Council of the European Union

Brussels, 13 June 2025
(OR. en)

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ADD 1

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UEM 233
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COMPET 480
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JAI 766
GENDER 82
JEUN 112
SAN 287
ECB
EIB

COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	4 June 2025
To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2025) 221 final
Subject:	COMMISSION STAFF WORKING DOCUMENT 2025 Country Report - Poland Accompanying the document Recommendation for a COUNCIL RECOMMENDATION on the economic, social, employment, structural and budgetary policies of Poland

Delegations will find attached document SWD(2025) 221 final.

Encl.: SWD(2025) 221 final

EUROPEAN
COMMISSION

Brussels, 4.6.2025
SWD(2025) 221 final

COMMISSION STAFF WORKING DOCUMENT

2025 Country Report - Poland

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

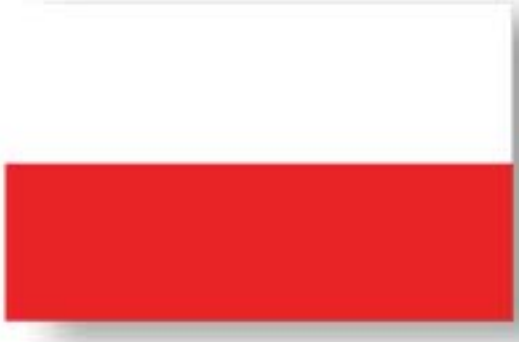
on the economic, social, employment, structural and budgetary policies of Poland

{COM(2025) 221 final}

European Commission

Poland

2025 Country Report

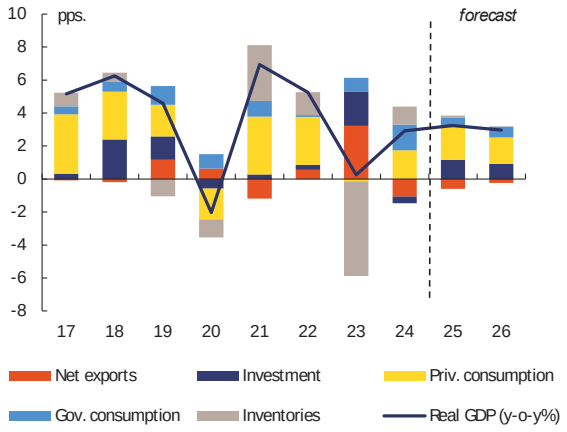


ECONOMIC DEVELOPMENTS AND KEY POLICY CHALLENGES

Economic growth is accelerating but competitiveness challenges remain

Poland's economy is one of the fastest growing in the EU. Polish GDP grew by 2.9% in 2024 and is set to surpass this figure in 2025, driven by strong private consumption and investment, including funded by the EU. The negative contribution to economic growth from net exports is expected to lessen as exports gradually increase. Risks to the economic outlook mainly stem from delays to public investments.

Graph 1.1: **Poland - real GDP growth and contributions**



Source: AMECO

Price pressures are continuing to ease while concerns remain regarding cost competitiveness. Inflation decreased to 3.7% in 2024. In 2025, inflation is set to edge down including due to lower energy commodity prices. Large increases in unit labour costs, elevated inflation, and złoty exchange rate appreciation against the euro could pose a risk to cost competitiveness over the medium term.

Overall, macro-financial challenges and risks remain limited. The housing market has seen strong house price growth (15% compared to an EU average of 3.3% in 2024), further boosted by demand-side measures adopted in 2023 and a slow supply-side response (see Section "Skills, quality jobs and social fairness"). Nevertheless, financial stability risks from the residential real estate market remain contained. External sustainability improved in 2023 and 2024, with Poland's current account moving into surplus. Financial sector risks remain limited, and bank profitability has increased (see Annex 5).

Labour market tightness eased somewhat in 2024, but unemployment remains at a historic low. Total employment decreased in 2024 following weak economic growth during the previous year and rapid rise in labour costs. The decrease in total employment was mainly observed in the agricultural sector, while job counts rose in manufacturing and in some service sectors. In 2024, the employment rate of 15–74-year-olds increased. The unemployment rate remained broadly unchanged, reaching 2.9% in 2024 in a context of a shrinking working-age population.

Challenges to competitiveness persist, in particular in relation to the business environment, research and innovation, skills and education, and the clean transition. These challenges are especially

pronounced in regions outside the capital (see Annex 17). At 67% of the EU aggregate, labour productivity (GDP per hour worked) is low in Poland. To increase productivity, it is particularly important for Poland to ensure its business sector has a stable and clear legal framework and for barriers to the marketing of research and innovation to be addressed (see Section "Innovation, business environment and productivity"). Moreover, for the Polish economy to remain sustainable and competitive in the long term, it would help to ensure broader access to affordable renewable energy, decarbonise the heating sector, reduce energy prices and ensure proper management of water resources (see Section "Decarbonisation, energy affordability and sustainability"). Finally, it would be beneficial to address persistent labour and skills shortages, including in science, technology, engineering, and mathematics, and inadequacies in the education system (see Section "Skills, quality jobs and social fairness").

Fiscal adjustment takes shape to tackle growing fiscal challenges

Poland faces fiscal challenges amid a rising budget deficit and public debt. As the general government deficit reached 5.3% of GDP in 2023, exceeding the Treaty reference value of 3%, in January 2025 the Council initiated the excessive deficit procedure ([1]) for Poland. At the same time, the Council endorsed Poland's medium-term fiscal-structural plan, which sets a binding government expenditure path aimed at reducing the deficit to below 3% of GDP over the 2025-2028 period. According to the Commission's Spring 2025 Economic Forecast, Poland's budget deficit is projected to fall from 6.6% of GDP in 2024 to 6.4% of GDP in 2025. The consolidation of public finances will be challenging in the context of geopolitical situation and high and rising defence spending. Public debt is forecast to rise from 49.5% of GDP in 2023 to 58.0% of GDP in 2025.

The annual progress report sent on 30 April 2025 presents the state of implementation of the fiscal plan. In 2024, net expenditure ([2]) in Poland grew by 12.7% (see Annex 1). This increase was mainly driven by higher public consumption, including growth of salaries of the public sector employees, as well as higher than estimated defence investments. The increase of government expenditure was partially offset by government decisions on fiscal measures increasing revenues. The annual impact of those measures, estimated at 0.4% of GDP, is deducted from net expenditure. In 2025, net expenditure is forecast by the Commission to grow by 6.2%, which is below the maximum growth rate recommended by the Council ([3]). The cumulative growth rate of net expenditure in 2024 and 2025 taken together is

([1]) The excessive deficit procedure aims to ensure that all member states maintain low government debt or reduce high debt to sustainable levels.

([2]) Net expenditure is defined in Article 2(2) of Regulation (EU) 2024/1263 as government expenditure net of (i) interest expenditure, (ii) discretionary revenue measures, (iii) expenditure on programmes of the Union fully matched by revenue from Union funds, (iv) national expenditure on co-financing of programmes funded by the Union, (v) cyclical elements of unemployment benefit expenditure, and (vi) one-off and other temporary measures.

([3]) Council Recommendation with a view to bringing an end to the situation of an excessive deficit in Poland (C/2025/5037) and Council Recommendation of 21 January 2025 endorsing the national medium-term fiscal-structural plan of Poland (OJ C, C/2025/642, 10.2.2025, ELI: http://data.europa.eu/eli/C/2025/642/oj).

Box 1:

UN Sustainable Development Goals (SDGs)

Poland has improved on the SDGs related to macroeconomic stability (SGDs 8, 16, 17), productivity (SDGs 4, 8, 9) and fairness (SDGs 1, 3, 4, 5, 7, 8, 10) and exceeds the EU average on SDG 1 (no poverty), SDG 4 (quality education), SDG 10 (reduced inequalities), SDG 17 (partnerships for the goals).

Nevertheless, while Poland has been improving on some of the SDGs related to environmental sustainability (SDGs 6, 7, 9, 11, 12, 13, 14), it is moving away from some of the targets for SDG 2 (zero hunger, which includes indicators on malnutrition, sustainable agricultural production and the environmental impacts of agriculture), and SDG 15 (life on land).

Source of data: Eurostat

projected at 19.7%, which is above the maximum rate recommended by the Council. This is due to higher growth rate of net expenditure in 2024 compared to the growth rate of 12.5% assumed in the medium-term fiscal-structural plan The projected deviation is allowed under the conditions of the national escape clause on current projections for defence spending.

Substantial reforms have been made to the national fiscal framework. In December 2024, the Polish parliament enacted legislation establishing a Fiscal Council which is set to become fully operational in January 2026. Initially, the Council will play a mostly advisory role, with its activities slated for review by 2029. Furthermore, in July 2024, several amendments were made to the stabilising expenditure rule, Poland's primary national fiscal rule, following a comprehensive review. The aim of these amendments is to make the rule more effective and align it with the new EU fiscal framework.

Public spending efficiency could be further improved, particularly in the area of social expenditure. Public spending as a share of GDP has been increasing, reaching 49% in 2024. Social programmes could better target lower-income and vulnerable groups, thereby reducing expenditure flows to higher-income groups. Moreover, Poland could strengthen its currently limited use of spending reviews in the budgetary process to support the government's consolidation efforts in the years to come.

Similarly, the efficiency of public investments could be further enhanced throughout the investment cycle. Public investments, including those by state-owned enterprises, would benefit from a more integrated and comprehensive planning approach. The public investment system would also benefit from improvements to the monitoring of large infrastructure projects, more systematic *ex post* evaluations and enhanced IT systems. More broadly, adopting a longer-term perspective and ensuring stability in the governance of state-owned enterprises would enable more strategic allocation of funds, and promote effective public investment (see Box 2).

The Polish tax framework is complex, which hampers innovation and sustainable growth. Despite recent efforts to reform the investment landscape, Polish companies continue to cite over-regulation as a significant obstacle to investment.

Moreover, the tax system appears to be very complex ([4]), indicating a need for substantial improvement. There is considerable scope for simplifying tax regulations and tax administration processes. To enhance the business environment, efforts to achieve a simpler and more predictable tax system would need to continue. Potential measures include consolidating and eliminating numerous tax reliefs and preferences, as well as simplifying the system for calculating and collecting taxes and social security contributions.

Addressing challenges linked to an ageing society

Poland's ageing society is putting pressure on its pension system and on health and long-term care. The statutory retirement age in Poland is 60 years for women and 65 years for men. Data from the Polish Social Insurance Institution (ZUS) for 2023 ([5]) shows that the average age at which men were awarded their pension equalled the statutory age, while for women, it was slightly above the statutory age (60.7 vs 60) having remained stable for several years. A recent evaluation report on tax relief (PIT-0) for senior citizens – which entered into force in 2022 and aims at increasing the effective retirement age – revealed small but growing uptake. The interest of PIT-0 could be higher, but the option often chosen by the insured is to receive a pension and a salary at the same time which lower total net income over the entire period after retirement ([6]). According to the 2024 Ageing Report ([7]), the pension system's annuity factor will lead to a substantial decline in pension benefits due to rising life expectancy and will leave effective retirement ages broadly unchanged. If the current pension benefit ratio (average pension benefit as percentage of average wage) is maintained, pension spending is expected to increase by 2.5 percentage points of GDP by 2045. Retaining a very low retirement age for women amidst a rapidly aging population has the potential to increase pensioner poverty or cause government spending on pensions to rise sharply in the future, which could present a risk to the sustainability of government finances. Moreover, there are several special pension schemes in Poland, e.g. for judges, prosecutors, the police force and farmers, which have more generous conditions that are primarily financed by the general government budget. These schemes are considered to be highly complex when compared to other EU countries ([8]). Different schemes with specific rules reduce transparency and can have lock-in effects. For instance, the method of calculating social insurance contributions to be paid by farmers if they shift to the general pension scheme discourages them from taking up this option. The necessity of such special schemes could therefore be reviewed as

([4]) Poland ranks last among the 27 EU Member States in the Tax Complexity Index 2022 (https://www.taxcomplexity.org).

([5]) https://psz.zus.pl/kategorie/emerytury/nowoprzyznane.

([6]) SGH Report: 'Ocena wpływu działań na rzecz podniesienia efektywnego wieku emerytalnego na skutek zmian wprowadzonych reformą podatkową Polski Ład (tzw. PIT-0 dla seniora)' https://www.gov.pl/attachment/2e62d93d-5c04-4bb6-872a-1c74affb69eb.

([7]) European Commission, 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070).

([8]) https://economy-finance.ec.europa.eu/system/files/2020-04/dp125_en.pdf

those not clearly linked to occupational risks could be a source of inequality ([9]).

Greater uptake of private pension schemes could help to improve financial security and future pension adequacy. The current pension system in Poland is largely made up of public pensions and will face significant challenges in the future due to demographic changes. Individuals who increase their retirement savings via private schemes can bolster their financial security and at the same time support economic growth by directing savings into investments, including in the Polish economy. Various private pension investment options exist in Poland, e.g. Employee Pension Plans (PPE) or Individual Pension Protection Accounts (IKZE). However, their use and assets under management remain limited, with only about 30% of the eligible population actively participating ([10]). The low level of private pensions in Poland with total assets valued at around 10% of GDP points to potential for growth over the long term ([11]). By expanding the use of default enrolment options, redesigning incentives for investment and enhancing financial literacy, Poland could increase private pension participation and ease the pressure on the public system.

Improving relatively poor health outcomes and working conditions is becoming increasingly challenging as the population ages. In Poland, mortality among working-age adults as a proportion of total mortality is significantly higher than the EU average, exacerbating the effects of population ageing on the labour force. According to Eurostat data, spending on preventive healthcare in Poland was among the lowest in the EU in 2022, amounting to only 1.9% of total healthcare spending. In fact, the rate of treatable mortality in Poland has barely improved since 2012. Cardiovascular diseases and cancer remain the leading causes of death, with mortality rates higher than the EU average. Under its recovery and resilience plan, Poland is carrying out major reforms in this area that should improve health outcomes in future years. The results of the SHARE international survey ([12]) show that job satisfaction in Poland among the 50+ age group is lower than in other countries. At the same time, the percentage of workers discouraged from working or tired of strenuous or routine work is higher than the EU average. Investing in better working conditions could help to convince older people to continue working beyond retirement age. Health expenditure per inhabitant in Poland (adjusted for differences in purchasing power) was EUR 1 960 in 2022, compared to an EU average of EUR 3 685. A large proportion of health expenditure (approximately 37%) is allocated to inpatient and day care ([13]). To improve health outcomes, a concerted effort is needed to shift resources away from hospital-centric models towards primary and outpatient/ambulatory care and to address persistent shortages in health professionals, in particular general practitioners and nurses (see Annex 14).

([9]) OECD Poland Economic Survey February 2025.

([10]) Raport o stanie rynku emerytalnego w Polsce na koniec 2023 r.

([11]) For example, in the Netherlands, Sweden and Denmark the value of private pension assets is 200%, 100% and 70% of GDP respectively https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Pensions_in_national_accounts_-_statistics.

([12]) SGH, Ministry of Family and Social Policy 'Raport podsumowujący wyniki badań 8. Rundy badania SHARE: 50+ w Europie', Warszawa 2023, page 53-60.

([13]) https://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=624730

Increasing the availability of affordable long-term care services could support the labour market. Due to a lack of formal long-term care capacity, Poland's informal carers face a heavy care burden without adequate support. The Minister for Senior Policy is planning to offer care vouchers for dependent older persons which could relieve family members from their care responsibilities. However, without legal recognition for informal carers, the planned support (training, information, psychological counselling) will not reach all those who need it. The number of long-term care workers per 100 individuals aged 65 and over is very low (0.3 in Poland compared to an EU average of 3.2 in 2023). The World Bank carried out a strategic review of long-term care in Poland ([14]). The results show a need to increase access to high-quality, affordable and accessible community-based long-term care services, while improving working conditions and work-life balance for carers going beyond the measures included in Poland's recovery and resilience plan.

([14]) https://www.gov.pl/web/zdrowie/przeglad-strategiczny-opieki-dlugoterminowej-w-polsce-opracowany-przez-bank-swiatowy

Box 2:

Barriers to private and public investment

The share of Polish firms investing has been consistently fairly high (80%, slightly below the EU average of 87% ([15])). Overall, firms in Poland report higher investment obstacles than their EU counterparts. The main barriers to private investment were:

- **Uncertainty about the future (92%).** A high share of Polish businesses expressed uncertainty about the future, above the EU average of 79%. This may be linked to frequent changes in the legal framework.
- **High energy costs (88%).** High energy costs are a major investment obstacle. To overcome this, Polish firms are directing a high share of investment towards improving energy efficiency (17% in Poland vs an EU average of 12%).
- **Shortage of skilled staff (87%).** Labour market shortages pose a challenge for many businesses, notably in the construction, manufacturing and service sectors.

Regarding public investment, while Poland has effective procurement practices and ensures capital availability over the lifetime of an investment project, some challenges remain to achieving the most efficient public investment decisions:

- Poland lacks a **unified state investment plan** aligned with the country's long-term strategy and medium-term fiscal-structural plan in order to gain a comprehensive overview of investment spending and sources.
- There is potential for enhanced **transparency and predictability** in public investment plans in order to foster a more favourable business environment for the private sector.
- There are no **standardised procedures for project selection** or prioritisation at central level involving external quality assurance to minimise underrepresentation of risks and costs.
- **Standardised methodologies for project assessments** are currently mainly used for EU co-financed projects but could be applied more widely especially for major projects.
- ***Ex post* assessments** are not systematically required or frequently conducted, limiting the opportunity to correct earlier planning and implementation mistakes.

The implementation of **Poland's RRP** faces challenges. At present, Poland has fulfilled 25% of the milestones and targets in its RRP. It remains important to accelerate the implementation of **cohesion policy programmes**. The mid-term review offers opportunities to speed up progress and better address EU strategic priorities related to competitiveness, defence, housing, water resilience and the energy transition. While Poland has leveraged **STEP** to reallocate some cohesion policy resources towards competitiveness, it can further support the development or manufacturing of critical technologies in the areas of digital and deep tech, clean and resource efficient technologies, and biotechnologies.

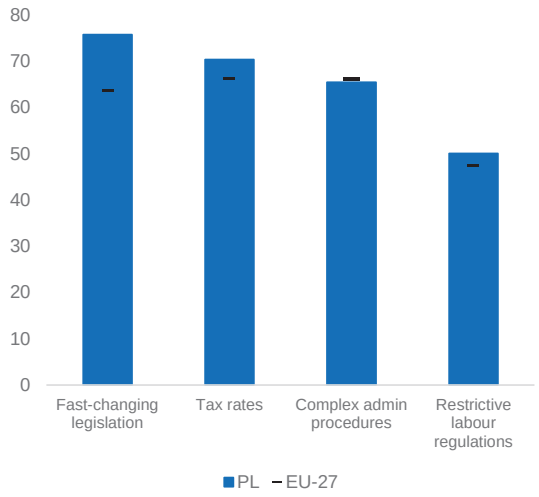
INNOVATION, BUSINESS ENVIRONMENT AND PRODUCTIVITY

Simplification and reduced administrative burden for businesses

Poland's institutional framework is crucial for its competitiveness. The country has improved regulatory governance and digitalisation which is an important step in building trust among citizens and businesses. Action is being taken to ensure judicial independence and to address concerns over corruption, with the roll-out of a new electronic case management and case allocation system (Annex 6). A stable judicial system which offers certainty is crucial for Poland's future prosperity. To further increase trust among citizens, the government could prioritise limiting bureaucracy and increasing transparency around decision-making and the use of public money ([16]). Moreover, reducing transposition and conformity deficits, which are above the EU average, would enable the single market to function smoothly in Poland. (Annex 4)

The business environment in Poland is subject to a complex and fast-changing regulatory framework, which can deter investment and hinder economic growth. Frequent changes to laws and regulations which provide companies, on average, only 31 days to prepare, can be challenging, in particular for small to medium-sized enterprises. Measures have been taken to improve the law-making process, such as more frequent use of impact assessments and public consultations. However, persistent challenges remain with regard to administrative burden and ensuring regulations are proportionate and effective. More could also be done to strengthen legal certainty and make more frequent use of periodic in-depth reviews, codification, and regulatory consolidation, in conjunction with efforts to increase the average time between adoption and the entry into force of new laws. By streamlining the regulatory framework and reducing unnecessary bureaucracy, Poland could create a more favourable business environment that encourages entrepreneurship and investment.

Graph 2.1: **Four most frequently cited problems when doing business in Poland (%)**



Source: Flash Eurobarometer 543. Businesses' attitudes towards corruption in the EU. Fieldwork 02/04-23/04/2024

Government-led initiatives can improve productivity. Labour productivity in Poland

([16]) Understanding Europeans' views on reform needs

is lower than the EU aggregate but is rapidly closing in on it ([17]). Recently, the government embarked on a simplification exercise to improve conditions for businesses and eliminate unnecessary administrative burdens for citizens ([18]). Moreover, it has set up a governmental task force that will work with business representatives ([19]). These initiatives are promising, but there remains scope for further action, for example, by setting up a dedicated institution (i.e. a National Productivity Board) to promote productivity-enhancing policies on a more permanent basis.

Digital transformation in fostering innovation and productivity

Digital transformation plays a crucial role in fostering innovation and enhancing productivity in Poland, but progress has not been uniform. As shown by Poland's achievements in the key performance indicators on digitalisation identified in the Digital Decade Country Report ([20]), Poland made notable progress in terms of its connectivity and digital infrastructure, in particular gigabit connectivity and fibre-to-the-premises coverage. However, it is lagging behind in the roll-out of 5G technology, with coverage in Poland well below the EU average, primarily due to delays in authorisation of 5G pioneer bands (see Annex 4). This limits businesses' ability to adopt advanced digital solutions, such as Internet of Things (IoT), AI-driven automation and cloud computing. Accelerating the allocation of 5G spectrum will thus be critical to closing this gap, enhancing business productivity and improving the share of ICT in Poland's gross value added.

Challenges persist in the adoption of digital technologies by businesses, particularly small to medium-sized enterprises, negatively impacting productivity growth. Poland is underperforming in digitisation metrics which have a high potential impact on productivity and innovation, such as take-up of AI. Only 4.9% of small to medium-sized enterprises in Poland have adopted AI compared to an EU average of 12.6%. Furthermore, they are less likely to use data analytics, with usage at just 17.6%, compared to an EU average of 32.1%. A major barrier to progress is a shortage of ICT specialists, which is making it more difficult for businesses to implement digital solutions effectively. Strengthening the ICT workforce and fostering a robust start-up ecosystem will be essential to driving innovation and increasing productivity (see Annex 12).

Poland is achieving mixed results in digital public services. Poland scored below the EU average in terms of the availability, accessibility and use of digital public services by citizens and businesses. However, it excels in online access to e-health records, scoring well in excess of the EU average. In terms of the use of eID in public services, Poland scored slightly above the EU average. Work is ongoing to improve digital services, with the annual growth rate in such services for citizens exceeding the EU average (6.4% in Poland compared to an EU average of 3.1%). This

([17]) European Commission (Autumn 2024 Economic Forecast).

([18]) https://www.gov.pl/web/premier/uchwala-w-sprawie-koordynacji-procesu-legislacyjnego-wdrazajacego-deregulacje.

([19]) Ruszyły prace zespołu ds. deregulacji - Kancelaria Prezesa Rady Ministrów - Portal Gov.pl

([20]) Poland Country report. European Commission: Digital Decade 2024: Country reports | Shaping Europe's digital future.

trend is being reinforced by the development of an electronic documentation management system and the addition of new key public services (see Annex 6).

Poland's recovery and resilience plan and cohesion policy funding are driving forward the digital transition. Poland has already implemented three reforms under its recovery and resilience plan to improve the development of and access to wired and wireless communication. The Polish recovery and resilience plan and cohesion policy funding have supported investment in ultra-fast broadband coverage for households and schools in white spots. Moreover, companies will receive support to: (i) invest in advanced technologies and artificial intelligence in manufacturing and business processes; (ii) implement smart production lines and construct smart factories; and (iii) deploy digital technologies to reduce the environmental impact of manufacturing. Absorption of funds under the Recovery and Resilience Facility and cohesion policy will also help to increase the efficiency of public administration. This will be achieved by investing in interoperable and secure e-services for individuals and businesses (see Annex 6).

Enhancing innovation through stronger science-business collaboration and an attractive research career system

Poland has improved its R&D performance but continues to face structural challenges. As an emerging innovator, Poland has made visible progress in its R&D performance, narrowing the gap with the EU average (65.9% in 2024, up 3.3 percentage points on 2023) ([21]). As past improvements were largely driven by gradual increases in R&D spending, further increases would therefore be beneficial. Improvements to Poland's R&D performance will also depend on whether structural challenges are addressed in relation to weak collaboration between science and business and Poland's underperforming research career system. These efforts should be tailored to differences across regional innovation ecosystems and local competitiveness potential (see Annex 17).

Cooperation between science and business is limited, reducing Poland's ability to bring innovation to the market. While the general regulatory and legal environment in Poland is conducive to innovation, Poland faces difficulties in joining up scientific research with business needs. Despite some improvement, Poland remains well below the EU average in terms of business participation in research and innovation activities run by public institutions and the number of joint scientific publications (Annex 3). The potential for small to medium-sized enterprises to engage in innovation activities and collaboration with academic researchers and institutions is particularly underused. This is further exacerbated by insufficient targeting of programmes promoting applied research and academic-private collaboration and a lack of systemic incentives for researchers to cooperate with industry.

Poland has established various instruments to bridge the gap between its research community and business. The Łukasiewicz Research Network and the Polish Association of Centres for Technology Transfer (PACCT) are important

([21]) European innovation scoreboard - European Commission

initiatives which will, if effectively implemented, help to translate knowledge into business solutions. The 'implementation doctorate' programme allowing PhD students to work in the business sector while studying, aims at linking academic knowledge with practical business applications. Additionally, a set of R&D tax incentives has been introduced. Assessing, monitoring and possibly improving those initiatives will be key to their success.

A strong public research career system with systemic incentives for researchers to cooperate with industry would also reinforce science-business collaboration. To this end, criteria and rewards encouraging science-business collaboration could be considered as part of an ongoing review of Poland's research evaluation system. Moreover, better salaries and career prospects, mobility programmes and a support framework for academics could help to make research careers more attractive and address the shortage of public sector researchers (see Annex 3 and Annex 10).

Funding under cohesion policy and the Recovery and Resilience Facility is instrumental in supporting the development of science-business collaboration in Poland. Crucial to this will be the timely roll-out of the European Funds for a Modern Economy (FENG) under which Poland and the EU have jointly earmarked EUR 10 billion over a seven-year period ([22]) and the swift implementation of investments in modern laboratories financed under the Recovery and Resilience Facility.

([22]) Open Data Portal for the European Structural Investment Funds - European Commission | Cohesion Open Data

DECARBONISATION, ENERGY AFFORDABILITY AND SUSTAINABILITY

Decarbonising industry and supporting the development of clean technologies

Poland is making progress on decarbonising the economy but remains heavily reliant on fossil fuels. Poland's share of renewables in the electricity generation mix increased to 30% in 2024, up from 27.2% in 2023, although this remains far below the EU average (47%). Fossil fuels, including coal, lignite and natural gas, account for 70% of electricity generation, which exacerbates price surges (see Annex 8). Relatively high electricity prices are leading consumers to choose different energy sources, such as gas, slowing down the electrification of the economy, which stands at 16.6%, compared to an EU average of 22.9%.

Poland has emerged as a clean tech hub in the EU and is playing a growing role in clean technology manufacturing, while conventional industries are facing a complex challenge in shifting to clean modes of production to remain competitive. 60% of all European-made lithium batteries are manufactured in Poland. Meanwhile, other clean tech industries, such as heat pump manufacturing, are growing in Poland (see Annex 7). Clean technology manufacturing would benefit from a clear strategic outlook, better regulatory certainty and forward-looking investments in skills in order to scale up further. Action could also be taken through public procurement and other policies which stimulate steady domestic demand and promote clean tech growth while assisting the transition of other sectors such as heating and transport. At the same time, Poland would strongly benefit from a policy framework to advance the transformation of conventional energy-intensive industries to bolster their competitiveness. Its primary focus should be on lowering energy prices through faster decarbonisation of the power system (see Annex 8) and facilitating public and private investment in cleaner modes of production that help industries reduce their carbon footprint while cutting pollution and strengthening the circular economy. Poland would also benefit from drawing on existing instruments to increase demand for EU-made products, e.g. by incorporating sustainability, resilience, and made-in-Europe criteria into public and private procurement.

Poland could also take action to accelerate the clean transition of the district heating sector. In Poland, 69% of district heating still runs on coal. Poland's anticipated Heating Strategy is an opportunity to prioritise investments in energy efficiency and electrification to advance the decarbonisation of the district heating sector while contributing to sector coupling. Investment plans for the sector should therefore promote the diversification of sector business models, including through the development of power system services such as demand side response or energy storage and energy efficiency improvements for end customers. This has significant potential for stimulating

the development of ancillary sectors such as bio-methane production, facilitating renewables integration, while ensuring the long-term economic viability of the district heating sector. The district heating sector in Poland could play a part in lowering energy prices due to its size and potential for diversification. However, tapping into this invaluable potential will require a coherent set of policies and coordinated, strategically-oriented investment plans. At the same time, it would be beneficial for public investments in the energy efficiency of buildings to continue, with a better programme design where necessary, in order to reduce energy consumption and shield households from volatile and rising energy prices (see Annex 7). In this context, Poland has benefited significantly from EU-funded programmes for improving energy efficiency, receiving some EUR 6 billion in cohesion policy funding for the period 2021-27 and EUR 9.4 billion under the recovery and resilience plan.

Poland would also benefit from reversing the upward trend in transport emissions. To this end, additional investment in railway infrastructure could promote a modal shift away from road transport, while making the economy more competitive. Poland has received EU funding to invest in its railways, including EUR 2.4 billion for railway modernisation under the recovery and resilience plan. Nevertheless, road transport emissions are continuing to rise (registering an increase of 95% between 2005 and 2023), reducing the likelihood of Poland meeting the 2030 emission reduction targets under the Effort Sharing Regulation. With electric cars accounting for a low share (5%) of new car registrations, high road transport emissions look set to continue in the coming years (see Annex 7). It would be useful to accelerate the modal shift towards more sustainable transport modes, in particular rail transport. Wider use of rail freight transport, which reduces the carbon footprint of end products, is crucial to maintaining the competitiveness of Polish industry. As regards passenger rail transport, better suburban and regional connections could address labour market shortages by facilitating commuter travel.

Reducing energy prices and phasing-out fossil fuel subsidies

Affordable renewable energy is essential to ensuring that Polish industry, especially energy intensive users, remains competitive. Major reforms and investments have already been and continue to be made by Poland that contribute to this objective, including through the recovery and resilience plan. However, more could be done to bring larger volumes of clean and affordable energy to the market quickly (see Annex 7). In this context it is crucial to accelerate the roll-out of renewables and grid permitting processes and to bring the benefits of renewable energy to end users as quickly as possible, including through the implementation of relevant EU legislation ([23]). Specific policies that could contribute to those objectives include encouraging faster take-up of corporate power purchase agreements and implementing renewables acceleration areas.

Taxation could be used to reduce Poland's relatively high electricity prices by shifting the tax burden from electricity to fossil fuels. In Poland, wholesale electricity prices in 2024 were among the highest in the EU, at EUR 96 per

([23]) Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast).

MWh, which had a major impact on industry competitiveness and on households. The tax burden on electricity is a contributing factor to high electricity prices. In Poland, taxes and levies on electricity account for nearly 50% of the total price paid by households and 32% of the price paid by energy intensive industries, compared to the EU averages of 24% and 7-12% respectively. By contrast, taxes and levies on gas account for only 19% of the total price paid by households and around 1% of the price paid by energy intensive industries (see Annex 7). By rebalancing its energy taxation, Poland could lower electricity prices for consumers and increase the competitiveness of industry while creating a stimulus for faster fossil fuel phase-out and electrification. It would also curb the need for the household electricity price cap, introduced in 2022 and extended until September 2025, which is not targeted and distorts the price signal for saving energy.

Increased grid flexibility and cross-border interconnections could also contribute to a reduction in electricity prices. Significant investments in non-fossil grid flexibility, including storage and demand-side response, would be beneficial, in addition to addressing market access barriers. This would help stabilise electricity prices while increasing the penetration of renewable energy sources through storage of excess energy during peak generation periods. Poland's electricity grid connections are underdeveloped, with only 5% cross-border interconnections (EU target: 15% by 2030). Moreover, there are no significant projects in the pipeline to increase transfer capacity on the western border. Increased interconnections would help to improve electricity prices, system flexibility, renewable energy penetration and supply security. National allocation constraints still limit the cross-border availability of electricity capacity. Finally, broader uptake of dynamic pricing for electricity would encourage consumers to adapt their energy usage, reducing strain on the grid and allowing utilities to offer lower prices during off-peak hours.

Poland records sizeable relevant fossil fuel subsidies without a planned phase-out before 2030, representing 0.92% of Poland's GDP. Scaling down and phasing out these subsidies is in line with EU commitments and would give the government greater flexibility for its spending choices. Priority could be given to phasing out fossil fuel subsidies which do not address energy poverty in a targeted way, do not respond to genuine energy security concerns, are not crucial to industrial competitiveness and hinder electrification. Examples include ongoing subsidies to the coal mining industry, tax exemptions for coal and fuel oil, and excise duty refunds on diesel used in agriculture (see also Annex 8).

Strengthening climate preparedness and water resilience

Climate change poses a growing threat to Poland's economic security and, in particular, its water resilience. Extreme weather events are putting infrastructure at risk, heatwaves are posing an ever-greater threat to public health and there is a growing risk of water scarcity undermining the sustainability of sectors which rely on water. Poland is increasingly falling victim to an alternating cycle of drought and floods, which is threatening household water supply security and exposing key economic sectors to losses (see Annex 9). Agriculture and food production, the biomass industry, manufacturing industries, the energy sector and tourism all face the prospect of new challenges to their

competitiveness due to a growing risk of water scarcity.

Poland has made progress in building up its water resilience through investments in water retention in rural areas under the recovery and resilience plan and the allocation of over EUR 2 billion to water resilience under the European Regional Development Fund and cohesion funds, however there is scope for further progress. River valleys, forests, peatlands and farmland currently have untapped potential for retaining water in the landscape and mitigating floods and drought through nature-based solutions. This potential should be acknowledged, exploited and preserved under river basin management and forest management policies and in the way agricultural subsidies and farm advisory services are designed (see Annex 9). Poland should rebuild the knowledge and evidence base necessary for policies to deliver resilient water management. Investments in the coming years should exploit the full potential of nature-based solutions and shift the focus from present-day uses to long-term water resilience. At the same time Poland could develop a policy framework for flood and drought preparedness that integrates investment in early warning systems and rescue services on the one hand, with nature-based disaster prevention on the other.

Addressing the high costs of pollution and boosting the circular economy

Poland still faces major environmental challenges, including air and water pollution, while its circular economy is less developed than the EU average. Simultaneously, these are also areas in which the clean industrial transition presents opportunities for reducing industry's environmental impact while bolstering its competitiveness.

In 2023, Poland's circular material use rate was 7.5%, up slightly on the previous year having steadily declined since 2014. This puts Poland's rate below the EU average of 11.8%. Poland is also lagging behind the EU average in terms of its resource productivity, although it has been steadily improving in this area for the past decade.

Air pollution remains a serious problem in Poland despite positive trends. Poland has the second-worst industrial air pollution in the EU, with the energy sector being the primary emitter, followed by the chemical industry. Polish industry still releases large amounts of water pollutants. Over the past decade, Poland has seen the largest decrease of any EU Member State in the number of water bodies considered to be in good ecological status, driven by pollutants from the mining and quarrying industries, agriculture and municipal and industrial waste and wastewater treatment (see Annex 9).

At the same time, the costs of pollution continue to exceed the amount invested in pollution prevention and control. As a result of coal reliance in the heating sector and energy production, Poland has one of the highest exposures to fine particulate matters in the EU. The latest available annual estimates (for 2022) from the European Environment Agency attribute 34 700 annual deaths (or 391 000 years of life lost) to fine particulate matter (PM2.5) alone. Poland's investment needs for pollution prevention and control are estimated at EUR6.3 billion per year in 2021–2027. Current investments, e.g. supporting the replacement of coal-based heating systems and investments into clean technologies, reach an estimated EUR 4.8 billion per year, leaving a gap of

approximately EUR 1.5 billion per year([24]) . Poland needs to rapidly advance the green transition in this sector. Investments to bolster its competitiveness should work hand-in-hand with boosting the circular economy and reducing emissions.

([24]) European Commission, 2025 Environmental Implementation Review – Poland

SKILLS, QUALITY JOBS AND SOCIAL FAIRNESS

Facilitating learning in science, technology, engineering, and mathematics, and boosting basic skills to support competitiveness

A decline in basic skills among young people, in particular in vocational programmes, and rising inequality in school education risk affecting Poland's competitiveness in the long term. Poland has witnessed a decline in basic skills (reading, mathematics, science) among 15-year-olds since 2018 in excess of the EU average ([25]). Levels of underachievement have increased significantly, moving Poland further away from the EU's 2030 target (see Annex 12). This risks limiting the scope for learning and upskilling of Polish students and subsequently reducing the talent pool. Increased inequalities between different types of secondary schools (see Annex 12) and between urban and rural schools (see Annex 11) are leaving students attending sectoral vocational schools (*szkoły branżowe*) and rural schools at an educational disadvantage (OECD, 2023). Overall, low attainment of basic skills is far more acute among disadvantaged students, with 39% lacking the minimum competence level in mathematics, hindering their educational and professional development later in life (OECD, 2023). Better focusing on basic skills at primary level and urgently boosting literacy and numeracy skills in sectoral vocational schools would facilitate subsequent upskilling and improve the supply of relevant skills to the labour market.

To improve the quality of school education, Poland would benefit from efficiently implementing its curriculum reform, while ensuring sufficient preparation and support for teachers. The share of students who are top performers in basic skills has fallen, indicating quality challenges in general education, including in teaching. To address its currently ineffective knowledge-based curriculum and the recent shortening of its general education cycle, Poland is preparing a curriculum reform at pre-primary and primary levels to improve the teaching of competences. A comprehensive approach to this reform, stakeholder involvement, substantial teacher training and support, and monitoring and evaluation from an early stage, will be critical to achieving the required results. Improving the quality and relevance of initial teacher education, also in the context of inclusive education, the attractiveness of the teaching profession and the selection criteria for accessing the teaching profession could contribute to a better quality of teaching and ensure the reform has a long-lasting effect.

Persistently low enrolment in science, technology, engineering and mathematics study programmes (STEM) is limiting the talent pool, including digital and green skills and competences,

([25]) Compared to 2018, the proportion of low achievers increased by 8.3 percentage points (pps) in mathematics (EU: 6.6 pps), 7.5 pps in reading (EU: 3.7 pps), and 4.8 pps in science (EU: 2 pps).

and restricting innovation capacity in Poland. The proportion of higher education students in STEM study programmes has decreased over recent years, with Poland sliding further below the EU average (21.1% vs EU 27.1%). The enrolment rate in natural sciences remains particularly low (see Annex 12). Although the economy needs more innovation and high-skilled specialists (scientists, teachers, ICT specialists and engineers), skills and labour shortages persist especially in STEM fields and in sectors relevant for the green and digital transition. The proportion of companies which reported a labour shortage as a significant limiting factor for production was very high, reaching 63% in manufacturing in Q4-2024 (EU average of 18%), 57.4% in services (EU average of 26.8%) and 72.2% in construction (EU average of 26%) ([26]). 65% of employers indicate skills shortages as the main barrier to transformation and expect talent availability to worsen in the next five years ([27]). Furthermore, 82% of small to medium-sized enterprises report facing skills shortages, and 88% have struggled to retain skilled workers ([28]). The macroeconomic skills mismatch in Poland rose to 22.3 in 2023, against a decreasing trend in the EU (from 20.2 in 2022 to 19.6 in 2023) ([29]). On upskilling and reskilling needs for the green transition, there are shortages in occupations such as building structure cleaners, insulation workers and roofers ([30]) (see Annexes 10 and 12). Improving teaching quality in science, technology, engineering and mathematics in schools is needed, while promoting their learning as from early childhood education and care would encourage interest from an early age. Such efforts could be further supported by raising awareness across the whole of society about the importance of science, technology, engineering and mathematics learning.

Improving the quality and relevance of higher education is a significant challenge. Poland's system for evaluating the scientific output of higher education institutions is not entirely reliable or transparent ([31]). The proportion of Polish graduates with a PhD is low, which is limiting the innovation talent pool. Moreover, careers in academia are generally unattractive, contributing to a rise in the average age of academic staff ([32]). Improving the evaluation system and the quality assurance within the higher education sector alongside more attractive careers in academia would help ensure that the necessary talent pool is created, and optimise investment in a context of declining student numbers.

([26]) European Commission Business and Consumer Survey, publication date 8 January 2025.

([27]) https://www.weforum.org/publications/the-future-of-jobs-report-2025/.

([28]) European Year of Skills - Skills shortages, recruitment and retention strategies in small and medium-sized enterprises - September 2023 - - Eurobarometer survey

([29]) This indicator highlights the comparably greater difficulty for low- and medium-skilled workers to enter the labour market, as compared to the high-skilled workers.

([30]) European Labour Authority *EURES Report on labour shortages and surpluses 2024*, 2025, based on data from EURES National Coordination Offices. Skills and knowledge requirements align with the ESCO taxonomy on skills for the green transition, with examples analysed using the ESCO green intensity index.

([31]) Under the evaluation system, small higher education institutions in a specific discipline or with new faculties score disproportionately better than well-established, larger institutions, resulting in a financial impact on the latter.

([32]) Academic staff aged 25-34 made up only 14.1% of total academic staff in 2022 (EU 20.9%). ESTAT educ_uoe_perpo1.

Encouraging adult learning and improving the effectiveness of vocational education and training

Low levels of adult learning participation are contributing to skills mismatches hampering the digital and green transition, which in turn is limiting Poland's competitiveness. In contrast to the EU trend, rates of adult learning participation in Poland are falling. In 2022, some one in five adults pursued adult learning over the course of the previous 12 months, compared to an EU average of almost 40% (see Annex 12). Poland's national target for adult learning of 51.7% by 2030 seems currently out of reach. Increasing the level of adult learning is important for closing skills gaps and mismatches. A shrinking labour force and growing skills shortages are exacerbating the situation, while businesses have indicated a lack of skilled workers as a barrier to investment (see Annex 12). Shortages are particularly acute in science, technology, engineering and mathematics, digital skills, and skills needed for the green transition. Poland's vocational education and training system is lacking in effectiveness, significantly undermining the supply of skills which are in demand, reducing the employability of graduates and putting them at greater risk of unemployment and social exclusion.

Important policy measures to enhance lifelong learning are being financed under cohesion policy and the Recovery and Resilience Facility. Poland aims to increase adult learning through reinforced cooperation and coordination across ministries and local governments. To improve the supply of green skills, Poland is creating sectoral qualification frameworks. Poland is also developing a strategic framework for digital skills. Using investments financed under the Recovery and Resilience Facility, Poland is in the process of setting up 120 Sectoral Skills Centres aimed at encouraging the development of green and digital skills. Regional coordination teams for vocational education and training and lifelong learning have been established with support from the Recovery and Resilience Facility with a view to improving the coordination of skills policies at regional level. However, there is no clear ownership of adult learning policies at government level. Despite action taken to promote adult learning, mostly financed by the EU, Poland is still no closer to achieving its 2030 national skills target.

Better coordination, monitoring and evaluation, as well as better facilitation by employers, can help increase the rate of adult learning participation. Poland's working group on skills development could be a starting point for establishing a well-coordinated and effective governance structure for adult learning. Ultimately, the structure should arrive at clearly defined and complementary roles and responsibilities for all parties involved, with cooperation between the ministries with responsibilities for labour and education, implementing organisations and social partners. By evaluating measures, evidence-based policymaking can be supported and the efficiency and effectiveness of planned/existing measures can be improved. The 2023 amendment to the Labour Code also offers the potential to bolster adult learning as it specifies the circumstances in which employers must inform employees of their right to training, cover the cost of employees' training and provide such training during working hours.

An individual learning accounts scheme is currently being piloted with support from the European Social Fund Plus. The pilot project covers all adults between 18-

69 years of age regardless of their employment status and is being rolled out in selected regions. Individuals receive training entitlements and are able to choose which training they take part in according to their needs from a range of courses published in an easily accessible portal, the Development Services Database (BUR). However, to create an effective individual learning accounts (ILA) scheme, it is important to embed the ILAs in an enabling framework and to underpin the scheme with adequate funding to ensure its sustainability in the longer term. To drive the scheme further, training entitlements could be accompanied by other enabling measures such as paid training leave. Paid training leave could offer adults an incentive to take up training by letting them keep their salary or by providing income replacement during periods of training. To ensure consistency, the ILA scheme could be integrated with existing schemes, such as training vouchers for lifelong learning offered to unemployed persons and jobseekers. It would also be useful to develop a comprehensive monitoring framework enabling, for example, the tracking of long-term outcomes of ILAs, and quality and performance assessments of training courses. Engagement of social partners and relevant stakeholders is critical to ensuring adequate and sustainable funding for ILAs beyond the pilot phase through a combination of public and private financing.

Labour market participation among disadvantaged groups is increasing, however gaps remain

Poland's labour market performance is strong but will face challenges in the future. Poland's employment rate (persons aged 20-64) hit 78.4% in 2024, surpassing its 2030 target of 78.3%, while unemployment was at 2.9%, making Poland one of the EU's strongest performers. Nevertheless, with an ageing society and increasing labour shortages, labour market integration of underrepresented groups will be important in the future. Between 2022 and 2070, Poland's population is expected to decline by 16%, four times the EU average, leading to a 9.8 percentage point decrease in the working-age labour force – even with increased labour market participation and migration – significantly impacting the labour supply and underscoring the need to bring more people into the labour market. The primary causes of Poland's ageing society are its historically low fertility rate (1.29 compared to an EU average of 1.46 in 2022) and changes in its population structure (see Annex 10).

Obstacles to increasing the labour market participation of women remain, although progress has been made. Low labour market participation of women is hampering economic growth and highlights the existence of gender disparities caused by insufficient childcare and long-term care services, especially in rural areas (see Annexes 10 and 11). Despite investments under the European Social Fund Plus and the Recovery and Resilience Facility, the percentage of children under 3 years of age in formal childcare has fallen in recent years and is far below the EU average (see Annex 10). Poland is also well below the EU average in terms of the provision of public long-term care services (3.4% compared to an EU average of 5.8% in 2019), with responsibility for care mainly assumed by families (see Annex 11). To increase the number of women in work, it is important to invest in expanding the female workforce, enhancing their qualifications and improving working conditions. Additionally, efforts should

focus on ensuring that the most disadvantaged children and parents have access to high-quality childcare. Poland recently adopted several measures which are now being rolled out. It has reformed carer's leave with the aim of more evenly distributing the care burden. It has also reformed parental leave and paternity leave and is rolling out the Active Toddler programme with support from the European Social Fund Plus and the Recovery and Resilience Facility which will significantly increase the number of places available in early childhood education and care. Reform priorities in the area of long-term care include increasing access to high-quality, affordable and accessible community-based long-term care services, and improving working conditions and work-life balance for carers (see Annex 11).

The disability employment gap has widened further in recent years to 35.6% and is now one of the largest in the EU. This is partly due to the absence of a legal basis for supported employment and a lack of knowledge and skills among employers on how to integrate persons with disabilities in the workplace. Although Poland has set itself a target to increase the number of persons with disabilities in employment, no concrete and measurable actions have been so far implemented for employers and other stakeholders. The newly launched project to develop a model of supported employment and prepare for its introduction as a labour market instrument, is a positive step. To further support persons with disabilities, measures for helping them find employment could be strengthened, for example by tapping into the full potential of the social economy to create economic opportunities and promote social inclusion and integration of disadvantaged groups. Furthermore, the education gap between persons with disabilities and persons without, in particular in higher education, is wide (21.4 pps compared to an EU average of 11.3 pps). To address the challenges faced by young persons with disabilities in acquiring competitive skills and transitioning to the labour market, Poland's current policy priority, reform measures and investments in inclusive education would benefit from an inclusive education and training strategy.

Social dialogue

Meaningful involvement of Polish social partners in designing and implementing policies could increase competitiveness and reduce labour market inequalities. In Poland, there are still regular violations of internationally recognised labour rights ([33]). Meanwhile collective bargaining coverage has been on a downward trend since the 2000s, with Poland now registering one of the lowest levels of coverage in the EU (see Annex 10). Laws on collective labour agreements and the minimum wage, presented in June 2024 are still under review and have not yet been submitted to Parliament. According to Polish social partners, the proposed legislation on collective agreements fails to offer real incentives to encourage collective bargaining. However, the Polish government is also planning to adopt legislation amending the Social Dialogue Council (RDS) in the second quarter of 2025 which may be a step in the right direction. To make social dialogue more inclusive and enable more effective public consultations, it would be helpful to broaden the scope of the Social Dialogue Council, increase social partners' legislative rights and extend the

([33]) International Trade Union Confederation (ITUC): https://www.ituc-csi.org/IMG/pdf/2024_ituc_global_rights_index_en.pdf.

parties represented in the Council. Collective bargaining on important issues such as technological innovation, new forms of work organisation and lifelong learning could be enhanced by measures such as incentives to encourage collective bargaining. Other possible measures include extending the types of collective agreements available and reducing the number of areas not covered by collective agreements.

An affordable and efficient housing market

Poland's housing shortage is causing house prices and rent to rise. Poland is faced with an acute housing shortage, which has resulted in spiralling house price and rental inflation. Since 2015, house prices and rent have increased by 107% and 66% respectively, far exceeding the EU average and slightly exceeding household income growth ([34]). This increase has been particularly marked in Poland's larger cities and metropolitan areas. Economic uncertainties have further contributed to price increases. With the second highest real mortgage interest rates in Q3-2024 in the EU ([35]), Poland's housing situation is especially challenging for first-time buyers and renters – primarily young people – decreasing their mobility and making planning for the future more difficult.

More investment in housing and new policy measures could help to address Poland's insufficient housing supply. In Poland, investment in housing is the lowest in the EU (2.2% of GDP compared to an EU average of 5.8% in 2023), while the rate of overcrowded households is one of the highest. Between 2020 and 2024 housing market shocks were observed (such as the COVID-19 pandemic, Russian war in Ukraine, energy crisis), while affordable mortgage programme ("Bezpieczny Kredyt 2%") fuelled additional demand in face of supply bottlenecks, which altogether contributed to rapid housing price rises. Since 2022, Poland has seen a slowdown in the housing supply which may have contributed to higher nominal house prices and warrants closer monitoring. Between 2021- 2023 construction producer prices for new residential buildings increased by 25%, exceeding the EU average of 20%, while the number of building permits for new dwellings decreased by 30% (compared to an EU average decrease of 23%). Housing measures already in place, such as subsidies for municipalities to build social housing and a preferential loans programme for social housing cooperatives, could be expanded to increase investment in housing, create a larger stock of affordable housing and increase competition with the private housing stock and private rental properties (see Annex 11).

([34]) Housing in Europe – 2024 edition; Eurostat housing statistics. Eurostat: https://ec.europa.eu/eurostat/web/interactive-publications/housing-2024#housing-cost.

([35]) The global cost of homes in 2024. Best Brokers https://www.bestbrokers.com/forex-brokers/the-global-cost-of-homes-in-2024-comparing-the-real-mortgage-interest-rates-and-home-prices-around-the-world/.

KEY FINDINGS

To boost competitiveness, sustainability and social fairness, Poland would benefit from:

- **accelerating the implementation of the recovery and resilience plan**, including the REPowerEU chapter; swiftly implementing **cohesion policy**, taking advantage of the opportunities under the mid-term review and making optimal use of EU instruments, including **InvestEU** and **STEP**, to improve competitiveness;

- **increasing the efficiency of public spending** by focusing social programmes on lower-income and at-risk groups and strengthening the efficiency of public investment through more coordinated and transparent planning and systematic evaluations;

- **addressing the challenges of an ageing population** by increasing the effective retirement age and equalising the retirement age for men and women to ensure the sustainability and adequacy of pensions, reforming preferential pension schemes, and strengthening the healthcare system;

- **ensuring an effective institutional and regulatory framework** by simplifying legislation and reducing unnecessary bureaucracy, simplifying the tax framework, and strengthening social dialogue;

- **increasing the digital intensity** of businesses by accelerating the adoption of digital technologies, including those with a high impact on productivity, particularly among small to medium-sized enterprises, and improving digitalisation of the public sector;

- **enhancing innovation through stronger science-business collaboration and an attractive research career system** by carrying out a comprehensive review of existing instruments, boosting R&D investment, increasing incentives for researchers to cooperate with industry and tapping into regional innovation ecosystems;

- **reducing reliance on fossil fuels** by improving energy efficiency, phasing out fossil fuel subsidies, advancing the transition of the district heating sector, and taking further measures to decarbonise the transport sector;

- **addressing the impact of energy prices on households and competitiveness** by accelerating further grid investments, improving grid flexibility through the promotion of demand side response, increased energy storage capacities and enhanced cross border electricity trading, promoting the deployment of renewables, and reducing the tax burden on clean energy;

- **addressing the growing risk of drought and floods** by improving the coordination of policies that affect water resources, making better use and protecting the capacity of river valleys, forests, peatlands and farmland to retain water in the landscape;

- **reversing the decline in basic skills and reducing inequalities** in school

education by ensuring the efficient implementation of the curriculum reform, enhancing literacy and numeracy in vocational programmes, and improving the quality of teacher training;

- **increasing participation in science, technology, engineering and mathematics in higher education** by improving the quality of teaching in these disciplines in schools, enhancing career guidance and promoting science, technology, engineering and mathematics learning from an early age;

- **addressing skills shortages, particularly digital skills and basic skills among adults,** increasing participation in adult learning through providing more support by employers and a strengthened VET system;

- **increasing labour market participation of persons with disabilities and women** by better targeting measures to support disadvantaged groups, continuing to improve the quality of and access to formal home- and community-based long-term care and early childhood education and care.

ANNEXES

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ANNEX 1: FISCAL SURVEILLANCE AND DEBT SUSTAINABILITY

This Annex contains a series of tables relevant for the assessment of the fiscal situation in Poland, including how Poland is responding to Council recommendations issued under the reformed Economic Governance Framework.

The reformed framework, which entered into force on 30 April 2024([36]), aims to strengthen debt sustainability and promote sustainable and inclusive growth through growth-enhancing reforms and priority investments. The medium-term fiscal-structural plans (hereinafter, MTPs or plans) constitute the cornerstone of the framework, setting the budgetary commitment of Member States over the medium term. The latter is defined in terms of net expenditure growth, which is the single operational indicator for fiscal surveillance.

Poland submitted its plan on 9 October 2024. The plan covers the period until 2028, presenting a fiscal adjustment over four years. On 21 January 2025, the Council adopted the Recommendation endorsing Poland's plan([37]). On 21 January 2025, the Council also adopted a Recommendation under Article 126(7) TFEU ([38]) to correct the excessive deficit in Poland. The corrective net expenditure path recommended by the Council under the excessive deficit procedure is consistent with the path set out in the plan.

The assessment of the implementation of the Council Recommendation endorsing Poland's plan is carried out on the basis of outturn data from Eurostat and the Commission's Spring 2025 Forecast and taking into account the Annual Progress Report (APR) that Poland submitted on 30 April 2025. Furthermore, given Poland's request to activate the National Escape Clause ([39]) in accordance with the Commission Communication of 19 March 2025 ([40]), the assessment also considers, as appropriate, the projected increase in defence expenditure based on the Commission Spring 2025 Forecast.

The Annex is organised as follows. First, developments in **government deficit and debt** are presented based on the figures reported in table A1.1. Then, the assessment of the **implementation of the Council Recommendation to correct the excessive deficit and of the Council Recommendation endorsing the plan** follows, based on the relevant figures presented in Tables A1.2 to A1.9, including data on defence expenditure.

([36]) Regulation (EU) 2024/1263 of the European Parliament and of the Council (EU) on the effective coordination of economic policies and on multilateral budgetary surveillance, together with the amended Regulation (EC) No 1467/97 on the implementation of the excessive deficit procedure, and the amended Council Directive 2011/85/EU on the budgetary frameworks of Member States are the core elements of the reformed EU economic governance framework.

([37]) OJ C, C/2025/642, 10.02.2025, ELI: http://data.europa.eu/eli/C/2025/642/oj.

([38]) Council Recommendation with a view to bringing an end to the situation of an excessive deficit in Poland, C/2025/5037.

([39]) On 30 April 2025, Poland requested to the Commission the activation of the National Escape Clause. On this basis, the Commission adopted a Recommendation COM/2025/611.

([40]) Communication from the Commission accommodating increased defence expenditure within the Stability and Growth Pact of 19 March 2025, C(2025) 2000 final.

The Annex also provides information on the **cost of ageing** and the **national fiscal framework**. Fiscal sustainability risks are discussed in the Debt Sustainability Monitor 2024([41]).

Developments in government deficit and debt

Poland's government deficit amounted to 6.6% of GDP in 2024. Based on the Commission's Spring 2025 Forecast, it is projected to decrease to 6.4% in 2025. The government debt-to-GDP ratio amounted to 55.3% at the end of 2024 and, according to the Commission, it is projected to increase to 58.0% by the end of 2025.

Table A1.1: **General government balance and debt**

	Variables		2024	2025		2026	
			Outturn	APR	COM	APR	COM
1	General government balance	%GDP	-6.6	-6.3	-6.4	n.a.	-6.1
2	General government gross debt	%GDP	55.3	57.8	58.0	n.a.	65.3

Source: Commission Spring 2025 Forecast (COM), Annual Progress Report (APR).

Developments in net expenditure

The net expenditure([42]) growth of Poland in 2025 is forecast by the Commission([43]) to be below the recommended maximum. Considering 2024 and 2025 together, the cumulative growth rate of net expenditure is projected to be above the recommended maximum cumulative growth rate, corresponding to a deviation of less than 0.1% of GDP.

Table A1.2: **Net expenditure growth**

	Annual			Cumulative*		
	REC	APR	COM	REC	APR	COM
	Growth rates					
2024	n.a.	12.7%	12.7%	n.a.	n.a.	n.a.
2025	6.3%	5.8%	6.2%	19.6%	19.2%	19.7%
2026	4.4%	n.a.	5.4%	24.9%	n.a.	26.1%

* The cumulative growth rates are calculated by reference to the base year of 2023.

Source: Council Recommendation to correct the excessive deficit in Poland, Annual Progress Report (APR), and Commission Spring 2025 Forecast (COM).

([41]) European Commission (2025) 'Debt Sustainability Monitor 2024,' *European Economy-Institutional Papers* 306.

([42]) Net expenditure is defined in Article 2(2) of Regulation (EU) 2024/1263 as government expenditure net of (i) interest expenditure, (ii) discretionary revenue measures, (iii) expenditure on programmes of the Union fully matched by revenue from Union funds, (iv) national expenditure on co-financing of programmes funded by the Union, (v) cyclical elements of unemployment benefit expenditure, and (vi) one-off and other temporary measures.

([43]) Commission Spring 2025 Forecast, *European Economy-Institutional paper 318*, May 2025.

The assessment of the net expenditure growth and, in particular, the comparison with the recommended net expenditure path considers that Poland has requested the activation of the national escape clause to facilitate transitioning to a higher level of defence expenditure. General government defence expenditure in Poland amounted to 1.6% of GDP in 2021, 1.6% of GDP in 2022 and 2.0% of GDP in 2023 ([44]). According to the Commission 2025 Spring Forecast, expenditure on defence is projected to amount to 2.7% of GDP in 2024 and 2.8% of GDP in 2025. Based on current projections for defence spending, the deviation that is projected for Poland is within the flexibility provided by the national escape clause.

Table A1.3: **Net expenditure (outturn and forecast), annual and cumulated deviations vis-à-vis the recommendation**

	Variables		2023	2024	2025	2026
			Outturn	Outturn	COM	COM
1	Total expenditure	bn NAC	1600.5	1799.2	1967.2	2104.1
2	Interest expenditure	bn NAC	70.8	80.2	99.8	111.1
3	Cyclical unemployment expenditure	bn NAC	-0.1	0.1	0.0	-0.1
4	Expenditure funded by transfers from the EU	bn NAC	46.0	34.8	71.7	83.8
5	National co-financing of EU programmes	bn NAC	14.0	9.3	9.7	12.0
6	One-off expenditure (levels, excl. EU funded)	bn NAC	0.0	2.4	3.7	0.0
7=1-2-3-4-5-6	**Net nationally financed primary expenditure (before discretionary revenue measures, DRM)**	**bn NAC**	**1469.9**	**1672.4**	**1782.3**	**1897.2**
8	Change in net nationally financed primary expenditure (before DRM)	bn NAC		202.5	109.9	114.8
9	DRM (excl. one-off revenue, incremental impact)	bn NAC		15.4	6.7	19.4
10=8-9	**Change in net nationally financed primary expenditure (after DRM)**	**bn NAC**		**187.1**	**103.2**	**95.4**
11	Outturn / forecast net expenditure growth	% change		12.73%	6.2%	5.4%
12	Recommended net expenditure growth*	% change		12.5%	6.3%	4.4%
13=(11-12) x 7	Annual deviation	bn NAC		3.4	-2.1	17.0
14 (cumulated from 13)	Cumulated deviation	bn NAC		3.4	1.2	18.3
15=13/17	**Annual balance**	**% GDP**		0.1	**-0.1**	**0.4**
16=14/17	**Cumulated balance**	**% GDP**		0.1	**0.0**	**0.4**
17	p.m. Nominal GDP	bn NAC	3415.3	3641.2	3919.1	4161.1

* The growth rate for 2024 is not a recommendation but serves to anchor the base, as the latest year with outturn data when setting the net expenditure path is year 2023.

Source: Commission Spring 2025 Forecast and Commission's calculation.

Table A1.4: **Defence expenditure and the national escape clause**

			2021	2022	2023	2024	2025	2026
1	Total defence expenditure	% GDP	1.6	1.6	2.0	2.7	2.8	2.7
2	*of which: gross fixed capital formation*	% GDP	0.3	0.0	0.6	1.2	1.3	1.2
3	Flexibility from increases in defence expenditure	% GDP					1.2	1.2
4	**Cumulated balance after flexibility**	**% GDP**					**-1.2**	**-0.7**

Source: Eurostat (COFOG), Commission Spring 2025 Forecast and Commission's calculation.

([44]) Eurostat, government expenditure by classification of functions of government (COFOG).

Table A1.5: **Macroeconomic developments and forecasts**

	Variables		2024	2025		2026	
			Outturn	APR	COM	APR	COM
1=7+8+9	**Real GDP**	**% change**	**2.9**	**3.7**	**3.3**	**n.a.**	**3.0**
2	Private consumption	% change	3.0	3.3	3.4	n.a.	2.8
3	Government consumption expenditure	% change	8.2	3.2	2.8	n.a.	3.2
4	Gross fixed capital formation	% change	-2.2	8.9	6.9	n.a.	5.3
5	Exports of goods and services	% change	2.0	2.4	1.6	n.a.	2.3
6	Imports of goods and services	% change	4.2	3.8	3.0	n.a.	3.1
	Contributions to real GDP growth						
7	- Final domestic demand	pps	2.9	4.2	3.7	n.a.	3.2
8	- Change in inventories	pps	1.1	0.2	0.1	n.a.	0.0
9	- Net exports	pps	-1.1	-0.5	-0.6	n.a.	-0.2
10	Output gap	% pot GDP	-0.8	-0.2	-0.3	n.a.	0.0
11	Employment	% change	-0.7	0.4	0.1	n.a.	0.3
12	Unemployment rate	%	2.9	3.0	2.8	n.a.	2.8
13	Labour productivity	% change	3.7	3.3	3.2	n.a.	2.7
14	HICP	% change	3.7	4.5	3.6	n.a.	2.8
15	GDP deflator	% change	3.6	4.1	4.2	n.a.	3.1
16	Compensation of employees per head	% change	12.3	2.4	6.2	n.a.	4.8
17	Net lending/borrowing vis-à-vis the rest of the world	% GDP	0.5	n.a.	1.3	n.a.	1.0

Source: Commission Spring 2025 Forecast (COM), Annual Progress Report (APR)

Table A1.6: **General government budgetary position**

	Variables (% GDP)	2024	2025		2026	
		Outturn	APR	COM	APR	COM
1=2+3+4+5	**Revenue**	**42.8**	**44.0**	**43.8**	**n.a.**	**44.4**
	of which:					
2	- Taxes on production and imports	14.5	14.3	14.3	n.a.	14.6
3	- Current taxes on income, wealth, etc.	7.8	8.3	8.1	n.a.	8.4
4	- Social contributions	15.2	15.2	15.1	n.a.	15.0
5	- Other (residual)	5.3	6.2	6.3	n.a.	6.5
8=9+16	**Expenditure**	**49.4**	**50.3**	**50.2**	**n.a.**	**50.6**
	of which:					
9	- Primary expenditure	47.2	47.8	47.6	n.a.	47.9
	of which:					
10	- Compensation of employees	11.5	11.5	11.5	n.a.	11.5
11	- Intermediate consumption	6.7	6.6	6.6	n.a.	6.7
12	- Social payments	19.4	19.9	20.0	n.a.	20.1
13	- Subsidies	1.2	0.7	0.7	n.a.	0.6
14	- Gross fixed capital formation	4.9	5.2	5.1	n.a.	5.2
15	- Other	3.5	3.9	3.7	n.a.	3.8
16	- Interest expenditure	2.2	2.5	2.5	n.a.	2.7
18=1-8	**General government balance**	**-6.6**	**-6.3**	**-6.4**	**n.a.**	**-6.1**
19=1-9	**Primary balance**	**-4.4**	**-3.8**	**-3.8**	**n.a.**	**-3.4**
20	Cyclically adjusted balance	-6.2	n.a.	-6.2	n.a.	-6.1
21	One-offs	-0.1	-0.1	-0.1	n.a.	0.0
22=20-21	**Structural balance**	**-6.1**	**-6.2**	**-6.1**	**n.a.**	**-6.1**
23=22+16	Structural primary balance	-3.9	-3.6	-3.6	n.a.	-3.4

Source: Commission Spring 2025 Forecast (COM), Annual Progress Report (APR)

Table A1.7: **Debt developments**

	Variables	2024	2025		2026	
		Outturn	APR	COM	APR	COM
1	**Gross debt ratio* (% of GDP)**	**55.3**	**57.8**	**58.0**	**n.a.**	**65.3**
2=3+4+8	Change in the ratio (pps. of GDP)	5.7	2.6	2.8	n.a.	7.3
	Contributions**					
3	**Primary balance**	**4.4**	**3.8**	**3.8**	**n.a.**	**3.4**
4≈5+6+7	**'Snow-ball' effect**	**-0.9**	**-1.4**	**-1.4**	**n.a.**	**-0.7**
	of which:					
5	- Interest expenditure	2.2	2.5	2.5	n.a.	2.7
6	- Real growth effect	-1.4	-1.9	-1.7	n.a.	-1.6
7	- Inflation effect	-1.7	-2.1	-2.2	n.a.	-1.8
8	**'Stock-flow' adjustment**	**2.2**	**0.2**	**0.3**	**n.a.**	**4.6**

* End of period.

** The 'snow-ball' effect captures the impact of interest expenditure on accumulated general government debt, as well as the impact of real GDP growth and inflation on the general government debt-to-GDP ratio (through the denominator). The stock-flow adjustment includes differences in cash and accrual accounting (including leads and lags in Recovery and Resilience Facility grant disbursements), accumulation of financial assets, and valuation and other residual effects.

Source: Commission Spring 2025 Forecast and Commission's calculation (COM), Annual Progress Report (APR)

Table A1.8: **RRF – Grants**

	Revenue from RRF grants (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
1	RRF grants as included in the revenue projections	n.a.	0.0	0.0	0.1	0.3	1.5	0.9
2	Cash disbursements of RRF grants from EU	n.a.	0.0	0.0	0.1	0.8	0.4	1.4

	Expenditure financed by RRF grants (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
3	Total current expenditure	0.0	0.0	0.0	0.1	0.2	0.6	0.3
4	Gross fixed capital formation	0.0	0.0	n.a.	n.a.	n.a.	n.a.	n.a.
5	Capital transfers	0.0	0.0	n.a.	n.a.	n.a.	n.a.	n.a.
6=4+5	Total capital expenditure	0.0	0.0	0.0	0.0	0.1	0.9	0.6

	Other costs financed by RRF grants (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
7	Reduction in tax revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Other costs with impact on revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Financial transactions	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Annual Progress Report.

Table A1.9: **RRF - Loans**

	Cash flow from RRF loans projected in the Plan (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
1	Disbursements of RRF loans from EU	n.a.	0.0	0.0	0.6	1.0	0.3	1.8
2	Repayments of RRF loans to EU	n.a.	0.0	0.0	0.0	0.0	0.0	n.a.

	Expenditure financed by RRF loans (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
3	Total current expenditure	0.0	0.0	0.0	0.0	0.0	0.5	1.6
4	Gross fixed capital formation	0.0	0.0	0.0	0.0	n.a.	n.a.	n.a.
5	Capital transfers	0.0	0.0	0.0	0.0	n.a.	n.a.	n.a.
6=4+5	Total capital expenditure	0.0	0.0	0.0	0.0	0.1	0.5	1.0

	Other costs financed by RRF loans (% of GDP)							
		2020	2021	2022	2023	2024	2025	2026
7	Reduction in tax revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Other costs with impact on revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Financial transactions	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Annual Progress Report.

Cost of ageing

Total age-related spending in Poland is projected to rise from about 20% of GDP in 2024 to 21% by 2070 (see Table A1.10**).** The overall increase is due to healthcare and long-term care spending, with a decline expected for pension expenditure at unchanged policy. Public pension spending is projected to follow a downward trend over the next decades. The pension expenditure-to-GDP ratio would fall by 0.9 pps, of which 0.4 pps by 2040, from 11% of GDP in 2024 to 10.1% in 2070.

Public healthcare expenditure is projected at 4.4% of GDP in 2024 (below the EU average of 6.6%) and is expected to increase by 0.6 pps by 2040 and by a further 0.5 pps by 2070 ([45]). Public expenditure on long-term care is projected at 0.5% of GDP in 2024 (well below the EU average of 1.7%) and is expected to increase by 0.3 pps of GDP by 2040 and by a further 0.6 pps of GDP by 2070 ([46]).

Table A1.10: **Projected change in age-related expenditure in 2024-2040 and 2024-2070**

	age-related expenditure 2024 (% GDP)	change in 2024-2040 (pps GDP) due to: pensions	healthcare	long-term care	education	total	age-related expenditure 2040 (%GDP)	
PL	19.8	-0.4	0.6	0.3	-0.2	**0.3**	20.1	PL
EU	24.3	0.5	0.3	0.4	-0.3	**0.9**	25.2	EU

	age-related expenditure 2024 (% GDP)	change in 2024-2070 (pps GDP) due to: pensions	healthcare	long-term care	education	total	age-related expenditure 2070 (%GDP)	
PL	19.8	-0.9	1.1	0.9	0.1	**1.1**	21.0	PL
EU	24.3	0.2	0.6	0.8	-0.4	**1.3**	25.6	EU

Source: 2024 Ageing Report (EC/EPC).

([45]) Key performance characteristics, recent reforms and investments of the Polish healthcare system are discussed in Annex 14 'Health and health systems'.

([46]) The adequacy and quality of the Polish long-term care system are covered in Annex 11 'Social policies'.

National fiscal framework

Poland is the only Member State that does not yet have an independent fiscal institution. However, Poland is currently in the process of setting one up and it is expected to be fully operational as of 2026.

Procedures for assessing and selecting public investment projects and carrying out ex post reviews are weak. Standardised methodologies for project assessments are only in place for EU-financed investments but could be applied to all major government funded investments. Project selection procedures vary across ministries. There are no standard criteria for project selection and prioritisation at central government level ([47]). Ex post reviews focused on implementation policies and procedures are often only required for EU-financed investments. After sufficient time since a project started delivering (e.g. three to five years), a comprehensive ex-post review can be carried out to assess the strategic performance. In Poland, ex-post reviews are neither systematically required, not frequently conducted.

Table A1.11: **Fiscal Governance Database Indicators**

2023	Poland	EU Average
Country Fiscal Rule Strength Index (C-FRSI)	13.05	14.52
Medium-Term Budgetary Framework Index (MTBFI)	0.38	0.73

The Country Fiscal Rule Strength Index (C-FRSI) shows the strength of national fiscal rules aggregated at the country level based on i) the legal base, ii) how binding the rule is, iii) monitoring bodies, iv) correction mechanisms, and v) resilience to shocks. The Medium-Term Budgetary Framework Index (MTBFI) shows the strength of the national MTBF based on i) coverage of the targets/ceilings included in the national medium-term fiscal plans; ii) connectedness between these targets/ceilings and the annual budgets; iii) involvement of the national parliament in the preparation of the plans; iv) involvement of independent fiscal institutions in their preparation; and v) their level of detail. A higher score is associated with higher rule and MTBF strength.
Source: Fiscal Governance Database.

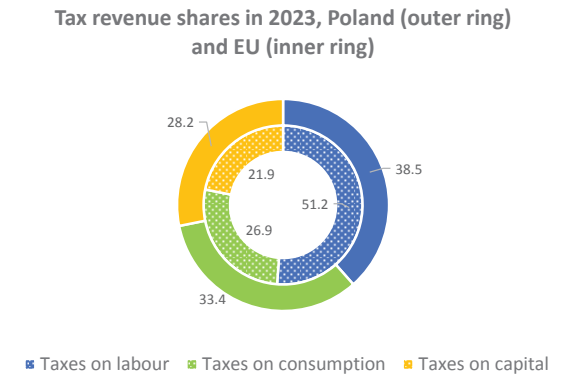
([47]) IMF, 2022, Poland technical assistance report public investment management assessment, IMF Country Report no. 22/321.

This annex provides an indicator-based overview of Poland's tax system. It includes information on: (i) the tax mix; (ii) competitiveness and fairness aspects of the tax system; and (iii) tax collection and compliance.

Poland's tax revenues are relatively low in relation to GDP and rely on consumption taxes more than the EU average. Table A2.1 shows that Poland's tax revenues expressed as a percentage of GDP were considerably below the EU aggregate in 2023. Poland's tax mix has a relatively low reliance on labour taxation (equivalent to 13.5% of Polish GDP compared with an EU average of 20% in 2023) but a greater reliance on consumption taxes than the EU average (equivalent to 11.7% of GDP compared with an EU average of 10.5%).

Poland has untapped potential to tax property and scope to improve environmental sustainability. Property taxation is underutilised, being significantly below the EU aggregate (1.4% of GDP vs an EU average of 1.9%). In 2023, the share of revenues from taxes on capital in Poland increased (to 9.9% of GDP), surpassing the EU average (8.5%). Although Poland's revenues from environmental taxes as a share of GDP are above the EU average (2.6% of Polish GDP), energy taxes account for the largest share of these environmental taxes (making up 7.4% of total tax revenue in Poland and 91.3% of Polish environmental taxes). To strengthen the application of the 'polluter pays' principle, Poland could consider introducing stricter vehicle-emission taxes to promote cleaner transportation (transport taxes make up only 0.5% of tax revenue). Poland also needs to update its system for vehicle taxation to ensure that it reflects emissions and environmental impact. This point was also reflected in the 2025 OECD Economic Survey ([48]). There is also scope to increase pollution and resource taxes (they only account for 0.3% of total tax revenues in Poland at present), in particular by expanding taxes on waste disposal (including incineration) or introducing taxes on: (i) NOx emissions; (ii) discharges of waste into water; (iii) fertilisers; and (iv) pesticides. Poland's carbon-tax rate remains significantly lower than the EU average (EUR 68 per tonne of CO_2 equivalent vs an EU average of EUR 84.80 per tonne).

Graph A2.1: **Tax revenue shares in 2023**



Source: Taxation Trends Data, DG TAXUD

The corporate tax burden in Poland is relatively low. Poland's forward-looking average effective corporate tax rate, which indicates the expected tax burden for investment, was 12.2% in 2023, significantly below the EU average of 18.9%. Poland's standard corporate-income tax (CIT) rate is 19%, also below the EU average (which is around 21%), and 21 pps lower than in 1995, when Poland's standard CIT rate was 40%. Since 1 January 2025, the new rules related to the transposition of the Pillar 2 Directive on global minimum corporate tax have been in force. Poland has various tax incentives in place, including special economic zones, incentives for R&D, tax deductions for investment, and a 'patent box' regime. The Polish Deal (Polski Ład), a package of reforms adopted by the government in 2022, ([49]) introduced several reforms and tax incentives to improve the country's investment climate,

([48]) https://www.oecd.org/en/publications/oecd-economic-surveys-poland-2025_483d3bb9-en.html.

([49]) https://www.gov.pl/web/primeminister/the-polish-deal--a-real-profit-for-18-million-poles

Table A2.1: **Taxation indicators**

		Poland					EU-27				
		2010	2021	2022	2023	2024	2010	2021	2022	2023	2024
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	31.4	36.3	34.1	35.1		37.8	40.2	39.7	39.0	
By tax base	Taxes on labour (% of GDP)	11.9	14.1	13.4	13.5		19.8	20.5	20.1	20.0	
	of which, social security contributions (SSC, % of GDP)	10.8	12.8	12.7	13.3		12.9	13.0	12.7	12.7	
	Taxes on consumption (% of GDP)	12.4	13.3	12.0	11.7		10.9	11.2	10.9	10.5	
	of which, value added taxes (VAT, % of GDP)	7.6	8.5	7.2	7.3		6.8	7.3	7.4	7.1	
	Taxes on capital (% of GDP)	7.2	8.9	8.8	9.9		7.1	8.5	8.7	8.5	
Some tax types	Personal income taxes (PIT, % of GDP)	4.4	5.3	4.5	4.4		8.6	9.6	9.4	9.3	
	Corporate income taxes (CIT, % of GDP)	2.0	2.6	2.8	2.6		2.2	2.9	3.2	3.2	
	Total property taxes (% of GDP)	1.4	1.6	1.5	1.4		1.9	2.2	2.1	1.9	
	Recurrent taxes on immovable property (% of GDP)	1.1	1.1	1.0	1.0		1.1	1.1	1.0	0.9	
	Environmental taxes (% of GDP)	2.7	2.9	2.8	2.6		2.5	2.4	2.1	2.0	
	Effective carbon rate in EUR per tonne of CO_2 equivalents	NA	65.4	NA	68.0		NA	86.0	NA	84.8	
Progressivity & fairness	Tax wedge at 50% of average wage (single person) (*)	32.3	33.6	29.4	30.4	31.2	33.9	31.8	31.5	31.5	31.8
	Tax wedge at 100% of average wage (single person) (*)	34.2	34.9	33.8	34.3	34.7	40.9	39.9	39.9	40.2	40.3
	Corporate income tax - effective average tax rates (1) (*)	17.0	16.2	15.2	12.2		21.3	19.3	19.1	18.9	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	4.7	4.7	4.6	5.3		8.6	8.2	7.9	7.7	
Tax administration & compliance	Outstanding tax arrears: total year-end tax debt (including debt considered not collectable) / total revenue (in %) (*)		25.0	21.9				35.5	32.6		
	VAT gap (% of VAT total tax liability, VTTL) (**)		5.6	8.4	10.5			6.6	7.0		

(1) Forward-looking effective tax rate (KPMG).
(2) A higher value indicates a stronger redistributive impact of taxation.
(*) EU-27 simple average.
(**) Forecast value for 2023. For more details on the VAT gap, see European Commission, Directorate-General for Taxation and Customs Union, VAT gap in the EU - 2024 report, https://data.europa.eu/doi/10.2778/2476549
For more data on tax revenues as well as the methodology applied, see the Data on Taxation webpage, https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en.
Source: European Commission, OECD

with a special focus on small and medium-sized enterprises, R&D, and innovation.

Nevertheless, there are indications that the tax framework is not fully conducive to innovation and sustainable growth. Despite recent reforms, Polish companies still say that over-regulation is one of the biggest impediments to investment. Annex 2 gives more detail on the challenges of predictability in legislation in Poland. A 2022 study requested by the European Commission on *Tax compliance costs for SMEs* suggests that tax compliance may be a greater burden in Poland than the EU average ([50]). As shown by the last edition of the *Doing Business* report, produced by the World Bank, a medium-sized Polish company would need to spend an average of 334 hours per year to fulfil their tax obligations – the second longest amount of time in the EU-27 ([51]). Moreover, Poland ranks last out of the 27 Member States in the tax complexity index ([52]), which comprehensively measures the complexity of national CIT systems faced by multinational corporations. Poland's complex CIT system has many negative consequences. Chief among these problems is that complex CIT systems generate additional costs that do not contribute to economic growth in any way, and in fact inhibit growth. The complexity of the tax regulations particularly affects smaller companies that do not have specialised departments dealing with tax matters. This suggests Poland has scope to improve both the structure of its tax regulations and the way that tax processes are carried out by the country's tax authorities.

([50]) https://taxation-customs.ec.europa.eu/system/files/2022-12/221208%20DG%20GROW%20report%20-%202022%20Tax%20Compliance%20Costs%20SMEs.pdf .

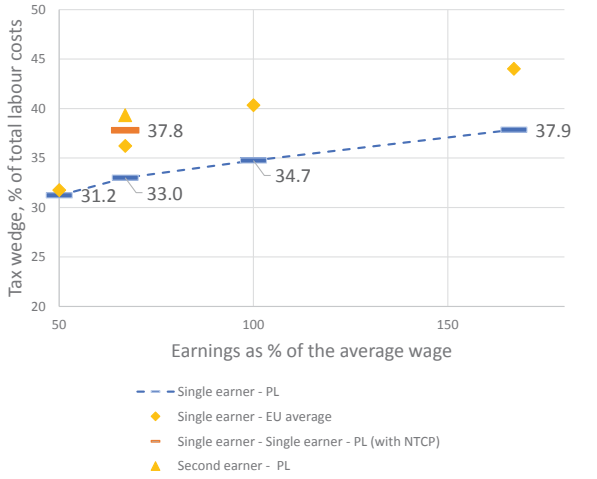
([51]) https://archive.doingbusiness.org/en/data/exploreeconomies/poland#DB_tax.

([52]) https://www.taxcomplexity.org.

Poland will have to rely increasingly on accelerating productivity gains to boost growth. Poland's current focus on the promotion of a digitalised economy, automation and robotisation, as reflected in its national recovery and resilience plan and its 2030 productivity strategy, will be needed to pave the way for future economic expansion in the absence of a growing population.

Poland's labour tax burden was less progressive than the EU average in 2024. Graph A2.2 shows that the labour tax wedge([53]) for Poland in 2024 was below the EU average for single people at all earnings levels, but that the labour-tax system was overall less progressive than the EU average (i.e. labour taxes in Poland increase by less than the EU average as people earn more). Second earners at a wage level of 67% of the average wage, whose spouses earn the average wage, were also subject to a tax wedge that was somewhat below the EU average. At the same time, the tax wedge for second earners was substantially higher than the tax wedge for single earners at the same wage level. It is therefore possible that the current design of the tax-and-benefit system is having a negative impact on the share of women entering the labour market.

Graph A2.2: **Tax wedge for single and second earners, % of total labour costs, 2024**



The tax wedge for second earners assumes a first earner at 100% of the average wage and no children. For the full methodology, see OECD, 2016, Taxing Wages 2014-2015.
Source: European Commission

Although income inequality in Poland is modest, the tax-and-benefit system has one of the smallest inequality-reducing effects in the EU. In 2023, the difference between the Gini index of market income and disposable income distribution was only 5.3 pps in Poland compared with an EU average of 7.7 pps. This indicates a lower effect of taxes and benefit transfers on reducing income inequality than in other EU Member States, although somewhat higher than in the previous year. At the same time, in terms of disposable income after taxes and benefits, Poland shows one of the lowest Gini indexes (26.3%) against the EU average (34.1%), indicating lower income inequality in Poland than in other Member States. The reforms introduced under the Polish Deal in 2022 aimed to improve the progressivity of the tax system, reducing the tax burden on lower and middle-income earners.

After years of improving VAT collection, Poland recently reported an increase in the VAT gap. The VAT gap increased to 8.4% in 2022 (although this is still a decline of 5.8 pps in comparison with 2018 when it was 14.2%) and to a forecasted 10.5% in 2023. This is higher than the EU average which was 7.0% in 2022. Poland's VAT policy gap was also among the highest in the EU due to the wide

([53]) The tax wedge is defined as the sum of personal income taxes and employee and employer social-security contributions net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and social-security contributions paid by the employer).

application of reduced rates. In 2021, the VAT policy gap increased significantly – from 48% to 55%. This increase can be connected to the measures introduced by the Polish government in 2022 and 2023, including 'anti-inflation shields' which temporarily reduced VAT rates on specific goods, such as fuel, electricity, and food. While these measures were intended to alleviate the effects of rising prices on consumers, they also resulted in lower VAT revenues ([54]).

Poland is relatively advanced in digitally transforming its tax administration, which can help reduce tax arrears. Tax arrears currently amount to around 25% of total tax revenue. This is below the EU average, but this EU average is inflated by large values in a few EU countries. Poland continues to develop digital platforms, including 'e-tax Office', a service to help taxpayers meet their tax obligations. However, the delay (due to audit recommendations) until February 2026 of the introduction of the mandatory national e-invoicing system (which aims to improve tax compliance by ensuring real-time monitoring of transactions and reducing opportunities for VAT fraud) may postpone the expected benefits in VAT collection efficiency.

([54]) VAT Gap in the EU 2024 Report pp. 146-147.

Poland is an emerging innovator, but still faces challenges in boosting its research and innovation performance. As the 2024 European Innovation Scoreboard points out, Poland's research and innovation performance is catching up with the EU average (currently at 65.9%, 3.3 percentage points up from the previous year) ([55]), but the country is still considered an 'emerging innovator' ([56]). Improvements have been driven by R&D intensity (gross domestic expenditure on R&D as a percentage of GDP) increasing steadily from 1.03% in 2017 to 1.56% in 2023. To further boost R&D and innovation, a new national target should be set closer to the EU average of 2.24% (2023). This should be combined with targeted measures to increase the research and innovation output and strengthen the attractiveness of research careers. Regarding the innovation output of firms, Poland faces two key challenges: a weak science-business collaboration system and sluggish adoption of (advanced) digital technologies, resulting in enterprises, especially SMEs, trailing the EU average.

Science and innovative ecosystems

Poland's scientific performance shows signs of improvement, but further progress depends on sustained increases in public R&D expenditure and reforms to improve the competitiveness and internationalisation of scientific institutions. Excellent research output, as measured in top-cited scientific publications, increased from 4.3% in 2015 to 5.5% in 2021 ([57]), but remains significantly below the EU average of 9.6%. The low number of international co-publications as a percentage of the total number of publications also demonstrates this (41.6 for Poland, against the EU average of 55.9 in 2023). Public R&D expenditure has returned to its 2012 level (0.55% in 2023), with further efforts needed to get closer to the EU average. In this context, cohesion policy support through the European Funds for Smart Economy (FENG), channelled through the national programme and 16 regional programmes, is key to boost R&I investments (total allocation amounting to EUR 16 billion). Poland's scientific progress also relies on the successful and still ongoing reform of the Polish Academy of Science (PAN), also part of the enabling conditions under the FENG programme. The reform seeks to modernise the Academy's structure, improve research quality and align its activities with national innovation goals. It is essential to ensure that the reform achieves its objective of fostering an independent research environment. To boost competitiveness, it is also essential to improve the evaluation system for scientific performance in higher education (see Annex 12). The Excellence Initiative – Research Universities ([58]) has shown potential, with its first assessment highlighting successful strategic planning and research-driven education initiatives ([59]). The next steps should additionally focus on internationalisation to sustain progress.

([55]) European Commission, 2024, *European Innovation Scoreboard (EIS), country profile: Poland*. The EIS provides a comparative analysis of innovation performance in EU countries, including the relative strengths and weaknesses of their national innovation systems (also compared to the EU average).

([56]) The European Innovation Scoreboard (EIS) puts EU Member States in one of four performance groups based on their scores: innovation leaders, strong innovators, moderate innovators and emerging innovators.

([57]) As measured by scientific publications within the top 10% most cited scientific publications worldwide as a percentage of the country's total scientific publications.

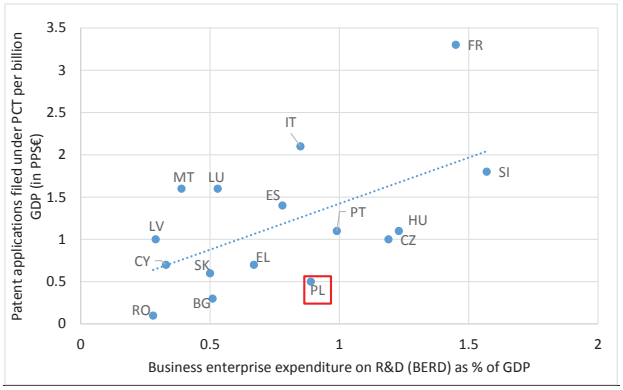
([58]) The Excellence Initiative – Research Universities aims to enhance the quality of research and education at the best Polish universities in order for them to become European universities in the field of research.

([59]) Holm (2020): Reflections on the First Progress Review Conference of the 20 Universities in the 'Excellence Initiative – Research Universities' programme.

Business innovation

Poland is steadily increasing its business R&D expenditure, but this has yet to produce stronger innovation outputs. Poland's business R&D expenditure as a percentage of GDP increased from 0.46% in 2015 to 1% in 2023, with a shift towards activities with higher added value and ICT. This is reflected in the growing number of business-sector researchers per 1 000 active population, from 1.7 in 2015 to 4.6 in 2023. Through the introduction of R&D tax allowances in 2016, a major publicly financed measure, R&D tax incentives increased from 0.003% in 2016 to 0.056% in 2023 as a percentage of GDP. Despite this increase, however, Poland's tax incentives still trail the EU average (0.102% of GDP) and innovation output ([60]) has not significantly improved; SMEs, in particular, continue to lag behind in innovation activities ([61]). The results of the ongoing analysis with the support of OECD will be crucial to better understand the impact of the R&D tax allowances on innovation activity. Moreover, Poland would benefit from participating in the unitary patent system, which offers key advantages in terms of promoting innovation and enhancing competitiveness ([62]).

Graph A3.1: **Patent applications filed under the PCT per billion GDP (in PPS €) in relation to business enterprise expenditure on R&D (BERD) as a percentage of GDP, 2021**



Source: Eurostat, Fraunhofer data (PATSTAT), 2024

Despite above EU average growth for relevant Digital Decade indicators, Poland lags behind in the uptake of basic ([63]) **and advanced digital technologies** ([64])([65]) **by SMEs.** Poland relies on both national measures and investments under the cohesion policy and the recovery and resilience plan to support adoption of digital technologies by businesses and their further development. These initiatives range from comprehensive digitalisation advice (including through the European Digital Innovation Hubs) and grants to SMEs for purchasing and implementing IT solutions, to the development of digital technology and infrastructure. The uptake of cloud computing by enterprises is higher than the EU-average ([66]). Additionally, Poland is involved in two out of six EuroHPC JU quantum computer projects and plans to set up an AI Factory to develop, test and deploy state-of-the-art AI technologies.

Cooperation between science and business is limited, reducing Poland's ability to

([60]) As measured in patent applications filed under the PCT per billion GDP (in PPS €): 0.4 for Poland (2022) vs 2.8 in the EU (2024).

([61]) European Commission, 2024, European Innovation Scoreboard (EIS), country profile: Poland.

([62]) After joining the enhanced cooperation framework, Poland is expected to sign the Unified Patent Court Agreement.

([63]) Basic digital intensity of SMEs in 2023: 50% in Poland vs 57.7% in the EU.

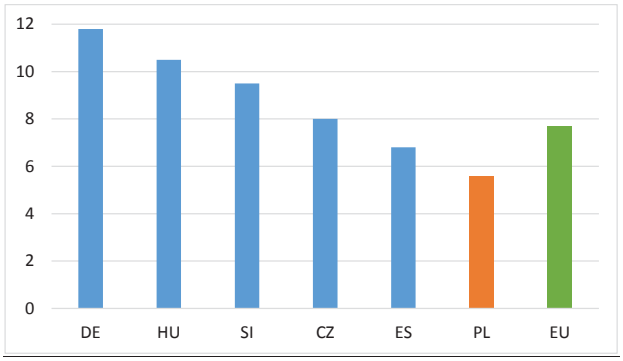
([64]) Uptake of AI in 2023: 3.7% in Poland vs 8% in the EU.

([65]) Uptake of data analytics by SMEs in 2023: 19.3% in Poland vs 33.2% in the EU.

([66]) Uptake of cloud computing by enterprises in 2023: 46.5% in Poland vs 38.9% in the EU.

commercialise its research. Science-business linkages in Poland have been hampered by an underdeveloped research base and insufficiently targeted programmes promoting applied research and academic-private collaboration (see also Graph A3.2 below). The weakness of science-business linkages in Poland is reflected in the low number of public-private scientific co-publications as a percentage of the total number of publications (5.6% vs the EU average of 7.7%), and in the low proportion of public research financed by businesses (0.014 vs the EU average of 0.050). Efforts made to address this issue include the establishment of the Łukasiewicz Research Network and the creation of the Polish Association of Centres for Technology Transfer as part of the Technology Transfer Office network. In addition, the 'implementation doctorate' initiative ([67]) put in place in 2017 could help foster science-business collaboration by aligning skills. Several measures supporting cooperation between science and business are also being implemented under the FENG programme. The effectiveness of these initiatives and instruments should be assessed soon to measure the impact, improve them and identify gaps in the related policy mix.

Graph A3.2: **Public-private scientific co-publications as a percentage of the total number of publications, 2023**



Source: Eurostat 2024

Although there has been considerable progress, innovation barriers still persist and further reforms are needed to support Polish innovators. Overall, Poland now has business-friendly regulations and low barriers to trade, but some areas still require reforms ([68]). The administrative burden on start-ups remains high, but recent reforms, such as simplified reporting and tax obligations, are a step in the right direction. Service trade restrictions are above the OECD average; liberalising these markets could attract more expertise and benefit the country ([69]). The lack of an experienced, highly skilled ICT workforce is also holding back Poland's innovation capacity, especially in the ICT sector ([70]). Finally, Poland's innovation public procurement system is not yet fully developed ([71]). However, it should be improved through current and upcoming reforms, including simplification and digitalisation of public procurement processes. A positive impact is also expected from Poland's 2022-2025 State purchasing policy,

([67]) The programme allows doctorate students to be employed in the business sector while simultaneously working to obtain their PhD at a university or research institute.

([68]) OECD, 2023, OECD Economic Survey of Poland, oecd-ilibrary.org.

([69]) ibid.

([70]) Measured by the top 10% most cited ICT publications (%), Poland has a rate of 5.3% (2021) compared to 8.6% for the EU (2024). Science Metrix 2024.

([71]) Measured by innovation procurement as a proportion of total public procurement, Poland has a rate of 4.3% compared to 9.2% for the EU. European Commission, 2024, European Innovation Scoreboard (EIS), country profile: Poland.

which advises all Polish public buyers to allocate 3% of their budget to R&I procurement and 20% to procurement of innovative solutions. The policy mix for fostering innovation procurement is promising, but an assessment is needed to measure the impact and identify gaps.

Financing innovation

The financing capabilities of Poland's venture capital market has improved considerably, but further expansion is necessary. Poland is the leading destination for foreign direct investments in Central and Eastern Europe ([72]), whereas the domestic venture capital market accounted for only 0.021% of its GDP in 2023, down from 0.028% in 2022 and below the EU average of 0.078% ([73]). Polish SMEs rely mainly on internal funding and bank loans to finance their investments, which greatly limits their R&D capacity and scale-up and growth opportunities compared to investments financed by private equity and venture capital ([74]). The Investment Fund of the National Centre for Research and Development will finance innovative SMEs via its venture capital branch, and the National Bank for Development (BGK) is implementing a FENG equity instrument targeting innovative SMEs. This is a positive step towards the development of a venture capital culture in the Polish innovation ecosystem. However, a more comprehensive approach is necessary to address various shortcomings, in particular to improve access to financing for start-ups. Mobilising a portion of capital from various pension funds could be a way to increase the domestic financing capacity in the venture capital and private equity segments of the capital market. Moreover, other solutions such as IP-backed financing system may also be very attractive to the Polish startups and SME's.

([72]) OECD, 2024, Financing SMEs and Entrepreneurs 2024 – An OECD Scoreboard, oecd-ilibrary.org.

([73]) Measured in Venture Capital (market statistics) as a percentage of GDP, Invest Europe, 2024.

([74]) OECD, 2024, Financing SMEs and Entrepreneurs 2024 – An OECD Scoreboard, oecd-ilibrary.org.

Innovative talent

Insufficient incentives hold back the recruitment and retention of top researchers in Poland's public sector. Poland's difficulties in attracting researchers to the public sector is the consequence of poor working conditions and perspectives for researchers. The public sector researcher workforce has remained stagnant since 2017, with numbers consistently below the EU average ([75]). Poland struggles to attract students to science and engineering programmes ([76]) and underperforms when it comes to producing doctoral graduates (see Annex 12) and attracting foreign doctorate students ([77]). It also struggles to offer attractive research careers in the public sector, largely due to low academic remuneration, limited transferable skills and weak mobility. It must address these shortcomings to develop a performant public research career system ([78]). Concerning the issuance of EU blue cards, Poland triplicated the number of new EU Blue Cards in the last 2 years (last available data for 2023 in Eurostat), becoming the 2nd country in the EU, after Germany, to use the most this EU measure, pointing to an increased need of (highly) skilled workers from employers.

([75]) As measured by researchers employed (FTE) by the public sector per thousand active population: 3.5 (2023) in Poland compared to 4.2 (2024) in the EU.

([76]) Poland lags far behind the EU average in terms of students enrolled and new graduates in science and engineering per thousand population aged 25-34.

([77]) European Commission, 2024, European Innovation Scoreboard (EIS), country profile: Poland.

([78]) European Commission (2017): Poland's Higher Education and Science System and European Commission (2020): MORE4 study - Support data collection and analysis concerning mobility patterns and career paths of researchers.

While some efforts have been made to strengthen entrepreneurship education in Poland, the lack of a national strategy and monitoring of initiatives remains an issue. Based on the Global Entrepreneurship Monitoring Survey, the quality and outcomes of entrepreneurship education improved in Poland from 2022 to 2023. However, Poland still ranks below the average of the participating EU countries ([79]). A lack of skills remains one of the barriers to business development. Several initiatives have been set up in recent years to support entrepreneurship at all educational levels. Nevertheless, some issues still need to be tackled: Poland lacks a targeted national strategy for entrepreneurship education, and the link between higher education and business is weak.

([79]) Tarnawa A. (Ed.) (2024). Global Entrepreneurship Monitor Poland 2024. https://www.gemconsortium.org/report/gem-poland-2024-report.

Table A3.1: **Key innovation indicators (*)**

Poland	2012	2017	2020	2021	2022	2023	2024	EU average	USA
Headline indicator									
R&D intensity (gross domestic expenditure on R&D as % of GDP)	0.88	1.03	1.37	1.42	1.44	1.56	:	2.24	3.45
Science and innovative ecosystems									
Public expenditure on R&D as % of GDP	0.55	0.36	0.51	0.52	0.49	0.55	:	0.72	0.64
Scientific publications of the country within the top 10% most cited publications worldwide as % of total publications of the country	3.4	4.5	5.1	5.5	:	:	:	9.6	12.3
Researchers (FTEs) employed by public sector (Gov+HEI) per thousand active population	3.1	3.6	3.6	3.6	3.6	3.5	:	4.2	:
International co-publications as % of total number of publications	27.6	31.7	34.6	36.1	39.5	41.6	:	55.9	39.3
R&D investment & researchers employed in businesses									
BERD financed by the public sector (national and abroad) as % of GDP	0.33	0.66	0.86	0.89	0.95	1	:	1.49	2.7
Business enterprise expenditure on R&D (BERD) performed by SMEs as % of GDP	0.11	0.23	0.29	0.29	0.35	:	:	0.4	0.3
Researchers employed by business per thousand active population	0.9	3.2	3.7	4.2	4.6	4.6	:	5.7	:
Innovation outputs									
Patent applications filed under the Patent Cooperation Treaty per billion GDP (in PPS €)	0.5	0.5	0.6	0.5	0.4	:	:	2.8	:
Digitalisation of businesses									
SMEs with at least a basic level of digital intensity % SMEs (EU Digital Decade target by 2030: 90%)	:	:	:	:	60.95	:	68.95	72.91	:
Data analytics adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	:	:	19.31	:	33.17	:
Cloud adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	19.17	:	46.5	:	38.86	:
Artificial intelligence adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	2.86	:	3.67	5.9	13.48	:
Academia-business collaboration									
Public-private scientific co-publications as % of total number of publications	3.5	4.6	4.8	5.1	5.5	5.6	:	7.7	8.9
Public expenditure on R&D financed by business enterprise (national) as % of GDP	0.019	0.013	0.015	0.014	0.014	:	:	0.05	0.02
Public support for business innovation									
Total public sector support for BERD as % of GDP	0.055	0.119	0.191	0.201	0.205	:	:	0.204	0.251
R&D tax incentives: foregone revenues as % of GDP	0	0.007	0.029	0.033	0.045	0.056	:	0.102	0.141
BERD financed by the public sector (national and abroad) as % of GDP	0.055	0.112	0.162	0.168	0.16	:	:	0.1	0.11
Financing innovation									
Venture capital (market statistics) as % of GDP, total (calculated as a 3-year moving average)	0.004	0.012	0.017	0.022	0.028	0.021	:	0.078	:
Seed stage funding share (% of total venture capital)	7.8	5.6	10.4	10.3	10.0	9.7	:	7.3	:
Start-up stage funding share (% of total venture capital)	43.7	30.6	38.9	49.9	50.9	59.4	:	44.0	:
Later stage funding share (% of total venture capital)	48.5	63.7	50.6	39.9	39.1	30.9	:	48.7	:
Innovative talent									
New graduates in science and engineering per thousand population aged 25-34	17.3	17.1	12	12.6	12.6	:	:	17.6	:
Graduates in the field of computing per thousand population aged 25-34	3	3.1	2.9	3.3	3.5	:	:	3.6	:

(*) EU average for the last available year or the year with the largest number of country data.

Source: Eurostat, DG JRC, OECD, Science-Metrix (Scopus database), Invest Europe, European Innovation Scoreboard

Poland's investment climate is bolstered by a strong economy yet hindered by challenges such as underdeveloped infrastructure and regulatory uncertainty. Poland has demonstrated robust business dynamism in recent years although the quality of lawmaking still has some scope for improvement. The country is highly integrated into the EU single market but faces transposition and conformity challenges. Public procurement competitiveness is low, with few bidders and lengthy procedures, though modest innovation procurement improvements have been noted.

Investment climate

Poland has maintained a strong position as one of the fastest-growing economies in the EU, underpinned by its attractive investment climate. Factors such as a large domestic market, relatively low labour costs, and proximity to key European markets have contributed to robust foreign direct investment (FDI) inflows. However, Poland faces challenges, including underdeveloped infrastructure in certain regions, regulatory uncertainty, and labour shortages exacerbated by demographic decline. The proportion of businesses facing labour shortages is among the highest in the EU (63.7%, compared to an EU average of 20.2%). Measures to address labour shortages, such as promoting workforce participation, upskilling programmes, and incentives for innovation in automation, can bolster productivity and reduce capacity constraints.

Poland's growth potential could be raised further through higher investment and innovation. In recent years, private investment rates have been amongst the lowest in the EU and remain concentrated in specific sectors, such as manufacturing, while lagging in others like renewable energy and advanced technologies, critical for long-term competitiveness. Investment in intangible assets, such as research and development and intellectual property, accounted for less than 10% of the total, hindering Poland's ability to move further up the value chain and into the industries of the future ([80]).

Investment rates remain below EU averages. On average, Polish firms report higher investment obstacles than their EU peers. The three main obstacles to investment reported are the uncertainty about the future (92% of the companies, 55% considering it as a major obstacle), the high energy costs (88%) and the shortage of skilled staff (87%) ([81]). Business-level analysis confirms that uncertainty about future profitability and the macroeconomy environment have an impact on private investment decisions ([82]). Furthermore, FDI remains relatively low in Poland, as FDI stock has been stagnating below 50% GDP (compared to 70% in the euro area and round 80 in peer countries) ([83]).

Infrastructure needs, particularly in terms of network grids and transport networks, also weigh on businesses. Poland's network grid interconnections and transport networks require significant investment to meet the country's growing energy needs and to improve the connectivity of its regions. Transport infrastructure was seen as an obstacle to investment by 48% of Polish businesses ([84]). The development of energy network interconnections, supported by the Polish recovery and resilience plan, aims to address capacity and reliability issues in the electricity grid, but progress remains slow.

Poland has made considerable progress in connectivity, but 5G development is slow, mainly due to the delayed authorisation of the 5G pioneer bands. Very high-capacity network (VHCN) coverage (81.1%) is higher than the EU

([80]) EIB Investment Survey Poland, EIB, 2023.

([81]) EIB Investment Survey 2024 Poland overview, 2025.

([82]) IMF, Article IV Poland, 2025.

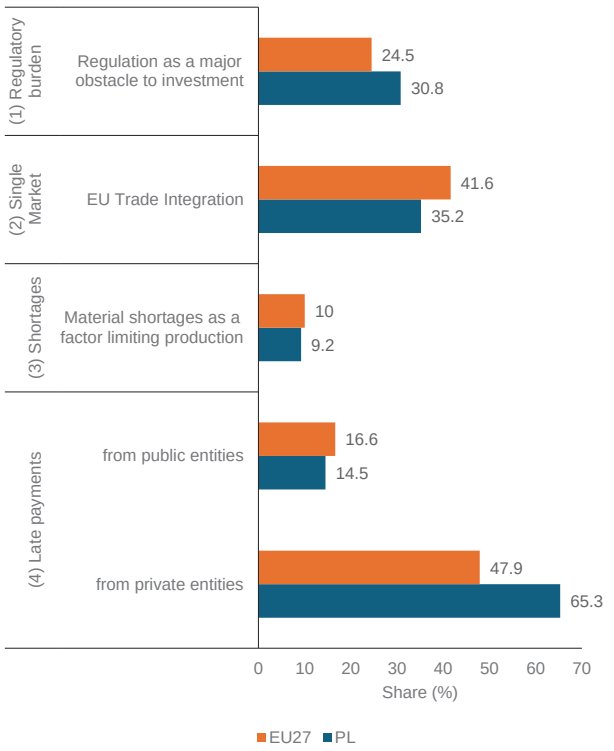
([83]) IMF, Selected issues, Poland, 2025.

([84]) EIB Investment Survey European Union 2024, EIB, 2024.

average (78.8%). This performance is mostly due to the deployment of fibre, as Poland is ahead of the EU in general for fibre to the premises (FTTP) coverage (75.4% vs 64%) and showing strong growth. While VHCN rural coverage in Poland (57.2%) is above the EU average (55.6%), the urban/rural divide remains an issue, limiting access to the digital world. Poland has relied on investments under the Recovery and Resilience Facility and cohesion policy to improve fixed broadband network coverage where access to high-speed internet is difficult. 5G coverage in Poland (71.9%) remains below the EU average (89.3%) and authorisation for the 5G pioneer bands came in late: only the 3.4-3.8 GHz band has been assigned so far, while the auction of 700 and 800 MHz bands was launched in November 2024.

Business awareness of cybersecurity is improving. The percentage of enterprises that experienced security incidents leading to unavailability of ICT services, due to attacks from outside (e.g. ransomware attacks, denial of service attacks) increased slightly in Poland between 2022 and 2024 (2.9% vs 3.02%) but was lower than the EU average (3.43%). For countering cyberattacks, a higher proportion of businesses in Poland (94.11%) declared using some ICT security measures than the EU average (92.76%). On the other hand, a smaller proportion of Polish enterprises (56.84%) than the EU average (59.97%) made their employees aware of their obligations in ICT security related issues.

Graph A4.1: **Making Business Easier: selected indicators.**



Share of (1) enterprises, (2) average intra-EU exports and imports in GDP, (3) firms, (4) SMEs.
Sources: (1) EIB IS, (2) Eurostat, (3) ECFIN BCS, (4) SAFE survey.

Late payments are a growing concern. In 2024, late payments from business-to-business (B2B) continued to increase, risking disrupting SMEs' cash flows. The share of SMEs experiencing late payment in Poland is 53.4%, above the EU average (48.9%). The B2B payment gap in Poland is 16.5 days, above the EU average (15.5 days) ([85]). By contrast, the delay in payment by the public sector to businesses is decreasing and is now below the EU average (13.1 days vs 15.2 days). A similar trend can be observed in SMEs, as 23% of Polish companies have experienced problems due to late payments from private entities (and 42% suffered them occasionally) during 2024, some of the highest rates in Europe and above the EU averages of 13% and 34%, respectively ([86]). The situation for Polish SMEs is

([85]) European Payment Report, 2024. Intrum, 2024.

([86]) Survey on the access to finance of enterprises, Analytical Report 2024.

much better with public entities, as only 4% experienced regular late payment problems with the public sector (in line with the EU average of 5%).

Regulatory and administrative barriers

Poland has demonstrated robust business dynamism in recent years, supported by its resilient economy and a favourable business environment. Poland's regulatory framework is pro-competitive ([87]) and the country performs better than the average OECD economies in the Product Market Regulation indicator, that measures the distortions to competition caused by the barriers to entry and expansion faced by firms across the economy ([88]). The business churn rate was 25.2% in 2022, above the EU average of 19.2%, making Poland one of the most dynamic countries in Europe. Enterprise births in the business economy were 12.22% and deaths at 12.95%, also above the EU averages. In addition, high growth businesses (growth in employment by more than 10%) accounted for 9.42% of companies and 14.29% of employees (against an EU average of 9.17% and 12.23%, respectively).

Effective governance structures, with a clear commitment to consistent and predictable policies and coordination efforts with stakeholders will impact growth and private investors confidence. Trust in Poland's justice system has eroded in recent years, raising concerns about its impact on the business environment. Private sector confidence in investment protection is among the lowest in Europe, reflecting widespread concerns about the judiciary's independence and dampening business confidence ([89]). Businesses frequently cite difficulties in enforcing their rights in court, pointing to issues with the quality, efficiency, and impartiality of the justice sector. However, recent progress on the disbursement of EU funds and significant efforts to implement the Action Plan on Rule of Law offer positive signs, with the potential to bolster investor confidence and increase Poland's attractiveness for future investment opportunities.

The quality of lawmaking still has some scope for improvement. During the last decade, the volatility of the law (number of changes in business rules) has more than doubled. In 2023, 24% of the laws were approved without public consultation, slightly above the average of the last five years (and 49%, despite the reference to consultations, did not include the government's replies to the comments of the social partners) ([90]). Poland recently passed new legislation, included in the recovery and resilience plan, to limit the use of fast-track procedures and requiring an impact assessment and public consultation of draft laws, which should increase transparency. Also, the time available to companies to prepare for changes in the law was reduced. Laws related to business activities have entered into force on average only 31 days after adoption (this so-called "vacatio legis" period has been reduced by 22 days over a decade). According to the EIB Investment Survey, 25% of the firms devote more than 10% of the staff to regulatory requirements (above the EU average of 17%). The six-month 'vacatio legis' for tax laws that could negatively affect taxpayers, recently adopted by the Council of Ministers in May 2025, could contribute to a more stable regulatory environment.

Perceptions of entrepreneurship in Poland are in line with many European economies on a social level. Around a half of Polish adults know someone who has recently started a business, and a similar proportion consider themselves to have the skills and experience to

([87]) OECD Economic Surveys: Poland 2025, 2025.

([88]) OECD Product Market Regulation indicators, 2024.

([89]) Eurobarometer 520, 2024, Perceived independence of the national justice systems in the EU among companies.

([90]) Grand Thornton Barometer, 2024, Analysis of the stability of the legal environment in the Polish economy.

do the same. Meanwhile, around three in four adults see opportunities for starting a business as good, although a half of these would not do so for fear it might fail ([91]). Despite these comparable perceptions, the percentage of Polish adults who expect to start a business in the next three years was 2.6%, the lowest by a substantial margin of all economies covered by the Global Entrepreneurship Monitor in 2023. One shadow over business intentions may be that nearly one in two adults reported their household income had fallen in 2023.

Single market

Poland is well integrated into the single market. Around 70% of its foreign trade takes place within the EU (in 2023, over 75% of Poland's exports and 50% of imports involve other EU Member States), illustrating the importance of intra-EU economic integration. Polish companies are also major service providers in the EU market – in the transport sector, accounting and tax services, and the ICT industry, among others. In addition, in 2022 around 90% of FDI came from EU countries.

Further efforts are needed to reduce transposition and conformity deficits, which are above the EU average, to improve the smooth functioning of the single market in Poland. The transposition deficit (the percentage of single market directives not transposed) reached 1.7% in December 2024, above the EU average of 0.8%. The average delay in transposing directives and the conformity deficit (the percentage of all directives transposed incorrectly) were also above the average EU figures. The number of infringements was also quite high, again above the EU average, although lower than for Member States of comparable size. This persistent compliance gap may undermine the trust of firms and the public in the effective functioning of the single market. Poland resolved 97% of all SOLVIT EU rights resolution cases it handled as lead centre (above the EU average of 4.9%) in 2024.

Poland has made great strides in improving its regulatory environment in the last years, but challenges persist. The regulatory arrangements for several professional services, such as lawyers, architects and civil engineers is still high compared to peer countries. Reducing entry barriers in regulated professions could address the labour shortages in some sectors ([92]). Other sectors which could also benefit from regulatory barriers to competition being reduced include electricity and transport. In some industries a lack of transparency over the issuing of permits and increased uncertainty about government policies are affecting investment decisions (for instance, in the renewables sector) ([93]). In retail, the regulatory environment has been made stricter in recent years with the introduction of a retail tax and a complete ban on shops opening on Sundays.

Public procurement

Competition in the public procurement system could be improved. Poland's overall performance on public procurement is well below the EU average, as it attracts too few bidders (especially for a large country) and the procedures can be lengthy and complex. The public procurement law that entered into force in January 2021 did not immediately address the key weaknesses in public procurement in Poland, so the system still suffers from the low number of companies submitting tenders. This results in a high level of single bids, which has remained at an exceptionally high level for years (56% in 2024 and above 50% since 2018).

([91]) Global Entrepreneurship Monitor, GEM Global Report 2023/2024, 2024.

([92]) IMF, Article IV Poland, 2025.

([93]) OECD Product Market Regulation (PMR) indicators, 2024.

The proportion of direct awards is 7%, in line with the EU average. The data also indicate a decreasing trend in SMEs interest in public procurement contracts with SME participation was 55% and SME bids 59% in 2023, both figures being below the EU averages.

Table A4.1: **Making Business Easier: indicators.**

Poland							
POLICY AREA	**INDICATOR NAME**	**2020**	**2021**	**2022**	**2023**	**2024**	**EU-27 average**
Investment climate							
Shortages	Material shortage, firms facing constraints, %[1]	6.9	20.0	29.9	14.9	9.2	10.0
	Labour shortage, firms facing constraints, %[1]	61.5	62.5	63.4	66.3	63.7	20.2
	Vacancy rate, vacant posts as a % of all available ones (vacant + occupied)[2]	0.7	1.3	1.3	1.0	0.9	2.3
Infrastructure	Transport infrastructure as an obstacle to investment, % of firms reporting it as a major obstacle[3]	9.4	7.8	6.9	9.6	6.4	13.4
	VHCN coverage, %[4]	-	70.0	70.7	81.1	-	78.8
	FTTP coverage, %[4]	-	51.9	59.5	75.4	-	64.0
	5G coverage, %[4]	-	34.2	63.4	71.9	-	89.3
Reduction of regulatory and administrative barriers							
Regulatory environment	Impact of regulation on long-term investment, % firms reporting business regulation as a major obstacle[3]	35.5	34.3	32.3	33.7	30.8	24.5
Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment[5]	17.1	10.1	17.1	15.9	18.1	15.6
	Payment gap - public sector, difference in days between offered and actual payment[5]	20.4	9.0	21.7	16.8	13.1	15.1
	Share of SMEs experiencing late payments, %*[6] — from public or private entities in the last 6 months	66.3	65.5	65.2	68.4	-	-
	Share of SMEs experiencing late payments, %*[6] — from private entities in the previous or current quarter	-	-	-	-	65.3	47.9
	Share of SMEs experiencing late payments, %*[6] — from public entities in the previous or current quarter	-	-	-	-	14.5	16.6
Single Market							
Integration	EU trade integration, % (Average intra-EU imports + average intra EU exports)/GDP[2]	34.8	38.8	43.1	38.8	35.2	41.6
	EEA Services Trade Restrictiveness Index[7]	0.047	0.047	0.047	0.047	0.053	0.050
Compliance	Transposition deficit, % of all directives not transposed[8]	1.8	1.5	2.1	1.6	1.7	0.8
	Conformity deficit, % of all directives transposed incorrectly[8]	1.6	1.6	1.7	1.5	1.3	0.9
	SOLVIT, % resolution rate per country[8]	90.0	88.0	91.3	80.0	97.0	84.9
	Number of pending infringement proceedings[8]	39.0	37.0	34.0	31.0	31.0	24.4
Public procurement							
Competition and transparency in public procurement	Single bids, % of total contractors**[8]	51	50	52	54	56	-
	Direct awards, %**[8]	6	7	9	9	7	7.0

*Change in methodology in 2024: reporting late payments from public and private entities separately.
**The 2024 data on single bids is provisional and subject to revision. Please note that approximately 18% of the total data is currently missing, which may impact the accuracy and completeness of the information. Due to missing data, the EU average of direct awards data is calculated without Romania.
Sources: (1) ECFIN BCS, (2) Eurostat, (3) EIB IS, (4) Digital Decade Country reports, (5) Intrum Payment Report, (6) SAFE survey, (7) OECD, (8) up to 2023: Single Market and Competitiveness Scoreboard, 2024: Public procurement data space (PPDS).

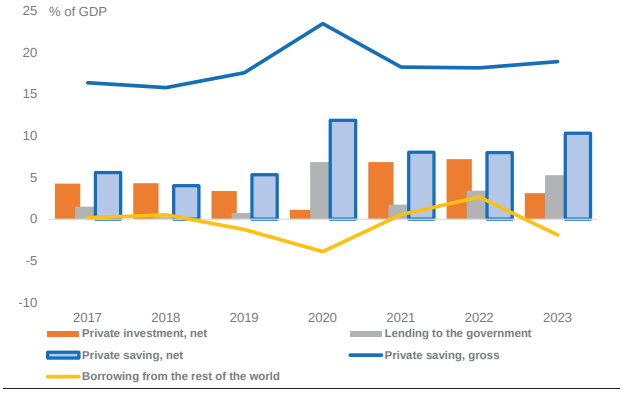
ANNEX 5: CAPITAL MARKETS, FINANCIAL STABILITY AND ACCESS TO FINANCE

Poland's financial sector is characterised by a resilient banking system, growing non-bank financial intermediation segment and is underpinned by a moderate level of domestic savings. Poland continues to attract international investors and remains a net borrower from the global financial system. An overwhelming majority of Polish firms (96.5%) are microenterprises. Neither big nor small firms have major issues in accessing external funding but they exhibit a clear preference for financing investment from internal resources. Not surprisingly, owners' equity is a prevalent source of funding, followed by bank credit. Direct and indirect retail participation in Poland's capital markets is low but slowly improving. The investment policies of domestic institutional investors are quite conservative and very few dare to invest in financing new ventures. This is a limiting factor for the set-up and subsequent scale-up of innovative start-ups with no or limited profitability. The capital markets, including the Warsaw Stock Exchange, are among the region's leaders, but are not providing a true alternative to bank finance at present. Financial literacy, at 43.5 (composite indicator), lags the EU's average of 45.5 and is spread very unevenly across the society.

Availability and use of domestic savings

Net savings are primarily directed toward domestic investments and financing the government. Over the past decade, the private savings ratio, net of fixed capital consumption, has shown moderate fluctuations around a ten-year average of approximately 7.1% of GDP, peaking at close to 12% in 2020 (graph A5.1). The net private investment ratio, which indicates the private sector's contribution to capital accumulation within the country, has been relatively stable, averaging 3.9% of GDP over the same period, with 2021 and 2022 marking the highest points of the series (as the post-Covid recovery settled in) at 6.9% and 7.2%, respectively. Meanwhile, the government budget has experienced persistent deficits, averaging around 2.8% of GDP annually (2014 to 2023) and peaking in 2020 at 6.9%. Increased public spending has been driven predominantly by social benefits, energy price mitigation measures and more recently increased spending on defence. The balance between net domestic savings and net investment, combined with government deficits has been overall quite volatile over the past decade and averaged a positive 0.3% of GDP (2014-2023) with a peak in 2020 at close to -4% of GDP.

Graph A5.1: **Net savings-investment balance**

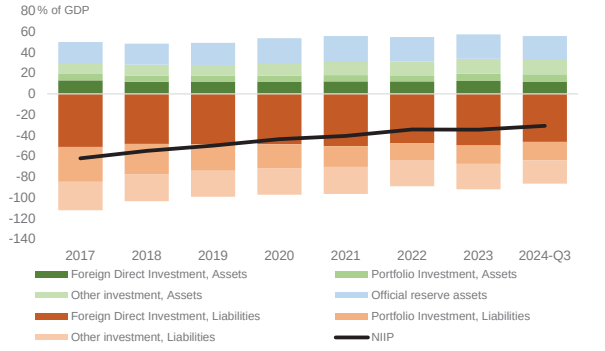


Source: AMECO

Between 2017 and 2024 the economy halved its position as a net debtor to the global market. As of Q3 2024, total assets held by Polish residents abroad reached 55.8% of GDP, while liabilities to third country nationals were equivalent to 86.6% of GDP, yielding a net international investment position (NIIP) of -30.8% of GDP (graph A5.2). Foreign direct investment liabilities, standing at 46.2% of GDP, dwarf direct investment assets at 11.4% of GDP, underscoring the country's heavy reliance on foreign capital inflows. Portfolio investment liabilities, kept on decreasing over the years and stood at 18% of GDP in 2024, down from over 30% in 2017. Polish portfolio assets stood at 7.5% of GDP in 2024, contributing to the negative balance in Poland's NIIP. Official reserve assets remained at 23.1% of GDP in 2024, offering a sizeable safety buffer against external shocks. Other investment liabilities, at

22.4% of GDP, outweigh assets (13.8%), further deepening the NIIP deficit. This configuration highlights the economy's deep integration into international capital flows, predominantly as a recipient of foreign direct investment, supporting domestic growth while keeping Poland's persistent net debtor status.

Graph A5.2: **International investment position**

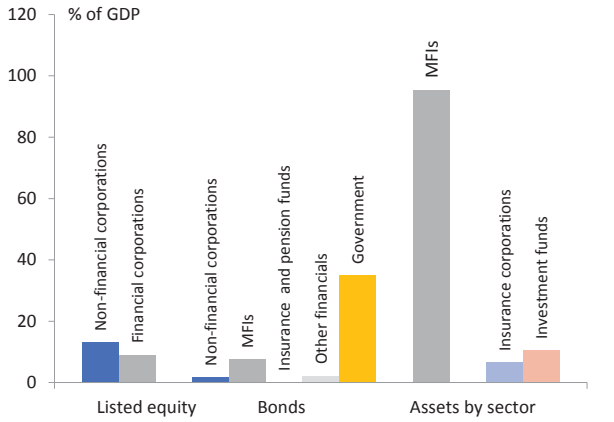


Source: ECB

Structure of the capital markets and size of the financial sector

The domestic capital market is relatively modest in European comparison. The Warsaw Stock Exchange (WSE) is the primary platform for equity trading in Poland. The market capitalisation remained fairly stable in 2023 and 2024 at 21.5% of the GDP, around a third of the European average of 68% of GDP. Non-financial corporations account for approximately 60% of the capitalisation, underscoring the stock market's role in supporting mostly some of the largest Polish non-financial corporations. The outstanding volume of private sector debt securities stood at 11.9% of GDP in 2023, with monetary financial institutions (MFIs) contributing around 65% of this total, driven by a banking sector that plays a central role in providing financing for local households and corporate clients. General government bonds dwarf the rest of the bond market and account for 35% of GDP in 2023, influenced by increased public borrowing to fund infrastructure projects, energy transition initiatives and investments into defence amid geopolitical tensions.

Graph A5.3: **Capital markets and financial intermediaries**



Source: ECB, EIOPA, AMECO

Poland's financial sector remains predominantly bank-driven, with non-bank financial intermediaries gradually expanding their footprint. By Q3 2024, the banking sector's assets reached 88.6% of GDP, far below the EU average of 247.2% but well above any other part of the domestic financial system. The banking system is moderately concentrated with the top five lenders owning 58.5% of total assets. 58.6% of the sector is domestically owned with a large share (49.6%) of state-owned banks in the system. The insurance sector, with assets below 7% of GDP in 2023 is relatively small but it is a rapidly growing market segment of the domestic financial market. PPension funds constitute the third pillar of the pension system. These include: employee pension schemes (PPE) and employee capital plans (PPK) which are slowly getting traction. Altogether pension assets represent about 6% of the GDP, whereas local asset managers have under management assets worth about 10.5% of the GDP. In addition, under the third pillar there are individual retirement accounts (IKE) and individual retirement security accounts (IKZE).

Resilience of the banking sector

The banking sector is resilient despite some country specific challenges. Local lenders are well capitalised with a Common Equity Tier 1 (CET1) ratio at 18.1% (Q3 2024), above the EU average of 16.7%, reflecting the sector's steady accumulation of high-quality capital amid tighter risk management practices. Both liquidity and profitability metrics (in Table A5.1) are very strong, and all major domestic banks have navigated the EU-wide stress tests effectively, showcasing resilience against adverse scenarios. However, the sector also has some soft spots. In particular, the legacy forex mortgages as well as the more recent legal attempts to question the fairness of the Polish interest rates benchmark Wibor continue to pose a legal and possibly very costly challenge. Most of the banking sector meets the MREL (Minimum Requirement for Own Funds and Eligible Liabilities) and the combined buffer requirement in addition to MREL, comfortably exceeding all regulatory requirements imposed on the sector. Capital surpluses over the combined buffer requirement considered in addition to the MREL-TREA reached over 5% of TREA just in the first half of 2024.

Asset quality in Polish banks has seen a gradual improvement. The non-performing loan (NPL) ratio has been slowly but gradually declining over the past years. For total loans it stood at 3.9% in Q3 2024 and was almost the double of EU's average ratio of 1.9%. Households' NPLs stood at 4%, while non-financial corporation NPLs reached 5.3%. The NPL coverage ratio, however, at 57.1% in Q3 2024, largely surpassed the EU average of 42.6%, indicating the sector's tendency for rapid and strong provisioning for potential losses. While mortgages are typically a well performing asset class, Polish banks continue to face ongoing pressure from legal disputes over the FX mortgage contracts, with court rulings increasingly favouring consumers, necessitating higher provisions and negatively impacting the lenders' profitability.

Liquidity remains solid, bolstered by stable and rather conservative funding structures. Domestic monetary financial institutions (MFIs) exhibit low liquidity funding risk, with the short-term aggregate liquidity coverage ratio (LCR) at 232.6% and the net stable funding ratio (NSFR) at 169.7% in Q3-2024, both well above minimum requirements. The loan-to-deposit ratio stood at merely 68.8% in Q3 2024, well below the EU area average of 95.5%, reflecting a conservative funding model reliant on domestic deposits, which constitute 71% of total assets. A distinctive feature of the Polish banking sector is its exposure to government securities, with banks holding close to 30% of the balance sheet government bonds. Debt issuance has remained steady but rather small. In fact, the role of debt instruments in bank funding has been insignificant at just 3% of liabilities.

Resilience of the non-bank financial intermediaries

Poland's insurance sector is expanding on the back of strong economic growth. The sector is among the largest in Central and Eastern Europe, reflecting a robust market that has grown steadily in recent years. One of its key strengths is the strong performance of the non-life insurance segment, driven predominantly by strong economic growth. In mid-2024, the sector-wide ratio stood at 220% and was 30 percentage points below the EEA average of 251%. In the life insurance segment, the ratio stood at 249%, some 19 percentage points below the end-2023 figure, whereas in the non-life segment the ratio stood at 209%, 7 percentage points less than at the end of 2023. A domestic specificity is the sector's reliance on state-owned insurer PZU, which hold a significant market share and heavily influence pricing policies.

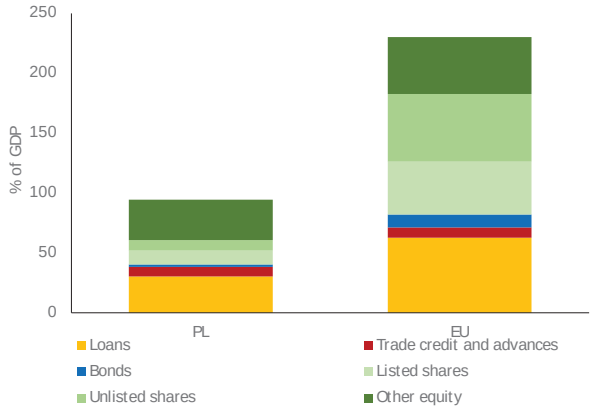
Regulatory oversight remains proactive, with no major vulnerabilities detected in the insurance segment. The local supervisor KNF,

in collaboration with EIOPA conducts regular stress tests. The latest 2024 exercise included a capital and liquidity scenario and revealed resilience of local insurers. Furthermore, the KNF conducts regular annual stress tests. The 2023 exercise included flood and windstorm risks, where domestic insurers do have a moderate exposure. Insurance penetration in Poland reached 2.3% of GDP in 2023, below the EU average of 6.4%, suggesting a moderate protection gap, particularly in rural areas where agricultural insurance uptake lags. While there are no major vulnerabilities in the sector, the high reliance on expected profits included in future premiums (EPIFP) within own funds persists, alongside the unregulated double gearing of capital. By end-2023, EPIFP in life insurance reached approximately EUR 2.7 bn, equivalent to over half of own funds. Meanwhile, non-life insurers held over EUR 6 bn in participations in insurance and banking entities by mid-2024, not deducted from own funds per regulations, and causing a double gearing across parent and subsidiary risks. Adjusting the solvency for these two items would slash the non-life solvency ratio by 60 points down to 149%.

Sources of business funding and the role of banks

External funding does not play a major role in the financing of Polish firms. The overall external funding of non-financial corporations (NFCs) was equivalent to 96% of GDP in 2023 (Graph A5.4), significantly less than the EU average of 230% of GDP. Not surprisingly, given the small size of Polish NFCs, the equity of the firms' owners remains the most significant item in the funding mix, accounting for over 35.5% of total external funding. This is followed closely by bank loans, representing 31.46% of the funding mix, a few percentage points above the EU average of 27.23%. Market equity financing, through listed shares and bonds, represented a modest 14% of the funding mix, significantly lower than the EU average of around 24%. This pattern underscores the strong reliance of Polish firms on traditional bank financing over capital-market-related funding, which given the small size of local firms is not surprising.

Graph A5.4: **Composition of NFC funding as % of GDP**



The sum of NFC liabilities only reflects the total for the NFC liabilities considered. Reference period 2023.
Source: Eurostat

Polish firms are heavily reliant on internal funding. According to the 2024 EIB Investment Survey, 72% of investment needs of Polish firms are covered by internal funding, against an EU average of 66%. This reliance on internal funds highlights, on the one hand, a rather cautious approach towards external funding overall, and, on the other, some possible difficulties that the relatively small Polish firms (the vast majority being microenterprises) might have in accessing external financing. Notwithstanding these figures, 85% of Polish entrepreneurs believe that they made adequate investments to meet market needs ([94]) over the past three years compared to the EU average of 80%.

Credit growth remains low but positive. Corporate credit growth has been very volatile in the past few years with an almost 10% uptick in annual growth back in 2022, and then close to zero lending growth in 2023. In 2024, demand for new corporate loans started to

([94]) Source: EIB 2024 Investment Survey.

pick up again with 0.9% year-on-year growth in the first half of 2024. More importantly, in 2024, credit demand was widespread across both large and small firms' segments. This credit recovery is expected to continue into 2025 as policy rates remain stable. Lending to households was relatively more dynamic in 2024, with year-on-year growth of 4.5% in the first half of 2024. Both mortgages and consumer lending saw a marked rise in demand. Overall, household credit is poised for gradual growth, supported by economic growth and generally positive consumer confidence data.

Capital markets and the participation of retail investors

Poland's capital market attracts international investors. Foreign investors contribute the biggest share to equity turnover on the WSE main market, generating 65% of turnover (2023). Overall, domestic institutional investors generated 19% of the 2023 turnover whereas the share of retail investors was 16%. The Initial Public Offerings (IPO) activity of the WSE remains overall rather subdued, with only a handful of companies listing on the main market in the years 2023 and 2024. The much smaller NewConnect segment is more dynamic but small and highly illiquid. The Polish government has launched several measures to bolster the capital market. The main one was the 2019 Capital Market Development Strategy, developed jointly with the EBRD and financed largely from EU funds. The strategy covered the period 2019-2023 and aimed to increase market liquidity and the role of capital market instruments in financing local NFCs.

Polish households take a conservative approach to managing their financial assets. About 60% of households' financial assets are held in current accounts and bank deposits, almost twice the EU average of around 32% (Graph A5.5). The capital market participation of households trails behind other EU Member States. Polish households have about a quarter of their financial wealth invested in listed stocks, bonds, and pension and investment funds. This figure is low when compared to the EU average of around 45% and reflects, on the one hand, the cautious behaviour of local households, and, on the other, their relatively low financial wealth compared to the EU average. In aggregate, Polish households have financial assets equivalent to 81% of Polish GDP, whereas the EU average stands at 210% of GDP. In 2023, the average monthly available income per capita in Poland stood at PLN 2 678 ([95]) (about EUR 620) and remains quite modest by European standards, whereas the saving rate in 2023 stood at 13.2%, the same level as the EU average.

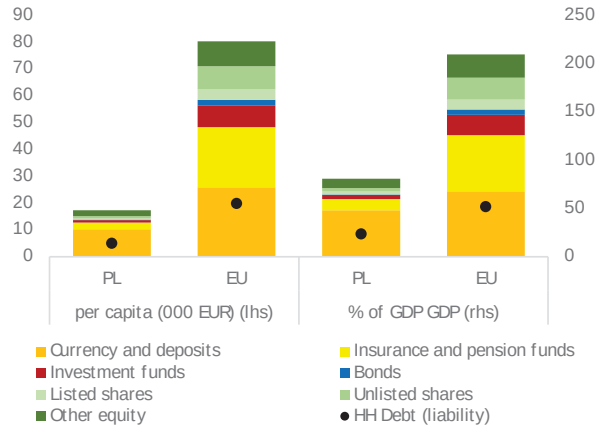
There is still ample space to increase the level of direct or indirect retail investment. Boosting the weight of the capital market in Poland has to go through educating and increasing investors' confidence in the market and making access to capital easier and cheaper for local NFCs. The authorities have already introduced measures to encourage greater household participation in the capital markets, including tax incentives through pension investment accounts (such as the Individual Retirement Account (IKE) or the Individual Pension Security Account (IKZE) allowing for tax-deductible contributions([96]) and financial education programmes. The tangible impact of these initiatives has been limited so far but the process of getting Polish households to invest in capital markets is ongoing. Nevertheless, the relatively low level of wealth of Polish households and, on average, moderate levels of financial literacy result in a very conservative attitude towards investment decisions. In this respect, the stability and predictability around pensions and

([95]) Source: Poland's Statistical Office, the situation of households in 2023 based on the results of the household budget survey.

([96]) IKE and IKZE individual accounts have jointly over 1 million users. These initiatives date back to 2004 and 2012 respectively.

savings is key to build retail investors confidence.

Graph A5.5: **Composition of household financial assets per capita and as % of GDP**



The sum of household assets only reflects the total for the HH assets considered. Reference period 2023.
Source: Eurostat

The role of domestic institutional investors

Poland's asset management industry: still has a long way to go to reach the EU's average size. The combined assets under management (AUM) of local asset managers at end-2023 were around EUR 74 bn, equivalent to about 10% of Poland's GDP, very far from the EU average of 198% of GDP in 2023 ([97]). Mutual funds continue to dominate the market, with a significant portion of investments channelled into bond funds (37% of the market) and equity (around 20%). The market has good chances of continued growth as households become aware of investment options other than low-yielding bank deposits. Moreover, the introduction of employee capital plans (PPK) – the voluntary third-pillar long-term savings programme – back in 2019 has also triggered more interest in the opportunities offered by the capital markets. Local asset managers are hopeful for more inflows in the third pillar as the PPKs gradually gains a critical mass.

The Polish insurance sector remains a small EU player. The sector's investment portfolio is mainly composed of fixed-income securities, with government bonds accounting for approximately 45% of total assets ([98]) compared to just 19% for the European Economic Area as a whole. This conservative approach ensures low risk and predictable stable returns. Corporate bonds make up around 6% of AUM, whereas equities represent about 16% of the portfolio. Lastly, around 24% of AUM are invested in investment funds, with a significant portion allocated to mixed and equity funds. Cash and deposits, held mostly for liquidity management, are roughly 2% of the allocation.

Polish pension funds are undergoing a major transformation. The Polish open pension funds (known as OFE in Poland) constitute the pension's second pillar and manage over EUR 50 bn worth of assets of future retirees, mostly allocated to listed equities (about 90% of AUM). Voluntary third pillar funds, PPK (Pracownicze Plany Kapitalowe) are bound to play a crucial role in the future but currently their AUM are not very sizeable (about EUR 7 bn in early 2024). PPK funds have a diversified approach to investing, with 40% of AUM invested into equities, about 35% into bonds, and a further 25% in mixed and other assets. To further develop access to finance and capital markets, and to make the pension system more sustainable in light of demographic challenges, the current pay-as-you-go system could be progressively supplemented with a funded capital-based system, which would invest contributions into a highly diversified financial portfolio.

The participation of domestic institutional investors in providing funding for start-ups and venture capital investors is low. A recent

([97]) Source: EFAMA, Asset Management in Europe, December 2024.

([98]) Source: Polska Izba Ubezpieczeń, Insurance in figures.

paper ([99]) published by the Centre for European Policy Studies (CEPS) showed that, on average, pension funds in Poland accounted for only 6% of private equity and venture capital funds raised annually over 2007-2023, a figure that falls substantially short of the 19% for the Baltic states or over 20% shares for Nordic Member States. About 30% of the funds allocated to venture capital are provided by the government or government-related agencies and the rest through specialised investors. There seem to be particularly significant limitations for pension funds to invest in this asset class, even as low as 0% according to OECD figures (for investments into private investment funds). This can be a hurdle for financing innovation, and could contribute to low returns for policyholders.

The depth of available venture and growth capital

The Polish venture capital market: promising but far from able to meet the needs of local start-ups. The market has been growing undisputably over the past decade, both in the segment of private equity (PE) (equivalent to 0.15% of GDP in 2023) and in the venture capital (VC) segment (equivalent to 0.02% of GDP in 2023). However, these figures are still significantly lower than the EU averages of 0.6% and 0.08% of GDP respectively, and the number of VC/PE deals remains relatively low in Poland. This indicates that this part of the capital markets is still maturing ([100]). Companies in the growth phase often require strong backing through both capital injections and the transfer of management know-how, which local investors are not always able to provide in the appropriate proportions. This suggests that while there is a solid foundation for VC in Poland, there is still a financing gap for early-stage firms ([101]). The Polish Development Fund (PFR) plays a crucial role in Poland's strategy to build a venture-capital-oriented culture. PFR offers grants, loans and equity investments to start-ups. Nevertheless, the authorities have yet to develop a more comprehensive strategy to address various shortcomings in the local VC market, including investment allocation hurdles.

Financing the green transition

Poland's green transition financing needs are enormous. Poland is the second highest source of carbon emissions in the EU after Germany. As is to be expected, the economy requires significant investments to meet its climate goals. The Polish government has outlined a comprehensive strategy, including its national energy and climate plan (NECP), which aims to achieve climate neutrality by 2050. This strategy places a lot of emphasis on both public and private sector participation to finance this challenging transition. Poland has been one of the pioneers in issuing sovereign green bonds, with a first issuance back in 2016. There have been a few more green bonds (EUR 5.5 bn in total) issued by Poland since then. Nevertheless, the current level of green bond issuance remains below the EU average ([102]), highlighting the need for further development in the green finance market.

Financial literacy

Insufficient levels of financial literacy in Poland are one of the reasons for low participation in the country's capital

([99]) Source: Closing the gaping hole in the capital market for EU start-ups – the role of pension funds – CEPS.

([100]) Source: PFR Ventures, Polish VC Market Outlook Q3 2024.

([101]) Source: Endeavor Poland Report, Poland's technology ecosystem needs to focus resources on companies with the most potential.

([102]) Source: AFME CMU Key performance indicators, seventh edition, November 2024.

Table A5.1: **Financial indicators**

		2017	2018	2019	2020	2021	2022	2023	2024-Q3	EU
Banking sector	Total assets of MFIs (% of GDP)	94.8	91.5	91.3	101.0	99.2	91.8	95.5	88.6	247.2
	Common Equity Tier 1 ratio	16.3	16.1	15.9	17.5	16.1	16.3	18.0	18.1	16.7
	Total capital adequacy ratio	18.0	17.9	17.8	19.6	17.9	18.0	19.5	19.4	20.1
	Overall NPL ratio (% of all loans)	6.6	6.2	6.1	6.0	5.0	4.3	4.1	3.9	1.9
	NPL (% loans to NFC-Non financial corporations)	8.9	8.4	8.1	8.0	6.5	5.7	5.2	5.3	3.5
	NPL (% loans to HH-Households)	6.0	5.8	5.7	5.4	4.7	4.5	4.7	4.0	2.1
	NPL-Non performing loans coverage ratio	56.2	54.8	55.6	59.2	59.6	59.9	60.0	57.1	42.6
	Return on Equity[1]	6.9	7.0	6.9	3.1	4.8	7.3	11.6	16.1	10.1
	Loans to NFCs (% of GDP)	17.0	16.5	16.0	14.4	13.5	12.8	11.9	10.9	30.1
	Loans to HHs (% of GDP)	34.9	33.7	33.8	32.9	31.2	25.9	24.2	21.9	44.4
	NFC credit annual % growth	8.6	6.6	2.9	-6.4	4.5	9.6	0.6	0.9	0.5
	HH credit annual % growth	6.4	5.6	6.5	1.5	5.0	-4.4	1.0	4.5	0.3
Non-banks sector	Stock market capitalisation (% of GDP)	-	-	-	23.0	24.1	17.9	22.2	21.5	67.6
	Initial public offerings (% of GDP)	0.06	0.03	0.02	0.06	0.11	0.01	0.01	-	0.05
	Market funding ratio	48.4	45.9	44.7	47.8	47.5	46.1	45.2	-	49.6
	Private equity (% of GDP)	0.54	0.18	0.11	0.11	0.21	0.07	0.06	-	0.41
	Venture capital (% of GDP)	0.01	0.01	0.02	0.03	0.02	0.03	0.01	-	0.05
	Financial literacy (composite)	-	-	-	-	-	-	42.5	-	45.5
	Bonds (as % of HH financial assets)	0.6	0.6	0.7	0.5	0.4	0.8	0.8	-	2.7
	Listed shares (as % of HH financial assets)	3.0	2.6	2.9	3.9	4.1	3.6	3.9	-	4.8
	Investment funds (as % of HH financial assets)	7.4	6.0	6.7	5.8	5.8	4.5	5.2	-	10.0
	Insurance/pension funds (as % of HH financial assets)	17.6	15.5	14.8	13.1	14.1	12.6	14.8	-	27.8
	Total assets of all insurers (% of GDP)	10.1	8.8	8.4	8.4	7.3	5.9	6.6	6.0	53.4
	Pension funds assets (% of GDP)	-	-	-	-	-	-	-	-	22.8

1-3 | 4-10 | 11-17 | 18-24 | 25-27 — Colours indicate performance ranking among 27 EU Member States.

(1) Annualised data.

Credit growth and pension funds EU data refers to the EA average.

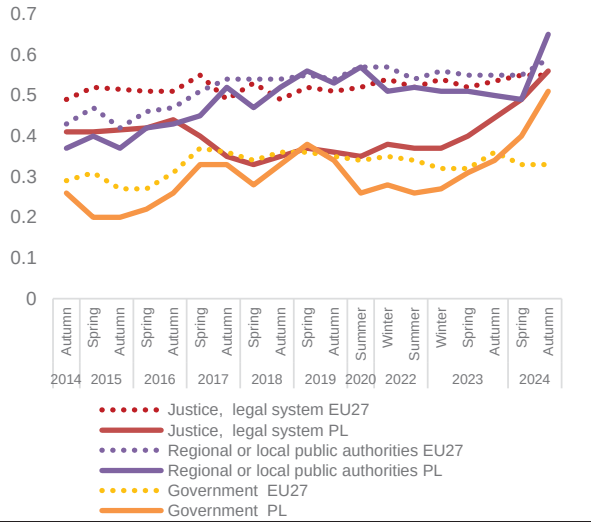
Source: ECB, ESTAT, EIOPA, DG FISMA CMU Dashboard, AMECO

markets. Financial literacy is essential for encouraging retail-investor participation in capital markets. It is also a prerequisite for facilitating access to alternatives to bank credit for domestic firms. Since 2017, financial education has been included in the curriculum for primary and secondary schools, with the aim of equipping pupils with basic financial skills and knowledge. According to the 2023 Eurobarometer survey([103]), only 16% of Poles have a high level of financial literacy, 65% a medium level, and 19% a low level, compared to the EU averages of 18%, 64%, and 18%, respectively. This results in an overall financial literacy score of 43.5, vs the EU average of 45.5. The national strategy for financial education focuses on several key objectives, which include increasing the ability of households to plan their finances responsibly, manage risks and access unbiased financial information.

([103])Source: (https://europa.eu/eurobarometer/surveys/detail/2953

Poland's institutional framework influences its competitiveness. Poland has made some improvement in regulatory governance and digitalisation. However, challenges remain, including a complex and fast-changing legislative environment. While Poland performs well in digital health services, it lags in other digital services for citizens and businesses. Poland is undertaking reforms to address low retention rates in the civil service, which are mainly due to an unattractive working environment. Poland is also taking steps to combat corruption as well as to ensure judicial independence.

Graph A6.1: **Trust in justice, regional / local authorities and in government**



(1) EU-27 from 2019; EU-28 before
Source: Standard Eurobarometer surveys

Public perceptions

Trust in government visibly increased in 2024, with Poland scoring 0.51, well above the EU-27 average of 0.33([104]). Moreover, trust in regional / local authorities and trust in justice both score above the EU average and have reached their highest levels since 2014 (Graph A6.1). When asked about improvements that can increase trust in the Polish public administration, 55% of citizens pointed to less bureaucracy (EU: 52%), 47% to more transparency around decision-making and the use of public money (EU: 44%) and 35% to more integrity in the public administration (EU 23%). Clearer information about procedures and services and more user-friendly digital services could also improve citizen's interactions with Poland's public administration ([105]). The perceived quality of government has deteriorated slightly and remains at values below the EU average ([106]).

Quality of legislation and regulatory simplification

Overall performance in developing and evaluating legislation is above the EU average. Performance is more developed for stakeholder engagement and regulatory impact assessment than for ex post evaluation of legislation. The latter shows a gap with respect to the EU average on account of weaker requirements governing the methodology, systematic adoption and transparency of ex post evaluation of both primary and subordinate legislation. Moreover, there is scope for improving the requirements governing the transparency, oversight and quality control mechanisms of regulatory impact assessments (Graph A6.2), as well as for further strengthening the mechanisms for simplifying regulation. For example, ex post evaluations of legislation are required to contain an assessment of administrative burdens and substantive compliance costs but only for some primary laws (table A6.1). The Polish recovery and resilience plan provides for reforms to improve the quality of law-making and involve social partners more in the legislative process.

([104]) Understanding Europeans' views on reform needs - April 2023 - - Eurobarometer survey, Country Fact Sheet.

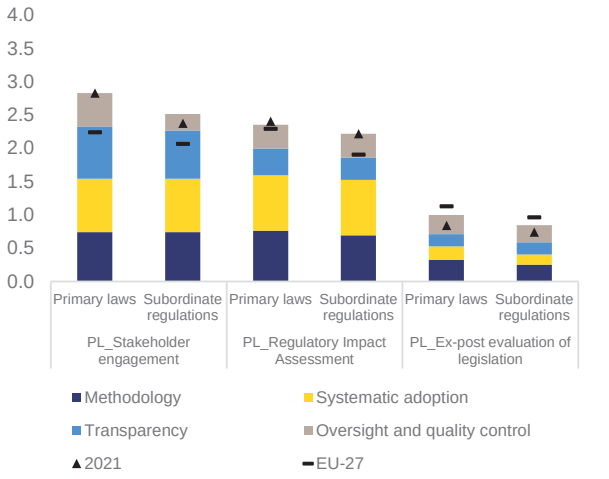
([105]) Flash Eurobarometer 526 - Understanding Europeans' views on reform needs

([106]) Inforegio – European Quality of Government Index

Efficiency of selected administrative procedures

Some indicators point to Poland's public administration taking longer than in other Member States to complete procedures. The OECD product market regulation indicator shows that that Poland's licensing system is slightly more burdensome than the EU average, with scope for alignment with best practices. For example, while the government keeps an up-to-date online inventory of all permits and licences required/issued to businesses by public bodies, it is not available online for consultation and the inventory is not kept by a single body. In addition, there is no requirement for public bodies at central level to observe the once-only principle (see also Annex 4). Moreover, according to a report monitoring implementation of the Commission Recommendation and Guidance on speeding up permit-granting procedures for renewable energy and related infrastructure projects ([107]), there is scope for further aligning national practices in Poland with the guidance. Also, unlike 19 other EU Member States, Poland lacks a dedicated institution for promoting pro-productivity policies.

Graph A6.2: **Indicators of Regulatory Policy and Governance (iREG)**



Source: OECD (2025), Regulatory Policy Outlook 2025 and Better Regulation across the European Union 2025 (forthcoming).

([107]) European Commission: Directorate-General for Energy, *Monitoring the implementation of the Commission recommendation and guidance on speeding up permit-granting procedures for renewable energy and related infrastructure projects – Final report*, Publications Office of the European Union, 2025, .link.

Table A6.1: **Poland. Selected indicators on administrative burden reduction and simplification**

When developing new legislation, regulators are required to …	Ex ante impact assessment of legislation		Ex post evaluation of legislation	
	Identify and assess the impacts of the baseline or 'do nothing' option.	◑	Is required to consider the consistency of regulations and address areas of duplication.	○
	Identify and assess the impacts of alternative non-regulatory options.	●	Is required to contain an assessment of administrative burdens.	●
	Quantify administrative burdens of new regulations.	●	Is required to contain an assessment of substantive compliance costs.	◑
	Quantify substantial costs of compliance of new regulations.	●	Compares the impact of the existing regulation to alternative options.	◑
	Assess macroeconomic costs of new regulations.	◑	Periodic ex post evaluation of existing regulations is mandatory.	◑
	Assess the level of compliance.	○	Government uses stock-flow linkage rules when introducing new regulations (e.g., one-in one-out).	○
	Identify and assess potential enforcement mechanisms.	◑	A standing body has published an in-depth review of specific regulatory areas in the last 3 years.	●
			In the last 5 years, public stocktakes have invited businesses and citizens to assess the effectiveness, efficiency, and burdens of legislation.	○

● Yes / For all primary laws ◕ For major primary laws ◑ For some primary laws ○ No / Never

(1) This table presents a subset of iREG indicators focusing on regulatory costs. The indicators refer to primary legislation.
Source: OECD (2025), Regulatory Policy Outlook 2025 [https://doi.org/10.1787/56b60e39-en] and Better Regulation across the European Union 2025 (forthcoming).

Social Dialogue

Meaningful involvement of social partners in designing and implementing reforms and policies is crucial for their success. In Poland, the Social Dialogue Council provides a forum for unions and employers to influence government policy, including by commenting on employment and social legislation. According to social partners, the social dialogue in Poland has produced no tangible results since the Council was established in 2015, and they signal a deterioration in their involvement (see also Annex 10). The opinions and demands of the social partners are not always considered. Deadlines as laid down in the act regulating the public consultation procedure, are not always respected. Sometimes public consultations on draft legislation are omitted altogether. Ensuring proper and systematic involvement and capacity building of social partners (including regional and sectoral ones) will be key for the successful implementation of economic, labour market, and social policies. For the period 2021-2027, Poland allocated nearly EUR 71 million from the ESF+ to support social partners at the regional and national levels, enhancing their role in policy-making and social dialogue ([108]).

Digital public services

Performance regarding digitalisation of public services is mixed. Poland scores below the EU average on the provision of public services for citizens and businesses online, but its score for online access to e-health records is much higher than the EU average (table A6.2). Poland could improve its performance in this area by further developing electronic documentation management system and adding new key public services, drawing on both national and EU funding.

([108]) For an analysis of the involvement of Poland's social partners at national level in the European Semester and the Recovery and Resilience Facility, see Eurofound (2025), National-level social governance of the European Semester and the Recovery and Resilience Facility.

Table A6.2: **Digital Decade targets monitored through the Digital Economy and Society Index**

		Poland			EU-27	Digital Decade target by 2030
		2022	2023	2024	2024	EU-27
Digitalisation of public services						
1	**Digital public services for citizens**	**57**	**60**	**64**	**79**	**100**
	Score (0 to 100)	2021	2022	2023	2023	2030
2	**Digital public services for businesses**	**70**	**73**	**73**	**85**	**100**
	Score (0 to 100)	2021	2022	2023	2023	2030
3	**Access to e-health records**	**na**	**86**	**90**	**79**	**100**
	Score (0 to 100)	2021	2022	2023	2023	2030

Source: State of the Digital Decade report 2024

Poland already has an eID scheme. The use of eID to access public services is 36.5%, slightly above the EU-27 average of 36.1%. This result is likely due to the widespread use of the mObywatel ([109]) application and the personal profile (profil osobisty) that is available in the national ID card and that enables eID. However, Poland has not yet set up and notified eID schemes for legal persons under the eIDAS Regulation ([110]). This means that Polish businesses cannot authenticate themselves to access public services provided by other Member States, including those enabled by the Once-Only Technical System, part of the EU Single Digital Gateway ([111]). Regarding accessibility, in addition to regulatory measures, Poland is implementing several initiatives aimed at supporting public entities in meeting accessibility standards.

Civil service

Poland's civil service has a good age distribution and further improved its good education profile. Poland has the second-highest ratio of 25-49-year-olds to 50-64-year-olds among public sector workers, well above the EU average (2.9 compared to 1.5). In Poland, 72.6% of public sector employees have completed higher education – significantly above the EU average of 54%. Poland also scores above the EU average in terms of participation of employees in education and training (20.7% compared to 18.9%) ([112]). On the other hand, the share of women in senior administrative positions was 40.7% below the EU-27 average of 46.5% ([113]).

Poland is facing challenges to attract and retain talent in public administration. The interest of individuals under 29 years of age to vacancies is very low proportion (only 6.5% compared with 7.1% in 2022 and 15.2% in the national economy as a whole) ([114]). The Polish civil service is deemed unattractive due to several factors, including the significantly lower salaries than in the private sector. Enhancing the attractiveness of working in the public sector is a primary goal for 2023-2024 in response to an ageing workforce. Reform initiatives include a new salary scheme ([115]) and

([109]) https://www.gov.pl/web/mobywatel

([110]) European Commission, eIDAS Dashboard

([111]) European Commission, Once-Only Technical System Acceleratormeter

([112]) Eurostat. Labour Force Survey. 2024 data.

([113]) European Institute for Gender Equality (EIGE), 'Gender Statistics Database', available at: link

([114]) Civil Service (2024). *Report of the Head of the Civil Service on the state of the civil service and the implementation of the tasks of this service in 2023*, available at: link.

([115]) The amended Civil Service Act endorsed on 14 June 2023 made it possible to pay civil servants for overtime

communicating the benefits of working in the public sector through job fairs and student meetings. Offering more teleworking opportunities could also help, given that frequent teleworking in the civil service is significantly less common than in the EU.

Integrity

Businesses consider corruption is not appropriately punished, but new reforms are being implemented to strengthen the legislative framework against corruption. In Poland, 43% of companies consider that corruption is widespread (EU average 64%) and 27% consider that corruption is a problem when doing business (EU average 36%) ([116]). Moreover, only 22% of companies believe that people and businesses caught for bribing a senior official are appropriately punished (EU average 31%) ([117]). Poland has not yet fully tackled all risks concerning effective enforcement against high-level corruption ([118]). However, some steps have been taken to address systemic weaknesses and to enable a more robust track record against corruption, with several investigations ongoing. Progress has also been made to ensure the independence of the prosecution service from the Government. The scope of immunities for top executives and impunity clauses are also issues ([119]). Digitalisation rates of asset declarations of public officials and politicians are low, and there is no central submission and monitoring system for asset declarations of public officials in place supporting the tracing of illicit wealth and undue influence ([120]). The effectiveness of combating foreign bribery in practice is still rather low. Furthermore, public procurement remains in focus. 24% of companies (EU average 27%) think that corruption has prevented them from winning a public tender or a public procurement contract in practice in the last three years ([121]). Amendments to the Criminal Code introduced law enforcement measures with the aim to increase penalties for undue interference in public tendering. Apart from public procurement, the construction sector features as the main risk sector for corruption ([122]).

While Poland has public registers for lobbyists in place, there is room for further transparency. There are significant concerns regarding the effectiveness of the registers for lobbyists currently in place, with persistently low registration rates, some deregistration and insufficient oversight and enforcement in practice. In addition, Poland does not have lobbying rules in place which would oblige persons exercising top executive functions to disclose their contacts with interest representatives, including businesses ([123]).

Justice

The overall efficiency of ordinary and administrative courts remains relatively stable, with improvement in first instance administrative cases. The average length of civil and commercial proceedings in first instance courts is 357 days (compared to 362 days in 2022). The average length of administrative proceedings at first instance courts is 130 days (compared to 163 days in

work as of 1 January 2024. Previously, only compensatory time off was the only option. link

([116]) Flash Eurobarometer 543 on businesses' attitudes towards corruption in the EU (2024).

([117]) Ibid.

([118]) See the 2024 country-specific chapter for Poland of the Rule of Law Report, p. 18.

([119]) Ibid., pp. 19-20,

([120]) Ibid., pp. 21-22.

([121]) Flash Eurobarometer 543 on businesses' attitudes towards corruption in the EU (2024).

([122]) See the 2024 country-specific chapter for Poland of the Rule of Law Report, p. 25.

([123]) Ibid., pp. 20-21.

2022). The quality of the justice system is good overall. Poland adopted a system of electronic case management and case allocation based on objective criteria and is making use of distance communication technology. Poland is continuing to implement its 2024 'Action plan on the rule of law' to address concerns regarding judicial independence ([124]).

([124]) For more detailed analysis of the performance of the justice system in Poland, see the upcoming 2025 EU Justice Scoreboard and 2024 Rule of Law Report.

Poland faces significant challenges regarding its clean industry transition and climate mitigation: its investment in green transition technologies lags behind EU averages, compounded by a burdensome regulatory environment impacting new business creation. Poland's industry remains highly emission-intensive, and it risks missing its 2030 effort sharing target, particularly as greenhouse gas emissions from domestic road transport have remained on an increasing trend. Air quality remains problematic, with high levels of emissions from residential buildings and, in several urban areas, from the road transport sector. Poland also struggles with waste management, being at risk of missing EU recycling and landfilling targets. The extended producer responsibility for packaging is yet to be implemented. This annex reviews the areas in need of urgent attention in Poland's clean industry transition and climate mitigation, looking at different dimensions.

Strategic autonomy and technology for the green transition

Net zero industry

Poland has emerged as a strategic cleantech hub in the EU, **underpinned by growing investment, expanding renewable energy deployment and a growing role in clean technology manufacturing.** With a manufacturing capacity amounting to between 8 and 90 GWh/y (36 - 39% of total EU capacity)([125]) for battery and storage technologies, Poland's growing manufacturing sector is particularly important for batteries. The country produces 60% of all lithium batteries made in Europe and ranks as the world's second-largest battery exporter after China. However, Poland still faces skill shortages in the battery sector, requiring upskilling and reskilling efforts to support its growing industry. In addition, it has a significant participation in the Important Projects of Common European Interest (IPCEIs) launched for batteries and hydrogen.

Furthermore, there are 24 facilities dedicated to the production of heat pumps, contributing to the country's overall manufacturing capacity. More modestly, Poland displays between 400 and 450 MW/y (2% of EU capacity) of manufacturing capacity for solar PV, approximately 1.75-2 GW for wind towers, and 2 – 2.5 GW for blades.

Poland has a strong policy framework supporting the scale-up of manufacturing capacity. Poland's industrial policy supports net-zero technologies, providing an overarching framework, which is accompanied by various sectoral agreements aiming to develop production capacities, namely in hydrogen, photovoltaics, biogas, biomethane, and offshore wind energy. In September 2024, the European Commission approved a state aid scheme in the amount of EUR 1.2 billion to support investment (grants) in the production of batteries, solar panels, wind turbines, heat pumps, electrolysers and equipment for carbon capture usage and storage, as well as components of these net-zero technologies.

However, despite expanding R&D spending and the implementation of a Green technology Accelerator, Poland's investment rate in green transition and clean technologies is below the EU average. There are significant gaps in funding for innovation, especially for high-risk, early-stage R&D projects in clean-tech sectors, and Poland lacks an overarching strategy for energy R&D and dedicated innovation clusters that support collaboration. Additionally, the regulatory environment in Poland is seen as burdensome, especially regarding the creation of new firms, which increases uncertainty for investors. More

([125])European Commission: Directorate-General for Energy, The net-zero manufacturing industry landscape across the Member States 2025.

steps to streamline permitting and green procurement requirements would further strengthen Poland's clean tech manufacturing potential.

Transforming the car industry

The auto industry accounts for 7.2% of manufacturing jobs in Poland (slightly below the EU average of 8.1% in 2022), employing directly more than 200 000 people. In terms of production, some 615 000 vehicles were made in Poland in 2023 (around 40% were cars and more than 50% vans) in 19 different plants (9 of them dedicated to battery electric vehicles) ([126]).

Furthermore, Poland's motorisation rate (the number of passenger cars per thousand inhabitants) is 601, one of the highest in the EU in 2023 (the EU average is 570). The average age in cars is 14.9 years, one of the highest in the EU and above the EU average of 12.3 years.

The transition to e-vehicles represents a business opportunity for the auto industry. Poland has established itself globally as a key player in battery manufacturing, recently surpassing the United States to become the world's second-largest producer of lithium-ion batteries, after China. However, faster progress in electrifying its passenger car fleet is needed if Poland is to achieve the decarbonisation targets: the percentage of new zero-emission cars in 2023 is still 3.6%, well below the EU average of 14.5% in 2023. The high upfront cost of e-vehicles (compared to conventional vehicles) and the lack of adequate charging infrastructure are two of the main barriers to achieving these fleet electrification targets.

([126]) European Automobile Manufacturers' Association (ACEA) - The Automobile Industry Pocket Guide 2024/2025 (2024).

Critical raw materials

Poland is a crucial link in the supply chain of several mineral raw materials (including some critical ones) for the sustainable development of the EU. In some cases, the minerals produced in Poland play an important role in ensuring the bloc's mineral security. This applies in particular to coking coal (and its derivative product, coke), copper, silver and elemental sulphur. The National Raw Material Policy for 2050, approved in March 2022, aims to ensure Poland's raw material security by guaranteeing access to necessary raw materials (domestic and imported) in the long term.

Poland is a significant exporter of these raw materials to the EU and some non-European countries, due to its intensive extraction of high-quality minerals. Exports account for 20–30% of the Polish production of coking coal (for its derivative, coke, this reaches 60–70%), 30–40% of for refined copper, more than 50% for elemental sulphur and more than 90% for refined silver. Only for copper does this share have a declining trend, due to growing domestic consumption. Poland's strategic dependency on raw material in 2023 is slightly above the EU average, indicating a moderate level of import concentration ([127]).

Climate mitigation

Industry decarbonisation

Manufacturing represents less than a fifth of Poland's greenhouse gas emissions yet remains emissions intensive. At 15%, the share of industry in Poland's total greenhouse emissions is below the EU average of 21% ([128]).

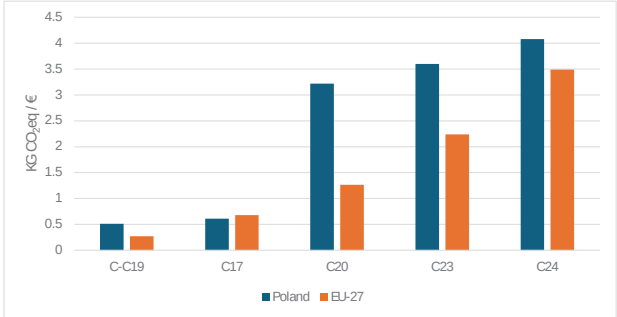
([127]) Single Market Scoreboard 2024. 'Import concentration' measures how much a country relies on a limited number of sources for a basket of critical raw materials.

([128]) In 2023. Manufacturing includes all divisions of the "C" section of the NACE Rev. 2 statistical classification of

By 2022, the emissions intensity of Poland's manufacturing production has decreased by 30% compared to 2017 more than in the EU overall (20%). However, at 510 g CO2eq per euro of gross value added (GVA), it emits 80% more greenhouse gases than the EU overall. At 55 and 45% respectively, the shares of energy- and non-energy-related emissions in manufacturing in Poland (the latter are related to industrial processes and product use) show an opposite relation to that of the EU (43 and 57%).

Poland's manufacturing sector would benefit from the decarbonisation of its energy supply and process electrification. Between 2017 and 2022, the energy-related greenhouse emissions intensity of manufacturing in Poland decreased by 24%, above the EU average (16%) ([129]). At the same time, the intensity of manufacturing regarding process and product use-related greenhouse emissions declined by 20%, slightly below the EU overall (23%). In this period, the share of electricity and renewables in the final energy consumption of Polish manufacturing only increased by one percentage point, to 41%. However, the energy intensity of manufacturing decreased significantly – by 22% - from 2.2 GWh per euro of GVA to 18 GWh/€. Poland's manufacturing sector relies on the grid for 78% of its electricity consumption and on indirect heat from the power sector for 39% of its heat consumption.

Graph A7.1: **GHG emission intensity of manufacturing and energy-intensive sectors, 2022**



Source: Eurostat.

The greenhouse emissions intensity of Poland's chemicals industry is the fourth highest in the EU, at 3.2 kg of CO2eq per € of GVA ([130]): A significant share of the sector's emissions stems from the use of natural gas to produce hydrogen. The chemicals industry is one of the biggest consumers of both natural gas and hydrogen. The metals sector too is quite emissions intensive by EU standards, with 4.1 kg CO2eq/€ (EU overall: 3.5 kg). More broadly, Poland has third highest hydrogen consumption in the EU, dominated by fossil fuels in production, including imported natural gas ([131]).

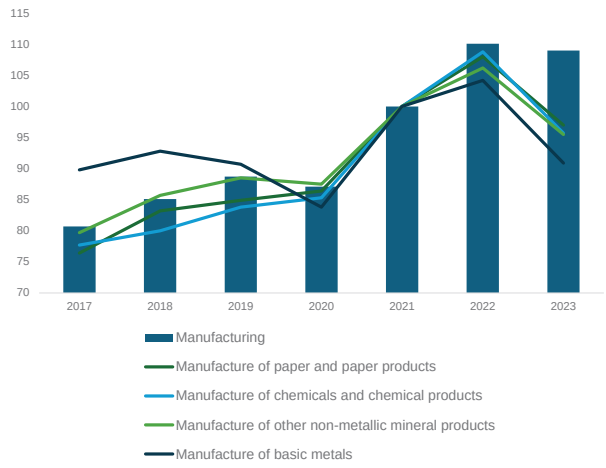
economic activities. In the remainder of this section, unless indicated otherwise, data on manufacturing refer to the divisions of the NACE section C excluding division C19 (manufacture of coke and refined petroleum products), and the year 2022. The source of all data in this section is Eurostat; data following the UNFCCC Common Reporting Framework (CRF) are from the European Environment Agency (EEA), republished by Eurostat.

([129]) For the GHG emissions intensity of GVA related to energy use and industrial processes and product use respectively, GHG emissions are from inventory data in line with the UNFCCC Common Reporting Format (CRF), notably referring to the source sectors CRF1.A.2 – fuel combustion in manufacturing industries and construction and CRF2 – industrial processes and product use. The CRF1.A.2 data broadly correspond to the NACE C and E sectors, excluding C-19. GVA data (in the denominator for both intensities) are aligned with this sectoral coverage. Therefore, they are not fully consistent with the data referred to in other part of this section.

([130]) The two sectors considered above – the manufacture of chemicals and chemical products (NACE division C20) and the manufacture of basic metals (C24) are energy-intensive, consuming much energy both on site and/or in the form of purchased electricity – and greenhouse gas emissions intensive, in various combinations. Furthermore, the manufacture of paper and paper products (NACE division C17) and of "other" non-metallic mineral products (C23) (including manufacturing activities related to a single substance of mineral origin, such as glass, ceramic products, tiles, and cement and plaster) are typically energy- and greenhouse gas emission-intensive industries.

([131]) See European Hydrogen Observatory – Hydrogen Demand.

Graph A7.2: **Manufacturing industry output production: total and selected sectors, index (2021 = 100), 2017-2023**



Source: Eurostat.

Poland urgently needs a policy framework to advance industrial transformation. The manufacturing sector accounts for about 16% of GDP and 31% of employment in Poland. Meanwhile, its transformation to date fails to effectively balance decarbonisation, competitiveness and resilience. An effective policy framework, grounded in sectoral analysis, could help accelerate the clean industry transformation. This could include tax incentives to promote electricity over fossil fuels and a stable legal rules to support projects in carbon capture and storage/use, among others.

Reduction of emissions in the effort sharing sectors

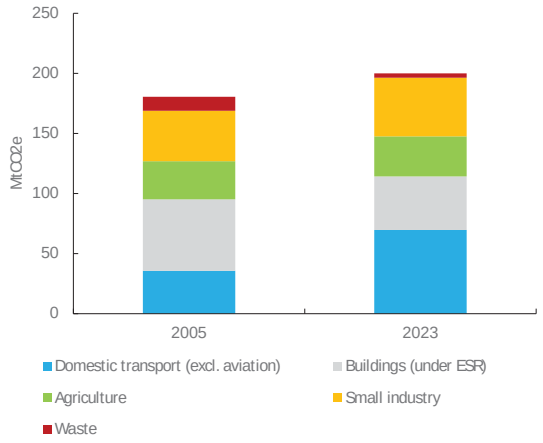
To attain its 2030 effort sharing target, Poland needs to swiftly specify and implement further climate mitigation policies ([132]). In 2023, greenhouse gas emissions from Poland's effort sharing sectors are expected to have been 4.1% above those of 2005. If implemented, additional policies considered by Poland are projected – by 2030 – to reduce these emissions by 7.2% (or 18.2%) relative to 2005 levels, depending on the additional measure scenario chosen ([133]). In the most ambitious range, this provides for the overachievement of Poland's effort sharing target, a reduction of 17.7%, by 0.5 percentage points. Given the large impact of the additional measures that are not yet implemented, swift and steady adoption will be critical for the implementation of the full set of measures.

Swift action on decarbonising transport appears necessary in Poland. Between 2005 and 2023, greenhouse gas emissions from road transport nearly doubled in Poland, while they fell by 5% in the EU overall. Road transport remains dominated by internal combustion engine vehicles, with less than 5% of newly registered cars in 2023 being electric. Poland also has the largest stock of trucks and vans in the EU, accounting for 18% in 2023. Policies to help bring road transport emissions down are underway, but they are yet to deliver results. Under its resilience and recovery plan (RRP), Poland is deploying policies to promote an uptake of electric vehicles by private users and businesses and to subsidise the purchase of electric buses by municipalities. Poland is also using EUR 444 million from the ETS (EU Emissions Trading Scheme) Modernisation Fund to deploy charging stations inter alia for heavy-duty electric vehicles.

([132]) The national greenhouse gas emission reduction target is set out in Regulation (EU) 2023/857 (the Effort Sharing Regulation). It applies jointly to buildings (heating and cooling); road transport, agriculture; waste; and small industry (known as the effort sharing sectors).

([133]) The effort sharing and sectoral emissions for 2023 are based on approximated inventory data. The final data will be established in 2027 after a comprehensive review. Projections on the impact of current policies ("with existing measures", WEM) and additional policies ("with additional measures", WAM) are based on Poland's final energy and climate plan.

Graph A7.3: **Greenhouse gas emissions in the effort sharing sectors, 2005 and 2023**



Source: European Environment Agency

The decarbonisation of the buildings sector needs to accelerate to help reduce emissions, air pollution and energy poverty. Emissions from the buildings sector have been decreasing gradually, falling to 25% below 2005 levels by 2023, less than the EU average (33%). Poland remains among the ten EU Member States where emissions reductions have been advancing most slowly. Recent progress can be attributed to the policies promoting heat source replacement for e.g., Clean Air priority programme, and installation of small-scale renewable sources. Since 2018, Poland has earmarked nearly EUR 7 billion to support heat source replacement and EUR 1 billion to support the installation of small-scale renewables in residential buildings. However, about 1.5 million households in Poland still use coal for individual heating and 7.5 million buildings need thermal modernisation. Poland has been reviewing its policies for the building sector with a view to (i) incentivising heat source replacement, together with investment in building renovation and (ii) accelerating implementation.

Sustainable industry

Circular economy transition

There is room for boosting Poland's circularity transition. Poland's circular use of material was 7.5% in 2023, showing a slight increase following a gradual decline since 2014. This puts Poland's rate below the EU average of 11.8%. Poland also lags in terms of resource productivity, although its performance has been constantly improving over the past decade.

In 2023, the country generated EUR 0.86 per kg of material consumed, which is below the EU average of EUR 2.22 per kg. Poland has a Roadmap for the Transition to a Circular Economy ([134]) in place (adopted in 2019), which focuses on four areas of action: sustainable industrial production, sustainable consumption, bioeconomy and new business models. The roadmap contains a set of tools aiming to create the conditions for implementing a new economic model in Poland. The measures included mainly concern analytical and conceptual work, information and promotion, as well as coordination in areas in the remit of individual ministries. The implementation of the roadmap has been slow, but first steps include the establishment of a circular economy government information platform and an indicator system assessing the progress of the transition. As part of Poland's National Recovery and Resilience Plan ([135]), new end-of-waste regulations for key industrial waste are planned. They shall include definitions of selected secondary raw materials and facilitate the circulation and use of waste as secondary raw materials.

Municipal waste generation in Poland has increased in the last decade, but with 364 kg/cap of municipal waste generated in 2022, the country is still significantly below the estimated EU average of 515 kg/cap.

([134]) Polish Roadmap for the Transition to Circular Economy, 2019. (https://gozwpraktyce.pl/regulacja/mapa-drogowa/).

([135]) Poland's recovery and resilience plan, 2022. (https://www.funduszeeuropejskie.gov.pl/media/109762/KPO.pdf).

Positive trends have been observed in recycling. After a period of stagnation, the municipal waste recycling rate (incl. preparing for reuse) has significantly increased in recent years. In 2022, the rate was 41%, which is slightly below the estimated EU average of 49%. Poland's overall packaging waste recycling rate significantly increased between 2010 and 2019 and reached 56% in 2019. Still, Poland is at risk of missing both 2025 targets set out in the Waste Framework Directive: the 55% preparing for re-use and recycling target for municipal waste and the 65% packaging waste recycling target. Poland is also at risk of not meeting the 2035 target of max 10% of municipal waste landfilled ([136]).

Current investment in the circularity transition has been insufficient. Poland is estimated to need total additional investment worth at least EUR 1.25 billion a year for its circular economy transition, including waste management, representing 0.2% of Poland's GDP. Of the circular economy gap, EUR 265 million relate to recent initiatives, such as eco-design for sustainable products, packaging and packaging waste, labelling and digital tools, critical raw materials recycling and measures proposed under the amended Waste Framework Directive, and EUR 723 million constitutes a further investment need to unlock Poland's circular economy potential ([137]).

Zero pollution industry

Despite positive trends in emission reduction from individual heating sources in buildings, air quality in Poland continues to give cause for concern. Emissions of several air pollutants have fallen significantly since 2005, while GDP growth has continued. Poland has made substantial progress in reducing emissions under the National Air Pollution Control Programme (NAPCP). The latest reported data show that the 2020-2029 emission reduction commitments have been met and that the 2030 onwards emission reduction commitments are projected to be reached. Still, in 2023, exceedances above the limit values set by the Ambient Air Quality (AAQ) Directive ([138]) were registered for NO_2 in four air quality zones ([139]), and for PM_{10} in two air quality zones ([140]) in Poland. Furthermore, the target values for ozone concentrations have not been met in one air quality zone, the target values for arsenic concentrations in two air quality zones, and for benzo(a)pyrene (BaP) concentrations in twenty-one air quality zones ([141]).

Polish industry still releases large amounts of air and water pollutants. Poland has the second-highest industrial air pollution damage in the EU, and ranks third in emissions intensity, significantly exceeding the EU average of EUR 27.5 / EUR thousand GVA (gross value added). The primary source of air emissions in Poland is the energy sector, which is a major contributor to emissions of nitrogen oxides (NOx), sulphur dioxide (SO2), mercury (Hg) and nickel (Ni), while the metal industry is a significant source of copper (Cu), lead (Pb) and zinc (Zn) emissions. Additionally, the chemical industry is a key contributor to emissions of non-methane volatile organic compounds (NMVOC). Moreover, in EU rankings Poland has the 3rd highest emissions of heavy metals to water and is in 4th position for emissions intensity, above the EU average intensity of 0.864 kg/EUR billion GVA. The main contributors to emissions to water in Poland are the waste management sector for nitrogen, total organic carbon and

([136]) Circular economy country profile – Poland. (Link) accessed 9 November 2024.

([137]) European Commission, DG Environment, *Environmental investment needs & gaps assessment programme*, 2025 update. Expressed in 2022 prices.

([138]) Directive 2008/50/EU on ambient air quality and cleaner air for Europe.

([139]) Aglomeracja Wroclawska, Aglomeracja Krakowska, Aglomeracja Warszawska and Aglomeracja Górnoslaska.

([140]) Strefa Dolnoslaska and Strefa Malopolska.

([141]) European Environment Agency, Eionet Central Data Repository.

heavy metals, and wastewater treatment for phosphorus.

The costs of pollution remain far higher than the investment into pollution prevention and control. The latest available annual estimates (for 2022) by the European Environment Agency ([142]) for Poland attribute 391 000 years of life lost to fine particulate matter ($PM_{2.5}$) ([143]). To meet its environmental objectives on pollution prevention and control and address the health and economic costs of pollution, Poland needs an additional EUR 1.6 billion per year (0.24% of GDP), mostly related to clean air and noise ([144]).

([142]) European Environment Agency, Harm to human health from air pollution in Europe: burden of disease 2024.

([143]) Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM_{10} refers to particles with a diameter of 10 micrometres or less. $PM_{2.5}$ refers to particles with a diameter of 2.5 micrometres or less. PM is emitted from many human sources, including combustion.

([144]) European Commission, DG Environment, *Environmental investment needs & gaps assessment programme*, 2025 update. Expressed in 2022 prices.

Table A7.1: **Key clean industry and climate mitigation indicators: Poland**

Strategic autonomy and technology for the green transition				Poland					EU-27	
Net zero industry										
Operational manufacturing capacity 2023										
- Solar PV (c: cell, w: wafer, m: module), MW	400-450 (m)			- Electrolyzer, MW		-				
- Wind (b: blade, t: turbine, n: nacelle), MW	2000-2500 (b), 1750-2000 (t)			- battery, MWh		85000-90000				
Automotive industry transformation	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**		**2018**	**2021**
Motorisation rate (passenger cars per 1000 inhabitants), %	507	524	541	566	579	584	601	↗	539	561
New zero-emission vehicles, electricity motor, %	0.10	0.13	0.26	0.85	1.57	2.68	3.58	↗	1.03	8.96
Critical raw materials	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**		**2018**	**2021**
Material import dependency, %		19.5	19.5	19.3	19.7	20.8	19.9	↘	24.2	22.6

Climate mitigation				Poland				Trend	EU-27	
Industry decarbonisation	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**		**2017**	**2022**
GHG emissions intensity of manufacturing production, kg/€	0.67	0.65	0.6	0.6	0.61	0.51		↘	0.34	0.27
Share of energy-related emissions in industrial GHG emissions	46.2	44.7	44.8	44.6	45.9	45.0	45.9	↘	44.8	42.5
Energy-related GHG emissions intensity of manufacturing and construction, kg/€	264.7	249.8	236.1	233.0	238.3	201.9	-	↘	158.4	132.9
Share of electricity and renewables in final energy consumption in manufacturing, %	40.0	39.8	40.5	41.8	39.2	40.8	38.3	↗	43.3	44.2
Energy intensity of manufacturing, GWh/€	2.24	2.18	2.07	2.12	2.14	1.75	1.58	↘	1.29	1.09
Share of energy-intensive industries in manufacturing production						14.4				7.3
GHG emissions intensity of production in sector [...], kg/€										
- paper and paper products (NACE C-17)	0.90	0.79	0.82	0.72	0.68	0.61	-	-	0.73	0.68
- chemicals and chemical products (NACE C20)	3.62	3.55	3.42	3.36	3.73	3.22	-	-	1.25	1.26
- other non-metallic mineral products (NACE C23)	3.55	3.57	3.82	3.79	3.87	3.60	-	-	2.53	2.24
- basic metals (NACE C24)	4.08	4.70	4.19	3.91	4.16	4.08	-	-	2.79	3.49
Reduction of effort sharing emissions		**2018**	**2019**	**2020**	**2021**	**2022**	**2023**		**2018**	**2023**
GHG emission reductions relative to base year, %					7.7	2.0	4.1			
- domestic road transport		79.7	82.5	74.4	88.7	91.4	95.4	↗	1.4	5.2
- buildings		-2.6	-12.7	-11.2	-8.8	-20.5	-25.0	↘	21.4	32.9
	2005				**2021**	**2022**	**2023**	**Target**	**WEM**	**WAM**
Effort sharing: GHG emissions, Mt; target, gap, %	192.5				207.3	196.2	200.4	-17.7	-3.4	0.5

Sustainable industry				Poland				Trend	EU-27	
Circular economy transition		**2018**	**2019**	**2020**	**2021**	**2022**	**2023**		**2018**	**2021**
Material footprint, tonnes per person		16.8	16.1	15.8	16.2	16.1	15.8	↘	14.7	15.0
Circular material use rate, %		10.5	9.2	7.4	7.0	6.7	7.5	↘	11.6	11.1
Resource productivity, €/kg		0.7	0.8	0.8	0.9	1.0	1.1	↗	2.1	2.3
Zero pollution industry										
Years of life lost due to PM2.5, per 100,000 inhabitants		1,479	1,148	1,056	1,335	1,541	-	↗	702	571
Air pollution damage cost intensity, per thousand € of GVA					77.4					27.5
Water pollution intensity, kg weighted by human factors per bn € GVA						1.8				0.9

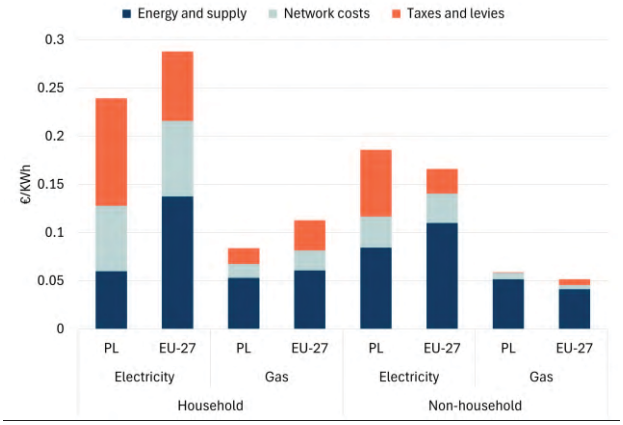
Source: **Net zero industry:** European Commission: The net-zero manufacturing industry landscape across Member States: final report, 2025. **Automotive industry transformation:** Eurostat. **Critical raw materials:** Eurostat. **Climate mitigation:** See footnotes in the "climate mitigation" section; reduction of effort sharing emissions: EEA greenhouse gases data viewer; European Commission, Climate Action Progress Report, 2024. **Sustainable industry:** Years of life lost due to PM2.5: Eurostat and EEA, Harm to human health from air pollution in Europe: burden of disease status, 2024. Air pollution damage: EEA, EU large industry air pollution damage costs intensity, 2024. Emissions covered: As, benzene, Cd, Cr, Hg, NH3, Ni, NMVOC, NOX, Pb, dioxins, PM10, PAH, SOX. Water pollution intensity: EEA, EU large industry water pollution intensity, 2024. Releases into water covered from cadmium, lead, mercury, nickel. Other indicators: Eurostat.

This annex outlines the progress made and the ongoing challenges faced in enhancing energy competitiveness and affordability, while advancing the transition to net zero. It examines the measures and targets proposed in the final (draft) updates to the national energy and climate plans (NECPs) for 2030.

The decarbonisation of the Polish energy system is progressing, but challenges persist. District heating remains largely reliant on coal and grid bottlenecks hinder further renewable energy penetration. While household energy prices are capped, industry pays among the highest electricity prices in the EU. Significant investment in non-fossil grid flexibility, enhanced cross-border flows and more consumer empowerment could play an important role. Electrification is progressing slowly, also due to the unfavourable electricity/gas price ratio, exacerbated by high taxation on electricity compared to gas. Both Industrial and household consumers pay electricity around 3 times as much as gas.

Energy prices and costs

Graph A8.1: **Retail energy price components for household and non-household consumers, 2024**



(i) For household consumers, consumption includes all bands for electricity and gas. Taxes and levies are shown including VAT.
(ii) For non-household consumers, consumption band is ID for electricity and I4 for gas. Taxes and levies are shown excluding VAT and recoverable charges, as these are typically recovered by businesses.
Source: Eurostat

In 2024, Poland's retail electricity prices for households have risen slightly, driven by increases across all price components—energy, network costs, and taxes. However, prices remain below the EU average, primarily due to government intervention. Taxes represent 46.6% of the total electricity cost for households, significantly higher than the EU average of 25%. This stands in stark contrast to gas, where taxes account for only 19.4% of the total cost, compared to the EU average of 27.8%.Since 2022, Poland has frozen regulated household electricity prices at 2021 levels (PLN 412/MWh) for annual consumption up to 3,000 kWh, with higher thresholds for farmers and large families. Consumption above these limits is charged at PLN 693/MWh.

In contrast, retail energy prices for industrial consumers have declined but remain above the EU average. As with households, taxes and levies are heavily weighted towards electricity: they account for 37.2% of the total cost of electricity (compared to the EU average of

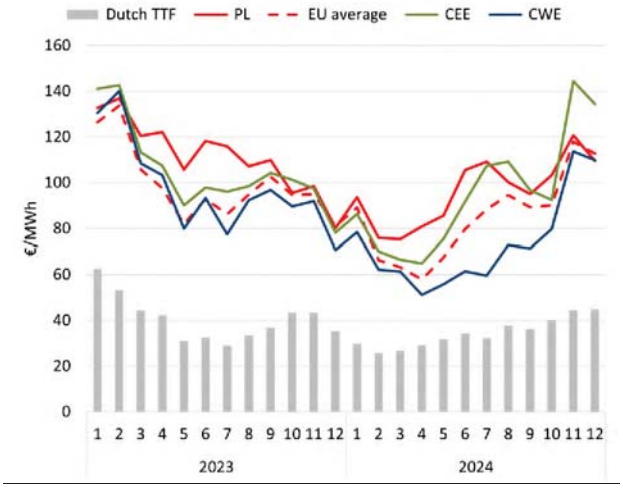
15.4%), but only 1.4% for gas (vs 11.6% EU average).

With an average of 96 EUR/MWh in 2024([145]), Poland had the EU's seventh highest wholesale electricity prices. While prices in Poland declined early in the year amid falling natural gas costs, they surged during the spring/summer and again in the winter, diverging from Central Western European (CWE) markets. Despite lower consumption compared to 2023, lower coal output (-8% in 2024), a strained net importing position[1] as well as limited non-fossil flexibility created an electricity supply-demand gap (which was exacerbated in the winter due to lower wind power generation compared to 2023). This gap was mainly covered by costly natural gas-fired generation (+24% in 2024) ramping up especially during peak demand hours. These conditions caused price spikes in the evening hours (18h-21h), when solar output declined and demand remained high, especially during the summer. On the other hand, average daytime hourly prices were lower compared to 2023, likely owing to the uptake of solar output in Poland (+37% in 2024). More broadly, fossil fuels still accounted for 70% of electricity generation in Poland throughout 2024, maintaining their structural role as dominant – and costly – marginal price-setting technologies([146]).

([145])Fraunhofer (ENTSO-E data).

([146]) Yearly electricity data, Ember (generation and consumption data throughout the paragraph).

Graph A8.2: **Monthly average day-ahead wholesale electricity prices and European benchmark natural gas prices (Dutch TTF)**



(i) the Title Transfer Facility (TTF) is a virtual trading point for natural gas in the Netherlands. It serves as the primary benchmark for European natural gas prices.
(ii) CEE and CWE respectively provide average prices in the central-western European (Belgium, France, Germany, Luxembourg, the Netherlands and Austria) and central-eastern European (Poland, Czechia, Slovakia, Hungary, Slovenia and Romania) markets.
Source: S&P Platts and ENTSO-E

Flexibility and electricity grids

The Polish electricity system remains weakly interconnected. The development and modernisation of the network is crucial for further deployment of renewables. In recent years, Poland has not managed to improve its level of interconnectivity with other countries. In 2024 this stood at 5%, well below the 15% target for 2030. While capacity allocation constraints play a role here, there are also no projects in the pipeline that would increase transfer capacity on the western borders. The only electricity cross-border project of common interest at the moment is the Harmony Link with Lithuania. The project has faced some delays and is now planned to be an overland alternating current line (initially high voltage direct current subsea cable) to be commissioned in 2030.

The planned investments focus more on the internal constraints of the grid. The new

national network development plan, which runs until 2034, envisages PLN 64 billion of investments to modernise transmission networks. The modernisation plan assumes that the network will have greater capacity to connect renewable energy sources. Also, the Polish transmission system operator has already started to make investments that will allow energy to be collected from offshore wind farms and a nuclear power plant to be built in the future.

Poland is part of three capacity calculation regions (CCRs), namely Core([147]), Baltic([148]) and Hansa([149]). Member States should ensure that a minimum of 70% of technical cross-border capacity is available for trading. With regard to this target of 70%, Poland has declared allocation constraints limiting total exchanges to and from the Polish bidding zone([150]). In June 2024, the Polish transmission system operator implemented significant reform of the balancing market, which is expected to first mitigate and ultimately eliminate the allocation constraint. To increase cross-border capacity, Poland drew up an action plan to reinforce the internal electricity grid. Furthermore, Poland has a derogation in place for the 70% criterion granted on the grounds of excessive loop flow from neighbouring Member States. A derogation enables a lower level of trades for a time-limited period if needed for operational security reasons.

Permitting remains an obstacle for grid development. The general permitting process for infrastructure projects is complicated. Obtaining all the necessary opinions and consents necessary at various steps of the procedure may take several years([151]). Although there are no special provisions for projects of common interest/projects of mutual interest, an updated manual of procedures tailored to these projects was published in 2023. Furthermore, the Transmission Act and Gas Act established accelerated and more effective permit-granting procedures, which make it possible to implement projects in an effective and satisfactory manner.

Despite some progress, non-fossil flexibility, including storage and demand-side response, is underutilised. Demand response faces large market access barriers. While demand response can participate in the capacity market and has been awarded contracts representing 4-8% of the total awarded capacity over the 2021-2028 period, its access to wholesale energy markets is currently not allowed. Access to the balancing market is possible but barriers remain, such as a long prequalification time or minimum bid size. The Polish capacity market has also awarded contracts to non-fossil flexibility assets such as battery storage or pumped hydro storage (respectively 2 GW and 1.15 GW for 2028). Today, 1.76 GW of storage is operational in Poland and a further 2.7 GW has been announced.

In the last few years, Poland has experienced an increasing occurrence of negative prices. While this is still a rarer phenomenon than in other Member States, it has taken on greater significance due to the growth of renewables in the mix leading to periodic energy surpluses when weather conditions are favourable. Traditional sources, like coal-fired plants, have limited operation flexibility and struggle to adjust output to match the varying production of renewable energy sources (RES. Negative prices occurred 43 times in 2023 and 53 times

([147]) Core is the CCR which covers central European countries namely Austria, Belgium Czechia, Germany, France, Croatia, Hungary, the Netherlands, Poland, Romania, Slovenia, Slovakia and, once connected, Ireland. A CCR is a group of countries which calculate cross-border electricity trade flows together.

([148]) Finland, Sweden, Estonia, Latvia, Lithuania and Poland are part of the Baltic CCR.

([149]) Denmark, Norway, Sweden, the Netherlands, Germany and Poland are in the Hansa CCR.

([150])See 2024 ACER market monitoring report.

([151]) Milieu (2025) *Study on national permit-granting process applicable to energy transmission infrastructure projects with a focus on projects of common interest and projects of mutual interest under Chapter III of Regulation (EU) 2022/869. Overview Report.*

in 2024. In July 2023, Poland amended its energy law to introduce mandatory compensation for generators affected by redispatching. However, its implementation lacks transparency in the calculation of fair compensation.

Consumer empowerment is progressing slowly, despite its high potential (7.9% of households in Poland generated electricity in 2023, one of the highest values in the EU). As of August 2024, customers will have the right to enter into contracts involving dynamic electricity prices with any supplier that serves more than 200 000 customers. Although there was a significant increase in rolling out smart meters to household consumers in 2023 (by 9.3 pps compared to 2022), only 27% of Polish households have access to smart meters, well below the EU average of 63% and the 2030 80% target. Households have been taking up the role of prosumers gradually, with 7.9% generating their own electricity([152]). Despite the 2023 update of the legislative framework, the development of energy communities remains limited, with around 50 reported([153]). National public procurement rules have been reported as a significant obstacle, preventing municipalities from prioritising locally produced energy and making suppliers hesitant to enter into an agreement to take on balancing responsibilities on behalf of energy communities([154]).

In 2023, electricity accounted for 16.6% of Poland's final energy consumption, below the EU average of 22.9%, and this share has remained largely stagnant in the last decade([155]) also due to an extremely unfavourable electricity/gas price ratio. Further progress in electrification across sectors is required for cost effectively decarbonising the economy and bringing the benefits of affordable renewable generation to consumers. When it comes to households, electricity accounts for 12.5% of final energy consumption, while in industry it represents 26.4% (see also Annex 7). For the transport sector, this share remains negligible at 1.4%. Electricity was 2.9 times more expensive than gas for Polish households in 2024, mainly due to unfavourable tax treatment. Before taxes, the ratio is only 1.6. Similarly, the ratio for energy intensive industrial consumers in 2024 was 3.1, while it was only 2 before taxes ([156]).

Renewables and long-term contracts

Solar power continued its steep upward trajectory. In 2024, total capacity installed increased by 45%, to 5.8GW. Despite the relaxation of the 10h rule, the potential of wind energy in Poland remains largely untapped. **In 2024, total onshore wind installed capacity increased only by 7.5%, from 9.3 GW to 10 GW**. Hydropower capacity remained unchanged at 2.4 GW in 2023 compared to 2022. In 2024 renewable energy sources accounted for 30% of the electricity mix, increasing from 27.2% in 2023 (vs EU overall RES share of 47%)([157]).

([152]) All data on consumer empowerment are from the ACER Market Monitoring report 2023, i.e. based on data covering 2022.

([153]) ESPON TANDEM project.

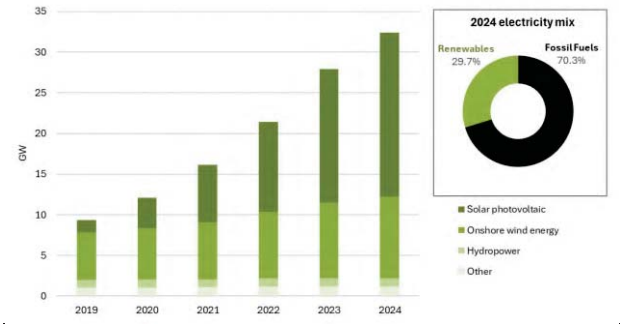
([154]) Energy Communities Repository: Barriers and action drivers for the development of different activities by renewable and citizen energy communities.

([155]) CAGR (compound annual growth rate) of -0.3% between 2013 and 2023 and minimum/maximum share of 16.5% and 18.1%, respectively.

([156]) Analysis based on Eurostat data for the second semester of 2024 and on ACER data for 2025. For household consumers, consumption bands include all bands for electricity and gas. For non-household consumers, consumption band is ID for electricity and I4 for gas, referring to large-sized consumers, providing an insight into international competitiveness (price used for the calculation excludes VAT and other recoverable taxes/levies/fees as non-household consumers are usually able to recover VAT and some other taxes).

([157]) Yearly electricity data, Ember.

Graph A8.3: **Poland's installed renewable capacity (left) and electricity generation mix (right)**



"Other" includes solid biofuels, renewable municipal waste, liquid biofuels and biogas
Source: IRENA, Ember

Poland has made some progress towards speeding up permitting, also by implementing reforms included in its recovery plan. It has made visible efforts to improve internal coordination, digitalise procedures and ease conditions for grid connection. Progress includes new rules on cable pooling and more coordinated grid development as well as the identification and planning of locations for projects. Several significant initiatives have been undertaken, such as identifying necessary priority investments in grid expansion and modernising the law on spatial planning. The envisaged reform of the distance law for wind installations with a reduction of the minimum distance from 700m to 500m is likely to significantly increase the area available for wind power. At the same time, there is no unified process for the single contact point, and there are no established rules for repowering. Moreover, more personnel will be required to deal with the expected increase in permitting procedures. (Add if available amount of capacity permitted in 2024.) There is thus room for further improvement to shorten the permit-granting procedure for RES, especially taking into consideration the guidance on speeding up permit-granting procedures. The share of renewables in final energy consumption, calculated as per the RED methodology, has slightly declined in 2023 to 16.5%, one of the lowest values in the EU.

The Polish energy mix is still dominated by fossil fuels, which cover 85% of total available energy. This is higher that the EU average of 75%. Between 2022 and 2023, the share of coal has significantly declined by more than 5 percentage points, from 40.2% to 34.7%. Renewables have slightly increased, from 12.8% to 14.3%.

Poland has provided a clear picture on upcoming auctions of offshore wind for the coming years in the Union Renewables Development Platform, with 4 GW being auctioned in 2025, 2027 and 2029. Poland also pledged to boost onshore wind generation, albeit by comparatively modest amounts.

Regarding power purchase agreements([158]), Poland is among the top 8 EU countries with a contracted volume of 0.7 GW and 231 deals in 2024. This marks a slight decrease in contracted capacity (from 0.75 GW) but an increase in the number of deals (from 16) concluded compared to the previous year.

In Q4 of 2024, Poland adopted a dedicated Hydrogen Act, which updates the existing energy legislation and is expected to accelerate the growth of the low-carbon and renewable hydrogen economy, as well as the planning of supporting infrastructure. However, Poland has yet to explore the potential benefits of system integration, such as utilising excess renewable energy to produce fully renewable hydrogen by strategically locating electrolysers and leveraging Power-to-X technologies to produce hydrogen and other derivatives.

Energy efficiency

In 2023, energy consumption continued its decline after years of steady growth, with exceptions in 2020 and 2022. Primary and final energy consumption fell by 5.1% and

([158])European PPA Market Outlook 2025, Pexapark.

2.3%, reaching 93.6 Mtoe and 69.9 Mtoe, respectively. While Poland's draft updated NECP aligns with the formula laid down in Annex I to the recast Energy Efficiency Directive, additional measures are needed to meet the ambitious 2030 targets.

Energy intensity decreased across all sectors, but transport remains the largest energy consumer (over 30% final energy consumption) with limited progress in reducing consumption. Poland's cumulative energy savings target under Articles 8 to 10 of the Energy Efficiency Directive for 2021-2030 is 44 870 ktoe. Data from the NECP for 2023 indicate that expected savings would significantly exceed this, correcting the underperformance seen in 2021. The draft NECP update in 2024 includes three new energy efficiency programs alongside the existing white certificate scheme to ensure targets are met.

Poland has an effective national financing framework for energy efficiency that primarily involves grants (35%), mixed schemes (32%) and financial instruments (27%). Funding targets industry/SMEs (26%), residential buildings (24%), public buildings (12%), and district heating (12%). However, Poland has notified the Commission of its comprehensive heating and cooling assessment required under the Energy Efficiency Directive.

The long-term renovation strategy aims to cut buildings' primary energy consumption by 4% between 2018 and 2030. Heating and cooling accounted for 82% of residential final energy use in 2022, with renewables supplying 23%. Final energy consumption in households fell 3.8% in 2023, though it increased by 3% after climate corrections. Greater efforts are needed to meet the 2030 efficiency targets in buildings.

Heat pump deployment fell by 40% in 2023 due to an unfavourable electricity/gas price ratio and increased popularity of gas and biomass boilers. Heating and cooling account for 81% of residential energy consumption, with only 20% from renewables. Heat pump incentives exist, covering up to EUR 10 750 per installation. However, their impact is likely to be offset by electricity's expensiveness compared to other fossil solutions.

Structural challenges persist in district heating decarbonisation, despite coal reliance in this area declining from 73% in 2022 to 69% in 2023. Poland has put in place policies to phase out individual coal-based heating and set targets to eliminate the installation of gas boilers in new buildings. However, challenges remain. The share of households using coal-based individual heating fell from 40% in 2012 to 20% in 2021. However, 50% of households are connected to district heating, where coal remains by far the main energy source. Such a large share of coal in heating supply is quite unique in Europe, as no other country presents comparable levels. Despite technical and financial challenges, decarbonisation efforts can leverage district heating as a key enabler of system flexibility, using power-to-heat technologies to stabilise the electricity grid, integrate renewable energy sources and unlock the potential of geothermal and solar thermal heating.

Fossil fuel subsidies

In 2023, environmentally harmful([159]) fossil fuel subsidies without a planned phase-out before 2030 represented 0.92%([160]) of Poland's GDP([161]), above the EU weighted

([159]) Direct fossil fuel subsidies that incentivise maintaining or increasing in the availability of fossil fuels and/or use of fossil fuels.

([160]) Numerator is based on volumes cross-checked with the Polish authorities. For all Member States, it includes public R&D expenditures for fossil fuels as reported by the IEA (Energy Technology RD&D Budgets) and excludes, for methodological consistency, excise tax exemption on kerosene consumed in intra-EU27 air traffic.

([161]) 2023 Gross Domestic Product at market prices, Eurostat.

Table A8.1: **Key Energy Indicators**

	Poland				EU		
	2017	2018	2019	2020	2021	2022	2023
Gas Consumption (in bcm)	**20.1**	**20.2**	**20.8**	**21.3**	**22.8**	**19.6**	**20.2**
Gas Consumption year-on-year change [%]	4.4%	0.5%	2.9%	2.6%	7.2%	-13.9%	2.9%
Gas Imports - by type (in bcm)	**15.7**	**15.8**	**17.5**	**17.4**	**18.5**	**15.2**	**15.9**
Gas imports - pipeline	14.0	13.0	14.0	13.6	14.4	9.0	9.2
Gas imports - LNG	1.8	2.7	3.5	3.8	4.1	6.2	6.7
Gas Imports - by main source supplier [%]							
Germany	22.7%	18.8%	22.6%	21.0%	17.7%	28.9%	7.3%
Ukraine	0.0%	0.0%	0.0%	0.6%	2.0%	0.5%	3.5%
United States	0.6%	0.5%	5.4%	5.7%	8.6%	22.6%	0.0%
Russia	65.6%	61.6%	55.0%	54.9%	56.6%	19.6%	0.0%

Source: Eurostat, ENTSO-E, S&P Platts

average of 0.49%. Tax measures accounted for 75% of this volume, while income/price support and direct grants represented 23% and 2%, respectively. Fossil fuel subsidies without a planned phase-out before 2030 and which do not specifically address, in a targeted way, energy poverty nor genuine energy security concerns included ongoing subsidies to the coal mining industry, tax exemptions for coal and fuel oil([162]), and excise duty refunds on diesel used in agriculture. Additionally, Poland's 2023 average Effective Carbon Rate([163]) averaged EUR 68 per tonne of CO_2, below the EU weighted mean of EUR 84.80([164]).

In 2024, Poland confirmed its EUR 1.6 billion subsidy to coal mining. The 2021 social contract outlines a gradual phase-out of coal until 2049 – the latest phase-out date in the EU. Coal mining in Poland has become increasingly uncompetitive. Similarly, the share of coal in the power mix is rapidly declining, to the advantage of renewable energy sources. Poland has therefore the opportunity to act in advance of the official phase-out date and send a strong and credible signal to the market and to investors.

([162]) Fuel oil used for the following purposes is exempted from excise duty the production of electricity and heat in cogeneration, in agricultural, horticultural, greenhouse and forestry activities.

([163]) The Effective Carbon Rate is the sum of carbon taxes, ETS permit prices and fuel excise taxes, representing the aggregate effective carbon rate paid on emissions.

([164]) OECD (2024), Pricing Greenhouse Gas Emissions 2024.

The impacts of climate change threaten Poland's economy and society, and water-related ecosystems are particularly vulnerable. Better governance of adaptation is critical to building resilience, including better coordination between national, regional and local bodies and integration of climate risk assessment into sectoral policy design and strategic planning. Some progress has been made in Poland in this respect, but a comprehensive and systematic approach to adaptation governance is still lacking. Recent events, such as the Oder River disaster in 2022 and the floods in 2024, show that water-related ecosystems are particularly vulnerable to climate change impacts. Meanwhile, the design of Poland's water management system prioritises the industrial use of rivers, without giving sufficient consideration to environmental and resilience aspects. A more balanced and preparedness-oriented approach to governance is urgently needed to ensure not just the long-term sustainability of water-related ecosystems, but also the competitiveness of sectors that rely on their ecosystem services.

Climate adaptation and preparedness

Poland faces intensifying impacts of climate change, in particular an increased risk of drought, flooding and heatwaves, as well as other extreme weather events. These impacts threaten the security of critical infrastructure and expose important sectors of the economy to losses, such as agriculture and food production, the biomass industry and tourism. They also pose a welfare risk, putting emergency, health and sanitary services under pressure. The severity and frequency of climate change impacts vary regionally, which poses an additional challenge in terms of adaptation governance. An effective approach needs to draw from regularly updated sector-specific climate risk assessments and mobilise action at both national and regional levels.

Losses and damage caused by climate change-related extreme events are a growing threat to Poland's economy and its people. Between 1980 and 2023, economic losses due to extreme weather events amounted to EUR 20.6 billion. The largest direct losses were caused by droughts and floods, with flood-related losses accounting for EUR 13.7 billion between 1980 and 2023 ([165]). Their impact was further exacerbated by productivity deficits as well as the costs of rehabilitation and assistance ([166]). In September 2024, south-west Poland suffered severe floods, with the resulting direct losses estimated at EUR 3 to 6 billion and rehabilitation and recovery still underway A wide climate protection gap continues to pose a challenge to Poland's public finances, at both national and regional levels. On average, only 7% of losses from extreme weather- and climate-related events over the period 1980-2023 were insured, compared to 62% in Denmark ([167]).

Poland's agricultural sector needs systemic adaptation to climate change in order to maintain its strategic importance for the economy and food security. In 2023, agriculture accounted for 3% of the Polish gross domestic product (GDP), the seventh highest in the EU and above the EU-27 average**.** A composite assessment shows that the resilience of agriculture in Poland has improved in 2007-2021; however, growing climate change-related pressures call for further effort to increase resilience and preparedness. In addition to drought, flooding, heatwaves and frost damage, as well as extreme weather events, agriculture is exposed to new diseases and pests, and environmental pressures, chiefly water and soil quality

([165])EEA, 2024, *Economic losses from weather- and climate-related extremes in Europe*, Link.

([166]) ING, 2024, *Updated: Polish flood damages may be limited but GDP impact could be higher than that*, Link.

([167])EEA, 2024, *Economic losses from weather- and climate-related extremes in Europe*, Link.

degradation. The wide-scale uptake of nature-based agricultural practices to boost resilience and biodiversity, protect against erosion and improve the retention of water is key to fostering resilience. A good understanding of climate change impacts and risks would also help identify opportunities for the sector to diversify.

Poland is deploying investment programmes and support schemes to boost preparedness and improve adaptation in the face of an increased flood and drought risks. In 2024, Poland announced EUR 250 million investment in water infrastructure to manage flood waves and to increase water retention. In parallel, Poland allocated EUR 55 million to environmental restoration projects to improve adaptation ([168]). Poland is also using over EUR 2.5 in EU cohesion policy funding to support adaptation and preparedness measures in cities. Under the common agricultural policy (CAP) strategic plan, Poland has initiated measures to help retain water in soils and grasslands (e.g. eco-schemes involving the protection of peatlands and wetlands). They involve creating water retention areas to mitigate drought and control carbon emissions by preserving organic matter.

Vulnerable groups in Poland are particularly threatened by climate change impacts. The heat-related mortality rate doubled between 2003-2012 and 2013-2022, with children and older people (around 40% of people in Poland) particularly exposed to an increased risk of heatwaves. Still, preparedness measures coordinated at national level are lacking. Also, changing seasonal blooming patterns and the emergence of new allergens, exacerbated by poor air quality, pose a threat to some 30% of people in Poland who suffer from pollen allergies. In 2024, the Polish Health Council issued recommendations for interministerial measures to help reduce exposure to climate change impacts and air pollution. Among other measures, the Council recommended extending medical studies curricula to cover climate and environmental pressures, raising awareness of those pressures among patients and improving the resilience of medical infrastructure to climate change impacts.

In the absence of nationally coordinated action, a dedicated project for cities helps advance climate adaptation in the health sector in Poland. The project establishes a methodology for developing urban adaptation plans that consider vulnerable sectors' and groups' exposure to climate change impacts. In almost all of the 44 cities with over 100 000 inhabitants participating in the project, actions to improve the public health sector's resilience to climate change impacts have been developed. These actions involve improving the functioning of municipal services and social infrastructure, broadening the uptake of early warning systems, and increasing public awareness. They are directed towards vulnerable groups – the elderly, isolated, persons with disabilities and chronically ill, as well as people in the crisis of homelessness.

Strategic documents underpinning climate adaptation governance in Poland are yet to be updated. An update of Poland's national adaptation strategy has been underway since 2022. The updated document is expected to expand on priority action points included in the original strategy, adopted in 2013 – afforestation to mitigate drought, improved water retention and sustainable management of rainwater. However, the update also needs to cover emerging risks and reflect a growing knowledge and experience base by means of adaptation solutions. Poland is also yet to develop its vulnerability assessment that should inform the update of the national adaptation strategy.

Poland still lacks appropriate institutional mechanisms for effective climate adaptation governance. A legal framework with regularly updated targets and strategic objectives is

([168]) Polish Government, 2024, *Działania MKiŚ związane z adaptacją do zmian klimatu*, Link.

lacking, as is effective central coordination between the local, regional and national levels. Moreover, there is considerable scope for integrating climate adaptation and public funding considerations into sectoral policies, for policy monitoring and for predicting climate risks. Climate adaptation solutions also need to be backed by legal and procurement frameworks to enable and facilitate their deployment.

Water resilience

Water-related ecosystem services in Poland continue to be compromised in the absence of sustainable water management. Meanwhile, pressures related to water availability, quality and rehabilitation, as well as its efficient use, are exacerbated by increasingly severe droughts. Poland's water productivity, standing at EUR 61 per m^3 of abstracted water in 2022, has slightly improved over the last five years, but is considerably lower than that of many other Member States, being among the ten lowest values in the EU-27. The water exploitation index plus (WEI+) reached 6.3 in 2022, which is the eighth highest value in the EU-27. Seasonal data show that the highest WEI+ value (11.6) was reached in the third quarter of 2019 and the second highest value (10.4) in the second quarter of 2016. The economic sector responsible for the greatest water consumption is electricity cooling, which absorbed 1.6 billion m^3 of water in 2022. To reduce the use of water in the energy sector, Poland would need to rely more on renewable energy sources.

The assessment of the third river basin management plan shows that there has been significant deterioration in the ecological status and potential and the chemical status of surface water bodies, as compared to the status reported in the second plan (covering the period 2015-2021). There has been a slight deterioration in the quantitative status of groundwater bodies, and a slight improvement in their chemical status. Worryingly, the number of surface water bodies reported as having good or better ecological status/potential has fallen from 31% to 8.4%, compared with the second plan. Among all of the Member States, this is the greatest reduction in ecological status between the two assessments. It is particularly striking that none of the transitional and coastal water bodies are in good ecological status. Only 24.8% of surface water bodies have good chemical status, representing a significant deterioration since the second plan. The failure to achieve good chemical status is mostly due to ubiquitous persistent bio-accumulative and toxic substances which are difficult to address and are often from transboundary sources. In Poland, these are mainly polycyclic aromatic hydrocarbons (PAHs), polibrominated diphenyl ethers (PBDEs), and mercury and its compounds.

Poland's wastewater treatment is a particular cause for concern. Despite investments co-financed from EU funds, Poland has yet to fully implement the Urban Wastewater Treatment Directive. Overall, the compliance rate was 87% in 2020, which means that 340 agglomerations, generating 10.7 million p.e. of urban wastewater, did not comply with the requirements of the Directive. It is essential that Poland takes the necessary measures to fully comply with those requirements, making use of the available EU funding, i.e. the European Regional Development Fund and the Recovery and Resilience Facility. This is all the more important as the Directive has been revised, strengthening existing treatment standards and establishing a new additional treatment of micropollutants in urban wastewater ([169]). In Poland, discharges from urban wastewater contribute to bad water quality in 27.7% of rivers, 8% of lakes, 85.7% of transitional and 50% of coastal waters. As shown in Graph A9.2,

([169]) Directive 2024/3 019, of 27 November 2024. The deadline for transposition is 31 July 2027.

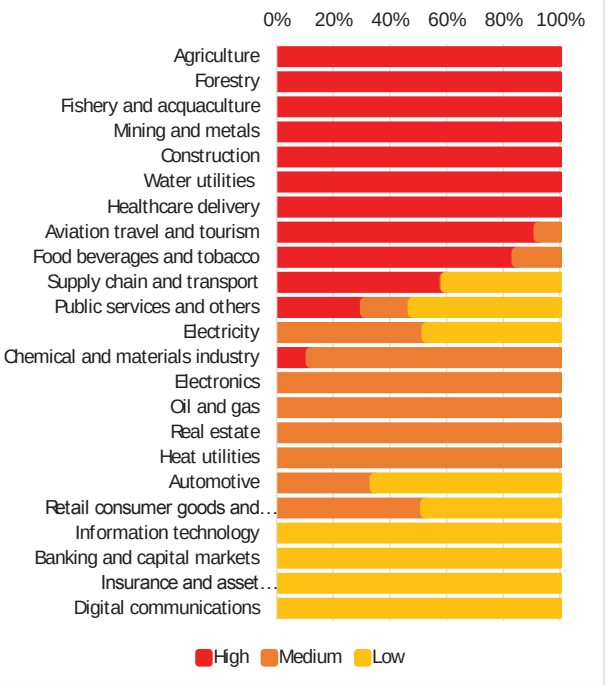
the investment needs for water protection and water management are substantial, with a financing gap of EUR 1.5 billion (0.23% of gross domestic product (GDP)) per year by 2027. Roughly 73% of the gap can be attributed to unaddressed financing needs in wastewater management. Further infrastructure development would help improve water management, e.g. wastewater collection and treatment, water reuse, reducing leaks in the networks and the general water supply. Additional investments are needed to improve monitoring (quality and quantity) and support nature-based solutions, flood prevention and river restoration.

Biodiversity and ecosystems

The state of nature and ecosystems continues to degrade in Poland, reducing the country's climate resilience. According to the latest available data, only 20% of the country's habitats have a good status, while the share of habitats classified as having bad or poor conservation status has increased to 78.3%. This situation has severe implications for Poland's climate resilience, as the loss of biodiversity impairs ecosystems' ability to provide services that help mitigate the effects of climate change, such as regulating water cycles, maintaining soil health, and sequestering carbon.

Progressive environmental degradation and biodiversity loss also pose significant economic and social risks. Poland is among the Member States with a high supply chain dependency on ecosystem services, with 69% of its gross value added showing a medium to high level of dependency, compared to the EU-27 average of 55%. Several sectors, such as agriculture, forestry, fisheries, construction and water utilities (see Graph A9.1) are particularly dependent on ecosystem services, with 100% of those sectors' gross value added directly dependent on ecosystem services. This means that failure to maintain ecosystems' capacity to deliver services could entail significant costs or even stop production in these sectors. Protecting and restoring key ecosystems would ensure that the long-term competitiveness of these economic sectors is preserved.

Graph A9.1: **Direct dependency(1) on ecosystem services(2) of the gross value added generated by economic sector in 2022**

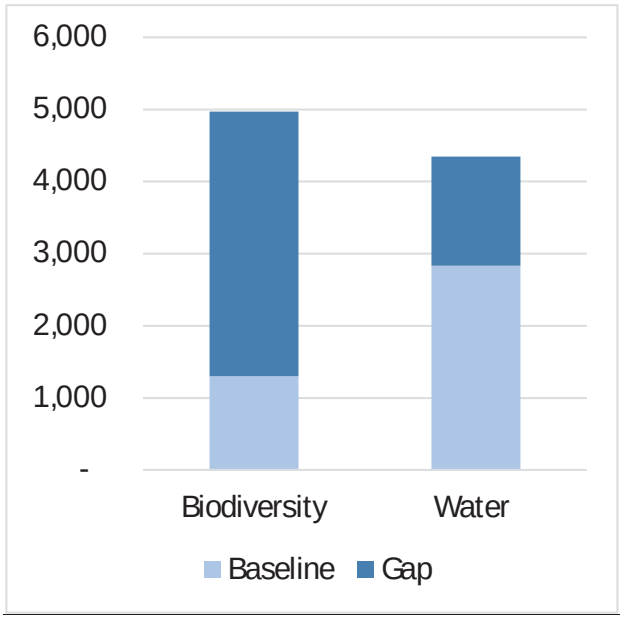


(1) Dependency based on the sector's own operations, excluding value chain operations within countries and across international value chains. A high dependency indicates a high potential exposure to nature-related shocks or deteriorating trends, which means that the disruption of an ecosystem
service could cause production failure and severe financial loss.
(2) Ecosystem services are the contributions of ecosystems to the benefits that are used in economic and other human activity, including provisioning services (e.g. biomass provisioning or water supply), regulating and maintenance services (e.g. soil quality regulation or pollination), and cultural services (e.g. recreational activities).
Source: Hirschbuehl et al., 2025, *The EU economy's dependency on nature*, Link.

Targeted action on nature protection and restoration is needed to meet Poland's nature restoration targets. Taking Natura 2000 and other nationally designated protected areas into account, Poland legally protects 39.6% of its land areas (EU-27 average 26%) and 21.9% of its marine areas (EU-27

average 12%). Poland strictly protects approximately 1.5% of its territory (combined area of national parks and natures reserves). It also needs to restore up to 14 483 km^2 of habitats listed in Annex I to the Habitats Directive, corresponding to 4% of its territory ([170]). Poland will need EUR 5 billion of investment per year over the period 2021-2027 to effectively conserve and restore its natural capital, mitigate the impacts of climate change, and preserve the country's rich biodiversity (see Graph A9.2). The current level of biodiversity financing is estimated at EUR 1.3 billion per year. To meet the environmental objectives concerning the protection and restoration of biodiversity and ecosystems and other relevant horizontal measures, Poland would need an additional EUR 3.7 billion per year, leaving an investment gap corresponding to 0.6% of its GDP.

Graph A9.2: **Investment needs and gaps in EUR million, in 2022 constant prices**



Source: European Commission, DG Environment, Environmental investment needs & gaps assessment programme, 2025 update.

([170]) European Commission, 2022, *Impact Assessment accompanying the proposal for a Regulation of the European Parliament and of the Council on nature restoration*, part 1/12, p. 22.

Sustainable agriculture and land use

Poland's carbon removals fall short of the level of ambition needed to meet its 2030 target for land use, land use change and forestry (LULUCF). Poland is facing significant challenges in enhancing the carbon-absorbing capacity of its land-use sector, as carbon removals have declined at a worrying speed in recent years. To meet its 2030 LULUCF target, additional carbon removals of -3.3 million tonnes of CO_2 equivalent (CO_2eq) are needed ([171]). The latest available projections show a gap to target of 5.9 million tonnes of CO_2eq for 2030 ([172]). Additional measures therefore need to be applied to reach the 2030 target.

Poland's agriculture sector remains a steady contributor to greenhouse gas emissions and continues to have a significant impact on air, water and soils. In 2022, agriculture was responsible for a total of 33.3 million tonnes of CO_2eq, accounting for around 9% of the country's total emissions. Poland's utilised agricultural area (UAA) covered 14.6 million hectares in 2023 and has remained stable over the last decade. Poland's nitrogen balance of 47.4 kg of nitrogen per hectare of UAA in 2019 (the most recent data available) has only slightly improved since 2013. However, the data published by Statistics Poland ([173]) suggests that the situation has recently improved, with nitrogen values going down to 38.7 kg per hectare of UAA ([174]) in 2021 and 30.5 kg in 2020. Although the livestock density index was 0.69 in 2020, thus slightly below the EU average of 0.75, ammonia emissions accounted for 96% of total emissions from

([171]) National LULUCF targets of the Member States in line with Regulation (EU) 2023/839.

([172]) Climate Action Progress Report 2024 COM/2024/498.

([173]) Green economy indicators in Poland 2024 (Link)

([174]) As the UUA definition used by Statistic Poland is slightly different, the values might not be fully comparable with those quoted above, but nevertheless they show a declining trend.

agriculture, which is above the EU-27 average of 90%, and has not changed significantly over the last decade. Poland is only slowly transitioning to a sustainable food system by implementing policies to reduce the environmental impact of agriculture. In 2022, 3.6% of its agricultural land had landscape features such as woods and non-productive grasslands, below the EU average of 5.6%. Organic farming, with reduced use of synthetic fertilisers and pesticides, made up 3.9% of Poland's agricultural land, which is among the worst results in the EU-27.

Table A9.1: **Key indicators for progress on climate adaptation, preparedness and environment**

Climate adaptation and preparedness:	Poland						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Drought impact on ecosystems *[area impacted by drought as % of total]*	5.43	14.51	2.57	1.82	7.16	7.96	6.77	2.76
Forest-fire burnt area (1) *[ha, annual average 2006-2023]*	386	386	386	386	386	386		
Economic losses from extreme events *[EUR million at constant 2022 prices]*	890	-	51	30	1	1	24 142	62 981
Insurance protection gap (2) *[composite score between 0 and 4]*	-	-	-	-	1.38	1.38		
Heat-related mortality (3) *[number of deaths per 100 000 inhabitants in 2013-2022]*	15	15	15	15	15			
Sub-national climate adaptation action *[% of population covered by the EU Covenant of Mayors for Climate & Energy]*	12	13	15	15	16	17	41	44

Water resilience:	Poland						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Water Exploitation Index Plus, WEI+ (4) *[total water consumption as % of renewable freshwater resources]*	5.2	6.8	6.2	5.1	6.3	-	4.5	4.5
Water consumption *[million m^3]*	3 314	3 101	2 875	2 996	3 076	-		
Ecological/quantitative status of water bodies (5) *[% of water bodies failing to achieve good status]*								
Surface water bodies	-	-	-	64%	-	-	-	59%
Groundwater bodies	-	-	-	9%	-	-	-	93%

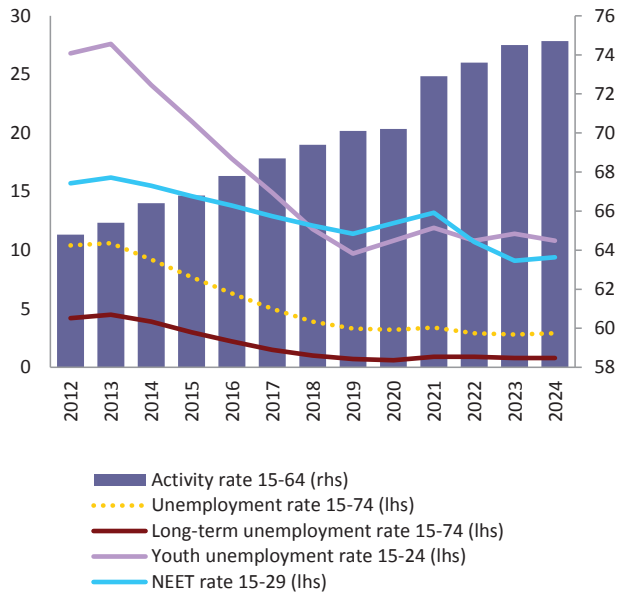
Biodiversity and ecosystems:	Poland						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Conservation status of habitats (6) *[% of habitats having a good conservation status]*	20.0	-	-	-	-	-	14.7	-
Common farmland bird index *2000=100*	-	-	-	-	-	-	72.2	74.4
Protected areas *[% of protected land areas]*	-	-	-	40	40	-	-	26

Sustainable agriculture and land use:	Poland						EU-27	
	2018	2019	2020	2021	2022	2023	2018	2021
Bioeconomy's added value (7) *[EUR million]*	34 378	36 509	37 846	39 006			634 378	716 124
Landscape features *[% of agricultural land covered with landscape features]*	-	-	-	-	4	-		
Food waste *[kg per capita]*	-	-	119	122	123	-		
Area under organic farming *[% of total UAA]*	3.3	3.5	3.5	3.8	3.9		7.99	-
Nitrogen balance *[kg of nitrogen per ha of UAA]*	61.8	47.4	-	-	-	-		
Nitrates in groundwater (8) *[mgNO_3/l]*	-	-	-	-	-	-		
Net greenhouse gas removals from LULUCF (9) *[Kt CO_2-eq]*	- 40 960	- 22 561	- 23 330	- 23 917	- 35 644	-	- 256 077	- 240 984

(1) The data show the average for the timespan 2006-2023 based on EFFIS - European Forest Fire Information System.
(2) Scale: 0 (no protection gap) – 4 (very high gap). EIOPA, 2024, Dashboard on insurance protection gap for natural catastrophes.
(3) van Daalen, K. R. et al., 2024, The 2024 Europe report of the Lancet Countdown on health and climate change: unprecedented warming demands unprecedented action. The Lancet Public Health.
(4) This indicator measures total water consumption as a percentage of the renewable freshwater resources available for a given territory and period. Values above 20% are generally considered to be a sign of water scarcity, while values equal or greater than 40% indicate situations of severe water scarcity.
(5) European Commission, 2024, seventh Implementation Report from the Commission to the Council and the European Parliament on the implementation of the Water Framework Directive (2000/60/EC) and the Floods Directive (2007/60/EC) (Third River Basin Management Plans and Second Flood Risk Management Plans).
(6) For this indicator, the EU average includes the figure for the UK under the previous configuration, EU-28.
(7) European Commission, 2023, EU Bioeconomy Monitoring System dashboards.
(8) Nitrates can persist in groundwater for a long time and accumulate at a high level through inputs from anthropogenic sources (mainly agriculture). The EU drinking water standard sets a limit of 50 mg NO_3/L to avoid threats to human health.
(9) Net removals are expressed in negative figures, net emissions in positive figures. Reported data are from the 2024 greenhouse gas inventory submission. 2030 value of net greenhouse gas removals as in Regulation (EU) 2023/839 – Annex IIa.
Source: Eurostat, EEA

In recent years, Poland's labour market has been resilient and continues to perform well. However, the country still faces structural challenges that have a detrimental impact on its competitiveness and potential economic growth. These challenges are exacerbated by a lack of progress in social dialogue and labour rights, and include stark regional imbalances, demographic change and the underrepresentation of women and vulnerable groups in the labour market. The 2030 employment rate target has been reached. However, further steps to help achieve the target include creating a more inclusive labour market to harness the potential of underrepresented groups, tackling labour shortages, and enhancing job quality.

Graph A10.1:**Key labour market indicators**



Activity rate and Employment rate (% of population), 20-64
Unemployment long-term unemployment rate (% of labour force), 15-74
Youth unemployment rate (% of labour force), 15-24
NEET: Not in employment, education or training (% of population), 15-29
Source: Eurostat, LFS [lfsi_emp_a, une_rt_a, edat_lfse_20, une_ltu_a]

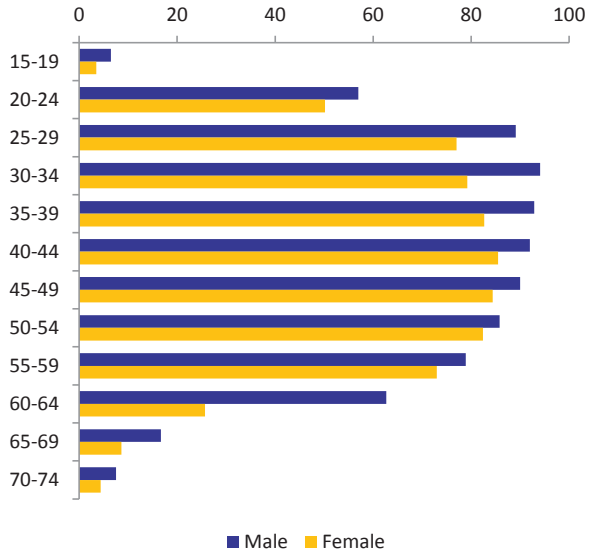
Poland's labour market remains robust, albeit with regional variations. In 2024 the labour market in Poland continued to improve despite weak economic growth. The employment rate (age 20-64) reached 78.4%, higher than the EU average of 75.8%, and above the national target 2030 (78.3%) (see Social Scoreboard in Annex 13). The activity rate in 2024 rose to historically high level of 74.7%, below the EU average (75.4%). With unemployment at 2.9%, Poland is among the 'best performers' in the EU, which has an average unemployment rate of 5.9%. However, there are major territorial disparities due to regional imbalances in socioeconomic development (see Annex 17): in less developed, generally post-industrial, regions, the employment rate is lower, and the workforce is lower-skilled. In 2023, the difference between the highest and lowest employment rate in provinces was 8.7 percentage points (pps) (Dolnośląskie Province - 74.3%, Podkarpackie Province - 65.6%). Similar patterns have been recorded for activity and unemployment rates. Looking ahead, the growth of the employment rate is expected to slow down in 2025 and 2026, due to the shrinking working-age population, though the rising employment rate of displaced people from Ukraine may partly offset this trend.

Insufficient childcare services contribute to fewer women in work, hampering economic growth and highlighting gender disparities. In 2024, Poland's gender equality score improved but remains significantly below the EU average ([175]). While the gender employment gap (age 20-64) decreased by 3.2 pps from the 2020 figure to 11.6 pps in 2024, it remains above the EU average of 10 pps. Disparities between men and women tend to be caused by parenthood, in the case of women, and their prevalent role in caregiving and domestic work. Continued efforts are needed to address challenges in the availability of and access to high-quality affordable childcare and

([175]) Poland's Gender Equality Index score was 63.4 in 2024, up from 61.9 in 2023, out of 100 points. EU average was 71 in 2024.

insufficient work-life balance opportunities. A recent study found that 94% of mothers who are not working would like to rejoin the workforce. However, 70% of them say that they are afraid that after returning to work they will not be able to find a healthy balance between work and childcare ([176]). Most people fleeing the war in Ukraine were women with children who, due to family responsibilities, stay home, or can only look for part-time work ([177]). The proportion of children under the age of 3 receiving formal childcare decreased by 2.1 pps between 2021 and 2024 and is now 15.1%, far below the EU average (39.2%). Amendments to the Labour Code in April 2023 include provisions for carers' leave, shared parental leave and paternity leave. Existing measures supported by the ESF+ and the Recovery and Resilience Facility (RRF), including Active Toddler on Early Childhood Education and Care and benefits under the Active Parent, are steps in the right direction, but it would also be beneficial to adopt more targeted measures to help women to enter and stay in the workforce. Poland is also well below the EU average in providing public long-term care services (3.4% vs 5.8% in the EU in 2019); care responsibilities fall mainly on families (see Annex 11). Closing (territorial) gaps in access to quality and affordable childcare and long-term care services, particularly for those lagging furthest behind, is important. Also, greater flexibility and improved benefits during parental leave may contribute to domestic tasks being shared more fairly, a reduction in gender stereotypes and a narrowing of the gender employment gap.

Graph A10.2:**Employment by age group and sex**



2024 Employment rate, % of population
Source: Eurostat, LFS [lfsa_ergaed]

Vulnerable groups, including persons with disabilities, older people and low-qualified adults, also face barriers to labour market integration. Following an increase from 31.1 pps in 2022 to 35.6 pps in 2024, the disability employment gap is among the widest in the EU (24 pps). Disability or illness is one of the main causes of economic inactivity in Poland. Initiatives are being undertaken to support the labour market integration of persons with disabilities, including the development of a network of information and counselling centres, support programmes for students and graduates with disabilities to facilitate their transition into the labour market, and actions to increase the accessibility of higher education institutions, partly funded via ESF+. Existing labour market tools are still not meeting the required objectives, despite a comprehensive diagnosis of obstacles and a call for bold investment in evidence-based policy reform([178]). Employers' preparedness to employ persons with disabilities remains a challenge due to the absence of a legal basis for supported employment and the knowledge and skills on how to integrate such people into

([176]) "Macierzyństwo a aktywność zawodowa" (Motherhood and professional activity), Rodzic Foundation, 2021

([177]) National Bank of Poland: Living and economic situation of Ukrainian migrants in Poland in 2024. Survey report.

([178]) European Semester 2024-2025 country fiche on disability equality

the workplace. The education gap of this group is also a concern. The tertiary education rate of persons with disabilities was 32% in 2021/2022, and the mean tertiary education gap in those years stood at 18.4 pps (EU 11.3 pps)([179]). In addition, the proportion of young people (aged 16-29) not in employment, education or training (NEETs) with disabilities (40%) is one of the highest in the EU. Poland has set a target of 40% for the employment of persons with disabilities by 2030.

Older people (aged 55 to 64) also experience relatively low employment rates, accounting for more than 32% of Poland's economically inactive working-age population. The employment rate of older women is particularly low, at 48.3% as opposed to 59.4% in the EU, compared to 70.7% for older men (71.4% in the EU). This is largely due to the lower retirement age for women (60 vs 65 for men). The employment rate of people aged 20-64 with lower levels of educational attainment is also much lower than the EU average (47.7% vs 58.7% EU) and this is especially true of older people (55-64) with lower skills (38.1% vs 49.6% in the EU). Most of the labour-market instruments currently implemented in Poland to tackle these problems are highly dependent on the EU cohesion policy funds and the recovery and resilience plan (RRP), which poses challenges for their long-term sustainability. To further support vulnerable groups, it would be beneficial to strengthen measures to help them find employment, including tapping into the full potential of the social economy.

Given Poland's ageing population and declining birth rates, it is essential to integrate underrepresented groups more effectively. Poland's population has fallen by over 1.35 million since 2018, the last year in which the population grew. In 2024, the country's population fell by 133 000, the largest such fall in the EU. The demographic trend is deteriorating despite unprecedented levels of immigration in recent years, mostly from Ukraine. Causes of this include the country's historically low fertility rate (1.29 vs 1.46 in the EU in 2022), changes in the population structure and delayed parenthood. Between 2022 and 2070, Poland's population is expected to fall by 16%, four times the EU (4%), with the working-age population (20-64) expected to decrease by 9.8 pps (7 pps for the EU)([180]).

Nine Polish regions are among the 82 EU regions facing a sharp decline in their working-age population. The situation in Łodzkie is particularly concerning, as it is experiencing a talent development trap, a shrinking working-age population and a lack of individuals with higher education. Eight other Polish regions, mostly in Eastern Poland, are at risk of falling into this trap due to net migration of people aged 15-39. These demographic shifts will exacerbate shortages of people entering work. It would therefore be of benefit to implement measures to get underrepresented groups into work. One reform under the RRP aims to increase the labour-market participation with a view to helping the Polish economy to achieve higher productivity, crisis resilience and global competitiveness. Cohesion policy supports the functioning of the public employment services, specifically for persons with disabilities, and inclusive education for children with disabilities. In 2023, the ESF funded 23 education support centres, a qualification framework for special-needs assistants, and training of 28 000 school staff on inclusive education.

There is a growing shortage of workers, posing challenges in some sectors. The proportion of companies reporting a shortage of labour force as a significant factor limiting production was very high, at 63% in manufacturing in Q4-2024 (18% in the EU),

([179]) European comparative data on persons with disabilities - Publications Office of the EU

([180]) 2024 Commission Ageing Report

57.4% in services (26.8% in the EU), and 72.2% in construction (26% in the EU) ([181]). The challenges in the construction sector may be even more severe given its relative dependency on workers from other countries, including non-EU nationals (ELA report, 2023). At the same time, the job-vacancy rate remains relatively low at 0.9% in 2024 and below its pre-pandemic level of 1.1% in 2019. In December 2023, the Polish government approved a law to improve third country nationals' access to the Polish labour market, including integration programmes such as Polish language tuition. In addition to targeted active labour market policies and upskilling and reskilling, legal migration and attracting talent could help retain workers with adequate skills in key sectors and bolster Poland's competitiveness.

Poland has seen robust wage growth but real wages remained subdued. Nominal wage growth reached 12.3% in 2022 and 13.1% in 2023, more than twice the EU average of 4.8% and 5.9%, respectively([182]). However, due to high inflation this has not led to significant real wage growth, which decreased by 0.7% in 2022 before increasing slightly by 1.6% in 2023. Nominal wage growth is expected to reach 11.5% in 2024 before falling to 5.9% in 2025. The increase in real wages (by 7.4% in 2024) is driven by continued wage growth and steep disinflation (inflation fell from 13.2% in 2022 to 3.7% in 2024). The statutory minimum wage also increased by almost 55% between January 2022 and January 2025, an increase of around 23% in real terms.

While in-work poverty has decreased from pre-pandemic highs, it remains slightly above the EU average (9.1% vs 8.2%). Over the past decade, wage growth has fallen short of what may be expected based on the usual macroeconomic drivers of wage growth ([183]). More recently, unit labour costs (ULCs)([184]) rose more steeply in Poland than in most EU Member States, growing by 7.9% in 2022, 13.6% in 2023 and 7.9% in 2024, although they are forecast to fall sharply to 2.4% in 2025. Poland's export market shares have been growing since 2019, well above EU average, strong wage developments may weigh on competitiveness prospects.

Poland's underdeveloped social dialogue and labour rights framework exacerbates labour market inequalities. Poland has not improved its social dialogue in recent years and the social partners have noted a deterioration in their engagement. The 2024 Global Rights Index ([185]), which documents breaches of internationally recognised labour rights, listed Poland among the countries where governments and/or companies regularly interfere in, or fail to fully guarantee, important aspects of collective labour rights. Furthermore, there are deficiencies in laws as well as established practices, which enable frequent violations (see Annex 6) ([186]).

Collective bargaining coverage in Poland has been on a long-term downward trend since the 2000s and, at 13.4% is one of the

([181]) European Commission Business and Consumer Survey, publication date 8 January 2025

([182]) For nominal wage growth, pay per employee is considered. It includes: i) Wages and salaries payable in cash or in kind; and ii) Social contributions payable by employers. For real gross wages, the deflator used is HICP. Real wages using this deflator then can differ from real wages shown in AMECO (that uses private consumption as deflator). Data for 2024 and 2025 are based on the European Commission Autumn 2024 economic forecast.

([183]) Wage benchmarks are predicted by developments in inflation, productivity, the trade balance and the unemployment rate.

([184]) Unit labour costs are defined as the ratio of total labour pay per employee to output per persons employed (labour productivity).

([185]) International Trade Union Confederation (ITUC): https://www.ituc-csi.org/IMG/pdf/2024_ituc_global_rights_index_en.pdf

([186]) This was also the case with the national medium-term fiscal-structural plan submitted to the Commission in November 2024, in which Poland cited time pressure as the reason for not conducting mandatory consultations, using an exception of Regulation 2024/1263.

lowest in the EU ([187]). It has been 10 years since the last industry-wide collective agreement was concluded in Poland. At company level, social dialogue is characterised by a small number of collective agreements and coverage for few employees. - Two draft laws, on collective labour agreements and minimum wage, were drawn up in June 2024 but have not yet been submitted to Parliament. In July 2024, the social partners took an unfavourable view of a new draft law on collective agreements, as it offers no real incentives to encourage collective bargaining ([188]). The government also plans to adopt a bill on changes to the Social Dialogue Council in the second quarter of 2025, which may prove to be a step in a right direction. Properly functioning collective bargaining on wage setting and the effective involvement of social partners in setting and updating statutory minimum wages can strengthen incentives to work, support wage adequacy and ensuring that productivity gains are shared more fairly across society. A more collaborative approach can lead to more balanced and sustainable wage policies, which would boost workers' living standards and economic competitiveness.

The workforce is adapting to the green and digital transitions, with a growing need for skilled workers in emerging sectors. In 2024, employment in the country's energy-intensive industries was relatively high at 5.4% of total employment, while jobs in the green economy have expanded. Between 2016 and 2021, employment in the environmental goods and services sector grew by 44.3%, reaching 1.8% of total employment (EU: 2.7%). The job vacancy rate in construction, a key sector for the green transition, is well below the EU average (1.6% vs 3.8% in 2023). Although the greenhouse gas emission intensity of Poland's workforce has improved, down from 21.3 tonnes per worker in 2015 to 18.7 in 2023, it is still 6.4 pps above the EU average of 12.3), reflecting some progress in the green transition.

The digital transition has also seen steady growth, with ICT specialists accounting for 4.3% of total employment in 2023, compared to 4.8% in the EU. Small and medium-sized enterprises in Poland have reported a lack of qualified ICT personnel as one of the main barriers for digitalisation of businesses. Women accounted for 19.1% of ICT specialists, just below the EU average (19.4%), but still lower than in many other Member States and some way off the 29.0% target Poland set itself in the Digital Decade strategic roadmap. Digital skills among the working population in Poland are still short of what may be expected. It would therefore be beneficial to enhance upskilling and reskilling (see Annex 12).

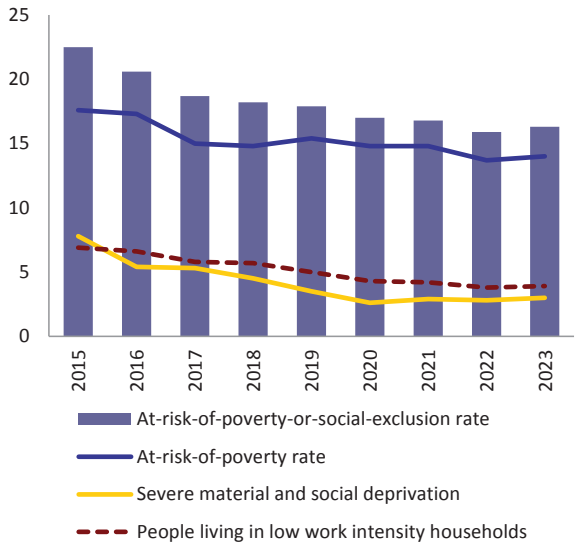
([187])OECD (2019)

([188]) https://legislacja.gov.pl/docs//2/12386550/13066364/13066367/dokument704962.pdf

Overall, Poland's social situation has improved, but the country continues to face challenges with higher poverty levels among people in rural areas and older people. The key contributing factors include inadequate access to early childhood education and care, health and social services, especially in rural areas and for disadvantaged groups. Demographic shifts raise concerns about the sustainability of pensions, including their future adequacy, especially for women. Adressing the limited capacity and coverage of the social protection system and segmentation of the labour market will contribute to Poland's sustainable and inclusive growth and competitiveness.

A stable decline in poverty is visible across its components. In 2024, the at-risk-of-poverty or social exclusion (AROPE) rate decreased slightly (0.3 pps) compared to 2023, and was 16% , close to the rate in 2022. Relatively high annual inflation rates (10.9% in 2023) ([189]) and, to a lesser extent, the unprecedented influx of refugees from Ukraine may have impacted the development of poverty indicators. Nevertheless, the AROPE rate in 2023 remained lower than in the EU on average (21%), also for children: 16.1% vs 24.2% in the EU). For the components of AROPE, the at risk of poverty (AROP) and severe material and social deprivation (SMSD) slightly increased between 2022 and 2023 (respectively from 13.7% to 14% and from 2.8% to 3%), while the very low work intensity (VLWI) decreased (see Graph A11.1). Addressing the existing challenges will contribute to achieving the 2030 national target on poverty reduction, which is a decrease by 1.5 million people compared to the 2019 level, so far reduced by 603 000 people.

Graph A11.1:**Components of AROPE, 2015-2023**



% of total population

Source: Eurostat, EU-SILC [ilc_peps01n, ilc_li02, ilc_mdsd11, ilc_lvhl11n]

Regional disparities are high while rural areas and vulnerable groups are particularly affected by poverty and social exclusion. In 2023, AROPE rates in some regions doubled or almost tripled those in other regions: Podlaskie (27%), Warminsko-Mazurskie (24.7%) and compared to Śląskie (10.7%) or Opolskie (11.9%). Poverty risks are mainly driven by limited economic opportunities, inadequate access to quality education and employment support, gaps in social protection, health and social services, especially in rural areas and for vulnerable groups (see Annex 10 and 11). In 2023, the AROPE rate in rural areas was 10.5 pps higher than in urban areas. In 2022, students from rural secondary schools achieved on average significantly lower results in basic skills than those in urban schools, and the gap is wider than the EU average ([190]). Consequently, the urban-rural gap in tertiary educational attainment level remains wide in Poland (61.3% in cities vs rural 33.5% in 2023), limiting the competitiveness and innovation

([189]) Annual inflation up to 2.0% in the euro area - Euro indicators - Eurostat

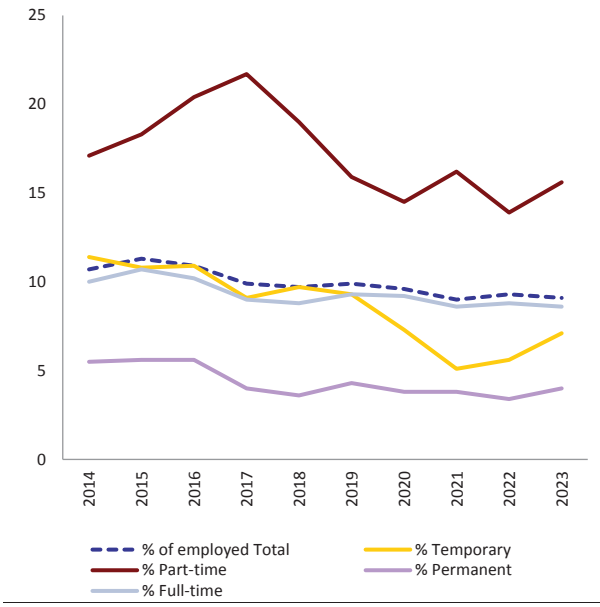
([190]) Students in rural schools achieved 70 score points less in reading (EU 52), 64 in maths and 62 in science (EU 46). OECD (2023). PISA 2022 Results (Volume I). https://doi.org/10.1787/53f23881-en .

capacity of the rural areas. Vulnerable groups include also persons with disabilities and refugees (almost 1 million from Ukraine) of which half live below the poverty line. For the 2021-2027 period, Poland dedicates over 4% of the European Social Fund Plus (ESF+) national envelope to the new European Funds for Food Aid programme (EUR 525 million), with 10% of the target group of the programme being Ukrainian refugees. Moreover, the ESF + national and regional programmes are allocating EUR 4 818 million on active inclusion and affordable services, part of which will go to poverty reduction activities. Complementary initiatives such as support systems for non-EU nationals and opportunities for their comprehensive integration could further help address the challenges.

Poland faces challenges in improving early childhood education and care, particularly for children at risk of poverty and exclusion. By 2030, Poland aims to reduce the number of children experiencing AROPE by at least 300 000 compared to 2019. The underlying numbers (1 089 000 in 2019 vs 1 136 000 in 2023), are so far not showing progress towards the 2030 target. The universal child benefit was significantly increased (by 60%) in January 2024. Risks of poverty are more pronounced for children whose parents have low educational attainment or in households with many children. To mitigate the impact of poverty on children, Poland is implementing the European Child Guarantee with support from the EU cohesion policy funds. The 2024 progress report shows progress in some areas, e.g. the 'For Life Programme' provides comprehensive support to children with disabilities and their families, while more efforts are needed to achieve the 2030 target. EUR 704 million from the ESF+ and EUR 610 million from the Recovery and Resilience Fund (RRF) were allocated to create over 100 000 new childcare places and improve services, including those for children with disabilities. The design, rollout, and impact of this reform should be closely monitored to ensure that children in need indeed benefit from it. The share of children under three participating in formal childcare declined by 0.8 pps between 2022 and 2024, from 15.9% to 15.1%. The participation of children above three in early childhood education and care remains below the EU-level 2030 target (92.4% vs 96%) (see Annex 12) . Participation is even lower among children at risk of poverty or social exclusion, barely 1.6% of those under three and 55.7% in the older age group in 2023 (see Annex 10).

Employment status has an important influence on poverty risks. Poland has a high share of workers in atypical forms of employment, notably solo self-employed, (15% of total employment vs 9% in the EU), and temporary contracts (15.5% of total salaried employment vs 13.5% in the EU). Figures for 2023 point to a high AROP rate for the self-employed (28.4%), almost 8 pps higher than in the EU (20.7%). Part-timers are also affected by higher-than-average AROP (18.6% compared to 8.6% among full timers) as well as material and social deprivation (9.4% compared to 3.9% among full timers). The higher AROP rate among individuals in non-standard forms of work is largely attributed to persistent gaps in access to social protection. This means that, despite slight declines in last years, in-work at-risk-of poverty in Poland remains high, at 9.1% in 2023 (EU: 8.3%), specifically for part-time employees (see Graph A11.2). Persons with disabilities are also at a highest rate of poverty and social exclusion, at 25.5%, which is linked to their lower educational attainment and employment, and high disability employment gap (see Annex 10).

Graph A11.2:**In-work AROP rate for contract type**



In-work at-risk-of-poverty rate (% of employed). Employed who have an equivalised disposable income below 60% of the national equivalised median income.
Source: Eurostat, EU-SILC [ilc_iw01, ilc_iw05, ilc_iw07]

The social protection system presents adequacy and coverage gaps. Despite one of the highest growth levels, spending on social protection benefits still lags behind the EU average (22.1% of GDP in 2023 vs EU: 26.8%). It relies heavily on non-means-tested cash benefits (72.9% in total expenditure vs EU: 64.5%), particularly in the form of universal allowances for families with children (15.6% vs EU: 8.6%), which results in a welfare system with limited redistributive capacity. While there was a recent substantial increase in family and child benefits, Poland's spending on unemployment and disability benefits as a percentage of GDP is very low (0.2% vs EU: 1% on unemployment and 1% vs EU: 1.9% on disability in 2023) and has fallen. In 2023, the share of those in working age (16-64) and AROP receiving any benefits before social transfers was very low for self-employed (2.9% vs EU: 12.7%), temporary contract workers (5.1% vs EU: 39.2%), part-timers (7.1% vs EU: 33.3%) and unemployed (12.2% vs EU: 52.4%). Among short-term registered unemployed (15-64), around 28% received unemployment benefits/assistance in 2023, compared to 58% in the EU. Adequacy of minimum income benefits was very low in 2022. Households on minimum income benefits had a net income of 33.9% of the at-risk-of-poverty threshold, and 31.2% of the net income of a low-wage worker (55.6% vs EU: 46.1%).

Demographic trends pose a significant challenge for the future adequacy and sustainability of the pension system. Old-age poverty is below the EU average, with AROPE for people aged 65 and above at 18% vs EU: 19.7%). However, the pension system faces increasing challenges as the population in Poland is one of the fastest-ageing populations in the EU. The very low pensionable age of women (60 years for women vs 65 years for men) implies low effective retirement ages, negatively impacting women's labour market participation and their future pension adequacy. The employment rate of women aged 55-64 is 47% vs EU 58% while for men in the same age group it is 70.3% vs EU 70.1% (see Annex 10). The existence of preferential pension schemes for miners and farmers puts a further strain on the fairness and sustainability of the pension system. With the projected decrease in working-age population (20-64) by 30% to 16 million in 2070 and expected increase in the population aged 65 and over to 10.3 million ([191]), the old-age dependency ratio) will increase from 0.3% in 2022 to about 0.6% in 2070. The pension replacement rate is projected to drop between 2022 and 2062 from 76.3% to 54% for single men, and from 63.3% to 45% for single women ([192]). To ensure pension adequacy and sustainability, as well as increase competitiveness, it would beneficial if Poland introduced reforms that promote longer working lives, especially for women and existing preferential pension regimes.

([191])2024 Ageing Report – Country Fiche for Poland

([192]) Theoretical replacement rates after a 40 year career ending at the standard pensionable age. Source: European Commission: Directorate-General for Employment, Social Affairs and Inclusion, *The 2024 pension adequacy report – Current and future income adequacy in old age in the EU. Volume II*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2767/550848.

The long-term care system is unable to meet the needs of the ageing population. In 2022, Poland's public spending on long-term care (LTC) was 0.5% of GDP, less than one third of the EU average (1.7%) and accounted for only 2.8% of Poland's total cost of ageing, compared to 7.1% in the EU. Public LTC spending in 2022 was mainly directed to residential care (65.4% vs EU: 46.2%), followed by home care (34% vs EU: 28.8%) with only a small share going to cash benefits (0.5% vs EU: 25%) ([193]). In 2019, Poland's older population (65+) in need of LTC accounted for 35.9%, while the EU average was 26.6%. In contrast, the share of older individuals using formal home care services was much lower (18.8% vs EU: 28.6%). Relatively high share of people in need of care live in rural areas, where the provision of formal services is poorer. LTC quality assurance is fragmented, lacks quality standards for home care and provides only minimal quality standards in residential care. With responsibility for care lying within local authorities, the absence of a coherent approach to quality contributes to regional disparities. Due to the lack of formal LTC capacity, Poland's informal carers face a heavy care burden, without recognition or adequate support. There is no legal definition of informal care and legislation to identify carers. Also, professional training or requirements regarding informal care are not in place. The Ministry of Senior Policy is working on a care voucher to support older dependent people or their care providers. However, without legal recognition of informal carers, planned support (training, information, psychological counselling) would not reach all those who need it. The number of LTC workers per 100 individuals 65+ is very low, standing at 0.4 in Poland vs 3.2 in the EU in 2023). The World Bank carried out a strategic review of LTC in Poland to identify and implement reform priorities which feature into recovery and resilience plan (RRP). The results show a need to increase access to high-quality, affordable and accessible community-based LTC services, while improving working conditions and the work-life balance for carers.

lack of public transport and poor housing conditions negatively impact living standards. Between 2011 and 2022, the share of trains and buses in inland transport in Poland has declined from 22.6% to 17.3% and reliance on private cars for inland transport increased from 77.4% to 82.7%. As rural areas often lack effective public transport infrastructure, people in these areas are more reliant on private cars (41.9% of people living in rural areas compared to 34.3% of people in cities in 2023). While the share of the Polish population facing housing costs above 40% of their total disposable household income is lower than the EU average (5.9 vs 8.8%), it has been increasing in recent years and the share of people living in an overcrowded household was more than double that of the EU (33.9% vs 16.8%) in 2023. For people below the poverty threshold, this share is 40.3% (EU: 29.7%).

House prices are sharply rising. House prices in Poland have increased by 107% since 2015. They grew by 8.8% in 2023 and accelerated further in 2024 (+15% year-on-year) in the context of rising demand for housing as well as additional mortgage support for first time buyers adopted in the run-up to the 2023 parliamentary elections. However, there are no signs of overvaluation. Mortgage rates increased significantly from 3.1% in 2021 to 8.3% in 2023. Housing transactions increased by 3.9% in 2023 after having fallen by 8.2% in 2022. Building permits dropped by 12.6% and 18.9% in 2022 and 2023 respectively but have started to increase in 2024. The slowdown of new housing supply may support further increases in nominal house prices, which would warrant closer monitoring.

Overall housing affordability has remained stable over the past decade. House price growth has been broadly in line with household income since 2015. The standardised house price-to-income ratio increased from 2016 to 2021 but has eased

([193]) 2024 Ageing Report

since then, returning close to its 2015 level. It is currently around 10% below its long-term average. Taking into account the cost of mortgages, the borrowing capacity of households remained broadly stable over the past decade. While the rental market is rather small, the ratio of new rents to incomes remained stable over the last decade. 30 330 people, representing 0.08% of the total population have been homeless in the country (2019) ([194]). Of these, 15% are women, 85% are men. The Ministry of Family, Labour and Social Policy in Poland conducted a nationwide study of homelessness in February 2024 ([195]). The study found that approximately 31 000 people are living in homelessness in Poland, 10% of whom are migrants. As many as 60% of these migrants are Ukrainian. There has been a sharp rise in the number of homeless children, with non-Polish born children accounting for 40% (compared to 9% in 2019). Most of these children live in special institutions or homes for mothers with children or pregnant women ([196]). Poland has implemented measures to improve housing affordability and availability with the use of cohesion policy funds. Through these funds, Poland has invested in services to address homelessness including through 'street working services' to support homeless people, as well as housing projects, in particular via the Housing First model. Interventions include the creation and operation of training and assisted housing (e.g. for people with mental health issues and refugees) and investments in infrastructure and equipment to support social housing.

While energy poverty is decreasing, untargeted retail price interventions might hinder further progress. The share of the population unable to keep their homes adequately warm is below the EU average (4.7% in 2023 vs 10.6%), but showing an increase of 1.5 pps compared to 2021. In contrast, 4% of people faced arrears on utility bills in 2023, which has fallen by 1.2 pps since 2021, and is still well below the EU average of 6.9%. However, this positive situation is influenced by continued untargeted price interventions in the retail sector which were introduced in 2022 and are going to continue in 2025. Poland is actively addressing energy poverty with immediate social policy interventions, including subsidies and financial assistance, such as the 'energy allowance' and the 'energy lump sums', and ongoing price interventions for gas and caps on electricity. Poland's long-term measures focus on energy efficiency when renovating buildings and the integration of renewable energy in residential buildings. Currently, there is a limited focus on vulnerable households which is likely to change with the implementation of the Social Climate Fund. The country's strategy also aims to phase out fossil fuels (coal and oil) in residential heating by 2030, which is applied across the whole population.

([194]) OECD Country Notes on Homelessness data.

([195]) https://migrant-integration.ec.europa.eu/news/poland-homelessness-among-migrants_en and https://www.gov.pl/web/rodzina/wyniki-ogolnopolskiego-badania-liczby-osob-bezdomnych---edycja-2024.

([196]) Ibid.

Poland's competitiveness is limited by falling basic skills, the limited pool of skills in science, technology, engineering and mathematics (STEM), and the low effectiveness of VET and participation in adult learning. The higher proportion of 15-year-olds failing to meet the minimum basic skills level and increased inequalities in education result in more than a third of disadvantaged pupils (39%) lacking basic skills, which affects their upskilling opportunities and employment prospects later in life. Vocational education and training (VET) do not adequately respond to labour market needs, leading to skills shortages and mismatches. The low attractiveness of teaching and insufficient preparation of teachers further affects student outcomes. Higher education does not sufficiently support innovation and sustainable development, partly due to the low number of STEM students, particularly in natural sciences. Additionally, the low level of digital skills exacerbates skills shortages, and participation in adult learning remains very low. Major weaknesses in skills development and human capital formation hinder Poland's potential for research and innovation, productivity growth and competitiveness.

The strong decline in basic skills among young people risks hampering skills development later in life and harms the economy in the long run. In the 2022 OECD Programme for International Student Assessment (PISA), 23% of 15-year-olds underperformed in mathematics, 22.2% in reading and 18.6% in science. While these rates are below the EU averages, they show a worrying trend. Compared to 2018, the underachievement rates increased more than the EU average ([197]). The highest proportion (over 60%) of underperforming students is clustered in VET stage I sectoral vocational schools (*szkoły branżowe*), which are attended by 12% of all students ([198]). These students will likely face learning difficulties and employment challenges later in life.

The decline in basic skills can be attributed to the shortening the common general education period by one year and advancing student tracking between general and vocational paths, which was introduced in 2017. Therefore, there is a need for systemic and targeted measures to improve basic skills among disadvantaged groups and in VET schools. The steep decline in the proportion of top-performing students in basic skills points to structural quality issues in general education, which may further decrease participation in STEM fields in higher education. The learning loss recorded by PISA between 2018 and 2022 risks limiting the competitiveness and innovation capacity of the Polish economy ([199]).

Low participation in early childhood education and care (ECEC) among children aged three and below also hampers learning foundational skills. At 12.6%, participation in formal childcare of children below three is among the lowest in the EU, and participation is minimal for children at risk of poverty or social exclusion (1.6%) (see Annex 11). The rate is also comparatively low for three-year-olds (80.2% vs EU 88.7% in 2022), and for the whole 3-6 age group in the regions of Warminsko-Mazurskie, Kujawsko-Pomorskie, and Mazowieckie, excluding Warsaw (around 88%) ([200]).

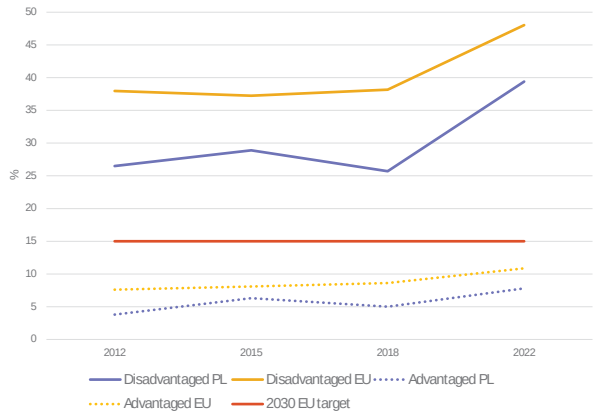
([197]) Compared to 2018, the proportion of low achievers increased by 8.3 percentage points (pps) in mathematics (EU: 6.6 pps), 7.5 pps in reading (EU: 3.7 pps), and 4.8 pps in science (EU: 2 pps).

([198]) 66% in mathematics, 65% in reading, and 55% in science (Bulkowski, et al., 2023). PISA2022_najwazniejsze_wyniki_badania.pdf

([199]) M. Jakubowski, T. Gajderowicz, H. A. Patrinos, SSRN. (2023). https://ssrn.com/abstract=4462427 .

([200]) Eurostat: educ_uoe_enra21.

Graph A12.1:**Trends in underachievement in mathematics by students' socio-economic background, PISA 2012-2022 (%)**



Source: OECD (2023).

Deteriorating equity affects basic skills achievement and risks deepening inequalities in education. The socio-economic gap in basic skills among 15-year-olds widened by 10.6 pps between 2018 and 2022 (EU: 7.7 pps), reflecting the increased impact of students' socio-economic background on their performance (Graph A12.1). The achievement gap between students in rural and urban schools is higher than the EU average (Annex 10), suggesting issues with teaching quality. The notable shift towards private education and homeschooling in recent years deepens inequalities in the system ([201]). Boys make up the majority of students attending VET stage I sectoral schools (66.7%), which often have poor educational outcomes. The gender divide is reflected later in the wide tertiary educational attainment gap in favour of women. Poland has been implementing inclusive education measures and investments supporting the needs of pupils with disabilities. Nevertheless, a targeted national strategy is missing, and a significant proportion of students with special educational needs is enrolled in special schools, especially at upper secondary level (80%) ([202]).

Poland is preparing a curricular reform to better equip students for life and the future world of work. It aims to improve teaching competences, including transversal ones (e.g. problem-solving, cooperation, critical thinking, socio-emotional competences) to help students better adapt to future labour market needs. The reform at pre-primary and primary levels is to be launched in September 2026. The new subjects of health education and civic education are to be introduced in September 2025. To ensure the reform is implemented efficiently and sustainably, the following will be crucial: (i) stakeholder involvement; (ii) clear communication; (iii) substantial training and support for teachers and schools; and (iv) careful planning, including evaluation and monitoring from an early stage.

Worsening teacher shortages and insufficient quality of teacher education programmes risk lowering student outcomes. Despite measures in place since 2024, national statistics show persisting teacher shortages across Poland, mainly due to a lack of candidates ([203]). Shortages affect teachers of all subjects and in VET, and they have increased among ECEC, special teachers and pedagogues. Teachers' actual salaries are low compared to those of other tertiary-educated professionals, ranging from 59% at pre-primary to 72% at upper secondary level (EU: 72% and 87% respectively) ([204]). Teachers' high workloads and poor working conditions deter young people from the profession ([205]). Consequently, the teaching profession is ageing fast ([206]) and does

([201]) In 2024, 10% of students attended private secondary schools and more than 5% primary schools, compared to 4.2% and 3.2%, respectively, a decade ago. https://wydawnictwo.krytykapolityczna.pl/nierownosci-po-polsku-1277

([202]) Statistics Poland (2024). https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5487/26/6/1/osoby_niepelnosprawne_w_2023_r..pdf .

([203]) https://www.barometrzawodow.pl/modul/publikacje?publication=national&year=2025.

([204]) OECD (2024). Education at a Glance 2024. http://data-explorer.oecd.org/s/5q.

([205]) https://nauczyciel2040.pl/.

([206]) Eurostat, UOE, [educ_uoe_perp01].

not attract high-performing graduates ([207]). Teachers do not receive sufficient training ([208]), including on teaching multinational classes ([209]). The requirements for providing initial teacher education were lowered in 2023 ([210]), abandoning efforts to improve its quality. The newly prepared curriculum reform will also require modernising and improving the relevance of teacher training programmes.

The VET system's low effectiveness hampers the supply of skilled workers. The employment rate of recent VET graduates was 78.7% in 2023 (compared to 81% in the EU and 85.6% for higher education graduates), down by 3.6 pps from 2022. Polish VET students benefit less from work-based learning than their EU peers (58.4% vs 64.5% in the EU). 25% left school without any qualifications, and almost two years after graduation, 20% of students that left were still not in education, employment or training (NEET). A lack of professional qualifications, combined with low levels of basic skills, create a risk of unemployment and social exclusion later in life. Technical secondary schools are more effective, but only 33% of graduates continue education at tertiary level.

Despite high tertiary attainment, policy efforts are needed to increase enrolment in STEM, in particular in natural sciences. In 2024, the proportion of people aged 25-34 holding a tertiary diploma was 45.7%, in line with the EU target. The gender gap in favour of women (17.9 pps) is one the widest in the EU. The proportion of students (ISCED 5-8) in STEM decreased from 26.8% in 2017 to 21.1% in 2022, remaining below the EU average (27.1%). At VET ISCED 3-4, participation in STEM is above the EU average (42.3% vs 36.2% in the EU). The enrolment rate in ICT is close to the EU average (5.1% vs 5.2% in the EU); however, the proportion of female students is comparatively low (16.1% vs 20.2% in the EU). The proportion of graduates in natural sciences, mathematics and statistics is less than half the EU average (3.3% vs 7.3% in the EU in 2022). Only 26.2% of students are female in engineering and technology programmes ([211]). Poland has also the lowest proportion of PhD students in the EU ([212]), and the rates are likely to remain low as only 13% of top-performing 15-year-olds in mathematics and science plan a career as a scientist or engineer (OECD 21.2%) ([213]). The low proportion of STEM tertiary students will exacerbate skills shortages, limiting Poland's competitiveness and innovation capacity (see Annex 3).

Improving the quality and relevance of higher education are major challenges, including with regard to the green transition. The content and forms of studies are not aligned with labour market needs, which need profiles in topics such as climate change, energy security, and transversal and social competences ([214]). There is a need for Poland to make the evaluation system of higher education institutions' scientific performance more transparent and reliable. Although improving the quality of academic teaching and learning has been one of the country's recent objectives, no new measures have been implemented so far ([215]). Poland is developing a long-term higher education

([207]) Integrated Skills Strategy 2030 (2020). https://zsu2030.men.gov.pl/app/files/ZSU2030_ogolna.pdf;.

([208]) S.M. Kwiatkowski, J. Łaszczyk, Kandydaci na studia w perspektywie 2025-2030. Trendy ..., op.cit., page. 218 https://www.frp.org.pl/images/publikacje/publication/krasp_2022.pdf.

([209]) CEO (2024). https://ceo.org.pl/przedstawiamy-raport-uczniowie-i-uczennice-z-ukrainy-w-polskiej-szkole-rok-szkolny-2023-24/.

([210]) https://dziennikustaw.gov.pl/DU/2023/1672.

([211]) Knapinska, 2024. https://www.dziewczynynapolitechniki.pl/pdfy/raport-kobiety-na-politechnikach-2023.pdf

([212]) ESTAT: 0.5% vs EU 1.3%, 2022.

([213]) OECD, 2019. PISA 2018 Results. Volume II.

([214]) Development forecast of higher education. (KRASP, 2024) 53-IV-2024_Raport_Prognoza_rozwoju_Woznicki.pdf.

([215]) https://www.gov.pl/web/nauka/zgromadzenie-plenarne-krasp-z-udzialem-ministra-nauki.

internationalisation strategy, also supported by the ESF+ ([216]).

Given the shrinking labour force and skills shortages, skills development is crucial for competitiveness, resilience and fairness. 65% of organisations indicate skills shortages as the main barrier to transformation and expect talent availability to worsen in five years ([217]). Also, 82% of SMEs report facing skills shortages, and 88% struggle to retain skilled workers ([218]). The macroeconomic skills mismatch in Poland rose to 23.1 in 2024, against a decreasing trend in the EU (from 20.2 in 2022 to 19.2 in 2024) ([219]). This highlights the need for upskilling and reskilling, especially for the green and digital transitions. Policy measures financed by the Recovery and Resilience Facility (RRF) aim to boost lifelong learning through cooperation and coordination and improve the supply of green skills through sectoral qualification frameworks. To support this objective, Poland aims to create 120 sectoral skills centres to boost the quality of VET by involving employers more in the learning process and to develop green and digital skills. Additionally, under European Social Fund Plus (ESF+) project, Industry Agreement for VET is being implemented; however there is still a lot of room for improvement.

As part of the broader need for upskilling and reskilling, developing green competences and skills is particularly critical for the green transition. The country's economy is energy intensive and is facing restructuring to decrease dependence on coal**.** Decarbonising Poland's economy could lead to a two-thirds decline in coal sector employment by 2030 compared to 2019, requiring support for 14 000-36 000 workers ([220]). Poland is the largest recipient of the Just Transition Fund (JTF): the Silesia region, with 90% of employment in the coal industry in Poland, is the biggest beneficiary in the EU (EUR 2.2 billion, 57.6% of Poland's allocation). The JTF will support mining industry workers by improving their skills and training, focusing on the green and digital economies. On upskilling and reskilling needs for the green transition, there are shortages in occupations, such as building structure cleaners, insulation workers and roofers ([221]).

To tackle the high level of digital skills shortages, Poland has adopted a strategic approach to digital education. In 2023, only 44.3% of people aged 16-74 had at least a basic level of digital skills, well below the EU average of 55.6% ([222]). 87% of businesses indicate that the lack of skilled staff poses a barrier for investment ([223]). Many small and medium-sized enterprises (SMEs) struggle with employees' low levels of digital skills, which hinders these businesses' competitiveness and ability to innovate and adapt to new technologies. In 2023, only 50% of SMEs in Poland had reached a basic level of digital intensity (EU 58%) ([224]). A lack of digital skills is reflected in lower levels of innovation compared to the EU average: only 43.5% of SMEs in Poland introduce innovative products. In 2024, Poland adopted a comprehensive digital education strategy for 2035 ([225]), which focuses on improving teachers and students' digital skills and integrating digital technologies into teaching and learning. By

([216]) https://mapadotacji.gov.pl/projekty/1686834/.

([217]) https://www.weforum.org/publications/the-future-of-jobs-report-2025/.

([218]) European Year of Skills - Skills shortages, recruitment and retention strategies in small and medium-sized enterprises - September 2023 - - Eurobarometer survey.

([219]) This indicator highlights the relatively higher difficulty of the low- and medium-qualified in entering the labour market, as compared to the high-qualified

([220]) IBS-Research-Report-01-2021.pdf.

([221]) European Labour Authority *EURES Report on labour shortages and surpluses 2024*, 2025, based on data from EURES National Coordination Offices. Skills and knowledge requirements align with the ESCO taxonomy on skills for the green transition, with examples analysed using the ESCO green intensity index.

([222]) DESI 2024.

([223]) EIB Investment Survey 2024

([224]) Digitalisation in Europe – 2024 edition - Interactive publications - Eurostat.

([225]) https://dziennikustaw.gov.pl/M20240000081201.pdf.

2026, 31 000 schoolteachers will have been trained in digital skills (financed from the RRF), and by 2027, 2 000 higher education staff will have received similar training (financed from the ESF+). In 2024, the pilot phase of Digital Development Clubs project was launched. The project aims to establish local digital competences development centres in municipalities across Poland. After the pilot phase in up to 64 municipalities, the project is to be expanded to approximately 2 000 municipalities and provide training in digital skills to around 463 850 adults

Participation in adult learning is low, hindering the workforce's adaptability. In 2022, the rate of adult participation in learning (in the previous 12 months) was low at 20.3% (EU 39.5%). This was down slightly (by 0.6 pps) from 2016 and also significantly lower than the country's 2030 target of 51.7%. Based on the 2023 OECD Survey of Adult Skills ([226]), Poland saw significant drops in results compared to 2012, with a 31-point decline in reading and 21 in mathematics reasoning. 39% of respondents struggled with reading, 38% with maths, and 48% with problem-solving tasks ([227]). The low share of adult participation in learning is largely due to low participation in non-formal education, which is 17.8% (EU 38.1%), particularly among older age groups, people with lower educational attainment, and those outside the labour force. Focusing on groups who are less qualified is essential for closing the qualification gap between the workforce and labour market needs and increasing competitiveness.

Measures are needed to boost adult learning. Lifelong learning suffers from a lack of policy coordination at national and regional levels, and there is no clear 'owner' of adult learning policy. Regional coordination teams for VET and lifelong learning have been set up with the support of the RRF to improve the coordination of policies at regional level. Despite ongoing action promoting adult learning, mostly financed from EU funds, there is no visible progress towards the national skills target. After ongoing public consultations are completed, a pilot project will be launched on individual learning accounts (ILAs) to overcome individuals' financial and motivational barriers. Dialogue with social partners on implementing effective measures, such as ILAs, is needed, as well as more awareness of the benefits of lifelong learning. The skills validation system in Poland is highly formalised and does not improve the recognition of skills or qualifications developed outside the formal system. Only a few Polish institutions have signed up to the Pact for Skills, despite the presence of numerous sectoral skills councils already supported by the ESF+.

([226]) PIAAC: https://www.oecd.org/en/about/programmes/piaac.html.

([227]) Patterns identified for Poland could suggest disengagement or lack of effort during the assessment, which may have an impact on the estimated proficiency of the overall Polish population.

Table A13.1: **Social Scoreboard for Poland**

Social Scoreboard for Poland		
Equal opportunities and access to the labour market	Adult participation in learning (during the last 12 months, excl. guided on the job training, % of the population aged 25-64, 2022)	20,3
	Early leavers from education and training (% of the population aged 18-24, 2024)	4,1
	Share of individuals who have basic or above basic overall digital skills (% of the population aged 16-74, 2023)	44,3
	Young people not in employment, education or training (% of the population aged 15-29, 2024)	9,4
	Gender employment gap (percentage points, population aged 20-64, 2024)	11,6
	Income quintile ratio (S80/S20, 2024)	3,85
Dynamic labour markets and fair working conditions	Employment rate (% of the population aged 20-64, 2024)	78,4
	Unemployment rate (% of the active population aged 15-74, 2024)	2,9
	Long term unemployment (% of the active population aged 15-74, 2024)	0,8
	Gross disposable household income (GDHI) per capita growth (index, 2008=100, 2023)	151,9
Social protection and inclusion	At risk of poverty or social exclusion (AROPE) rate (% of the total population, 2024)	16,0
	At risk of poverty or social exclusion (AROPE) rate for children (% of the population aged 0-17, 2024)	16,1
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2024)	41,5
	Disability employment gap (percentage points, population aged 20-64, 2024)	35,6
	Housing cost overburden (% of the total population, 2024)	5,2
	Children aged less than 3 years in formal childcare (% of the under 3-years-old population, 2024)	15,1
	Self-reported unmet need for medical care (% of the population aged 16+, 2024)	3,8

Critical situation | To watch | Weak but improving | Good but to monitor | On average | Better than average | Best performers

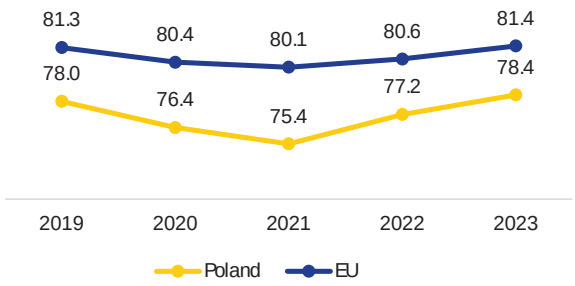
(1) Update of 5 May 2025. Members States are categorised based on the Social Scoreboard according to a methodology agreed with the EMCO and SPC Committees. Please consult the Annex of the Joint Employment Report 2025 for details on the methodology (https://employment-social-affairs.ec.europa.eu/joint-employment-report-2025-0).

Source: Eurostat

Poland's health system faces significant challenges. These need to be addressed if the country is to improve the health of its population and social fairness, while boosting the competitiveness of its economy. The key challenge is low life expectancy, which is linked to high preventable and treatable mortality. These factors are associated with suboptimal cost-effectiveness and funding of the health system, which still features a hospital-centred care model, insufficient focus on disease prevention and outpatient care, and shortages of healthcare workers.

Life expectancy at birth in Poland rebounded above its pre-COVID-19 level but was still below the EU average in 2023. The country has a striking gender gap, with women expected to live 7.5 years longer than men and 3.3 years longer in good health (see Annex 17). As mortality from COVID-19 had started to fall by 2022, life expectancy increased again, rising to slightly above pre-pandemic levels. Treatable mortality rates are higher in Poland than the EU average, suggesting shortcomings in the effectiveness of the health system. In fact, the rate of treatable mortality in Poland has barely improved since 2012. Poland participates in several joint actions funded by EU4Health aimed at reducing the burden of cardiovascular diseases, cancer, diabetes and respiratory diseases.

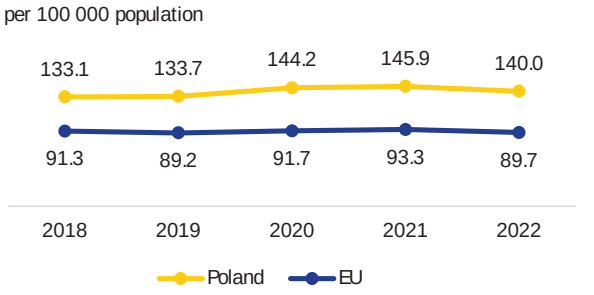
Graph A14.1:**Life expectancy at birth, years**



Source: Eurostat (demo_mlexpec)

Shortcomings in the effectiveness of the health system also negatively impacts Poland's workforce, productivity and competitiveness. In Poland, mortality at working age as a proportion of total mortality is significantly higher than the EU average, exacerbating the effects of population ageing on a shrinking labour force. The rate of potential productive life years lost due to non-communicable diseases such as cancer and diseases of the circulatory system ('cardiovascular diseases') is high compared to the rest of the EU ([228]). Between 2022 and 2040, the population at working age in Poland is forecast to shrink by 0.5% every year as a result of lower birth rates (EU average: 0.3%).

Graph A14.2:**Treatable mortality**



Age-standardised death rate **(mortality that could be avoided through optimal quality healthcare)**
Source: Eurostat (hlth_cd_apr)

Poland's health system is still strongly hospital centred. In 2022, health spending per inhabitant was lower than the EU average, with the largest share going to inpatient and day care (around 37% of total health expenditure). This, together with a high number of hospital beds (567 per 100 000 population in 2022, much higher than the EU average), illustrates the country's strongly hospital-centred model of healthcare. Over-reliance on hospitals within a health system can hamper healthcare accessibility, and suggests opportunities for optimising the cost-effective allocation of resources. The Polish recovery and resilience plan (RRP) sets out to transform some of these hospital beds into long-term care and geriatric care beds.

([228]) Update to 2022 data of analysis presented by Health at a Glance: Europe 2016 - © OECD 2016

Poland's share of health spending covered by public funds is among the lowest in the EU, and the level of out-of-pocket payments is above the EU average. Around two thirds of all out-of-pocket payments are for outpatient pharmaceuticals ([229]). Investment in the health system has historically been low in Poland. This is reflected in the low availability of key diagnostic technology: Poland has among the EU's fewest medical imaging devices per capita.

Of the country's health allocation under the cohesion policy funds for 2021-2027 (EUR 2.58 billion), EUR 1.87 billion is planned for investments in health infrastructure and equipment. In addition, the Polish RRP allocates EUR 3.8 billion to health reforms and supporting investments. These funds will be used to develop and modernise infrastructure, and to restructure public hospitals, including by shifting certain health services from hospitals to lower levels of care. Other RRP reforms aim to align the hospital care system with demographic trends and population health needs by concentrating services where they are needed and (re-)profiling hospitals.

Poland places insufficient focus on disease prevention. In 2022, Poland spent among the least on prevention in the EU as a share of total spending on health (1.9%). Cardiovascular diseases and cancer remain the leading causes of death, with mortality rates higher than the EU average. Mortality linked to air pollution is also high (see Annex 7). The rate of preventable mortality remains consistently above the EU average. Behavioural risk factors are key drivers of preventable mortality rates in Poland, for example smoking, poor diet and consequent obesity, and alcohol consumption ([230]). High levels of hospitalisation for congestive heart failure and diabetes suggest a lack of care coordination, further suggesting a need to strengthen primary care. Reforms set out in the Polish RRP aim to improve access to and the quality of oncological and cardiological care by introducing national networks in these areas and standardised care along the entire patient pathway in the areas of primary care, specialised outpatient healthcare, hospital treatment and rehabilitation. In 2023, the consumption of antibiotics was above the EU average, despite the national target ([231]) to reduce total consumption by 27% between 2019 and 2030. This raises concerns about antimicrobial resistance. A strategy to prevent and limit healthcare-associated infections was approved at the end of 2023.

Poland faces challenges in access to healthcare related to waiting times, as well as geographical and income-related disparities in unmet needs for medical care (see Annex 17)**.** In 2024, the proportion of the Polish population reporting unmet needs for medical care was higher than the EU average (3.8% vs 2.5%) (see Annex 11). This was due to cost (15.8%), distance (5.3%) and waiting times (78.9%). Moreover, unmet needs reported by people reporting needs in Poland is higher than EU average (5.2% vs 3.6%). Also, the uneven geographical distribution of doctors is a major barrier to access to care in peripheral regions.

([229]) OECD/European Commission (2024), Health at a Glance: Europe 2024: State of Health in the EU Cycle, pp. 186-187.

([230]) Health at a Glance: Europe 2024, Chapter 4.

([231]) National target set by the Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a 'one health' approach, 2023/C 220/01.

Table A14.1: **Key health indicators**

	2019	2020	2021	2022	2023	EU average* (latest year)
Cancer mortality per 100 000 population	283.4	279.7	259.9	268.0	n.a.	234.7 (2022)
Mortality due to circulatory diseases per 100 000 population	492.5	523.8	541.4	489.6	n.a.	336.4 (2022)
Current expenditure on health, purchasing power standards, per capita	1 592	1 616	1 783	1 960	n.a.	3 684.6 (2022)
Public share of health expenditure, % of current health expenditure	71.8	72.3	72.5	73.7	n.a.	81.3 (2022)
Spending on prevention, % of current health expenditure	2.1	1.9	2.1	1.9	n.a.	5.5 (2022)
Available hospital beds per 100 000 population**	554	563	578	567	n.a.	444 (2022)
Doctors per 1 000 population*	3.3	3.4	3.5	3.6	n.a.	4.2 (2022)*
Nurses per 1 000 population*	5.6	5.6	5.8	5.8	n.a.	7.6 (2022)*
Mortality at working age (20-64 years), % of total mortality	23.1	21.4	20.9	20.5	19.9	14.3 (2023)
Number of patents (pharma / biotech / medical technology)	39	42	37	24	50	29 (2023)***
Total consumption of antibacterials for systemic use, daily defined dose per 1 000 inhabitants****	23.6	18.5	20.2	23.6	23.2	20.0 (2023)

*The EU average is weighted for all indicators except for doctors and nurses per 1 000 population, for which the EU simple average is used based on 2022 (or latest 2021) data except for Luxembourg (2017). Doctors' density data refer to practising doctors in all countries except Greece, Portugal (licensed to practise) and Slovakia (professionally active). Density of nurses: data refer to practising nurses (EU recognised qualification) in most countries except France and Slovakia (professionally active) and Greece (hospital only). **'Available hospital beds' covers somatic care, not psychiatric care. ***The EU median is used for patents.

Source: Eurostat database; European Patent Office; ****European Centre for Disease Prevention and Control (ECDC) for 2023.

Poland faces persistent shortages of health professionals, with among the lowest numbers of doctors and nurses per inhabitant in the EU, which hampers the provision of healthcare. The density of doctors in Poland is still below the EU average (3.6 per 1 000 population in 2022 vs 4.2). Poland has one of the lowest shares of general practitioners (GPs) in the EU (9% vs an EU average of 21%). Furthermore, around 22% of physicians are aged between 55 and 64, raising concerns about the long-term accessibility of health services. Poland is taking measures to address these challenges. The remuneration of GPs have risen sharply and faster than those of specialists since 2012, thereby narrowing the remuneration gap. Moreover, the number of newly-physician graduates has increased since 2019, approaching the EU average in 2022 (15.1% vs 15.5%).

The density of practising nurses in Poland is also among the lowest in the EU with 5.8 nurses per 1000 in 2022 (EU average: 7.6). The nursing workforce is generally older, with almost a third of nurses aged 50-59 compared to a fifth of doctors ([232]). Nurses in Poland received substantial pay increases in 2022 - of close to 30% on average. This includes a higher pay hike for nurses with certain qualifications. The remuneration of hospital nurses in relation to the country's average wage was one of the highest in the EU in 2022. This has resulted in worsening financial situations for many county hospitals, and some have stopped recognising qualifications acquired by nurses and non-medical health workers to avoid increasing pay. Increases in the prices of hospital services introduced in 2023 are expected to alleviate some of these problems ([233]). Further pay increases were granted in 2023 to improve the attractiveness and retention of nurses. Through its RRP, Poland is also implementing reforms to incentivise young people to pursue medical studies and subsequently practise medicine in the country. Poland has also introduced legislation to increase the attractiveness of medical professions and boost working conditions. Finally, Poland is investing in increasing the capacity of medical teaching facilities and supporting students undertaking medical studies. Poland participates in the HEROES joint action ([234]) under EU4Health,

([232]) OECD/European Observatory on Health Systems and Policies (2023), Poland: Country Health Profile 2023, State of Health in the EU.

([233]) OECD/European Observatory on Health Systems and Policies (2023), Poland: Country Health Profile 2023, State of Health in the EU.

([234]) JA HEROES | Health workforce planning project.

through which EU countries share knowledge and experience on health workforce planning.

The potential of Poland's health system to drive innovation and foster industrial development in the EU medical sector is not being fully exploited. Poland is among the EU countries that report considerable public spending on health research and development. This is reflected in the number of European patents granted: 50 in 2023 in the combined areas of pharmaceuticals, biotechnologies and medical technologies (vs an EU-level median of 29) ([235]). Clinical trial activity in Poland is comparatively high ([236]). RRP measures aim to improve the quality and efficiency of the healthcare system by supporting research and development in the areas of medicine and health.

Poland aims to scale up the digitalisation of its health system, with support from EU programmes. The shares of people accessing their personal health records online and using online health services (excluding phone) instead of in-person consultations increased in 2024 compared to 2022 (with levels above the respective EU averages) (see Annex 6). That said, there is considerable room for further deployment. Moreover, there are wide differences in patient use depending on their socio-economic background. Significant investments under the RRP and the cohesion policy aim to boost the digital transformation of the healthcare sector in Poland (see Annex 16). Measures focus on accelerating the digital transformation of health by introducing new digital health services and further developing existing ones. Poland participates in several EU4Health-funded projects which facilitate the implementation of the European Health Data Space and strengthen digital infrastructure in Poland ([237]).

([235]) European Patent Office, Data to download | epo.org.

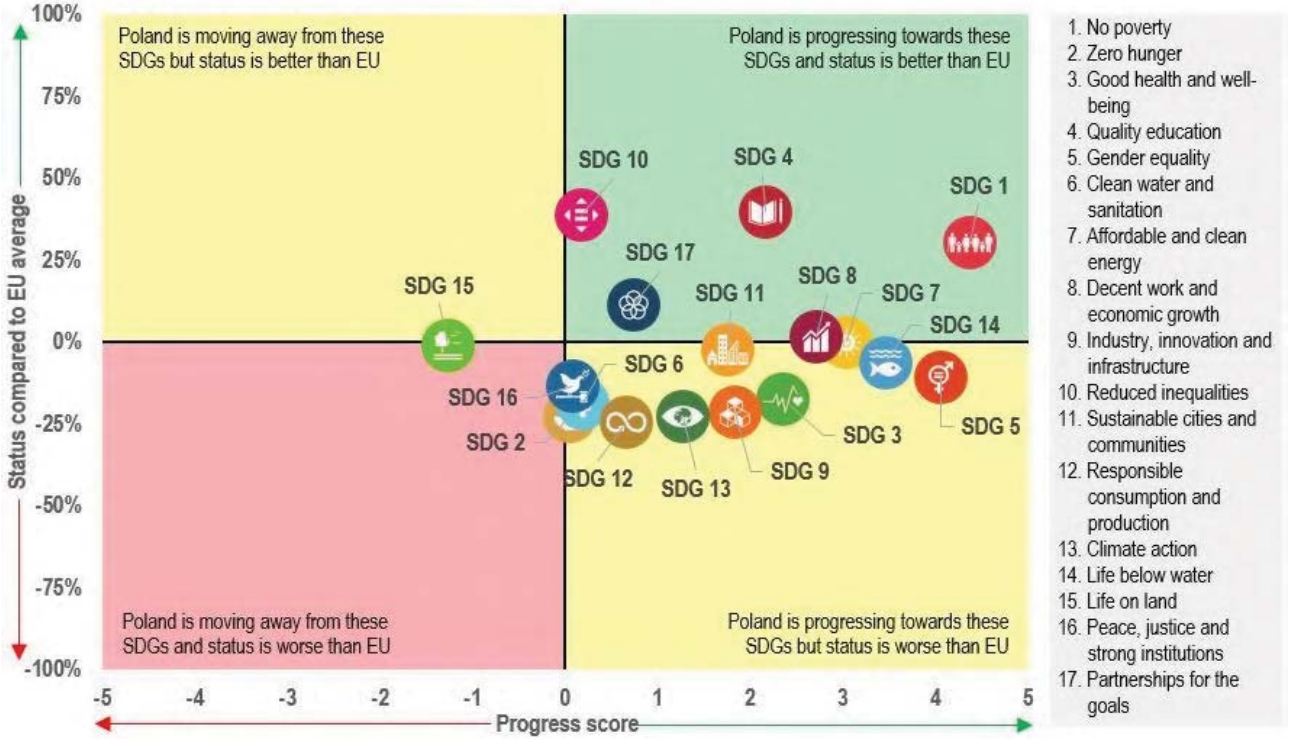
([236]) EMA (2024), Monitoring the European clinical trials environment, p. 9.

([237]) TEHDAS2 - Second Joint Action Towards the European Health Data Space, eCAN - Joint Action on strengthening ehealth including telemedicine and remote monitoring for health care systems for cancer prevention and care, Xt-EHR - Extended EHR@EU Data Space for Primary Use

This Annex assesses Poland's progress on the Sustainable Development Goals (SDGs) along the dimensions of competitiveness, sustainability, social fairness and macroeconomic stability. The 17 SDGs and their related indicators provide a policy framework under the UN's 2030 Agenda for Sustainable Development. The aim is to end all forms of poverty, fight inequalities and tackle climate change and the environmental crisis, while ensuring that no one is left behind. The EU and its Member States are committed to this historic global framework agreement and to playing an active role in maximising progress on the SDGs. The graph below is based on the EU SDG indicator set developed to monitor progress on the SDGs in the EU.

Poland is improving on SDGs related to *competitiveness* (SDGs 4, 8 and 9). Poland performs well on its employment rate among people aged 20-64 (SDG 8; 78.4% in 2024, vs 72.6% in 2019; EU average of 75.8% in 2024). On the downside, the share of adults with at least basic digital skills (SDG 4) remains low (44.3% in 2023; EU average: 55.6%). Poland is also moving away from the EU average on the indicator for the investment share of GDP (SDG 8; 17.7% in 2023, vs 18.8% in 2018; EU average of 22.4% in 2023). The Polish recovery and resilience plan (RRP) includes several measures to improve the investment climate. Poland is improving, but still needs to catch up with the EU average on indicators for and innovation, and sustainable industry (SDG 9), including gross domestic expenditure on R&D (1.56% of GDP in 2023, vs 1.19% of GDP in 2018; EU average of 2.24% in 2023). The same

Graph A15.1:**Progress towards the SDGs in Poland**



For detailed datasets on the various SDGs, see the annual Eurostat report 'Sustainable development in the European Union'; for details on extensive country-specific data on the short-term progress of Member States: Key findings – Sustainable development indicators - Eurostat (europa.eu). A high status does not mean that a country is close to reaching a specific SDG, but signals that it is doing better than the EU on average. The progress score is an absolute measure based on the indicator trends over the past five years. The calculation does not take into account any target values, as most EU policy targets are only valid for the aggregate EU level. Depending on data availability for each goal, not all 17 SDGs are shown for each country.

Source: Eurostat, latest update of 28 April 2025. Data refer mainly to the period 2018-2023 or 2019-2024. Data on SDGs may vary across the report and its annexes due to different cut-off dates.

is true of air emissions intensity of fine particulate matter (PM2.5) from industry (0.13 g per euro in 2022; EU average: 0.06 g).

While Poland is improving on some of the SDGs related to *sustainability* (SDGs 6, 7, 9, 11, 12, 13, 14), it is moving away from some of the targets for SDG 2 (Zero hunger) and SDG 15 (Life on land). Under SDG 2, the area under organic farming in Poland (3.9% of the utilised agricultural area in 2022) is below the EU average (10.5% in 2022). Government support to agricultural R&D was only EUR 0.2 per inhabitant in Poland in 2023, compared to the EU average of EUR 8.1. As for SDG 6, the percentage of inland water bathing sites with excellent water quality in Poland rose from 26.7% in 2018 to 54.9% in 2023 but needs to catch up with the EU average of 78.6% in 2023. Poland has made some progress on energy consumption indicators, including the share of renewable energy in gross final energy consumption (SDG 7; from 14.9% in 2018 to 16.6% in 2023; EU average 24.6% in 2023). However, it needs to catch up with the EU average on per capita net greenhouse gas (GHG) emissions (SDG 13; 8.6 tonnes in 2023; EU average: 6.8 tonnes in 2023). Moreover, Poland is rapidly losing carbon sinks, with the net GHG emissions from land use and forestry (LULUCF) increasing from -131.3 tonnes CO_2 eq. per km^2 in 2018 to 104.7 in 2023; EU average: -47.0). In addition, Poland's energy import dependency (SDG 7) increased from 43.5% in 2018 to 48.0% in 2023 (EU average: 58.3% in 2023). As for affordable energy, the percentage of the Polish population unable to keep their homes adequately warm was lower (4.7% in 2023) than the EU average (10.6%). Poland's RRP includes measures to address some of the energy-related challenges, namely the energy renovation of buildings, energy efficiency of business and the decarbonisation of energy production. While Poland is improving on several SDG indicators related to SDG 11 (Sustainable cities and communities), its share of buses and trains in total passenger transport has fallen but remains above EU average (from 20.3% in 2017 to 17.3% in 2022; EU average 16.6% in 2022). The country is improving on the number of premature deaths due to exposure to fine particulate matter (PM2.5) but is still performing below EU average (a decrease of 118 per 100 000 in 2017 to 94 in 2022; EU average: 53). On SDG 14, Poland is progressing on the share of coastal water bathing sites with excellent water quality (55.1% in 2023, vs 30.8 in 2018), but is below the EU average (88.8%). Poland does not provide data for half of the SDG 14 sub-themes. The country is moving away from the targets for SDG 15 (Life on land), due an increase in the impact of drought on ecosystems (from 5.4% of the land area in 2018 to 8.0% in 2023). It also remains above the EU average on this (3.6% in 2023).

Poland is improving on most SDGs related to *social fairness* (SDGs 1, 3, 4, 5, 7, 8, 10). It performs well on the indicators for: (i) people at risk of poverty or social exclusion (SDG 1; 16.3% in 2023, vs 18.2% in 2018; EU average of 21.3% in 2023); (ii) the severe material and social deprivation rate (SDG 1; 2.3% of the population in 2024, vs 4.5% in 2018; 6.4% EU average in 2024); and (iii) income distribution (SDG 10; 3.85 in 2024, vs 4.25 in 2018; EU average of 4.66 in 2024). In addition, the long-term unemployment rate fell (SDG 8; 0.8% in 2024 vs 1.0% in 2018; EU average of 1.9% in 2024). Poland also improved and performed better than the EU average on early leavers from education and training (SDG 4; 4.1% in 2024; EU average: 9.3%). However, Poland needs to take measures to significantly reduce avoidable mortality (SDG 3; 383.7 deaths per 100 000 in 2022; EU average: 257.8). Poland also needs to catch up with the EU average on gender equality in employment, in particular on positions held by women in senior management (SDG 5; 20.5% of positions in senior management were held by women in 2024; EU average: 32.6%). On SDG 4 (Quality education), the percentage of low-achieving fifteen-year-olds in mathematics increased strongly (from 14.7% in 2018 to 23% in 2022) moving away from the EU-level 2030 target,

even though it is still lower than the EU average (29.5% in 2022).

Poland is improving on SDGs related to *macroeconomic stability* (SDGs 8, 16, 17), but still needs to catch up with the EU average on some indicators. It has improved on SDG 8 (Decent work and economic growth), although real GDP per capita (increase from EUR 12 870 in 2017 to EUR 16 470 in 2024) remains below the EU average (EUR 33 530 in 2024). On justice and strong institutions (SDG 16), Poland has increased its general government total expenditure on the law courts (SDG 16; increase from EUR 61.8 in 2017 per capita to EUR 91.9 per capita in 2023) but needs to catch up with the EU average of EUR 121.7. However, perceptions of the independence of the justice system have become more negative, with the percentage of people who consider it to be fairly good and very good sharply dropping from 39% in 2019 to 28% in 2024 (the EU average in 2023 was 52%). The perceived judicial independence among companies has slightly increased from 18% in 2021 to 22% in 2024. Poland's Corruption Perceptions Index has also deteriorated (from 58 in 2018 to 53 in 2023; EU average: 62 in 2024). The Polish RRP includes measures on the independence of the justice system. On the share of households with a high-speed internet connection (SDG 17), Poland has made considerable progress (from 60.3% in 2019 to 81.1% in 2023) and is above the EU average (78.8% in 2023).

As the SDGs form an overarching framework, any links to relevant SDGs are either explained or depicted with icons in the other annexes.

Poland faces structural challenges in a wide range of policy areas, as identified in the country-specific recommendations (CSRs) addressed to the country as part of the European Semester. They refer, among other things, to improving the adequacy of the pension system, better targeting social benefits, healthcare, improving labour market participation, education and skills, research and innovation, improving the regulatory environment, investing in digital transformation and infrastructure, as well as in energy, renewables and energy efficiency and in the sustainable use of water resources.

The Commission has assessed the 2019-2024 CSRs considering the policy action taken by Poland to date and the commitments in its recovery and resilience plan (RRP). At this stage, Poland has made at least 'some progress' on 45% of the CSRs ([238]), and 'limited progress' on 45% (Table A16.2).

EU funding instruments provide considerable resources to Poland by supporting investments and structural reforms to increase competitiveness, environmental sustainability and social fairness, while helping to address challenges identified in the CSRs. In addition to the EUR 59.8 billion funding from the Recovery and Resilience Facility (RRF) in 2021-2026, EU cohesion policy funds ([239]) are providing EUR 75.5 billion to Poland (amounting to EUR 92 billion with national co-financing) for 2021-2027 ([240]) to boost regional competitiveness and growth. Support from these instruments combined represents around 18% of 2024 GDP ([241]). The contribution of these instruments to different policy objectives is outlined in Graphs A16.1 and A16.2. This substantial support comes on top of financing provided to Poland under the 2014-2020 multiannual financial framework, which financed projects until 2023 and has had significant benefits for the economy and Polish society. Project selection under the 2021-2027 cohesion policy programmes has accelerated, while significant volumes of investment are yet to be mobilised.

The Polish RRP contains 56 investments and 55 reforms to stimulate sustainable growth, decarbonise the economy, accelerate the digital transition and strengthen the independence of the judiciary. A year before the end of the RRF timespan, implementation is on its way, with 35% of the funds disbursed. At present, Poland has fulfilled 25% of the milestones and targets in its RRP ([242]). The initial delays in implementation have been offset in the past year. Since December 2023, there has been significant acceleration, leading to Poland submitting three payment requests, covering 5 out of 9 instalments. Still, considerable efforts are needed to ensure completion of all RRP measures by 31 August 2026.

Poland also receives funding from several other EU instruments, including those listed in Table A16.1. Most notably, the common agricultural policy (CAP) provides Poland with an EU contribution of EUR 22.1 billion under the CAP strategic plan for 2023-2027 ([243]). A further EUR 504.9 million are available under the Asylum, Migration and Integration Fund

([238]) 11% of the 2019-2024 CSRs have been fully implemented, 0% substantially implemented, and some progress has been made on 34%.

([239]) In 2021-2027, cohesion policy funds include the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus and the Just Transition Fund. The information on cohesion policy included in this Annex is based on adopted programmes with the cut-off date of 5 May 2025.

([240]) European territorial cooperation (ETC) programmes are excluded from the figure.

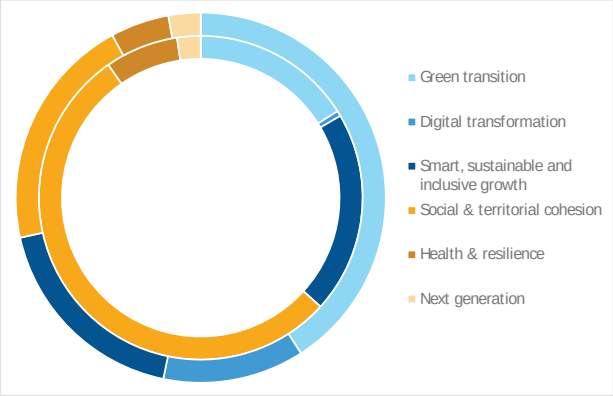
([241]) RRF funding includes both grants and loans, where applicable. GDP figures are based on Eurostat data for 2024.

([242]) As of mid-May 2025, Poland has submitted 3 payment requests; the last one being under assessment.

([243]) An overview of Poland's formally approved strategy to implement the EU's common agricultural policy nationally can be found at: https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans/poland_en .

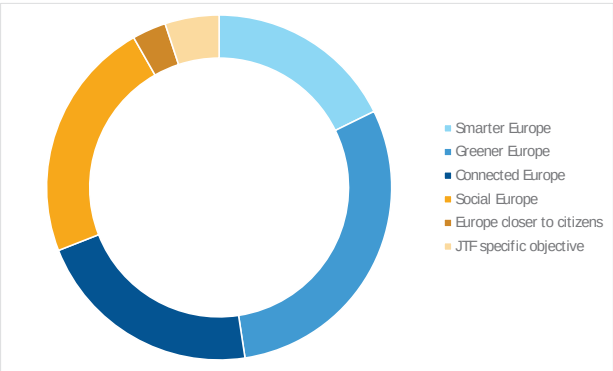
(AMIF), together with the border management and visa instrument (BMVI) and internal security funds. Operations amounting to EUR 1.01 billion ([244]) have been signed under the InvestEU instrument backed by the EU guarantee, improving access to financing for riskier operations in Poland.

Graph A16.1:**Distribution of RRF funding in Poland by policy field**



(1) Each RRP measure helps achieve the aims of two of the six policy pillars of the RRF. The primary contribution is shown in the outer circle, while the secondary contribution is shown in the inner circle. Each circle represents 100% of the RRF funds. Therefore, the total contribution to all pillars displayed on this chart amounts to 200% of the RRF funds allocated.
Source: European Commission

Graph A16.2:**Distribution of cohesion policy funding across policy objectives in Poland**



Source: European Commission

Cohesion policy funds aim to increase the productivity and competitiveness of Polish firms and improve the business environment. EUR 8.9 billion is earmarked for enhancing research and innovation, while EUR 3.7 billion will go towards supporting the growth and competitiveness of small and medium-sized enterprises (SMEs). The European Regional Development Fund (ERDF) supports investments in 43 000 businesses, including over 7 000 SMEs introducing product or process innovations. This funding will support cooperation between the science and business sectors, which is important for strengthening technology transfers. More than 1 000 businesses will receive support to collaborate with research organisations, while over 300 research organisations will participate in joint research projects. The ERDF will invest EUR 153 million in skills development for smart specialisation, industrial transition, entrepreneurship, and business adaptability. Poland has already started to take up the opportunities of the Strategic Technologies for Europe Platform under cohesion policy by investing into cutting edge technologies and bolstering the EUs biotech industry with a pioneering project developed in the Bródnowski Hospital on gene therapy for Parkinson Disease. Additionally, cohesion policy funds will help complete broadband infrastructure, targeting additional businesses that will gain access to very high-capacity broadband. A further EUR 6 billion, primarily from European Social Fund Plus (ESF+) and complemented by the Just Transition Fund (JTF) and ERDF, is supporting skills development. The ERDF will specifically invest EUR 153 million in skills development for smart specialisation, industrial transition, entrepreneurship, and business adaptability. Under the European Funds for Social Development programme, a training loan project was launched in 2023 and now has over 16 150 participants. A new EUR 26 million ESF+ pilot for individual learning accounts will support 7 700 adults from 2026. Additionally, ESF+ regional programmes support upskilling for low-skilled adults through upskilling pathways and local knowledge centres, focusing on green and digital skills.

([244]) Data reflect the situation on 31.12.2024.

Other funds are contributing to competitiveness in Poland, for instance through open calls. The Connecting Europe Facility has financed strategic investments for instance in rail infrastructure, the development of alternative fuel infrastructure and the modernisation of Poland's maritime transport network; integration of the energy market, decarbonisation of the energy system and security of energy supply, including the diversification of natural gas sources and routes; as well as capacity, resilience and security of backbone digital infrastructure and advanced 5G connectivity along transport paths. Horizon Europe has supported research and innovation from scientific breakthroughs to scaling up innovations, with Digital, Industry and Space and Climate, Energy and Mobility as top priorities in Poland. The Technical Support Instrument (TSI) supports actions in Poland for instance for enhancing the implementation of the Just Transition and improving regional capacity to access EU funding.

Poland's RRP also contains ambitious measures to improve the business environment and competitiveness. As part of the measures covered by payment requests submitted over the past year, a legislative package entered into force aimed at eliminating legal barriers affecting the business climate. An important reform was also adopted to improve the business environment, by limiting the use of fast-track legislative procedures in the Sejm, the Senate and the Council of Ministers and by requiring impact assessments and public consultations for draft legislation.

EU funds are playing a significant role in promoting environmental sustainability and the green transition in Poland during the current seven-year EU budget (multiannual financial framework). A significant investment amounting to a EUR 26.6 billion is earmarked for climate action under the cohesion policy. Annual investments estimated at EUR 4.8 billion focus on reducing pollution, with most of this funding targeting improvements in air quality. In the water sector, annual investments of around EUR 2.8 billion are supported by the Cohesion Fund, with the European Regional Development Fund (ERDF) financing projects focusing on wastewater management and the supply of drinking water. These efforts reflect the strategic use of cohesion policy to boost Poland's compliance with the EU Water Framework Directive. Furthermore, Poland's CAP strategic plan allocates EUR 2 billion for environmental and climate objectives under rural development and EUR 4.3 billion for eco-schemes. The plan focuses on enhancing sustainability in agriculture through investments in renewable energy, organic farming (aiming to double the area covered by organic farming by 2030), and eco-schemes promoting environmentally friendly practices. The plan also allocates funds to improve energy efficiency in farm buildings and raise animal welfare standards. Additionally, it supports knowledge exchange and training for over 127 000 individuals, emphasising environmental and climate performance.

The Polish RRP, including the REPowerEU chapter, has a comprehensive set of reforms and investments for the green transition. In particular, Poland already amended the Electromobility Act and the Monitoring and Controlling Quality of Fuels Act to pave the way for low-carbon and renewable hydrogen to serve as alternative fuel for transport and amended legislation to incentivise investments in onshore wind power by allowing plants to be located closer to residential buildings than the minimum distance of 10 times the height of the installation. On top of an initial increase of installed capacity of onshore wind and photovoltaic installations from 11.2 GW to 23.13 GW, the REPowerEU chapter sets a target to reach 30 GW of onshore wind and photovoltaics installed capacity. Poland is also supporting investments in offshore wind farms; updated its 'Clean Air' priority programme by increasing support for low-income groups for energy renovations of buildings, created a support scheme targeting energy efficiency and renewable energy sources in companies,

and supported the development of sustainable urban mobility plans.

Promoting fairness, social cohesion and improving access to basic services are among the key priorities of EU funding in Poland. Over 8.5% of the ERDF funding has been earmarked for supporting education, social inclusion and equal access to healthcare, as well as for enhancing the role of culture and sustainable tourism. Some 13 million people per year will be using new or modernised healthcare facilities and more than 4 600 people will benefit from new or modernised social housing. In addition, 16 000 children will have access to new or modernised childcare facilities. Poland is using the ESF+ to address material deprivation through a food aid programme worth EUR 525 million, including support for Ukrainian refugees. Combined ESF+ and ERDF funding of EUR 4.8 billion is improving access to social services and promoting inclusion, while EUR 503 million is supporting job creation through social enterprises. To increase childcare accessibility, EUR 1.3 billion from ESF+ and the RRF will create 100 000 new places, including specialised care for children with a disability. In addition, the AMIF supports integration measures, including language training, civic orientation courses, exchanges with host society, information and other support services. Emphasis is placed on the creation of a comprehensive support structure for the integration of third-country nationals ('one-stop shops'). Support is provided for the integration of vulnerable Ukrainians, to help them transition to independent housing, reduce language barriers, and integrate in the labour market.

Poland's RRP contains several reforms and investments related to fairness and social policies. Measures covered by the payment requests submitted over the last year include, among others, the set-up of at least 14 regional teams coordinating policies on vocational education and training and lifelong learning, an amendment to the Labour Code introducing the possibility of remote work outside the workplace and flexible forms of working time arrangements, and a reform of personal income taxation to incentivise workers to continue working beyond the statutory retirement age. In the field of digital skills, Poland introduced minimum binding standards for equipping schools with digital infrastructure, launched a digital competence development programme and laid down requirements to support the development and monitoring of digital competences in education; and created a Digital Competence Development Centre. In the area of health, Poland introduced a reform to strengthen the quality of health services provided by medical services, introduced legislation to improve the attractiveness of medical jobs and improve the working conditions of medical workers, as well as a strategic plan to develop the biomedical sector.

Table A16.1: **Selected EU funds with adopted allocations - summary data (million EUR)**

Instrument/policy	Allocation 2021-2026		Disbursed since 2021 (1)
RRF grants (including the RepowerEU allocation)	25 276.9		7 301.3
RRF loans	34 541.3		13 464.2
Instrument/policy	**Allocation 2014-2020 (2)**	**Allocation 2021-2027**	**Disbursed since 2021 (3)** (covering total payments to the Member State on commitments originating from both 2014-2020 and 2021-2027 programming periods)
Cohesion policy (total)	78 797.3	75 460.1	39 785.7
European Regional Development Fund (ERDF)	42 163.9	47 416.7	21 713.7
Cohesion Fund (CF)	23 139.9	11 283.1	9 670.9
European Social Fund (ESF, ESF+) and the Youth Employment Initiative (YEI)	13 493.5	12 913.0	7 150.1
Just Transition Fund (JTF)		3 847.3	1 251.0
Fisheries			
European Maritime, Fisheries and Aquaculture Fund (EMFAF) and the European Maritime and Fisheries Fund (EMFF)	531.2	512.4	338.4
Migration and home affairs			
Migration, border management and internal security - AMIF, BMVI and ISF (4)	282.5	504.9	222.9
The common agricultural policy under the CAP strategic plan (5)	**Allocation 2023-2027**		**Disbursements under the CAP Strategic Plan (6)**
Total under the CAP strategic plan	22 131.3		7 142.1
European Agricultural Guarantee Fund (EAGF)	17 430.7		6 614.2
European Fund for Agricultural Development (EAFRD)	4 700.6		527.9

(1) The cut-off date for data on disbursements under the RRF is 31 May 2025.
(2) Cohesion policy 2014-2020 allocations include REACT-EU appropriations committed in 2021-2022.
(3) These amounts relate only to disbursements made from 2021 onwards and do not include payments made to the Member State before 2021. Hence the figures do not comprise the totality of payments corresponding to the 2014-2020 allocation. The cut-off date for data on disbursements under EMFAF and EMFF is 29 April 2025. The cut-off date for data on disbursements under cohesion policy funds, AMIF, BMVI and ISF is 5 May 2025.
(4) AMIF - Asylum, Migration and Integration Fund; BMVI - Border Management and Visa Instrument; ISF - Internal Security Fund.
(5) Expenditure outside the CAP strategic plan is not included.
(6) The cut-off date for data on EARDF disbursements is 5 May 2025. The information on EAGF disbursements is based on the Member State declarations until March 2025. Disbursements for the Direct Payments (EAGF) started in 2024.
Source: European Commission

Table A16.2: **Summary table on 2019-2024 CSRs**

Poland	Assessment in May 2025	Relevant SDGs
2019 CSR 1	**Some progress**	
Ensure that the nominal growth rate of net primary government expenditure does not exceed 4.4% in 2020, corresponding to an annual structural adjustment of 0.6% of GDP.	Not relevant anymore	SDG 8, 16
Take further steps to improve the efficiency of public spending, including by improving the budgetary process.	Some progress	SDG 8, 16
2019 CSR 2	**Limited progress**	
Ensure the adequacy of future pension benefits and the sustainability of the pension system by taking measures to increase the effective retirement age and by reforming the preferential pension schemes.	Limited progress	SDG 8
Take steps to increase labour market participation, including by improving access to childcare and long-term care, and remove remaining obstacles to more permanent types of employment.	Some progress	SDG 3, 4, 5, 8
Foster quality education and skills relevant to the labour market, especially through adult learning.	Limited progress	SDG 4
2019 CSR 3	**Some progress**	
Strengthen the innovative capacity of the economy, including by supporting research institutions and their closer collaboration with business.	Limited progress	SDG 9
Focus investment-related economic policy on innovation	Some progress	SDG 9, 10, 11
Focus investment-related economic policy on transport, notably on its sustainability	Some progress	SDG 10, 11
Focus investment-related economic policy on digital infrastructure	Some progress	SDG 9, 10, 11
Focus investment-related economic policy on energy infrastructure	Limited progress	SDG 7, 9, 10, 11, 13
Focus investment-related economic policy on healthcare	Some progress	SDG 3, 10, 11
Focus investment-related economic policy on cleaner energy, taking into account regional disparities	Some progress	SDG 7, 9, 10, 11, 13
Improve the regulatory environment, in particular by strengthening the role of consultations of social partners and public consultations in the legislative process.	Some progress	SDG 16
2020 CSR 1	**Limited progress**	
Take all necessary measures, in line with the general escape clause of the Stability and Growth Pact, to effectively address the COVID-19 pandemic, sustain the economy and support the ensuing recovery. When economic conditions allow, pursue fiscal policies aimed at achieving prudent medium-term fiscal positions and ensuring debt sustainability, while enhancing investment.	Not relevant anymore	SDG 8, 16
Improve resilience, accessibility and effectiveness of the health system, including by providing sufficient resources and accelerating the deployment of e-health services.	Limited progress	SDG 3
2020 CSR 2	**Limited progress**	
Mitigate the employment impact of the crisis, in particular by enhancing flexible and short time working arrangements.	Some progress	SDG 8
Better target social benefits and ensure access to those in need.	No progress	SDG 1, 2, 10
Improve digital skills.	Limited progress	SDG 4
Further promote the digital transformation of companies and public administration.	Some progress	SDG 9, 16

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Table (continued)

2020 CSR 3	**Some progress**	
Continue efforts to secure access to finance and liquidity for companies.	Some progress	SDG 8, 9
Front-load mature public investment projects	Limited progress	SDG 8, 16
and promote private investment to foster the economic recovery.	Limited progress	SDG 8, 9
Focus investment on the green and digital transition, in particular on digital infrastructure,	Some progress	SDG 9, 10, 11
clean and efficient production and use of energy,	Some progress	SDG 7, 9, 10, 11, 13
and sustainable transport,	Limited progress	SDG 10, 11
contributing to a progressive decarbonisation of the economy, including in the coal regions.	Limited progress	SDG 6, 10, 11, 12, 15
2020 CSR 4	**Substantial progress**	
Enhance the investment climate, in particular by safeguarding judicial independence.	Full implementation	SDG 16
Ensure effective public consultations and involvement of social partners in the policymaking process.	Some progress	SDG 16
2021 CSR 1	**Not relevant anymore**	
In 2022, pursue a supportive fiscal stance, including the impulse provided by the Recovery and Resilience Facility, and preserve nationally financed investment.	Not relevant anymore	SDG 8, 16
When economic conditions allow, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring fiscal sustainability in the medium term.	Not relevant anymore	SDG 8, 16
At the same time, enhance investment to boost growth potential. Pay particular attention to the composition of public finances, on both the revenue and expenditure sides of the budget, and to the quality of budgetary measures in order to ensure a sustainable and inclusive recovery. Prioritise sustainable and growth-enhancing investment, in particular investment supporting the green and digital transition.	Not relevant anymore	SDG 8, 16
Give priority to fiscal structural reforms that will help provide financing for public policy priorities and contribute to the long-term sustainability of public finances, including, where relevant, by strengthening the coverage, adequacy and sustainability of health and social protection systems for all.	Not relevant anymore	SDG 8, 16
2022 CSR 1	**Limited progress**	
In 2023, ensure that the growth of nationally financed primary current expenditure is in line with an overall neutral policy stance, taking into account continued temporary and targeted support to households and firms most vulnerable to energy price hikes and to people fleeing Ukraine. Stand ready to adjust current spending to the evolving situation.	Not relevant anymore	SDG 8, 16
Expand public investment for the green and digital transitions, and for energy security taking into account the REPowerEU initiative, including by making use of the Recovery and Resilience Facility and other Union funds.	Full implementation	SDG 8, 16
For the period beyond 2023, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions.	Not relevant anymore	SDG 8, 16
Improve the efficiency of public spending, including by continuing the reform of the budget system.	Not relevant anymore	SDG 8, 16
Ensure the adequacy of future pension benefits and the sustainability of the pension system by taking measures to increase the effective retirement age and by reforming the preferential pension schemes.	Limited progress	SDG 8
2022 CSR 2		
Swiftly finalise the negotiations with the Commission of the 2021-2027 cohesion policy programming documents with a view to starting their implementation.	Progress on the cohesion policy programming documents is monitored under the EU cohesion policy.	

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Table (continued)

2022 CSR 3	**Limited progress**	
Increase labour market participation, including by improving access to childcare and long-term care, and remove remaining obstacles to more permanent types of employment.	Some progress	SDG 3, 4, 5, 8
Foster quality education and skills relevant to the labour market, especially through adult learning and improving digital skills.	Limited progress	SDG 4
Better target social benefits and ensure access to those in need.	No progress	SDG 1, 2, 10
2022 CSR 4	**Limited progress**	
Improve the resilience, accessibility and effectiveness of the health system, including by providing sufficient resources to reverse the pyramid of care and accelerating the deployment of e-health services.	Limited progress	SDG 3
Strengthen the innovative capacity of the economy, including by supporting research institutions and their closer collaboration with business.	Limited progress	SDG 9
Enhance further digitalisation of businesses and public administration, including through development of infrastructure.	Some progress	SDG 9, 16
2022 CSR 5	**Substantial progress**	
Enhance the investment climate, in particular by safeguarding judicial independence.	Full implementation	SDG 16
Ensure effective public consultations and involvement of social partners in the policymaking process.	Some progress	SDG 16
2022 CSR 6	**Limited progress**	
Reduce overall reliance on fossil fuels	Limited progress	SDG 7, 9, 13
by removing regulatory, administrative and infrastructural barriers to accelerate permitting procedures and deployment of renewable energy sources.	Limited progress	SDG 7, 8, 9, 13
Reform building renovation policies and support schemes to incentivise deeper energy efficiency, promote energy savings and faster phase-out of fossil fuels in heating and accelerated deployment of heat pumps.	Limited progress	SDG 7
Accelerate modal shift towards public transport and active mobility and promote faster uptake of electric vehicles with incentives and investment in charging infrastructure.	Limited progress	SDG 11
Improve long- and medium-term strategic planning of the green transition by updating national energy policies in line with the European Green Deal objectives and the REPowerEU Communication to provide certainty to the business community and use funding effectively with a view to accelerating clean energy investments.	Limited progress	SDG 7, 9, 11, 13
2023 CSR 1	**Limited progress**	
Wind down the emergency energy support measures in force, using the related savings to reduce the government deficit, as soon as possible in 2023 and 2024. Should renewed energy price increases necessitate new or continued support measures, ensure that these are targeted at protecting vulnerable households and firms, fiscally affordable, and preserve incentives for energy savings.	Limited progress	SDG 8, 16
Ensure prudent fiscal policy, in particular by limiting the nominal increase in nationally financed net primary expenditure in 2024 to not more than 7.8%.	No progress	SDG 8, 16
Preserve nationally financed public investment and ensure the effective absorption of RRF grants and other EU funds, in particular to foster the green and digital transitions.	Full implementation	SDG 8, 16
For the period beyond 2024, continue to pursue a medium-term fiscal strategy of gradual and sustainable consolidation, combined with investments and reforms conducive to higher sustainable growth, to achieve a prudent medium-term fiscal position.	Not relevant anymore	SDG 8, 16
Improve the efficiency of public spending, including through better targeting of social benefits.	No progress	SDG 1, 2, 8, 10, 16
Ensure the adequacy of future pension benefits and the sustainability of the pension system by taking measures to increase the effective retirement age and reforming preferential pension schemes.	Limited progress	SDG 8
2023 CSR 2		
Urgently fulfil the required milestones and targets related to the protection of the financial interests of the Union with a view to allowing for a swift and steady implementation of its recovery and resilience plan. Swiftly finalise the REPowerEU+C66 chapter with a view to rapidly starting its implementation. Proceed with the speedy implementation of cohesion policy programmes, in close complementarity and synergy with the recovery and resilience plan.	RRP implementation is monitored through the assessment of RRP payment requests and analysis of the bi-annual reporting on the achievement of the milestones and targets, to be reflected in the country reports. Progress with the cohesion policy is monitored in the context of the Cohesion Policy of the European Union.	

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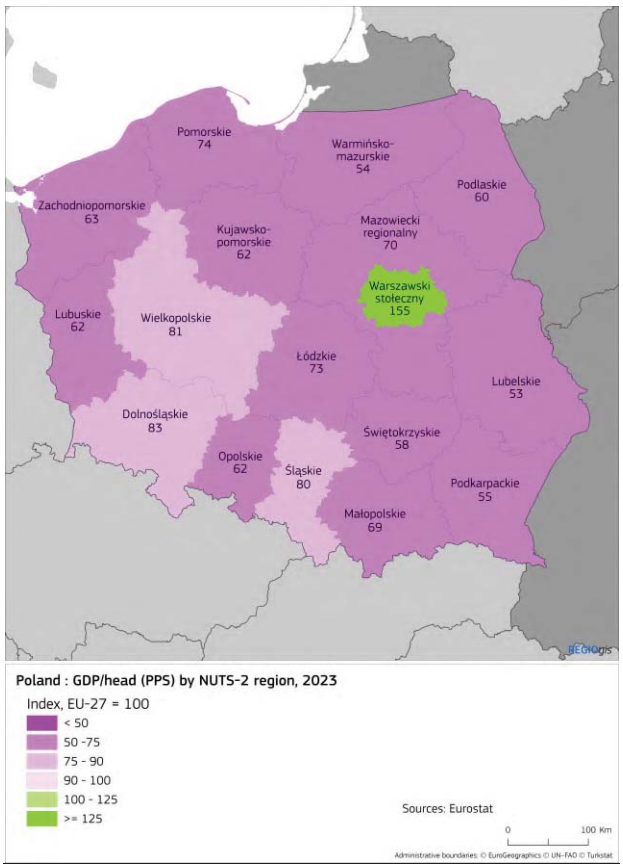
Table (continued)

2023 CSR 3	**Full implementation**	
Enhance the investment climate, including by safeguarding judicial independence.	Full implementation	SDG 8, 9, 16
2023 CSR 4	**Limited progress**	
Accelerate the phase-out of fossil fuels	Limited progress	SDG 7, 9, 13
and (accelerate) the deployment of renewable energy. Reform the legal framework for grid connection permitting and for renewable energy sources, including energy communities, biomethane and renewable hydrogen.	Some progress	SDG 7, 8, 9, 13
Implement measures to promote energy savings and gas demand reductions. Scale up investment in energy efficiency for buildings and decarbonise the heat supply in district heating to address energy poverty.	Limited progress	SDG 1, 2, 7, 10
Further promote sustainable public transport modes.	Limited progress	SDG 11
Step up policy efforts aimed at the provision and acquisition of skills and competences needed for the green transition, including for building renovation.	Limited progress	SDG 4
2024 CSR 1	**Some progress**	
Submit the medium-term fiscal-structural plan in a timely manner.	Full implementation	SDG 8, 16
In line with the requirements of the reformed Stability and Growth Pact, limit the growth in net expenditure in 2025 to a rate consistent with, inter alia, reducing the general government deficit towards the 3% of GDP Treaty reference value and keeping the general government debt at a prudent level over the medium term.	Full implementation	SDG 8, 16
Improve the efficiency of public spending, including through better targeting of social benefits	No progress	SDG 1,2,8, 10, 16
as well as more transparency in investment planning and wider use of standardised procedures for project assessment and selection.	No progress	SDG 8, 16
Ensure the adequacy of future pension benefits and reinforce the sustainability of the pension system, including by taking measures on effective retirement age and reforming preferential pension schemes.	Limited progress	SDG 8
2024 CSR 2		
Strengthen administrative capacity to manage the recovery and resilience plan, accelerate investments and maintain momentum in the implementation of reforms. Address relevant challenges to allow for continued, swift and effective implementation of the recovery and resilience plan, including the REPowerEU chapter, ensuring completion of reforms and investments by August 2026. Accelerate the implementation of cohesion policy programmes. In the context of the mid-term review continue focusing on the agreed priorities, taking action to better support and integrate non-EU nationals, while considering the opportunities provided by the Strategic Technologies for Europe Platform initiative to improve competitiveness.	RRP implementation is monitored through the assessment of RRP payment requests and analysis of the bi-annual reporting on the achievement of the milestones and targets. Progress with the cohesion policy is monitored in the context of the Cohesion Policy of the European Union.	
2024 CSR 3	**Some progress**	
Take steps to increase labour market participation of disadvantaged groups, including by improving quality of and access to formal home- and community-based long-term care.	Limited progress	SDG 3, 8, 10
Foster competition in public procurement processes, making these more efficient and less cumbersome, especially for SMEs.	Some progress	SDG 9
Support private investments by fostering digitisation of companies.	Some progress	SDG 9
2024 CSR 4	Limited progress	
Take measures to accelerate the phase-out of fossil fuels in the district heating sector by shifting to renewable energy.	Limited progress	SDG 7, 9, 13
Improve policies related to the protection and sustainable use of water resources to ensure the long-term sustainability of sectors that rely on ecosystem services.	Limited progress	SDG 6, 12, 15

Source: European Commission

The Polish economy continues to be characterised by a more competitive capital and western regions, which also have higher labour productivity compared to the eastern part of the country. Furthermore, regions bordering Russia and Belarus experience additional challenges. The picture is more nuanced regarding the green transition, which is a major challenge at national level, but where eastern regions are well placed to take advantage of opportunities in renewable energy. The south-western regions reliant on coal and heavy industries, as well as more industrialised central Poland, face additional challenges. In some regions, housing affordability is increasingly becoming a concern. Innovation levels are below the EU average throughout Poland except in the capital.

Map A17.1: **GDP per head (in purchasing power standard PPS), 2023**



Source: Eurostat

Competitiveness

Poland has been steadily catching up with the rest of the EU for two decades, doubling its GDP per head since 2014. Between 2014 and 2023, average annual real GDP per capita growth in Poland (4.1%) and all its regions was more than double the EU rate (1.6%). The economy grew by 2.9% in 2024, and, according to the European Commission Autumn 2024 Forecast, is expected to increase by 3.6% in 2025, as consumption growth remains strong and investment accelerates ([245]). The largest increase in GDP compared to 2013 (4% or more per year) took place in the regions of Warszawski Stołeczny, Pomorskie, Małopolskie, and Mazowiecki Regionalny ([246]). Looking at NUTS 3 subregions, the eight biggest and richest metropolises (out of 73 NUTS 3 subregions), primarily Miasto Warszawa (14%), together with Miasto Kraków, Trójmiejski, Miasto Poznań, Miasto Wrocław, Katowicki, Warszawski Zachodni and Miasto Łódź, generate one third of Polish GDP. Five (Trójmiejski, Miasto Krakow, Katowicki, Miasto Poznań and Miasto Łódź) reached annual growth above 4% between 2014 and 2022 being outpaced by several less prosperous regions. This trend provides an opportunity to reduce regional economic disparities, which have remained broadly static**.**

Despite significant economic progress, the competitiveness of Polish regions ([247]) remains low compared to the EU average, except for the capital region, and varies significantly, impacted by geographic location, demographic trends, productivity and investment patterns. While western

([245]) Council Recommendation endorsing the national medium-term fiscal-structural plan of Poland COM(2024) 723 final.

([246]) This translated into average GDP per head growth of 3.8% in Warszawski Stołeczny (with a significant increase in population) and 4.6% in Mazowiecki Regionalny (with a decline in population).

([247]) EU Regional Competitiveness Index 2.0, 2022

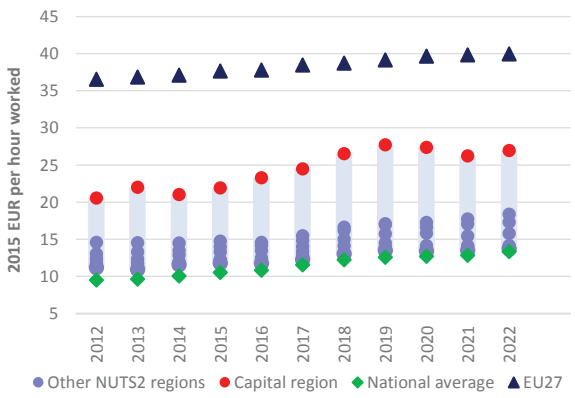
Table A17.1: **Selection of indicators at regional level in Poland**

	GDP per head (PPS)	Real GDP per head growth	Productivity - GDP per person employed (PPS)	Real productivity growth (per person employed)	Productivity - GDP per hour worked (PPS)	Real productivity growth (per hour worked)	Employment in high-technology sectors	European Quality of Government Index	Regional innovation index	Housing afordability	Greenhouse gas emissions	Air quality
	Index EU-27 = 100	Average annual % change	Index EU-27 = 100	Average annual % change	Index EU-27 = 100	Average annual % change	% of total employment	EU-27=0		Price-to-income ratio	tCO2eq. per person	Concentra-tion of PM 2.5
	2023	2014-2023	2023	2014-2023	2022	2013-2022	2024	2024	2023	2019	2023	2021
European Union (27 MS)	100	1.6	100	0.6	100	0.9	5.2		109		7.1	10.1
Poland	77	4.1	82	2.4	65	2.6	4.7		64	11.0	9.9	16.1
Małopolskie	69	4.1	72	2.1	58	1.8	6.2	-1.0	87	12.8	5.4	19.4
Śląskie	80	4.2	87	2.6	70	2.9	4.8	-0.8	63	7.9	12.4	20.9
Wielkopolskie	81	3.9	83	2.6	63	2.5	2.8	-0.6	61	9.7	7.8	15.9
Zachodniopomorskie	63	3.9	69	1.8	56	2.0	3.6	-0.9	56	11.0	10.8	10.8
Lubuskie	62	3.8	68	2.1	56	2.1	2.3	-1.1	50	8.7	9.1	12.1
Dolnośląskie	83	3.7	87	1.3	75	2.4	6.0	-1.3	75	10.2	9.7	14.8
Opolskie	62	3.5	69	1.7	57	1.9	1.8	-0.9	51	7.9	25.9	16.5
Kujawsko-pomorskie	62	3.7	67	2.2	55	2.7	3.9	-0.9	60	10.3	10.8	14.7
Warmińsko-mazurskie	54	3.9	60	1.9	47	1.6	2.0	-1.0	59	10.0	6.2	11.9
Pomorskie	74	4.1	78	2.2	66	2.3	6.8	-0.7	73	15.4	5.6	11.9
Łódzkie	73	3.8	78	2.8	59	2.3	4.0	-0.7	64	9.6	15.6	18.0
Świętokrzyskie	58	3.7	64	2.6	45	1.7	1.0	-1.2	49	10.8	16.0	16.3
Lubelskie	53	3.7	59	3.0	47	2.7	2.7	-1.1	64	12.2	10.4	14.9
Podkarpackie	55	3.9	64	2.8	51	2.2	2.0	-1.1	62	11.0	6.0	15.3
Podlaskie	60	4.4	62	2.7	49	2.8	2.4	-0.9	63	12.7	7.1	11.8
Warszawski stołeczny	155	3.8	134	1.8	107	2.7	11.1	-1.1	103	15.1	3.5	18.7
Mazowiecki regionalny	70	4.6	86	3.9	67	3.0	1.6	-0.9	40	10.6	18.1	15.4

Source: Eurostat and JRC

regions and the capital city show strong performance, eastern regions lag behind. Warszawski Stołeczny leads across multiple indicators, including demographic growth, foreign direct investment, R&D spending, innovation capacity, skilled workforce availability, employment rates and infrastructure connectivity (see Annex 3).

Graph A17.1:**Labour productivity per hour**



Unit: Real GDP per hour worked (EUR, 2015 prices)
Source: ARDECO (JRC)

Gaps in labour productivity levels between Warszawski Stołeczny and other regions have remained constant over the last five years (Graph A17.1), while Poland as a whole has been catching up with more developed Member States. Labour productivity in the capital is much higher not only compared to other Polish regions, but also other Member States. Warsaw attracts a significant concentration of multinational corporations, particularly in business services (finance, IT, consulting) which bring in advanced technologies and skilled jobs, raising productivity levels. Additionally, the availability of a highly educated workforce, with many universities and research institutions in Warsaw, contributes to higher productivity. Warsaw's higher productivity is also due to strong infrastructure and its greater integration with global markets. Although their productivity is lower than Warsaw's, Miasto Poznań (the capital of Wielkopolskie, with its diversified economy, strong education and research and skilled workforce), Trójmiasto (with a strategic

location, strong maritime industry, investments in logistics and infrastructure, and growing IT sector), and Miasto Wrocław (the capital of Dolnośląskie, with its diversified economy and strong industrial sectors and a growing knowledge economy with highly skilled workforces and strong R&D infrastructure), show leading to relatively high productivity levels for regional cities. Wrocław's proximity to the German border provides added advantages in trade and cross-border cooperation.

Intraregional differences indicate that the highest productivity per hour was still characteristic of sub-regions of large urban agglomerations. The highest were Miasto Warszawa (117% of the EU), Warszawski Zachodni (97%) and Poznań (85%). Highest productivity per hour is also concentrated in regions with significant economic activities, such as Płock (17%), which specialises in oil refining and petrochemicals, supported by its favourable location on the Vistula river and ongoing investments in transportation and energy infrastructure, and Legnicko-Glogowski (99%), with its industrial specialisation and renewable energy replacing mining. The lowest indicators (below 60% of the EU average) were recorded in the eastern and south-eastern sub-regions.

Efforts to improve productivity may be undermined by the deepening unfavourable demographic trends, notably by the decline in the working-age population ([248]) and population ageing ([249]). It is assumed that the proportion of people aged over 65 in large cities in 2060 will range from approximately 29% to 40% ([250]), which creates economic, fiscal and social challenges. The population will decrease in most regions (most notably in Śląskie), except for Warszawski Stołeczny (where population growth is assumed). This negative trend is already felt severely in Eastern Poland. Some of the least developed eastern regions (Świętokrzyskie and Warmińsko-Mazurskie) were loosing 1.7% of the working-age population (20-64 years old) per year and 1.4-1.6% of the young population per year. Świętokrzyskie and Łódzkie are the regions with the least sustainable population structure, with 22% of the population aged 65+, while the proportion of older people (aged 65+) is increasing in all regions, with the highest increase in Warmińsko-Mazurskie. Only the capital city, being the most popular destination for regional and international migration, bucked these trends, with an increase of 0.2% in the working-age population and 1.6% in the young population per year.

Foreign direct investment (FDI) in Poland shows pronounced regional concentration, with such investment heavily concentrated in two regions, Dolnośląskie and Warszawski Stołeczny, which together account for nearly 40% of the country's FDI (2010-2024). This concentration contrasts sharply with regions like Warmińsko-Mazurskie, where FDI contributes only 0.14% to regional GDP, compared to the national average of 2.63%. Similarly, Podlaskie and Świętokrzyskie struggle to attract foreign investment, limiting their capital formation and job creation potential. Despite these regional imbalances, FDI's still has an overall impact on employment in Polish regions ([251]).

Poland could build on its economic potential opportunities while tapping into clean tech value chains with specific manufacturing competencies. These are: electric vehicle (EV) batteries (electrical control / distribution boards, Direct Current motors); wind energy components (gearing, ball screws, carbon/graphite electrodes); and solar components (glass mirrors, lighting

([248]) DG JRC/DG REGIO elaboration.

([249]) Statistics Poland, Regional Development of Poland. Analytical Report 2023.

([250]) Statistics Poland, Regional Development of Poland. Analytical report 2023.

([251])OECD: Strengthening FDI and SME Linkages in Poland, 2025.

arresters) ([252]). Initial mapping suggests regional concentration patterns. The strongest manufacturing base appears in western and southern Poland, particularly in the Dolnośląskie, Śląskie and Wielkopolskie regions, which combine an automotive sector legacy with growing clean tech manufacturing capabilities. These regions show particular potential for EV battery value chain development, building on their electrical control systems and DC motors competencies.

Diversified regional competitive potential is linked with economic differences between regions showing uneven innovation patterns. The leading region, Warszawski Stołeczny (with Summary Innovation Index at 103) scored at least twice as high in comparison with the lowest performing regions of Świętokrzyskie, Lubuskie, Opolskie (around 50) and its neighbouring region Mazowiecki Regionalny (40). Notably, only two regions were classified as Moderate Innovators (the capital city region and Małopolskie), while all the others were classified as Emerging Innovators. However, all regions have registered steady progress since 2016, in particular thanks to increased innovation activities ([253]). In 2022, over 4 in 10 (43%) Polish firms developed or introduced new products, processes or services as part of their investment activities. This is above the EU average (39%) ([254]).

This pattern is also visible in business R&D investment (1% of GDP, compared to 1.5% in the EU) highly concentrated in the capital region. In 2022, only Warszawski Stołeczny (2.1% of GDP) and Małopolskie (1.7%) exceeded the EU's GDP share for business enterprise R&D ([255]). Warszawski Stołeczny also leads with the highest employment in knowledge-intensive services (54%) and high-tech sectors (11%) in 2024. Pomorskie, Małopolskie, and Dolnośląskie are also above the EU average (5.2%) for high-tech employment. In contrast, regions such as Warmińsko-Mazurskie, Świętokrzyskie and Mazowiecki Regionalny spent less than 0.3% of GDP on business enterprise R&D and employed less than 2% of workers in high-tech sectors, making them the worst innovation performers in Poland, with productivity levels significantly below the Polish average.

Further challenges arise from the impact of the Russian war of aggression, which affected the ability to do business of small and medium-size enterprises in eastern regions, in particular those bordering Russia and Belarus. Due to the increased threat perception, eastern regions suffer from a decline of flows of trade and people, disrupted movement of goods and damage to energy and communication connections, leading to socio-economic difficulties and rising security concerns. In all four eastern regions, particularly those bordering Russia and Belarus, war affects key areas of business operations, such as company operating costs, business risk and prices of supply and investment goods, and therefore affects its competitiveness. Most companies reduced their investment outlays and frequently had to increase the prices of their products or services ([256]).

Insufficient infrastructure and connectivity remain the major problem for the less developed eastern regions, hindering productivity and mobility in the labour market. Despite the dynamic development of the road infrastructure between 2011-2022 (increase of the total length of motorways and expressways by 717% in the eastern regions vs.

([252]) World Bank, EU Regular Economic Report, Clean Tech Value Chains, 2024.

([253]) Regional Innovation Scoreboard 2023, EIS interactive tool 2024 | Research and Innovation.

([254]) EIB Investment Survey Country Overview 2023: Poland.

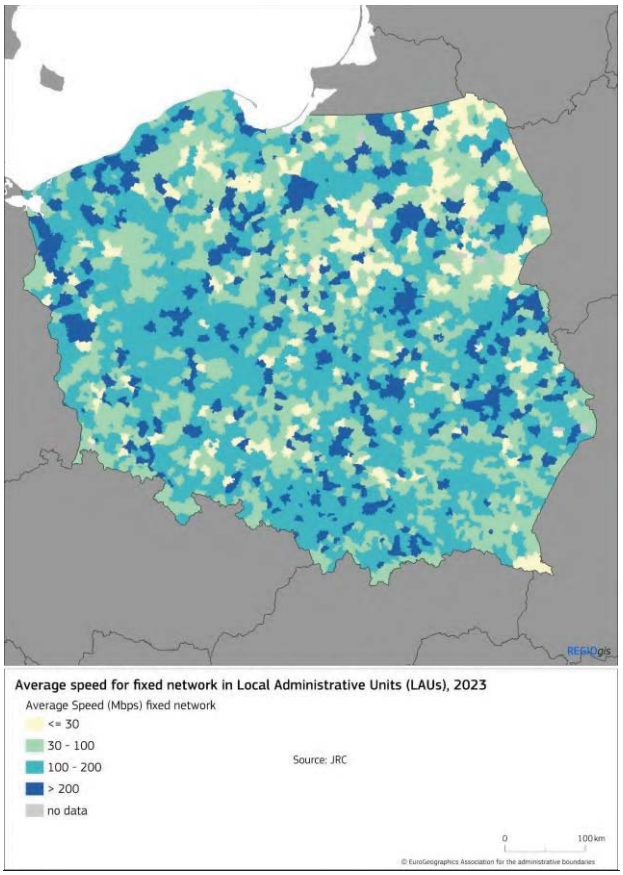
([255]) Statistics Poland.

([256]) Polski Instytut Ekonomiczny, Wpływ wojny w Ukrainie na działalność polskich firm, 2023.

170% in Poland in relative numbers ([257]), a low level of the transport accessibility creates barriers for the competitiveness, mobility on the labour market and access to the public services of these regions ([258]). Better accessibility is crucial for attracting and retaining investments and contributes to competitiveness. Improving connectivity by road and rail networks in the peripheral regions, improves the ease with which goods and services are transported, facilitating better market access. Meanwhile, only the capital region was above the EU average in 2021 (81% of the population reachable within 1.5 hours by car). Świętokrzyskie was the worst performing region (39%). Only the capital region (24%) and Pomorskie (21%) have a rail performance above the EU average, while Świętokrzyskie and Lubelskie lag behind on around 3%. Compared to 2011, the total length of railway lines in use in the country decreased by 4.1%, with the largest fall recorded in the Warmińsko-Mazurskie region (-11.9%).

Ensuring access to high-speed internet in all regions, particularly rural and remote areas, is crucial for bridging the digital divide and helping regions be competitive. Poland made good progress in fast and ultra-fast broadband coverage, but regional disparities remain. In 2023, 93% of Polish households had access to the internet (compared with 70% in 2012). This figure ranged from 95% in Warszawski Stołeczny and Opolskie to 87% in Zachodniopomorskie. Fixed High-Capacity Network coverage in Poland is almost 82%, compared to the EU average of 79%. At the same time, at regional level there are disparities in the access to ultra-fast broadband. Lubuskie, Warmińsko-Mazurskie in the east and Zachodniopomorskie, Pomorskie and Dolnośląskie are the regions with the lowest percentage of households with the access to 100 Mpbs internet (between 72-78% coverage). The expansion of broadband internet access and the development of digital infrastructure are necessary to allow businesses in less developed regions to participate in the digital economy, boost innovation, and attract tech-based industries.

Map A17.2: **Average speed for fixed internet, 2023**



Source: Eurostat, JRC

The European Quality of Government Index ([259]) shows that the regional quality of government in Poland has deteriorated since 2021 despite improvement between 2010 and 2017. The recent fiscal reform of local governments' units ([260]) is an important step towards improving the quality of regional governance in Poland. The improved capacity of regions to co-finance investments,

([257]) Statistics Poland, Regional development of Poland. Analytical report 2023.

([258]) PARP, Raport o stanie sektora malych i srednich przedsiebiorstw w Polsce, 2024.

([259]) European Quality of Government Index 2024| University of Gothenburg

([260]) Act on the revenues of the self-government units (Dz. Ustaw RP, Poz. 1572, 1/10/2024).

particularly those under EU funds, should help improve competitiveness at regional level. A transparent and stable financing system, independent of the central government, should help regions and local administrations with long-term planning, particularly in the areas of investment and human capital ([261]), improving regions' administrative capacity, economic growth and access to essential public services.

Social fairness

The problem of access to high quality public services is particularly acute in smaller cities and rural areas of Poland, affecting various aspects of life, including healthcare. Only 19% of people in rural areas live within a 10-minute drive of the nearest health centre, compared with 29% in the EU, and the situation is even more dire in certain regions, such as Lubuskie. According to Statistics Poland (GUS), people living in rural areas, particularly the eastern regions of Poland, live shorter lives in good health than those living in urban areas and in the west of the country. There are also differences between men and women, with women living longer (see Annex 14). Investing in rural infrastructure, improving transport options and increasing the availability of healthcare services could help to bridge the existing gaps. Moreover, a well-organised social care system, including long-term care, would help to relieve the burden the healthcare system.

In some Polish regions, demand for housing still outstrips supply, leading to rapid price increases and quickly diminishing affordability. In 2022, the number of dwellings per 1 000 inhabitants was among the lowest in the EU (412), also leading to overcrowding. The price of new apartments' in major Polish cities (such as Warsaw, Krakow and Wrocław) exceeded EUR 2 000 per square metre (a 50% increase compared to 2015). Although approximately 100 000 new units were built demand still outstrips supply. In 2023 approximately 4.9% of the Polish households faced energy poverty, measured by inability to keep their home adequately warm, ranging from 8.1% in Opolskie to 2.5% in Podlaskie ([262]). Housing policies to date have proven ineffective, and the allocated financial resources insufficient. In 2024, housing cost overburden ([263]) in Poland was 5.2%, below the EU average (8.2%), with relatively small differences between cities (5.7%) and rural areas (4.9%). At regional level, however, it varies from 2.4% in the least economically developed region of Podkarpackie to 7.5% in Zachodniopomorskie and Pomorskie. A large influx of refugees from Ukraine has put additional pressure on Poland's housing market. Finally, a substantial challenge for the construction industry is the need to align with environmental, social and government regulations and improve buildings' energy efficiency ([264]).

Sustainability

Transitioning to a greener economy is a challenge, especially for five regions reliant on coal and heavy industries. These regions (Dolnośląskie, Małopolskie, Wielkopolskie, Śląskie and Łódzkie) receive support from the Just Transition Fund. Shifting away from coal threatens local economies, risking job losses and social unrest.

([261]) Human capital encompasses knowledge, skills and competences, highlighting the importance of education, training and experience in building a workforce that drives economic growth, innovation and productivity.

([262]) Eurostat, EU-SILC.

([263]) The housing cost overburden rate is the percentage of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40% of disposable income ('net' of housing allowances').

([264]) Real Estate Guidebook Poland 2024: Awaiting market revival. Key trends driving the real estate market in Poland (Real Estate Guide in Poland 2024 | EY - Global).

Additionally, the infrastructure needed to support green energy is still underdeveloped. In 2023, Poland's average greenhouse gas emissions per capita were significantly higher than the EU average (9.9 tonnes of CO_2 equivalent, compared to 7.1 tonnes in the EU). Values above the EU average were recorded in 11 of the 17 regions, reaching 26 tCO_2eq in Opolskie. These transitions, while challenging, present significant opportunities for local industries to increase their competitiveness through technological modernisation and access to growing green technology markets, particularly as environmental standards become increasingly important in global supply chains.

Polish regions face both challenges and opportunities in transitioning to renewable energy. The country's official reports confirm the growing importance of renewables, which exceeded 27% of national energy production in 2023. Warmińsko-Mazurskie and Podlaskie lead the way, with outstanding renewable energy shares of 97.6% and 85.4% respectively, demonstrating the effectiveness of regional investments and favourable geographic conditions. Wielkopolskie and Zachodniopomorskie also perform strongly, contributing 74.6% and 70.0% to renewable energy production, highlighting successful targeted initiatives. Overall, Pomorskie and Zachodniopomorskie, making the most of their maritime industry background and port infrastructure, are well positioned to develop wind energy component manufacturing, particularly for the growing offshore wind sector. At the other end of the spectrum, Opolskie and Mazowieckie lag behind, with renewable shares of 6.2% and 9.8% respectively, indicating significant potential for growth and development. These disparities underscore the need for tailored strategies to boost take-up of renewables in lower-performing regions. Continued investment, supportive policies and technological advancements will be crucial to bridge these gaps and advance Poland's renewable energy landscape.

Most regions lag behind other less developed EU regions in developing green infrastructure and creating environmental sector jobs. Green employment in Poland, with 10% of jobs classified as sustainable and competitive, is also below the EU average of 15% ([265]). It is concentrated in the capital region (31%), followed by Dolnośląskie and Śląskie (20% and 16% respectively). In contrast, 10 of the remaining regions, including the less economically developed regions, are below the EU benchmark for less developed regions (6%), with Lubelskie and Świętokrzyskie at the bottom on less than 1%.

([265]) JRC :Measuring transition to a competitive and sustainable economy.