [Monitor Toolbox](#)

- 307 University characteristics can also play a major role. Higher teaching quality, the availability of English-language programmes in non-English speaking countries, and a comparatively better reputation may attract more students from abroad. Research orientation and excellence are more relevant for degree mobility at doctoral level.

Figure 30. Intra-EU degree mobility is highly imbalanced



Source: European Commission calculations, based on UNESCO-OECD-Eurostat (UOE) joint data collection 2022. [Download data](#) [Monitor Toolbox](#)

Box 15. Towards a European degree

The 2024 European Commission Communication on a blueprint for a European degree seeks to advance transnational cooperation between higher education institutions, with the goal of creating a European degree recognised automatically across the EU. Higher education institutions can voluntarily create joint degree programmes based on a common set of criteria agreed at European level. The European degree will be awarded to students following a transnational education experience organised jointly by a group of universities across Europe or by a body established by several universities from different countries.

A European degree is expected to support learning mobility in the EU and attract more talent from around the world. This may in turn expand the EU's innovation capacity³⁰⁸. The blueprint includes a gradual plan for a European degree, a proposal for a Council Recommendation on a European quality assurance and recognition system and a proposal on attractive and sustainable careers in tertiary education. In 2025, the Commission plans to launch 'European degree pathway projects' to support EU countries and their accreditation and quality assurance agencies, and to help universities develop their pathways towards a European degree.

Comparing inward and outward degree mobility confirms that degree mobility is not only limited but also strikingly unbalanced. In terms only of intra-EU mobility³⁰⁹, Figure 30 shows that only Spain recorded a relative mobility balance in 2022³¹⁰. In other EU countries, mobility imbalances are common and, in some instances, substantial. Denmark, the Netherlands, and Malta are the highest net receiver (above 80%) of degree-mobile graduates from other EU countries relative to how many students they send abroad to graduate in another EU country³¹¹. At the other extreme, Croatia, Slovakia, Greece, Italy, and Lithuania were the highest net sender countries (above 70%).

309 This analysis only partially captures mobility imbalances as it focuses solely on intra-EU mobility. Outward degree mobility to the EU accounted for more than 50% of outward mobility in all but 8 countries (Denmark, Ireland, France, Cyprus, Lithuania, Malta, Poland, and Portugal) in 2022. Inward mobility from the EU accounted for more than half of inward degree mobility in 9 EU countries.

310 The rate was 1.9% in favour of inward mobility.

311 Denmark and the Netherlands also have outward mobility rates among the lowest in the EU (1.6% and 3.0%, respectively).

308 See the 2024 Letta report on the EU single market on how the European Degree may contribute to strengthening it.

Finally, not everyone has equal access to learning mobility opportunities. Disadvantaged learners are less likely to participate³¹², missing out on the benefits of mobility experiences and further deepening the divide between them and their more advantaged peers. Tackling this issue is one of the objectives of the [2024 Council Recommendation](#), setting the goal of giving learning mobility access to at least 20% of people with fewer opportunities out of all learners benefiting from learning mobility abroad by 2027³¹³. However, quantitative targets to increase equity in learning mobility are not widespread across EU countries. Several long-term targets introduced between 2015/2016 and 2018/2019 have been abandoned. Only Austria has set a long-term target to increase the participation of disadvantaged students in learning mobility programmes in its strategy on tertiary education. Short-term (year-on-year) targets can only be found in Greece, Malta, and Portugal³¹⁴.

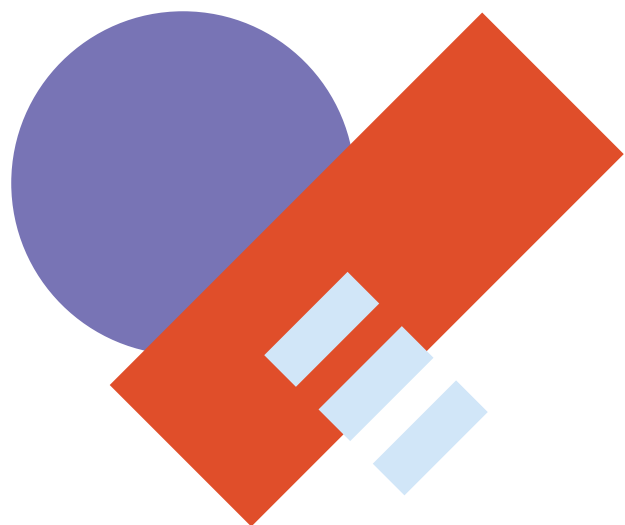
Main takeaway

In 2022, the outward mobility rate was only 11.0% at EU level, 12 percentage points lower than the target set for 2030. However, figures are likely to be underestimated due to several limitations affecting learning mobility data. Such data cover graduates obtaining their degree abroad and graduates who only had a short stay abroad, the latter mainly financed by Erasmus+. Inward degree mobility varies a lot between countries in terms of shares and regions of origin. This depends, among other things, on historical ties, geographical proximity, and shared languages. Overall, 30% of inward degree mobility to EU countries also originated from EU countries in 2022. Intra-EU mobility accounted for more than half of all inward degree mobility in one third of EU countries. Mobility in the EU tends to be highly imbalanced in terms of countries that mostly send students abroad versus countries that mostly host students from other EU countries.

³¹² See a [2023 European Commission report](#) on learning mobility.

³¹³ Data on this sub-group of learners are not currently available. Data from Erasmus+ and European Solidarity Programmes are suggested as the closest proxy for the time being. The European Commission is invited to put forward a proposal for a new data collection methodology by 2026.

³¹⁴ Austria aims to increase the participation of students without tertiary education qualifications in learning mobility programmes to at least 18% by 2025. In Greece, in 2022/2023, 20% of Erasmus+ students should have been students with fewer opportunities. In the same year, 5% of Maltese and 2% of Portuguese disadvantaged students should have been in tertiary education mobility programmes. See a [2023 Eurydice report](#).



Chapter 6. Adult learning



6.1. The need for broader participation

EU-level 2030 target³¹⁵:
'At least 60% of adults aged 25-64 should have participated in learning during the last 12 months by 2030.'

EU-level 2025 target³¹⁶:
'At least 47% of adults aged 25-64 should have participated in learning during the last 12 months by 2025.'

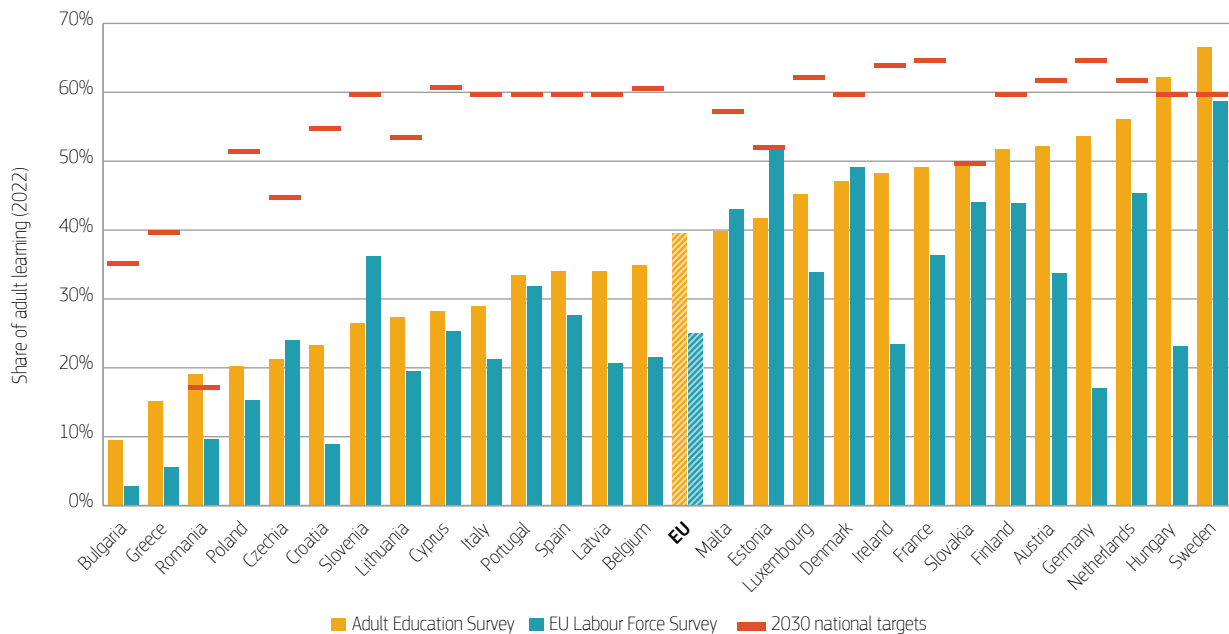
Data on the participation of adults in learning are available from two key sources. The Adult Education Survey (AES) and EU Labour Force Survey (EU-LFS) have both provided 2022 data on the participation of adults in learning in the 12 months before the survey (Figure 31)³¹⁷. These are the first relevant data to monitor progress towards reaching the 2030 EU-level learning target on adult learning (at least 60% of adults participating in learning annually) and the 2025 adult learning target (at least 47%), which is a milestone towards reaching the 2030 target.

315 See the [European Pillar of Social Rights Action Plan](#), welcomed by EU leaders at the [2021 Porto Social Summit](#) and in the [2021 European Council conclusions](#).

316 See the [2021 EEA strategic framework Resolution](#).

317 The EU-LFS also provides data on the participation of adults in learning in the 4 weeks before the survey. These data are less informative but still provide useful information on developments over time due to their frequency and long timeseries. [Monitor Toolbox](#)

Figure 31. **Adult learning participation is limited and uneven across EU countries irrespective of the source used**



Source: Eurostat (Adult Education Survey and EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: the indicators capture the participation of 25-64-year-olds in formal and non-formal learning in the last 12 months; the AES data come from a special extraction excluding guided on-the-job training; the 2030 national targets were [defined in June 2022](#).

The 12-month participation data from the two sources yield different findings (Box 16)³¹⁸, with an EU average adult learning participation of 39.5% (AES) versus 25.1% (EU-LFS). Yet several conclusions can be drawn from both sources equally. Firstly, the participation of adults in learning, as an EU average, is too low and its increase too slow given the ever more pressing need³¹⁹ for lifelong skills development³²⁰. Secondly, participation rates vary a lot across EU countries, with the best performance several times higher than the worst one³²¹.

Thirdly, women, on average, participate more than men³²². Finally, and perhaps most significantly, people most in need of developing skills are the ones who participate the least (Figure 32)³²³.

Adult learning figures are too low and improving too slowly given the pressing need for lifelong skills development.”

318 The definitions of the AES and EU-LFS adult learning indicator (12 months) are brought in line with each other through a special extraction of AES data that excludes guided on-the-job training. For an AES-based analysis of adult learning participation including guided on-the-job training, see the [2024 European Commission](#) report on employment and social developments in Europe.

319 See the [2024 Draghi report](#) on the future of European competitiveness on how adult training plays a key role in overcoming economic challenges.

320 The 2022 EU-LFS included a question on participation in the last 12 months for the first time. Comparison between the 2016 AES and the 2022 AES results shows that the increase at EU level has been very small, from 37.4% to 39.5%, and that 14 countries – more than half – had lower rates in 2022. Most decreases were small (such as in Greece, from 16% to 15.1%), but some quite significant (such as in Cyprus, from 44.8% to 28.3% and in Slovenia, from 40.3% to 26.5%). [Monitor Toolbox](#)

321 A [2024 Eurofound report](#) confirms that disparities in adult learning have increased in the past 15 years. Central European countries have remained stable, while Nordic and western countries have increased their share of adult learning, leading to regional divergence.

322 Across the EU on average, female participation rates are 41.0%, versus 38.0% for men, using AES data, while female rates are 25.9%, versus 24.2% for men, using EU-LFS data. The gender gap is particularly wide in Latvia and Lithuania, where 2 men for every 3 women participate in training. There are exceptions. For instance, in Slovakia, male participation is slightly higher based on both sources. [Monitor Toolbox](#)

323 While lifelong skills development is necessary for everybody in today's labour market and society, it is especially useful for low-qualified adults, to give them a better level of basic skills and competences that are relevant to the labour market, making them less vulnerable in a time of huge transformations. A [2020 Cedefop report](#) estimates that almost half of the EU adult population is in particular need of upskilling and reskilling.

Box 16. Differences between AES and EU-LFS 2022

There are two main data sources for indicators on adult learning: the Adult Education Survey (AES) and the EU Labour Force Survey (EU-LFS). Both refer to participation in formal and non-formal education and training during the last 12 months among 25-64-year-olds. In the EU-LFS, non-formal education and training comprises courses, seminars, workshops, and private lessons. In the AES, non-formal education and training comprises in addition guided on-the-job training. In order to make results more comparable, AES data presented here are without guided on-the-job training. Until 2021, the only source for adult learning in the last 12 months was the AES, done only once every 6 years. As of 2022, the necessary variables were added to the EU-LFS once every 2 years.

The comparison of the 2022 results yielded by the two data sources reveals differences, even though in general the same concepts and definitions were applied. All in all, the EU-LFS indicator yields different (and generally lower) adult learning participation rates than the AES. An in-depth analysis identified several possible reasons for the differences³²⁴. The reasons include the surveys' purpose, coverage of non-formal education and training (as mentioned above), number of variables for non-formal education and training (the variables are more detailed in the AES than in the EU-LFS), how national questionnaires are done, the use of proxies (responses from, for instance, another household member), and interviewer training. Most of these factors may lead to a loss of information and a downward bias in the EU-LFS indicator.

In 2024, the Employment Committee Indicators Group (EMCO IG) endorsed using the AES (excluding guided on-the-job-training) for monitoring adult participation in learning in the context of the EU-level and national adult learning targets, and as part of the social scoreboard and Joint Employment Report. A transition to EU-LFS data will be reconsidered in 2025, taking into account changes that some EU countries are implementing for the next EU-LFS wave, as well as a further assessment of differences between AES and EU-LFS data.

Increasing the general participation rate requires increasing the participation of low-qualified adults³²⁵. The 2022 AES data show that the participation rate of low-qualified adults remains about one third of the rate of high-qualified adults – 17.9% against 58.1% in 2016 and 18.4% against 58.9% in 2022³²⁶. In 10 EU countries, the rate of low-qualified adults has decreased, sometimes very much so, for instance by about half in Cyprus (from 20.7% to 10.9%) and by a third in Portugal (from 24.2% to 17.0%)³²⁷. The 2022 EU-LFS data on participation in the last 12 months are similar to the 2022 AES data, giving an EU average of 39.7% (high-qualified adults) versus 11.3% (low-qualified adults). This yields a ratio of high-qualified adults to low-qualified adults of 3.5 (compared to a ratio of 3.2 when using the AES 2022 data).

Uneven participation can also be observed among different age groups. According to 2022 AES data, the participation of young adults (25-34-year-olds) was 49.5% compared to just 29.9% for adults nearing the end of their working lives (55-64-year-olds). Similar results can be observed in the 2022 EU-LFS data (33.2% versus 16.7%). Older working-age adults participate proportionally more in countries with high general participation. In Sweden, Hungary, Germany, Denmark, the Netherlands, and Slovakia, their participation is over two thirds of young adults' participation (based on AES 2022), while in Greece, Cyprus, Romania, Bulgaria, and Poland, it is less than one third of young adults' participation.

Employed adults' participation rate in the last 12 months (44.7% in the AES, 28.5% in the EU-LFS) is higher than both unemployed adults' rate (26.8% in the AES, 21.5% in the EU-LFS) and the rate of adults outside the labour force (23.7% in AES, 11.8% in EU-LFS)³²⁸. There are some exceptions. Looking only at AES 2022 data³²⁹, the

324 More details can be found in a [2024 Eurostat information note](#). A few structural elements may also affect the results, such as different timing for the actual data collection and each survey's precise methodology (such as the sample size and the way data are collected).

325 In this comparison, low-qualified means an educational attainment below upper secondary level, whereas high-qualified means an educational attainment at tertiary level.

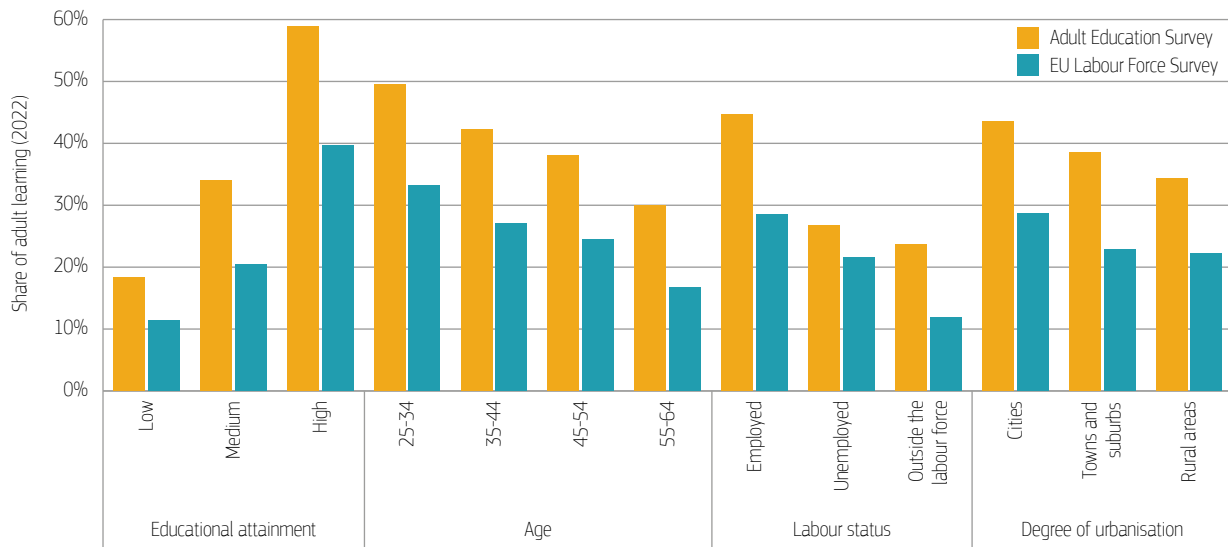
326 **Monitor Toolbox** This compares adults who have at most lower secondary educational attainment with adults who have a tertiary educational attainment.

327 **Monitor Toolbox** Data are not available for Bulgaria, Croatia, Lithuania, and Slovakia.

328 Adults outside the labour force are economically inactive: they are not working at all and not available or looking for work either. The observed difference in adult learning based on labour status partly reflects the higher participation of high-qualified adults, who are more likely to be employed. In 2022, 86.0% of people with tertiary educational attainment were in employment, compared to just 57.2% of people with lower secondary educational attainment or less. **Monitor Toolbox**

329 The AES is based on to self-perceived labour status while the EU-LFS is based on the International Labour Organisation (ILO) definition.

Figure 32. **Adult learning participation is rare among key target groups irrespective of the source used**



Source: Eurostat (Adult Education Survey and EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: the indicators capture participation of 25-64-year-olds in formal and non-formal learning in the last 12 months; the AES data come from a special extraction excluding guided on-the-job training.

participation of employed versus unemployed adults is relatively similar in Denmark (50.2% versus 49.9%), Estonia (44.6% versus 42.8%), and the Netherlands (60.4% versus 60.5%). The participation of unemployed adults versus adults outside the labour force is the same or similar in Italy (17.1% versus 17.1%), Hungary (20.7% versus 18.2%), and Slovakia (10.5% versus 10.0%). There are also countries where adults outside the labour force participate in learning much more than unemployed adults do. This is the case in Germany (40.5% versus 31.7%), Finland (46.3% versus 24.8%), and Sweden (62.0% versus 45.0%). Higher participation of adults outside the labour force can be observed more commonly in countries with higher participation rates overall.

Finally, across the EU, urban participation in learning over the last 12 months (43.6% in the AES, 28.7% in the EU-LFS) is higher than participation in suburban areas (38.5% in the AES, 22.8% in the EU-LFS) and rural areas (34.4% in the AES, 22.2% in the EU-LFS), with the rural rate just above three quarters of the urban rate³³⁰. Two exceptions are Belgium and Malta, where rural participation is slightly higher than urban participation, in both surveys. Overall, the gap between rural (and suburban) and urban rates is wider in

underperforming countries. For instance, in Bulgaria and Romania, countries with low general participation, rural participation is around one third of urban participation, and suburban participation is around half of what urban participation is³³¹. Increasing participation could be supported by a fairer geographical distribution of learning opportunities³³².

6.2. Adult learning for sustainability

Adult learning has the potential to have immediate impacts on the knowledge, skills, and attitudes of today's working-age population. The benefits of school education manifest themselves over a longer period, but adult education and training enable learners to adjust relatively quickly to the rapidly changing labour market, including the green transition.

Competence frameworks such as GreenComp (Chapter 1) can serve as a basis for the development of curricula and learning activities. The curricula of some EU countries

330 This is consistent with the higher participation rates of high-qualified adults, who are more likely to live in cities. Other factors play a role too though, such as the higher frequency and greater accessibility of opportunities in more densely populated areas with better transport facilities.

331 In Finland and Sweden, countries with high general participation rates, rural participation is more than 80% of urban participation, and suburban participation is more than 90% of urban participation. [Monitor Toolbox](#)

332 This includes better information and guidance and appropriate forms of support for participation, such as paid leave, which is more likely to be granted by larger companies or public administrative bodies (which, in turn, tend to be primarily urban employers).

are already being revised and complemented with the requirements of the green economy and sustainable development, and new learning modules and courses are being created for both formal and non-formal education and training³³³.

Besides incorporating sustainability into curricula, countries are designing qualifications that address the needs of the green transition, validating relevant non-formal and informal learning, or offering a range of micro-credentials in relevant areas³³⁴. EU countries are carrying out reforms to develop green skills, in some cases with the support of the EU's Technical Support Instrument³³⁵. Some initiatives have a gender dimension, such as trying to increase the proportion of women in technical professions and green occupations through training in digitalisation, sustainability, and technology³³⁶. Training on sustainable development is being incorporated into the training of civil servants too³³⁷.

As outlined in Chapter 1, making learning environments more sustainable is an important part of learning for sustainability. Ensuring the sustainability of adult learning systems requires investments in infrastructure. This is done by setting up specialised technological centres, improving and updating existing infrastructure, or enabling the acquisition of new technological

educational resources aligned with the needs of the green transition³³⁸.

To ensure that training offers are relevant to the labour market, EU countries support cooperation between adult learning providers and companies that engage in green activities. However, employees most in need of reskilling also need to take part in training activities. In 2022, employees in energy-intensive industries participated in learning much less than employees on average did (10.4% compared to 15.7% in the last four weeks)³³⁹.

Adults from disadvantaged socio-economic backgrounds are less likely to acquire the sustainability competences needed to adjust to the changes resulting from the green transition³⁴⁰. Identifying and addressing these gaps in adult learning is crucial for ensuring fair outcomes for all. Due to the greater flexibility of adult learning, increasing the participation of disadvantaged adults in learning opportunities that are relevant to the labour market plays an important role in preparing the working-age population for the green transition.

Main takeaway

At 39.5% in 2022, adult participation in learning is not on track to reach the EU-level targets. Participation rates are not only uneven across EU countries (from 9.5% in Bulgaria to 66.5% in Sweden). They are also substantially lower among key target groups of adults most in need of reskilling and upskilling. Examples are adults who are low qualified (18.4%), aged 55 and over (29.9%), unemployed (26.8%), outside the labour force (23.7%), or living in the EU's rural areas (34.4%). These results are likely to only exacerbate existing inequalities. Sustainability is being incorporated into training offers, for instance through changes to curricula, increases in relevant training opportunities, and investments in infrastructure. However, the low participation rates of the target groups most in need risk generating unequal development of sustainability competences and pose employability challenges during the green transition.

- 333 For instance, in Romania, the '[Renewable Energy School of Skills](#)', for up-skilling and re-skilling technicians in the wind and photovoltaic industries, combines the provision of onsite training programmes with the delivery of several online courses. In Hungary, the '[Sustainability Manager](#)' course is run as part of adult training in the form of a 6-month fee-paying course aimed at developing sustainability-related knowledge and skills.
- 334 Portugal's '[Green Jobs and Competences Program](#)' aims to provide qualifications that address the needs of the green transition. In the Flemish community of Belgium, the University of Leuven has partnered up with four non-university colleges and a tertiary art college across the region to establish a lifelong learning initiative called '[Continue](#)' offering a range of relevant micro-credentials.
- 335 For instance, through the EU's Technical Support Instrument, the Flemish community of Belgium has developed a roadmap for green skills, Denmark is preparing its industrial transition towards a circular economy, and France will implement a roadmap for greening its training policy and re-skilling schemes.
- 336 For instance, in Austria, [a training initiative for women in digitalisation, sustainability, and technology](#) is intended to increase the proportion of women in technical professions and green occupations.
- 337 One of the main objectives of the [National Action Plan](#) for implementing the National Strategy for the Sustainable Development of Romania 2030 is to provide training in sustainable development for civil servants.

- 338 For instance, Portugal is investing in increasing its capacity and infrastructure for the delivery of relevant training by means of a large investment (as part of its recovery and resilience plan) in developing 104 specialised technological centres, improving and updating existing infrastructure, and enabling the acquisition of new technological education resources aligned with the needs of the digital and green transition ([2023 compendium](#) of inspiring practices).
- 339 **Monitor Toolbox** Data refer to employees' participation in education and training (last 4 weeks) for the 18-64 age group.
- 340 See the [2023 OECD Skills Outlook](#).

Conclusion

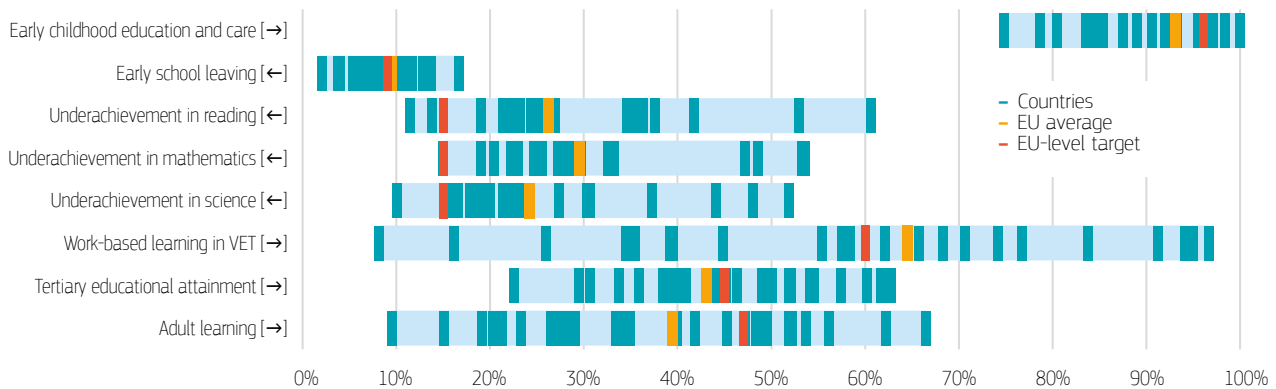
The 2024 Education and Training Monitor's comparative report tracks progress towards reaching EU-level targets, most notably the ones agreed under the 2021 EEA strategic framework Resolution³⁴¹. This final section provides a short wrap-up of this progress and a few examples of EU support strands.

The share of children between the age of 3 and the start of compulsory primary education enrolled in early childhood education and care (ECEC) is 93.1%, inching closer to the 2030 EU-level target of at least 96%. Only Romania, Slovakia, Bulgaria, Croatia, and Cyprus are lagging behind with ECEC participation rates below 85%. Early school leaving is becoming less prevalent across the EU, affecting 9.5% of all 18–24-year-olds, raising the question whether the 2030 EU-level target of less than 9% is ambitious enough. Only Romania, Spain,

Germany, and Hungary record early school leaving rates over 11%.

The areas of vocational education and training (VET) and tertiary education report successes too. Experience of work-based learning in VET (64.5%) exceeds the 2025 EU-level target of at least 60%, even if work-based learning shows the highest country variability of all EU-level target areas (Figure 33), with particularly low shares in Romania and Czechia. At 43.1%, the tertiary educational attainment rate of 25–34-year-olds continues to increase, putting the EU well on track to reach its 2030 target of at least 45%. Rates remain below 35% only in Romania, Hungary, Italy, and Czechia.

Figure 33. **Country variability is highest for work-based learning in VET and lowest for early school leaving**³¹⁰

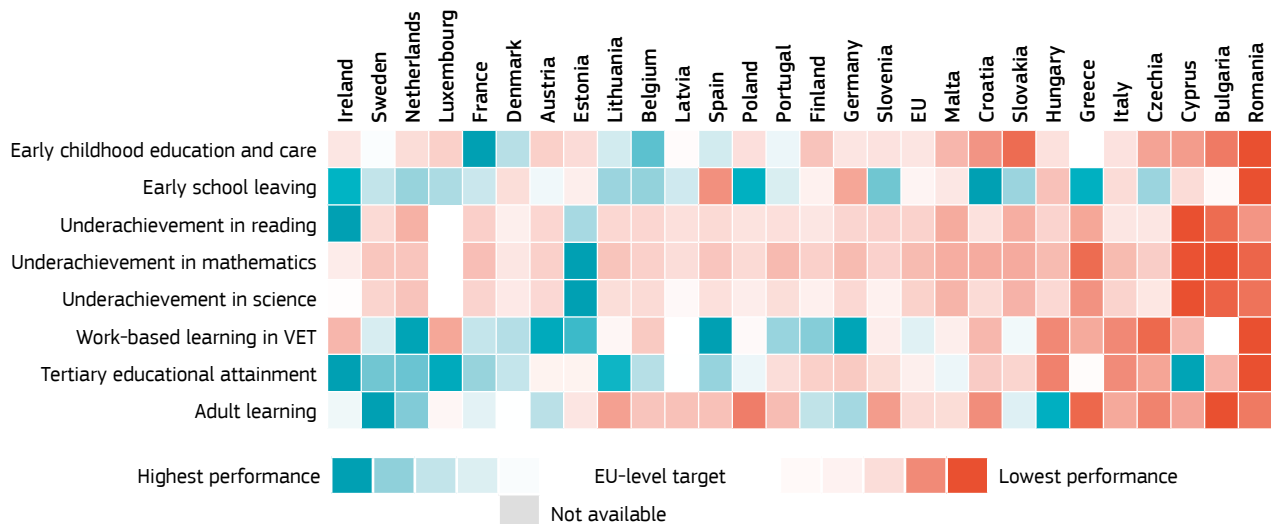


Source: Eurostat (EU Labour Force Survey 2023, UOE administrative data collection 2022, and Adult Education Survey 2022) and OECD (PISA 2022). [Download data](#) [Monitor Toolbox](#) Note: data are not available for Bulgaria (work-based learning in VET), Greece (early childhood education and care), Latvia (work-based learning in VET), and Luxembourg (underachievement in reading, mathematics, and science).

341 The EU-level target on eighth graders' underachievement in computer and information literacy is not covered in this edition of the Education and Training Monitor. This is because the underlying data were not available during drafting. The data are from the International Computer and Information Literacy Study (ICILS) as conducted by the International Association for the Evaluation of Educational Achievement (IEA). The online [Monitor Toolbox](#) features links to ICILS 2023 data as published on 12 November 2024.

342 Any apparent convergence between EU countries does not necessarily mean convergence within EU countries. The online [Monitor Toolbox](#) includes a closer look at all main indicators, for instance by sex, region, degree of urbanisation, migrant status, disability, and socio-economic status, insofar as the underlying data allow. For more information about convergence analysis, see Eurofound's [convergEU app](#) and the [2024 European Commission](#) report on employment and social developments in Europe.

Figure 34. **Country performance is worst when it comes to progress towards reaching the EU-level target on basic skills**



Source: Eurostat (EU Labour Force Survey 2023, UOE administrative data collection 2022, and Adult Education Survey 2022) and OECD (PISA 2022). [Download data](#)
Monitor Toolbox Note: data are not available for Bulgaria (work-based learning in VET), Greece (early childhood education and care), Latvia (work-based learning in VET), and Luxembourg (underachievement in reading, mathematics, and science).

However, some EU-level targets are highly unlikely to be reached without a substantial change in momentum. The situation is worst of all for underachievement in basic skills (Figure 34), with record-high results for reading (26.2%), mathematics (29.5%), and science (24.2%) way above the 2030 EU-level target of rates below 15%. Underachievement in mathematics, for instance, exceeds 45% in Bulgaria, Cyprus, Romania, and Greece. Secondly, at 39.5%, adult learning participation remains well below the 47% EU-level target for 2025, with only 10 countries reaching it in 2022³⁴³. The worst-performing countries are Bulgaria, Greece, and Romania, with adult learning participation rates below 20%.

This short wrap-up masks considerable differences between and within EU education systems. The online [Monitor Toolbox](#), supporting the Education and Training Monitor, lists the main indicators mentioned here, and complements them with several supporting indicators to shed light on context and possible policy levers³⁴⁴. The Monitor Toolbox also features new EU-level indicators requested in the [2021 EEA strategic framework Resolution](#). Firstly, it shows the EU-level indicator for

equity in education, introduced as part of the [2022 EEA Progress Report](#). Secondly, it hosts the [teachers' dashboard](#), with several indicators capturing a teaching job's attractiveness. Thirdly, it lists the indicators used to monitor learning for sustainability across the EU³⁴⁵.

New EU-level indicators are now available for equity, the teaching profession, and learning for sustainability.”

343 The source for adult participation in learning is the 2022 Adult Education Survey (see chapter 6).

344 The Education and Training Monitor covers all EU education systems. The online [Monitor Toolbox](#) also includes the results for the EEA/EFTA and candidate countries whenever data are available.

345 The [Monitor Toolbox](#) also links to the [2024 European Commission](#) report on investing in education and captures the main indicators for general government expenditure on education.

Learning for sustainability is the special focus of the 2024 Education and Training Monitor. The available evidence paints a sobering picture. EU education systems are contributing to addressing the climate and environmental crises, but more must be done to improve curricular coverage of sustainability issues and better prepare teachers to support students in this area. For instance, school principals mostly report low-impact actions such as differential waste collection (83.9%), while complex sustainability competences, such as futures literacy, are barely covered in national curricula. Only 42.1% of young people report having had a good opportunity to learn about sustainability in school and there appears to be a disconnect between knowledge and action, with widespread sustainability values and foundational knowledge, but little acting for sustainability. EU education systems can do more to support and encourage all learners.

The European Commission supports EU countries in their continued efforts to improve the performance of their education systems. Firstly, EU funding for education and training tripled in the 2021-27 funding period, with a total allocation exceeding EUR 130 billion. The Recovery and Resilience Facility (RRF) gives EU countries unprecedented opportunities to implement major reforms and investments in education and training. Around EUR 75.1 billion are allocated in the

RRF to address key challenges education and training systems face³⁴⁶. Cohesion Policy continues to support EU countries and regions in their efforts to strengthen equal access to quality and inclusive education and training opportunities, considering socioeconomic and territorial disparities³⁴⁷. And with a budget of EUR 864 million for the period 2021-2027, the European Commission stands ready to support EU countries upon their request in undertaking reforms through the EU's Technical Support Instrument. A culture of evaluation in education policy helps making an effective use of EU funding and is gaining traction in recent years³⁴⁸.

Secondly, the EEA fosters collaboration among EU countries to build more resilient and inclusive education and training systems. The ongoing interim policy evaluation of the EEA assesses EU-level and national efforts to promote progress toward reaching EU-level targets. On the basis of this assessment, the European Commission will, in 2025, put forward a proposal on the development of the EEA with regard to strategic priorities for European cooperation and national reforms in education and training, a better governance structure and working methods, and possible updates to EU-level targets. This will inform the Council's review of the strategic framework for European cooperation in education and training, ahead of its 2026-2030 cycle.

³⁴⁶ European Commission estimation based on the 'pillar tagging methodology' for the Recovery and Resilience Scoreboard. It concerns the measures allocated to the following (primary or secondary) policy areas: (i) early childhood education and care; (ii) general, vocational, and higher education; (iii) adult learning, including continuing vocational education and training; (iv) recognition and validation of skills; (v) green skills and jobs; and (vi) human capital in digitalisation. The figure was last updated on 24 September 2024.

³⁴⁷ For instance, EUR 8.4 billion under the European Regional Development Fund have been allocated for education and training infrastructure and equipment and skills development opportunities.

³⁴⁸ The [Learning Lab on Investing in Quality Education and Training](#) aims to promote a culture of evaluation in education policy and provide the knowledge and resources needed to identify how to make EU education systems more effective, efficient, equitable, and inclusive.

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