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2026 Country Report - Germany

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

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

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Germany

2026 Country Report



ECONOMIC DEVELOPMENTS AND KEY POLICY CHALLENGES

Years of economic stagnation are leaving their mark

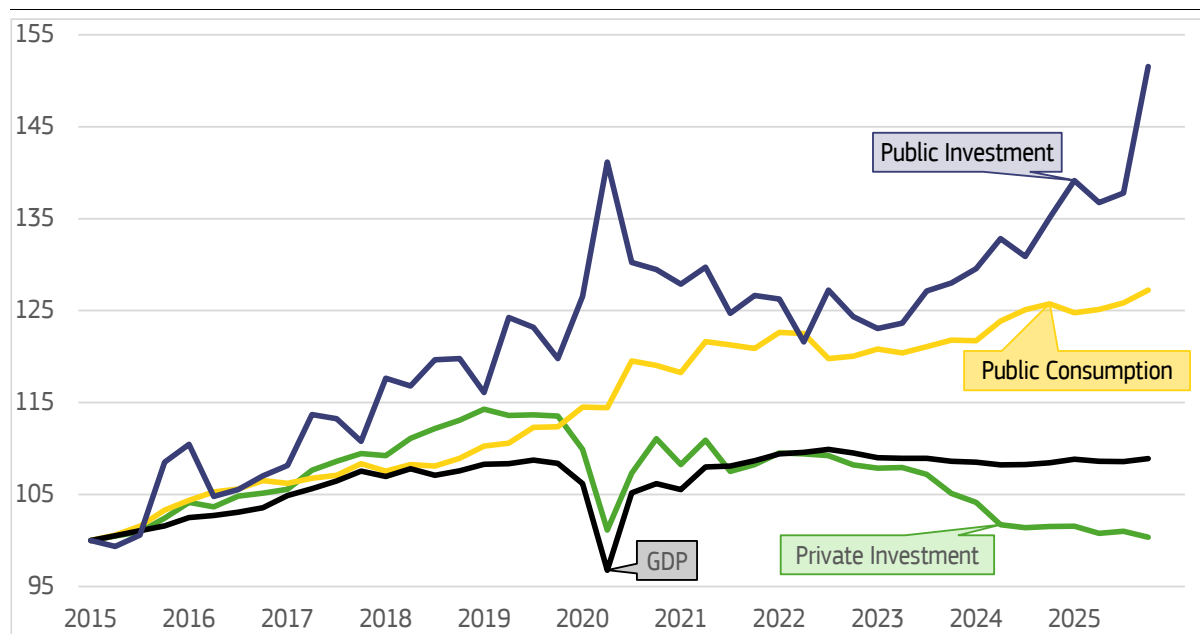
Germany has been experiencing weak economic performance for several years, with almost no real GDP growth since 2019. Since the COVID-19 pandemic, Germany has recorded one of the weakest recoveries and lowest long-term growth rates in the EU. Global export market shares have declined sharply due to waning competitiveness in the context of the rise of China as a global competitor ⁽¹⁾. This trend is compounded by the recent global fragmentation of trade and US tariffs. Drivers of the loss in competitiveness include fading technological leadership and skills shortages in the wake of a shrinking working-age population. In addition, wage costs and energy prices are high. Private investment had fallen back to below its 2015 level by 2025, driven by weakness in manufacturing and construction. Signs of structural change are visible as industrial value added and production diverge (particularly for cars and machines), indicating a shift of physical production abroad and an increased focus on the provision of industry-related services domestically. The public sector has cushioned the downturn somewhat, also due to rising public consumption and expenditure for defence and infrastructure (see Graph 1.1). Despite recent increases, public investment remains considerably below the EU average.

Years of stagnation and accelerating structural change are leaving their mark on the labour market. Reflecting the sluggish economy and weak labour demand, unemployment increased from 3.5% in January 2025 to 4.0% in March 2026. Employment growth in past years turned into job shedding, with an employment decline of 0.1% in Q1 2026, year-on-year. Hiring intentions remain weak. Employment destruction has accelerated in manufacturing, while the public sector has continued to hire, increasing employment by 17.4% since 2015 compared with 6.4% in the rest of the economy.

Looking ahead, the war in Iran has reduced growth prospects and driven inflation up. In 2026, the economy is set to recover by 0.6%, driven by the ramp-up in public spending. However, elevated inflation as well as uncertainty due to the situation in the Middle East and US tariffs detract from private consumption, investment, and exports and therefore weaken this recovery. As these effects subside slowly, growth in 2027 is forecast to accelerate to 0.9% and inflation to decelerate.

⁽¹⁾ Bundesbank, 2025, What's behind the sustained decline in German export market shares, [bundesbank.de](https://www.bundesbank.de).

Graph 1.1: GDP, public and private investment and public consumption



Source: National Accounts

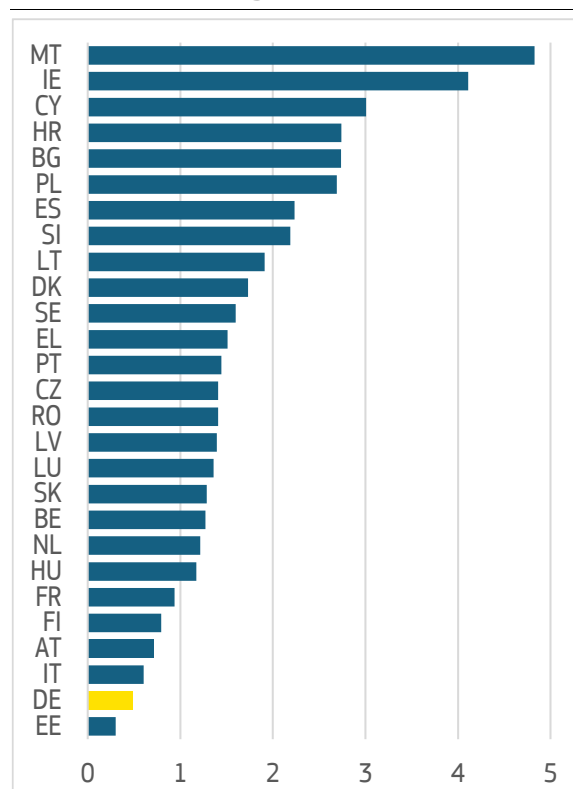
Structural reforms urgently needed on top of public investment

Long-term growth remains among the lowest in the EU. Potential growth is the rate at which an economy grows over the long term when using its resources at a normal level. For Germany, it is projected to average just 0.5% annually over the period 2026-2030, placing it at the low end among EU economies (see Graph 1.2). Demographic ageing is dampening economic growth as the labour force shrinks. This effect is compounded by low average hours worked. At the same time, weak and deteriorating education outcomes, coupled with a very high share of early school leavers, further aggravate the situation (see Section 4). Low public and private investment over many years has led to an ageing capital stock (the economy's existing buildings, machines and infrastructure). Together with a lack of disruptive innovation, this is weighing on productivity and the overall growth potential of the economy.

The government has put forward a flagship public investment fund to reboot growth. Next to the reform of the national debt brake ⁽²⁾, a Special Fund for Infrastructure and Climate Neutrality worth EUR 500 billion was legislated in 2025. Spending from the special fund is expected to continue a positive trend in public investment, which has been apparent since 2023 (see Graph 1.1), after decades of underinvestment. Still, there is room to boost the additionality and quality of spending (see below). A stronger focus on capital formation and the use of quantitative methods, such as cost-benefit analyses of measures, can help to maximise the positive impact on potential growth. Typical high-return priorities for investment include schools and early childhood education and care (see Section 4), rail infrastructure (see Section 3), as well as the innovation system (see Section 2).

⁽²⁾ The debt brake (*Schuldenbremse*) in Germany is a constitutional fiscal rule that limits government borrowing, allowing a structural deficit of 0.35% of GDP for the federal level. The 2025 debt brake reform created additional fiscal space. Defence spending above 1% of GDP is not considered in the debt brake any more and the *Länder* can issue debt of 0.35% of GDP annually in structural terms.

Graph 1.2: **Potential growth**



Average potential growth 2026-2030

Source: Commission spring 2026 forecast

By contrast, the reform agenda lacks momentum.

To have a lasting effect, the additional public spending must be accompanied by an ambitious reform agenda. However, so far, there has only been limited progress on structural reform measures. Several expert committees were set up in 2025 to work on key issues such as a further reform of the debt brake, long-term care, health insurance, the welfare state, the pension system and fiscal relations between the federal level and the *Länder* (see Annex 18). Some of these committees have presented their results; others are expected to do so by mid-2026. However, the recommendations are non-binding, and political discussions are still ongoing in several fields. Increasing the efficiency and effectiveness of the healthcare, long-term care and pension systems is essential to preventing further increases of budget transfers or social security contribution rates (see also Annex 15). Workers in Germany already face the second highest level of taxes and social security contributions on earnings in the EU (see below and Section 4). Beyond the

tax and social security system, the current reform agenda emphasises competitiveness, but with a focus on traditional industries, as opposed to disruptive innovation and economic transformation. More would be needed to be done to revamp the traditionally industry-based, export-oriented economic model, and the deepening of the EU single market can play a significant role in rebooting Germany's sources of growth and jobs.

Delivering ambitiously on the new push for State modernisation, simplification and digitalisation could yield significant results.

The newly created Ministry for Digital Transformation and Government Modernisation has ambitious targets for reducing administrative burden and boosting digital, modern administration. However, the instruments to enforce these targets often remain uncertain, in particular in light of the constitutional division of responsibilities between different levels of the State (see Section 2). To improve permitting and planning procedures for public investment, the government has put in place several measures. Among them are the Procurement Acceleration Act, and the Future Infrastructure Act, the latter aiming at prioritising, simplifying and digitalising rail, motorway and waterway projects and currently going through the parliamentary process. These measures relate to the 2025 country-specific recommendation (CSR) to increase public investment by removing relevant bottlenecks.

Germany faces several economic security challenges linked to its export-oriented economy and strong industrial base.

To prevent shortages, a raw materials fund was launched in late 2024, supporting projects in extraction, processing and recycling. A first project received funding in 2025. It aims to extract and process lithium in Germany for up to 500 000 electric cars per year (see Annex 5). In addition, the government adopted a national economic security strategy and plans to introduce stronger screening of foreign investments in sensitive technologies. Digital sovereignty and cyber security are also growing concerns for Germany. Cyberattacks

are estimated to have caused losses of almost EUR 200 billion in 2025 (5% of GDP) ⁽³⁾. Recent initiatives, such as the high-tech agenda or the data centre strategy, include measures to strengthen the cybersecurity of advanced technologies and infrastructure. In times of increasing geopolitical fragmentation, the single market plays a central role in ensuring economic security by providing reliable supply chains, enabling cross-border energy trade during supply shocks and affording economies of scale to sustain strategic industries such as semiconductors and batteries.

Accelerating the green transition is essential for sustainable growth and economic security. Germany has rapidly expanded renewables, but insufficient grid capacity and a lack of flexible infrastructure are creating bottlenecks in integrating clean energy. Energy supplies have been diversified considerably and a further expansion of liquefied natural gas import capacity is planned. Nevertheless, Germany remains dependent on fossil fuel imports. Additional investment in renewables, energy storage and energy efficiency would reinforce energy security (see Section 3).

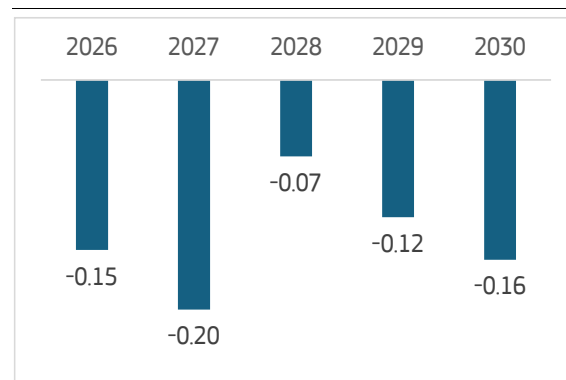
Rising public debt and deficits

After a period of decreasing public debt and deficits, fiscal policy is now expansionary. Debt-to-GDP rose from 62.2% in 2024 to 63.5% in 2025 and is expected to rise to 68.0% in 2027. The fiscal expansion is partly due to additional spending related to the reform of the 2025 national debt brake and the creation of the Special Fund for Infrastructure and Climate Neutrality. Defence expenditure above 1% of GDP has been exempted from the national debt brake. Defence spending has increased as a share of GDP, from 1.1% in 2021 to 1.5% in 2025 and is planned to rise to 2.2% in 2027. In order to facilitate an increase in public spending on

⁽³⁾ Bundesamt für Verfassungsschutz & Bitkom, 2025, Wirtschaftsschutz 2025, [verfassungsschutz.de](https://www.verfassungsschutz.de).

defence, the Council of the European Union has activated the National Escape Clause (NEC) for Germany ⁽⁴⁾. Germany's recovery and resilience plan (RRP) contains two defence-related investments (worth around EUR 670 million), both including a final target or milestone planned to be completed in 2026. Germany has not requested EU loans under SAFE (Security Action for Europe) for defence procurement.

Graph 1.3: **Impact of revenue measures on the government balance (% of GDP)**



The graph shows the impact of the reformed depreciation rules for firms, the VAT reduction for restaurants and the reduction in corporate taxes. The government balance is expressed as percentage-of-GDP deviations from the model baseline. The estimates include macroeconomic feedback effects.

Source: European Commission using QUEST

Besides an increase in expenditure, several revenue-reducing measures have been adopted. Loosened depreciation rules for private equipment investment, a reduction in the corporate tax rate as of 2028, and the VAT reduction for restaurants will exert further pressure on public finances by reducing revenues, but are also expected to provide a boost to growth in the short term. Simulations by the European Commission, which account for second-round effects, show that this package of revenue measures is estimated to have a balance-deteriorating impact in cumulative terms of approximately 0.2 percentage points (pps) in 2027. This impact

⁽⁴⁾ The activation of the national escape clause provides Member States with budgetary flexibility to increase defence expenditure, without an immediate need to finance such increase with spending cuts or revenue-raising measures. The flexibility thus gives Member States the necessary time to accommodate higher defence expenditure within national budgets.

decreases subsequently due to the expiry of the reform of depreciation rules (see Graph 1.3).

The German medium-term fiscal-structural plan (MTP) and the federal budgetary planning make provision for some fiscal consolidation from 2027.

Under the plan, Germany committed to limiting its net expenditure growth until 2029, aiming to bring debt on a downward trajectory after a period of fiscal expansion in 2025 and 2026. This would imply an improvement of the structural primary balance of 1.5 pps between 2025 and 2029.

Boosting the quality of public finances remains a priority

The Special Fund for Infrastructure and Climate Neutrality will raise investment growth in the years to come.

The fund relates to the 2025 CSR to strengthen public investment and improve the quality of public finances. Although the fiscal boost in 2025 was smaller than programmed by the government (plan: EUR 37 billion, outturn according to additional borrowing: EUR 24 billion), public investment as a share of GDP rose from 3.1% in 2024 to 3.3% in 2025 and is set to grow further to 3.7% in 2027. In the decade 2010-2019, the share was significantly lower, at 2.5% of GDP. The bulk of the new expenditure is dedicated to investment in transport infrastructure and digitalisation, thus addressing productivity and competitiveness issues. Spending is subject to an additionality criterion, according to which investment can only be financed by the fund if an investment ratio of 10% in the core budget is safeguarded.

At the same time, implementation of the Special Fund is facing challenges.

The fund also finances expenditure not directly related to public infrastructure or climate neutrality. First, the fund finances investment grants and subsidies, which do not necessarily increase the productive capital stock. Second, some investment was shifted from the core budget

to the Special Fund for Infrastructure and Climate Neutrality, thereby creating fiscal space for non-investment spending in the core budget and reducing the need for consolidation efforts. The same applies to the Climate and Transformation Fund and for the *Länder* (EUR 100 billion each out of EUR 500 billion in total). The additionality of investment will increasingly come into play in the coming years as planning and implementation of projects takes time and therefore an increasing number of new projects can be realized.

The medium-term trend of rising spending on government consumption, social affairs and subsidies continued in 2025.

The public expenditure share in GDP increased from 45.5% in 2019 to 50.6% in 2025. Half of the increase is due to social benefits, and social security contribution rates are among the highest in the EU. Pension-related transfers from the federal budget exceed EUR 120 billion per year, around 25% of federal government expenditure, which risks crowding out other, more growth-enhancing public spending. Recently proposed health system reforms can help prevent further increases to the statutory health insurance contribution rates if adopted, but this is only a short-term solution which does not address systemic issues such as the lack of focus on more cost-effective models of care delivery (see Annex 15) ⁽⁵⁾. The recent decision to keep the average income replacement level of pensions at 48%, along with the increase of pensions entitlements for parents (*Mütterrente*) will raise expenditure further. Capital transfers and other support measures have also risen. For example, investment grants linked to the green transition increased significantly from 0.7% of GDP in 2019 to 1.5% in 2025. The grants are to a large extent dedicated to improving the energy efficiency of the housing stock. These expenditures must be assessed in terms of their efficiency, particularly in light of the need for fiscal consolidation, the possibility of subsidies being given for actions that would have happened

⁽⁵⁾ BMG, 2026, GKV-Beitragssatzstabilisierungsgesetz, [bundesgesundheitsministerium.de](https://www.bundesgesundheitsministerium.de).

anyway and alternative policies, such as higher carbon taxes, which are widely regarded as economically efficient measures for reducing carbon emissions ⁽⁶⁾.

A further pension system reform can help to avoid rises in fiscal transfers or social security contribution rates. In the coming decade, the working-age population in Germany is expected to decline by 400 000 every year, weighing on tax revenue and driving up expenditure. At the same time, life expectancy increased from 78.6 years in 2001 to 81.2 years in 2024, and is expected to increase further. A reform of statutory pensions is unavoidable to prevent further cost increases. Levers to enhance the sustainability of the statutory pension system include reducing incentives for early retirement, linking the statutory retirement age to rising life expectancy, adjusting pension indexation, fully reintroducing the sustainability factor and revising contribution ceilings. An increased differentiation of pension replacement rates by income level could contribute to addressing adequacy concerns (see Annex 12). Moreover, recent pension reforms of occupational and voluntary pensions (see Annexes 2 and 6) can contribute to overall future pension streams, by allowing more flexible asset allocation. Still, there remains potential for increasing coverage (see Section 2) and it will remain important to monitor and ensure low system costs, for both occupational and individual pensions which currently contribute only 11% of total pension income ⁽⁷⁾.

The distribution of revenues and responsibilities in the federal structure poses a challenge to ensuring local investment and services. Net municipal investment has been negative for two decades, and by 2024 there was an estimated investment gap of EUR 215.7 billion (5% of GDP) especially in schools and roads ⁽⁸⁾⁽⁹⁾.

⁽⁶⁾ See, for example, Anthony Wiskich, 2024, A carbon tax versus clean subsidies: Optimal and suboptimal policies for the clean transition, [sciencedirect.com](https://www.sciencedirect.com).

⁽⁷⁾ BMAS, 2024, Alterssicherungsbericht, [bmas.de](https://www.bmas.de).

⁽⁸⁾ KfW, 2025, KfW-Kommunalpanel, [kfw.de](https://www.kfw.de).

EUR 100 billion of the Special Fund for Infrastructure and Climate Neutrality dedicated to the German *Länder* and municipalities is supposed to improve the situation. However, improving the structural revenue base of municipalities could also play an important role in the longer term (see Annex 18). Recent reforms of taxes on immovable property (*Grundsteuer*) and the system of municipal multipliers (*Hebesätze*) are unlikely to strengthen municipal finances significantly.

Promoting a growth- and investment-friendly tax structure

First steps have been taken towards a more investment-friendly tax structure. In 2025, Germany received a CSR to improve the tax mix as a key lever for more inclusive and sustainable growth and stronger competitiveness. Since then, Germany has implemented accelerated depreciation options and the first corporate tax rate reduction since 2008, which is to become effective in 2028. The R&D tax credit has also been extended, stimulating investment in innovation. To make better use of existing employment potential, the active pension (*Aktivrente*) generates incentives for people above retirement age to work longer, making it possible to earn EUR 2 000 without paying taxes as of 2026. However, the measure creates fiscal costs, while the size of the effect on labour supply is uncertain.

There is scope to improve Germany's overall tax mix, in particular, by shifting the burden away from labour. Reform steps to address Germany's high labour tax wedge (personal income taxes and social-security contributions) are still pending. Potential improvements concerning streamlining benefit withdrawal to strengthen work incentives and digitalising social administration were pinpointed by the Welfare State Commission (*Sozialstaatskommission*). A

⁽⁹⁾ German Council of Economic Experts, 2025, Annual Report 2025/2026, [svr-wirtschaft.de](https://www.svr-wirtschaft.de).

Box 1: UN Sustainable Development Goals (SDGs)

Germany performs above the EU average and is further improving on most SDGs related to productivity (SDGs 8 and 9) but needs to catch up with the EU average on quality education (SDG 4).

Worsening education outcomes, a high number of young people leaving school early and weak basic digital skills risk exacerbating skills shortages and further hampering economic growth and competitiveness. Out of the 17 indicators, 7 SDGs remain below the EU average. These relate to quality education (SDG 4), environmental sustainability (SDGs 2, 12 and 13) and fairness (SDGs 5, 7 and 10) (see Annex 17).

reduction of income tax, especially for low and middle incomes, is announced in the coalition agreement. Reducing taxes on middle incomes could flatten the steep tax progression in that income bracket (*Mittelstandsbauch*). To increase labour supply of second earners, often women, a reform of the joint taxation system of married couples (*Ehegattensplitting*) remains essential. Lowering tax wedges will also require solutions to limit social security contributions, as these account for two thirds of the overall burden on labour income. The average income tax burden of a single earner is around 15%, and social security contributions are around 34% (see Annex 3).

Shifting the tax mix towards less distorting taxes could increase revenue potential. Instead of broadening the VAT base, a reduction of the VAT rate for restaurants was added to the list of exemptions as of 2026, despite its limited economic justification. Germany introduced a national carbon price in 2021, but overall environmental taxes still generate modest revenues relative to peers (1.75% of GDP in 2024; EU average: 2.08%). The lower taxation of diesel compared to gasoline (*Dieselprivileg*) remains questionable, as it lowers tax revenue and reduces incentives to switch to e-mobility. As of 2026, environmentally harmful subsidies rise even further, with tax reductions for diesel used in agriculture (*Agrardiesel*) increasing back to the level that applied until 2024 and further raised commuter allowances (*Pendlerpauschale*). Following the recent spike in energy prices linked to the conflict in the Middle East, some European countries have prioritised supporting clean alternatives, while Germany has also relied on temporary fuel tax

cuts, distorting price signals and lowering incentives to shift away from fossil fuels (see Annex 9). Local tax revenue sources show further potential as well (see above). Along with ongoing efforts in other areas – like digitalising tax administration, reducing compliance costs and fighting aggressive tax planning as well as tax fraud – improvements along these lines could make Germany's tax system more growth-friendly, resilient and aligned with EU policy objectives.

Facilitating construction to address housing challenges

Housing investment fell for the fifth year in a row in 2025. It has contracted by 20% since 2020, contributing to economic stagnation. Housing completions remain far below the levels needed (see Annex 16) and housing affordability has further deteriorated (see Annexes 14, 17 and 18). A tentative recovery has only recently begun. In 2025, housing permits increased by 11% compared with the year before but they were still 37% below the 2021 level, signalling continued low construction activity (see Annex 16). Moreover, the gap between rents in existing and new contracts is widening. This leads to a frozen housing market, limiting labour mobility⁽¹⁰⁾.

The 'Construction Turbo' Act could help to increase the supply of housing, but its

⁽¹⁰⁾ ifW Kiel, 2026, Wachstumseffekte und Wachstumshebel, [insm.de](https://www.insm.de).

uptake remains uncertain. Germany received a CSR in 2025 to improve the conditions for housing investments by simplifying regulation and procedures, reviewing rental law and mobilising additional building land, with the concurrent aim of tackling the housing affordability challenges. The government has adopted a 'Construction Turbo' Act that aims to mobilise additional building land and speed up procedures. This could represent an important step forward. However, its application depends on approval by municipalities, thereby potentially limiting the overall impact. In addition, rental rules have not been made more investment-friendly as recommended.

Further steps would help to increase housing supply. Reducing construction costs, which are the highest in the EU, is key to delivering more housing. Important reforms, such as a fundamental reform of the Federal Building Code to accelerate construction, which was announced in the coalition agreement, should go hand in hand with the digitalisation of relevant procedures. The introduction of 'housing type E', a simpler, needs-based standard in construction, has been announced but not yet implemented. It will need to provide legal certainty for construction firms when applying simpler standards in order to effectively reduce construction costs. Further harmonisation of regulations across regions would facilitate modular and serial construction. Improving transport links to suburban areas could encourage the use of available land and housing outside cities (see Annex 16). Furthermore, the stock of social housing, which has experienced a significant decline over the past two decades, needs to be increased (see Annex 16).

EU funding instruments provide considerable resources to Germany. They support investments and structural reforms to increase competitiveness, environmental sustainability, skills, social fairness and security, while helping to address challenges identified in the CSRs. Key instruments include the Recovery and Resilience Facility (see Box 2) and Cohesion policy funds (see Box 3). In addition, the Common Agricultural Policy (CAP) provides Germany with an EU contribution of EUR 30.7 billion under the CAP strategic plan for 2023-2027 ⁽¹¹⁾, while EUR 212 million are allocated under the Common Fisheries Policy (CFP). A further EUR 2.6 billion are available under the Asylum, Migration and Integration Fund (AMIF), together with the Border Management and Visa Instrument (BMVI) and the Internal Security Fund (ISF). Other EU programmes also support competitiveness in Germany, for instance through open calls under Horizon Europe and the Connecting Europe Facility.

⁽¹¹⁾ An overview of Germany's formally approved strategy to implement the EU's common agricultural policy nationally can be found at agriculture.ec.europa.eu.

Key achievements of the Recovery and Resilience Facility (RRF)

Germany's recovery and resilience plan represents a total budget of EUR 30.3 billion, corresponding to 0.7% of 2023 GDP, aimed at supporting reforms and investments contributing to the green and digital transitions, strengthening economic resilience and addressing structural challenges identified in the European Semester.

As of 1 June 2026, EUR 24.4 billion (around 80% of the total allocation) has been disbursed following the satisfactory fulfilment of 100 milestones and targets.

Germany is the largest beneficiary of spillover effects stemming from other recovery and resilience plans in the EU. The total macroeconomic impact of the RRF in Germany has been estimated at EUR 66.1 billion, double the size of Germany's own recovery and resilience plan ⁽¹²⁾.

Highlights and impact of the plan

- Reform package with 20 measures adopted by the federal government and the *Länder* to **accelerate planning and approval procedures, the outflow of grants and housing construction**.
- Improving access to over 200 **public services across Germany** by standardising and digitalising them.
- New regulatory framework for **offshore wind deployment** and acceleration.
- **Support for the purchase of around 1 million electric vehicles** and the necessary charging infrastructure.
- **Digitalisation of hospitals**. With over 1200 hospitals improving their digital and IT-infrastructure (expected).
- **Energy-efficient renovations in buildings**. Supporting 375 000 renovations to make buildings more energy efficient (expected).

⁽¹²⁾ European Commission, 2025, Economic impacts of the Recovery and Resilience Facility: the Case of Germany, reforms-investments.ec.europa.eu.

EU cohesion policy funding is supporting Germany's efforts to boost competitiveness, environmental sustainability, as well as skills and social fairness. In the 2021–2027 programming period, EU cohesion policy funds⁽¹³⁾ are providing EUR 19.9 billion (amounting to EUR 37.3 billion paired with national co-financing) to Germany. The value of selected projects corresponded to 60.8% of the total allocation as of March 2026, with additional calls for projects in the pipeline.

- **Innovation, business environment and productivity.** EUR 8.3 billion is allocated for research and innovation and competitiveness of small to medium-sized enterprises (SMEs) and for the regions most affected by the transition away from carbon-intensive activities. Around 29 000 firms have already seen their projects approved.
- **Decarbonisation, energy affordability and sustainability.** EUR 6.4 billion is dedicated to clean transition projects and for the regions most affected by the transition away from carbon-intensive activities. This funding contributes, among other things, to an increase in waste-recycling capacity of 15 323 tonnes per year and provides EUR 9.75 million in support for investments addressing natural risks.
- **Skills, quality jobs and social fairness.** The European Social Fund Plus (ESF+) supports education and training measures (EUR 2.04 billion), labour market measures (EUR 1.83 billion) as well as social inclusion (EUR 2.16 billion) and social innovation (EUR 0.24 billion). 13.8% of the ESF+ funding is allocated to youth employment measures and 5.8% to combating child poverty. EUR 36.9 million is used to support the Strategic Technologies for Europe Platform (STEP) in the area of upskilling for the future in STEP technologies.

The mid-term review ⁽¹⁴⁾ reinforced the cohesion policy's contribution to emerging strategic priorities, reallocating nearly EUR 2.1 billion. The highest share of reallocations (90.5%) supports critical technologies (EUR 1.9 billion from the European Regional Development Fund and the Just Transition Fund). The mid-term review also improves water resilience and provides additional investments in more affordable and sustainable housing. It also strengthens increased energy connectivity through recharge infrastructure, as well as research and development projects to enhance defence-related capacities. In addition to cohesion policy funding, Germany will be allocated up to EUR 5.32 billion under the Social Climate Fund over 2026–2032 to help mitigate the social impact of the new emissions trading system (ETS2), supporting vulnerable households.

⁽¹³⁾ European Regional Development Fund (ERDF), European Social Fund Plus (ESF+), Cohesion Fund (CF) and Just.

⁽¹⁴⁾ The mid-term review is carried out halfway through the 2021–2027 programming period. It is a formal assessment process required under Article 18 of the Common Provisions Regulation that aims to assess the implementation of programmes and, where necessary, propose adjustments to improve their performance, ensure their relevance in light of new and emerging needs and keep them aligned with other EU policies.

INNOVATION, BUSINESS ENVIRONMENT AND PRODUCTIVITY

Germany received country-specific recommendations (CSRs) in 2025 to boost innovation, strengthen venture capital, simplify regulation, accelerate digitalisation of administration and expand digital infrastructure. Several measures have been implemented to foster research and innovation as well as to increase venture capital. The new Ministry for Digital Transformation and Government Modernisation has proposed ambitious modernisation agendas for the federal level and multilevel governance, seeking to reduce bureaucracy, accelerate end-to-end digitalisation and strengthen interoperable solutions across the federal government, *Länder* and municipalities (see Annex 7).

Diversifying the economy, modernising the state and strengthening competitiveness and the single market remain priorities. High-quality, mid-tech manufacturing plays a major role in the economy; fast-growing cutting-edge technologies less so. Furthermore, venture capital financing remains shallow in international comparison. Germany still has a significant backlog regarding digital infrastructure and the digitalisation of public administration. To strengthen competitiveness and the single market, it is crucial that the government achieves its objective of reducing cumbersome regulation and procedures.

Fostering new sources of growth

Research and innovation are key to unlocking new growth opportunities. Germany was advised in the 2025 CSRs to boost innovation by facilitating research commercialisation and by increasing public funding for transformative innovation. The government has expanded the research

allowance to companies and launched a new initiative to strengthen spin-offs in selected hubs ('start-up factories'). The "1 000 Heads Programme" aims to attract international top researchers to Germany with 286 researchers having relocated in the first year. Furthermore, the high-tech agenda aims to foster investment in research and innovation for six key technologies with funding of up to EUR 18 billion. However, it is unclear to what extent the budget is additional to existing support and if it will be used for disruptive innovation, rather than incrementally in traditional sectors (see Annex 4). Despite tangible efforts, innovation activity remains concentrated in large companies and in mid-tech sectors, including automotive. Since 2019, expenditure on research and development has stagnated, while other leading countries have increased investment significantly ⁽¹⁵⁾. The shift towards new tech fields is slow compared with the US. Only 36% of German R&D spending is going to high-tech, compared to 45% in the EU as a whole and 85% in the US. This is also reflected in the decrease of patenting activity in the last 12 years (see Annex 4).

Germany still struggles to turn excellent research into successful products.

Although technology transfer is formally recognised as a core mission, it often receives limited strategic attention, funding and career incentives, which discourages researchers from engaging in commercialisation. Negotiations over intellectual property between universities and founders take on average 18 months ⁽¹⁶⁾. This slows down the creation of spin-offs and innovation transfer. The coalition agreement envisions a national

⁽¹⁵⁾ For example, by 43% in China, 25% in the United States, 21% in South Korea, and 8% in Japan (all numbers are inflation-adjusted); see: [kfw.de](https://www.kfw.de).

⁽¹⁶⁾ EFI, 2026, Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit, [e-fi.de](https://www.e-fi.de).

intellectual property strategy that should enable the creation of spin-offs in 24 hours, but implementation is pending (see Annex 4).

Boosting business dynamism is crucial for competitiveness, as the old economic structure increasingly faces challenges.

Economic transformation is intensifying, with insolvencies having reached their highest level in 20 years (see Annex 4). Many German regions that once drove growth through strong industry are now increasingly struggling with structural change (Annex 18). As the number of distressed companies increases, it becomes even more crucial to facilitate firm entry and growth and speed up resource reallocation from non-viable companies to productive and innovative firms, including start-ups and scale-ups⁽¹⁷⁾. The number of start-ups increased by 29% in 2025, yet overall there is no major improvement compared with 2018. Reducing administrative burden and improving digital interactions with authorities might help to encourage business founders (see Annex 5).

Despite efforts, venture capital funding remains limited.

Germany received a CSR in 2025 to facilitate the diversification of the economy and business dynamism and to boost private investment by supporting entrepreneurship and improving access to finance for start-ups and scale-ups. To address these challenges, it has expanded public-private investment vehicles such as the Growth Fund (*Wachstumsfonds*) to mobilise venture and growth capital for innovative firms, with a funding commitment of EUR 17 billion. Despite these promising initiatives, venture capital funding volume stagnated in 2025, and was similar to its 2023 level (see Annex 6). The tax treatment of venture capital funds, potentially subjecting them to local trade tax, acts as a deterrent for managing funds in Germany.

Institutional investors could help deepen venture capital markets.

Pension funds rarely invest in venture capital (see Annex 6). The occupational pensions reform aims to boost diversification of portfolios of *Pensions-*

kassen and *Pensionsfonds* from government securities to financing businesses. However, the sector remains fragmented and supervision for some schemes is decentralised. For some schemes, benefits remain unfunded, i.e. there is no dedicated pool of funded assets backing the pension promise. Moreover, introducing automatic enrolment in asset-backed occupational pension schemes for new employees could deepen capital markets. Yet, an expansion of funded pension schemes may increase high domestic savings further.

Consolidation among banks could improve financing conditions.

Banks maintain a leading role in the domestic capital market, by owning over 50% of total domestic financial assets. Their operational costs are relatively high, as the banking sector includes many small institutions. Facilitating mergers across Germany's three banking pillars (commercial, savings and cooperative banks) and across borders could reduce costs and thus enable banks to provide cheaper financing. Establishing a portable investment and savings account in line with the Commission recommendation could boost competition.

Modernisation and digitalisation of public administration are key to improved implementation capacity

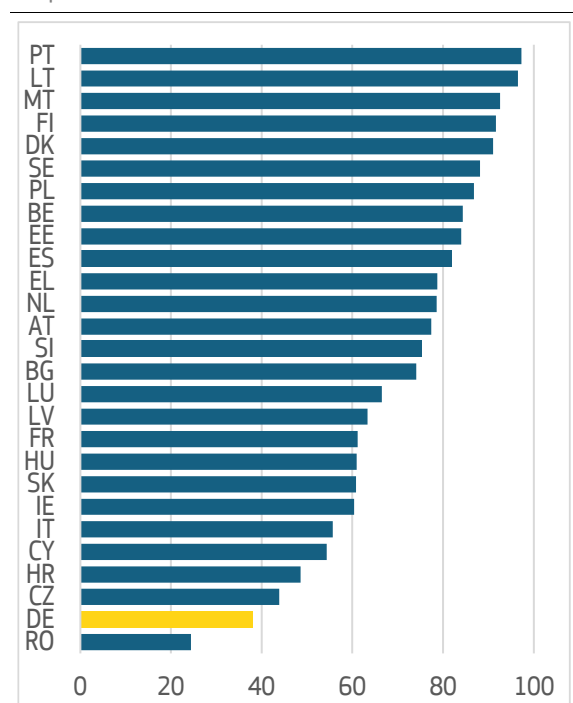
Digital transformation is too slow and fragmented to improve public service delivery.

The CSRs have long recommended speeding up the digitalisation of the public administration, including by improving the geographic coverage of digital public services and facilitating cooperation between governmental levels. The Recovery and Resilience Facility has supported several measures to modernise public administration, among them a European identity ecosystem, the digitalisation of public services (Online Access Act) and the modernisation of data registers. Despite these efforts, the availability and uptake of digital public services remain below EU levels, especially for businesses. Digitalisation often still mirrors analogue complexity rather than replacing it, leading to

⁽¹⁷⁾ German Council of Economic Experts, 2025, Annual Report, [sachverstaendigenrat-wirtschaft.de](https://www.sachverstaendigenrat-wirtschaft.de).

significant dissatisfaction among businesses with public administration (40%, EU average 24%), and suggesting that digitalisation has not reduced the time and effort to obtain a service (28% of businesses, EU average 25%)(¹⁸). User feedback suggests that many procedures are digitalised only partially, without sufficient simplification of the underlying process or improved delivery across authorities. Efforts to digitalise the judiciary could usefully continue, including via a single website giving access to laws and court decisions and providing digital solutions for court proceedings in civil, commercial and administrative cases (¹⁹).

Graph 2.1: **Pre-filled forms**



Source: European Commission, State of the Digital Decade report 2025

Fragmented responsibilities and a lack of common standards between levels of government hinder modernisation and digitalisation. Despite past reforms, significant overlaps of responsibilities persist, and fragmented competencies are an implementation bottleneck for service delivery.

(¹⁸) European Commission, 2026, Flash Eurobarometer 568 on satisfaction with administrative services, [europa.eu](https://ec.europa.eu/eurobarometer).

(¹⁹) European Commission, 2025, Rule of Law Report, commission.europa.eu.

More than three quarters of not-yet-digitalised services fall under *Länder* and municipal responsibility. Digitalisation efforts often need to be coordinated at the federal level before being rolled out by the *Länder* and municipalities. This decentralised roll-out leads to uneven territorial coverage and limited scaling even of solutions intended for nationwide deployment. This is illustrated by the 'one-for-all' (*Einer-für-Alle*) service bundle for craft business registration, whose implementation varies from around 90% in some *Länder* to 0% in others (²⁰). The National Regulatory Control Council stated in 2025 that 'public administration in Germany [...] is trapped in an implementation organisation that is no longer up to date'. This is particularly problematic in view of mounting capacity pressures at subnational level, with around 30% of municipal employees expected to retire by 2030 (²¹) (see Annex 18). The low share of pre-filled forms (38%; EU: 78%), points to limited data sharing and weak interoperability of applications across the administration (see Graph 2.1). To address this, Germany is developing the *Deutschland-Stack*, an open standard technology stack of digital building blocks for government services. However, its delivery is still uncertain. Successful state modernisation will require multilevel governance reform, infrastructure that is interoperable vertically and horizontally (between the *Länder*) and bundling of service delivery.

The business environment would benefit from less bureaucracy, a stronger single market and better digital infrastructure

The bureaucratic burden remains high. According to the National Regulatory Control Council, the costs of complying with national legislation fell in 2025. However, the overall

(²⁰) [Behörden-Digimeter 2026](https://www.bhdo.de/Behörden-Digimeter-2026).

(²¹) DStGB, 2025, Demografie: Schleichenden Blackout der öffentlichen Verwaltung abwenden, [dstgb.de](https://www.dstgb.de).

burden remains high ⁽²²⁾, which affects small to medium-sized enterprises (SMEs) in particular ⁽²³⁾. Many businesses report delays (57%) and increased operational costs (36%) due to administrative interactions ⁽²⁴⁾. Germany received a CSR to simplify regulation and reduce administrative burden. To address this, the government plans to cut administrative costs for businesses by 25% during this legislative period. The government has already introduced measures to reduce compliance costs by more than EUR 3 billion annually. Administrative processes are examined through ‘reality checks’ with relevant stakeholders. However, the ambitious goals do not seem to be accompanied by fundamentally new instruments or a consolidation of competencies that would promote effective burden reduction. Effective tools could include the wider use of approval by default and flat-rate schemes rather than exact case-by-case verification. A thorough cost-benefit assessment could prevent disproportionate regulation.

Recent economic volatility and trade tensions underlined the importance of the single market for growth and resilience.

The single market plays a significant role in German prosperity as about half of German exports remain within the EU (compared with 9% going to the US and 5% to China). Deepening the single market could generate an extra 3% of GDP for Germany ⁽²⁵⁾, with potential improvements in various sectors ⁽²⁶⁾. Major restrictions remain regarding the free movement of goods, services and people and the registration of businesses. Companies report that divergent packaging, labelling and waste rules, for instance related to

requirements for waste shipment or printed food contact materials, increase compliance costs for foreign businesses (see Annex 5). Sometimes, harmonised rules suffer from burdensome implementation. Easing administrative requirements as regards implementing the rules on the posting of workers could reduce regulatory fragmentation within the single market, facilitate cross-border mobility and foster competitiveness, without undermining workers’ protections. Recognition of professional qualifications of foreign workers can be time-consuming, and regulatory restrictiveness remains high for some professions (see Annex 5). National or regional regulations going beyond the requirements of EU legislation (‘gold plating’) also add to market fragmentation. The implementation of EU regulations creates additional complexity. For instance, 33% of businesses in Germany perceive data protection and compliance with the EU General Data Protection Regulation burdensome (EU average 13% ⁽²⁷⁾). The lack of cross-border energy and transport infrastructure creates a further barrier to the free flow of goods and people (see Annexes 9 and 19). For example, a missing rail link connecting Germany to the Brenner tunnel creates a gap in a major EU freight corridor. Finally, the banking sector remains highly fragmented, in part due to political resistance to foreign acquisition (see Annex 6).

Germany needs to continue expanding its digital connectivity infrastructure.

The CSRs in 2025 highlighted the need to accelerate the roll-out of very high-capacity digital communication networks, also involving the private sector. In a welcome step, the Telecommunications Act has been amended to create an overriding public interest for network development. Fibre-to-the-premises coverage increased to 36.8% in 2024 (EU: 69%) but is still the second lowest in the EU. Coverage is generally better in northern regions. Swift and effective implementation of the acceleration pact between the federal government and the *Länder* can speed up progress.

⁽²²⁾ National Regulatory Control Council, 2025, Annual Report, [normenkontrollrat.bund.de](https://www.normenkontrollrat.bund.de).

⁽²³⁾ German Chamber of Industry and Commerce, 2025, Mittelstand droht dauerhaft abzurutschen, [dihk.de](https://www.dihk.de).

⁽²⁴⁾ European Commission, 2026, Flash Eurobarometer 568 on satisfaction with administrative services, [europa.eu](https://ec.europa.eu).

⁽²⁵⁾ Fontagné, L. & Yotov, Y.V., 2025, The low-hanging fruit of the single European market, ec.europa.eu.

⁽²⁶⁾ Bernasconi, R. et al., 2026, What is the untapped potential of the EU Single Market?, [ecb.europa.eu](https://www.ecb.europa.eu), Adilbish, O. et al., 2025, Europe’s productivity weakness, [imf.org](https://www.imf.org).

⁽²⁷⁾ European Commission, 2026, Flash Eurobarometer 568 on satisfaction with administrative services, [europa.eu](https://ec.europa.eu).

DECARBONISATION, ENERGY AFFORDABILITY AND SUSTAINABILITY

The 2025 country-specific recommendations (CSRs) called on Germany to further reduce its dependence on fossil fuels and accelerate the expansion of renewable energy, while strengthening investment in efficient and integrated energy systems, including electricity grids, flexibility solutions and digital infrastructure. The

recommendations also emphasised the need to accelerate decarbonisation in the buildings and transport sectors, including through rail network renovation.

Overall, progress has been mixed. Grid investments and renewable electricity deployment have advanced, supported by accelerated approval procedures and increasing auction volumes. However, important structural challenges remain. There is not enough flexibility in the electricity market, as the digitalisation of electricity networks and the roll-out of smart meters are also progressing slowly. Fossil fuels still dominate the overall energy mix, and electricity prices remain structurally high, as prices are set in most hours by fossil fuel generation. Decarbonisation in buildings is advancing only gradually due to low renovation rates, while progress in transport is uneven, with stronger developments in road electrification than in rail infrastructure modernisation.

Investments in grids have increased, but digitalisation benefits remain largely untapped

Modernising energy infrastructure in Germany has progressed unevenly. Grid expansion has increased significantly in recent years, while the digitalisation of grids is

progressing slowly. The 2025 CSR calls for investments in energy systems, including by upgrading the electricity system and ensuring cost-efficient expansion and flexibility. In 2025, transmission grid expansion saw significant progress in planning, approval and construction. This progress was mainly driven by accelerated approval procedures. 2 000 km of new transmission grids, 1 280 km of them newly built, were approved at the federal level in 2025, an increase of 45% compared with 2024⁽²⁸⁾. However, the transmission grid continues to represent a bottleneck. This causes redispatch costs, which, although declining since their peak in 2022, have remained close to EUR 3 billion annually over the past four years (see Graph 3.1). These costs amount to roughly 0.7 cents per kWh on average, indicating avoidable inefficiencies.

Even with rising investment, distribution grids remain strained and digitalisation efforts, including smart meter roll-out, continue to fall short.

Distribution grid investments have consistently increased in recent years, with EUR 12.4 billion invested in 2024 and EUR 14.7 billion planned in 2025. However, distribution grid operators (DSOs) are subject to increasing demands. Connection requests, particularly for large battery storage systems, can only be processed with delays. Meanwhile, shortages and price increases of material and labour pose a growing challenge for cost-efficient modernisation⁽²⁹⁾. At the same time, the fragmentation of distribution grids, with more than 850 DSOs operating in Germany⁽³⁰⁾, and disparities in financial and administrative capacities lead to significant

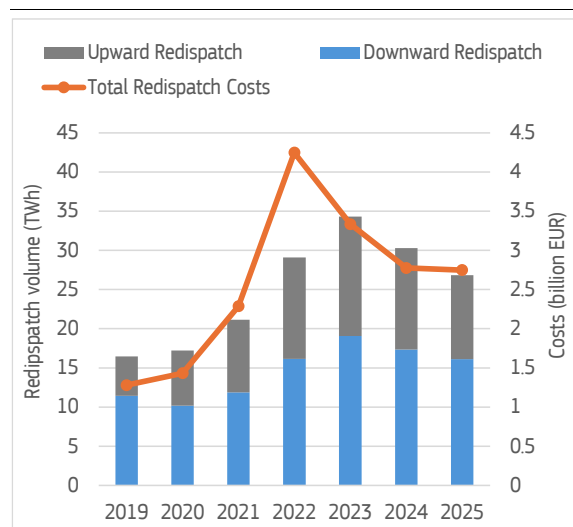
⁽²⁸⁾ Source: Bundesnetzagentur.

⁽²⁹⁾ dena, 2026, Großbatteriespeicher effizient integrieren, dena.de.

⁽³⁰⁾ Bundesnetzagentur, Bundeskartellamt, 2025, Monitoringbericht, bundesnetzagentur.de.

regional differences in grid connections and the deployment of smart meters, whose overall roll-out remains exceptionally slow. As of December 2025, only 5.5% of customers were equipped with smart meters compared with 63% in the EU ⁽³¹⁾. Expanding and modernising the electricity grid in a cost-efficient way remains a key prerequisite for aligning electricity demand, renewable energy, and storage. The digitalisation of distribution grids is a key lever as smart grids can detect bottlenecks earlier, enable more efficient expansion planning and improve system stability.

Graph 3.1: **Redispatch volumes and costs in Germany, 2019-2025**



(i) Upward redispatch refers to increasing electricity feed-in (esp. gas and coal power plants). Downward redispatch refers to reducing feed-in (esp. wind and solar photovoltaics). Total redispatch costs include compensation to generators for additional electricity produced under upward redispatch and reimbursements for reduced production under downward redispatch.

(ii) Volume and costs for 2025 including January-November.

Source: Bundesnetzagentur; Fraunhofer ISE Energy-Charts

Further reducing fossil fuel reliance to structurally lower energy prices

Progress in expanding renewable electricity capacity was significant, but fossil fuels continue to play a structural role in the energy system.

The 2025 CSR calls for a reduction in fossil fuel dependence and faster renewable expansion. Germany has accelerated the deployment of renewable energy capacity in recent years, supported by large auction volumes and strong activity in the market for long-term renewable power purchase agreements (PPAs). In 2025, renewable energy sources accounted for 61.1% of Germany's electricity generation, but the price was set by fossil-fuel-generated electricity at 58% of the hours and coal still accounted for 23% of the mix. Despite the advances in renewable deployment, fossil fuels still dominated overall energy consumption. In 2024, oil accounted for roughly 37% of gross inland energy consumption, natural gas for 26% and coal for 15%, compared with about 20% of renewables ⁽³²⁾, a 1 percentage point increase compared with 2023. Thus, further efforts would be beneficial to continue the roll-out of renewable capacity while ensuring security of supply through sufficient system flexibility and dispatchable capacity.

Legal pathways to increased renewable energy have been strengthened, but efficient system operation requires further flexible solutions.

With the entry into force of legislative acts, such as the Hydrogen Acceleration Act and the Geothermal Energy Acceleration Act ⁽³³⁾, the legal framework for clean energy has been strengthened. However, Germany's enabling infrastructure for industry decarbonisation could usefully be rolled out further. The development of CO₂ transport and storage infrastructure is facing delays. Lengthy and

⁽³¹⁾ Bundesnetzagentur, 2025, Roll-out of intelligent metering systems; [bundesnetzagentur.de](https://www.bundesnetzagentur.de); Berg Insight, 2025, Smart Metering in Europe, [bergsight.com](https://www.bergsight.com).

⁽³²⁾ Eurostat, 2024, Energy Balances, [Eurostat](https://ec.europa.eu/eurostat).

⁽³³⁾ Bundesgesetzblatt, 2025, Geothermal Energy Acceleration Act, [recht.bund.de](https://www.recht.bund.de).

complex permitting for industry installations hinders the swift deployment of clean industry technologies, undermining decarbonisation efforts. As part of the Recovery and Resilience Facility (RRF), Germany has introduced the Wind Energy on Land Act and the Offshore Wind Energy Act to accelerate wind power deployment. Under the RRF and the European Regional Development Fund (ERDF), Germany is investing in hydrogen capacity. The integration of growing shares of variable renewable energy requires increasing system flexibility to balance fluctuations in wind and solar output and ensure security of supply. Market-based mechanisms that encourage flexibility solutions, such as storage, demand response and other balancing resources, are increasingly important for efficient system operation as renewable capacity expands.

The continued reliance on fossil fuels in the energy mix is also reflected in high prices, despite fiscal interventions. In 2025, Germany abolished the gas storage levy, reduced grid fees and the electricity tax, subsidised electricity for energy-intensive industry and financed the renewable energy sources surcharge from the federal budget. Despite these interventions, electricity prices have remained high, with households paying 31% more than the EU average. Electricity prices for non-household consumers, including industry, were 7% above EU average (see Annex 9).

High electricity wholesale prices occur at times of low renewables output paired with high demand, in particular in the evenings. Germany's energy system is characterised by high shares of wind and solar power and regional imbalances between generation and demand. It would therefore be highly beneficial to expand storage capacity in order to shift excess renewables generation to periods of high demand. This would reduce peak prices and limit the need for expensive marginal generation. More storage capacity would help prevent negative price episodes during periods of high renewable generation and alleviate grid congestion by reducing the need for curtailment and long-distance electricity flows.

On top of high wholesale prices come network charges and electricity taxation that are among the highest in the EU. Network charges are driven by grid reinforcement needs, an inefficient bidding zone and the low level of smart meter deployment. More north-south transmission capacity and cross-border interconnector capacity could provide further flexibility and bridge supply gaps. Increasing digitalisation of the grid, closer cooperation between distribution system operators and retail suppliers and demand-driven solutions such as dynamic grid fees could help lower prices.

Germany introduced a range of short-term measures to address rising fuel costs, though some of these counteract with longer-term decarbonisation goals. In response to recent energy price spikes linked to instability in the Middle East, Germany temporarily reduced fuel taxes by 17 cents per litre, thereby distorting price signals and dampening incentives to shift away from fossil fuels at a time when other European countries have prioritised supporting clean alternatives. Additional measures included coordinating the release of emergency oil reserves with the IEA, restricting petrol stations to a single daily price increase at noon, and introducing a reversal of the burden of proof for fuel pricing: as of 1 April, refineries and wholesalers are required to justify how their prices are composed, with the starting presumption being that refinery prices must be cost-justified (see Annex 9).

Uneven progress in buildings and transport decarbonisation

Germany made moderate progress on the decarbonisation of buildings. The 2025 CSR calls for the process of decarbonising buildings to be accelerated. A reduction in energy consumption could be observed, reflecting efficiency gains and behavioural changes. However, with renovation rates below 1% per year, progress remains too slow to meet climate goals (see Annexes 8 and 9). The RRF has made a significant contribution to

improving energy efficiency in buildings via numerous measures, such as energy-efficient building renovations and municipal living labs serving as real-world testing grounds for integrated energy solutions in urban neighbourhoods. Moreover, the Climate and Transformation Fund (KTF) supports energy efficiency with revenues from the EU emissions trading system (ETS). However, the planned reform of the Building Energy Act would abolish previously legislated requirements for switching to climate-friendly heating solutions, allowing the continued installation of gas and oil boilers in residential buildings.

Germany has made notable progress in decarbonising road transport. The 2025 CSR calls for faster decarbonisation of transport, including through rail network renovation. Progress has been most visible in road transport, with a marked increase in electric vehicle uptake. In 2025, almost one in five newly registered cars in Germany had a purely battery-electric drive (19.1%). This represents a significant increase compared to the previous year (13.5%). The public charging network also expanded further to around 200 830 charging points (8 GW capacity) by April 2026⁽³⁴⁾, with relatively low utilisation rates suggesting that capacity is sufficient even for future demand. Measures under the recovery and resilience plan contributed to this expansion, including investments in publicly accessible charging infrastructure and zero-emission commercial vehicles. While measures to decarbonise road transport are advancing, high acquisition costs remain a constraint for businesses and consumers⁽³⁵⁾ and progress remains too slow to bring the transport sector in line with Germany's climate goals (see Annex 8).

Progress in rail remains limited despite substantial financial commitments to infrastructure renovation. Total spending on rail infrastructure reached EUR 23.1 billion in 2025, including EUR 18.1 billion in federal investment. While this constitutes an increase

⁽³⁴⁾ Bundesnetzagentur, 2026, [bundesnetzagentur.de](https://www.bundesnetzagentur.de).

⁽³⁵⁾ bdew, 2025, BDEW-Elektromobilitätsmonitor, [bdew.de](https://www.bdew.de).

compared to previous years, the additional impact of the newly created Special Fund for Infrastructure and Climate Neutrality on investments could have been greater. Despite increased funding, infrastructure remains heavily utilised, notably on key east-west and north-south trans-European transport network (TEN-T) axes around urban nodes and major ports. Digital deployment is uneven, and the punctuality of long-distance services remains low (around 62-63% versus 87% in the EU⁽³⁶⁾), indicating that renovation efforts have not yet translated into a structurally more reliable and higher-capacity network (see Annex 8). Furthermore, the roll-out of the European Rail Traffic Management System – the EU-wide digital signalling system needed to increase capacity and enable cross-border operations – remains particularly slow. At the end of 2024, only about 5% of Germany's core European rail corridors were equipped with this system, well below the EU average of 17%⁽³⁷⁾. Total transport emissions exceed national reduction targets and increased by 1.4% between 2024 and 2025⁽³⁸⁾.

Addressing biodiversity loss and strengthening climate resilience

Biodiversity loss and water resilience remain significant challenges, with many habitats in an unfavourable condition and persistent investment gaps. Germany faces considerable challenges in combating nature degradation, which poses significant risks to biodiversity and the economy⁽³⁹⁾. More than half of Germany's habitat types are in an unfavourable condition, with 60% showing insufficient or poor conservation status (see Annex 10). Despite rich biodiversity, many

⁽³⁶⁾ European Commission, 2025, [Commission Staff Working document on the Ninth monitoring report on the development of the rail market](https://ec.europa.eu/transport/modes/rail/working_document_on_the_ninth_monitoring_report_on_the_development_of_the_rail_market_en), [EUR-Lex.europa.eu](https://eur-lex.europa.eu).

⁽³⁷⁾ European Commission, 2026. ERTMS, see: op.europa.eu.

⁽³⁸⁾ Umweltbundesamt, 2026, [Umweltbundesamt.de](https://www.umweltbundesamt.de).

⁽³⁹⁾ European Environment Agency, 2025, Germany country profile, [EEA.europa.eu](https://eea.europa.eu).

designated protected areas do not meet the criteria of the EU biodiversity strategy's 30% protected area target. National initiatives, like the action plan on nature-based solutions for climate and biodiversity, aim to address these issues, but efforts are hindered by funding shortfalls, with a biodiversity financing gap of EUR 638 million annually. In addition, seasonal water scarcity and a very low share of water bodies with good ecological and chemical status put pressure on biodiversity and economic activities that rely on water (see Annex 10). Strengthening site management and boosting investment are essential to bolster the resilience of ecosystems and water bodies and protect the economy from vulnerabilities stemming from its dependence on ecosystem services.

Further progress would be beneficial in order to strengthen climate adaptation and resilience. Significant investments in climate adaptation are crucial for Germany. An estimated EUR 9.6 billion annually up to 2050 would be of benefit, focusing primarily on infrastructure retrofitting (see Annex 10). While progress has been made at subnational level, with regions like Hamburg and Bremen adopting new adaptation strategies, transparency gaps persist, as documentation remains decentralised across regional (*Länder*) ministries. Nature-based solutions promoted through projects, such as 'LIFE Living River Lahn', which receives support from the EU, show promise but depend on overcoming municipal capacity issues and securing long-term financing. Scaling up these solutions is critical to enhancing resilience and meeting future climate challenges effectively.

SKILLS, QUALITY JOBS AND SOCIAL FAIRNESS

Germany received country-specific recommendations (CSRs) in 2025 to increase its labour supply, strengthen skills, attract and retain talent, improve education outcomes and improve early childhood education and care and all-day schools. Since then, measures have been implemented to increase the labour supply of older workers and people receiving social assistance. It also continued work on its *Startchancen* programme, which aims to improve opportunities for disadvantaged students, and on rolling out childcare provision and all-day schools.

Adjusting the tax and benefit system could make the system fairer and more efficient. As the Welfare State Commission (*Sozialstaatskommission*) suggested, social benefits could be simplified and benefit withdrawal adjusted to improve work incentives. Second earners still face tax disincentives, and despite progress, there are provision gaps in nurseries and kindergartens, all-day schools and long-term care. These stand in the way of increasing hours worked. Accelerating measures to attract foreign talent and stepping up resources on education and adult learning could expand the talent pool.

Enhancing labour supply is key for the economy and social inclusion

Increasing employment, enabling more hours worked and addressing skills shortages are key to counteracting the effects of demographic ageing. In 2025, Germany received a CSR to increase labour supply, notably by increasing hours worked. Recently adopted reforms aim to increase employment after the retirement age, though the size of the effects on labour supply is uncertain (see Section 1). Job seekers were

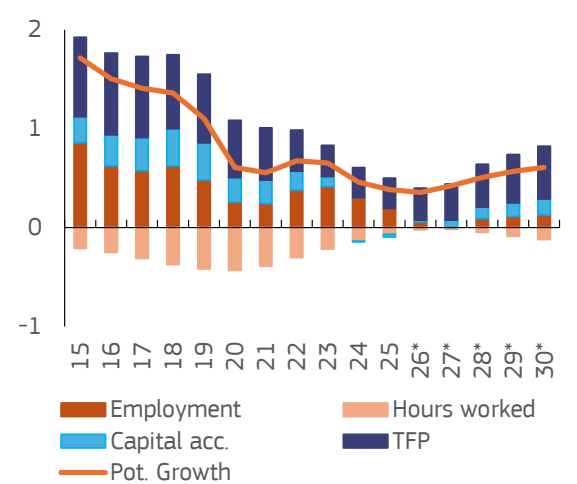
provided with additional incentives to work by reinforcing the conditionality of minimum income support. Going beyond these reforms, the Welfare State Commission suggested simplifying benefits and gradually withdrawing them to increase work incentives. Furthermore, for older people, policies could be implemented to raise their effective retirement age, including by tightening the conditions for early retirement (see Section 1); providing incentives for older workers laid off in manufacturing to remain employed instead of retiring; and adopting labour market policies to support longer healthy working lives (see Annexes 3, 11, 12, 13 and 14).

Further tax and benefit reforms could encourage women to increase their hours worked. Labour shortages have eased due to weak economic growth, but remain structurally high and may increase again with economic recovery. Demographic ageing is expected to reduce the working age population by 4 million by 2035. Along with declining net migration, this will exacerbate skills shortages (see Annex 11). Unless countermeasures are taken, future GDP growth in Germany is expected to be low due to the decline in employment and hours worked (see Graph 4.1). Recent reforms to support full-time employment have focused on expanding early childhood education and care and promoting all-day schools (see Annexes 11 and 13). Informal caregiving responsibilities, mainly carried out by women, contribute to Germany's high rate of part-time employment among women⁽⁴⁰⁾. A federal and state level commission proposed reforms in long-term care which could improve the availability and quality of care while ensuring fiscal sustainability. These reforms would indirectly support the employment of carers, who are mostly women. Further tax and social security incentives could help to increase the

⁽⁴⁰⁾ Statistisches Bundesamt, [destatis.de](https://www.destatis.de).

number of hours worked by women. These incentives could be brought about by reforming (i) the taxation of the income of married couples (*Ehegattensplitting*); (ii) the non-contributory co-insurance of spouses with no or limited earnings; and (iii) the disincentives in benefits and social security contributions to move from part-time to full-time work. The costs of early childhood education and care for those in need could be reduced and incentives created for transitioning from marginal part-time employment to regular employment. Such reforms could also help reduce the size of the low-wage sector and support employment with better pay and career prospects (see Section 1 and Annexes 3 and 11). Along with improved pay transparency, they could not only improve labour supply and potential growth in Germany (see Graph 4.1), but also reduce gender gaps in hours worked, lifetime incomes, pensions and poverty.

Graph 4.1: **Components of potential growth**



* forecast

Source: European Commission spring 2026 forecast

Skills could be better aligned with changing labour market needs

Policies that support the training of people with lower qualifications and with a migrant background could help tackle skills shortages. In 2025, Germany received a CSR to increase labour supply and to tackle the shortage of skilled workers, including by

strengthening basic, green and digital skills. To address this, Germany continued its national skills strategy and planned to launch a 'skills offensive', with a digital skills pact and a funding programme for digital participation, whose implementation is important (see Annexes 4 and 13). Measures include support for in-company training and modular education and training courses. The latter aim to support the labour market integration of people above the age of 25 without vocational qualifications. Skills policies could improve the access of vulnerable groups, such as low-income youth and people with migrant backgrounds, to apprenticeship training through individualised support. The relevance and value added of vocational education could be increased through additional funding for vocational schools, including for targeted support and improvements to their digital infrastructure. In existing programmes such as *DigitalPakt 2.0*, the focus on rural areas could be stepped up. For people with lower qualifications, combining adult learning with support measures can be particularly beneficial. These measures could address gaps in their basic skills and barriers to their access to training, such as language skills or mental health and psycho-social support. Data-driven tools, such as the planned *Bildungsverlaufsregister*, an anonymous educational trajectory register, and the *Schüler-ID*, a personalised pupil ID, can improve access, transitions and long-term skilled labour supply by guiding targeted interventions.

As manufacturing employment declines, policy tools to support job-to-job transitions need to gain relevance.

Thus far, increasing public sector employment has compensated for the decline of employment in manufacturing. With intensifying pressures for structural change, policy tools to manage transitions in the labour market are becoming more relevant. The use of regional employment hubs (*Arbeitsmarktdrehscheiben*) and of transfer short-time work (*Transfer Kurzarbeit*) could be evaluated and good practices could be promoted among companies. Enhancing the training component of short-time work can help this instrument to facilitate the transition of sectors from decline to growth. Prolonged use of short-time work beyond one year could be accompanied by

training participation. Policies to promote regional labour mobility could prevent regional disparities from being exacerbated.

Skilled migration efforts show promise, but more reforms needed

Recent measures to support migration are likely to have an impact only at a later stage. In 2025, Germany received a CSR to better attract and retain talent from non-EU countries in order to increase the labour supply and tackle shortages of skilled workers. To digitalise and accelerate skilled immigration processes, a digital work-and-stay agency will establish a central portal as single access point for skilled workers, including the application for recognition of foreign qualifications. Furthermore, by end-2028, the work ban for people claiming asylum is expected to be reduced to a maximum of three months. These two new measures will only have a medium- to-long-term impact on the shortage of skilled workers and on labour supply. Further improvements and investments are needed regarding the visa and work permit process, the procedures at the local immigration authorities and the procedures for the recognition of foreign qualifications in order to maximise the impact of recent national reforms aiming at modernising migration administration by digitalisation and improving data exchange across agencies ⁽⁴¹⁾.

The labour market integration of people with a migrant background could be better supported. The initiative 'Regional Integration Networks for a Culture of Welcome and Recognition of International Workers' supports the labour market integration of people with a migrant background. The number of recognised foreign qualifications has increased significantly over time, from 28 000 procedures closed in 2016 to 82 000 in 2024. More and more recognition applications are submitted from abroad, with

⁽⁴¹⁾ Bertelsmann Stiftung, 2023, An den Grenzen? Ausländerbehörden zwischen Anspruch und Alltag. [bertelsmann-stiftung.de](https://www.bertelsmann-stiftung.de).

their share having risen from 11% of all applications to 41%. Further measures to ensure that people from outside Germany (among them EU nationals) work in professions matching their qualifications could contribute to addressing skills shortages, including in regulated professions (see Annex 5). To reduce the employment gaps between German nationals and people with a migrant background ⁽⁴²⁾, procedures in migration and asylum administration could be streamlined, to reduce barriers for apprentices and job applicants.

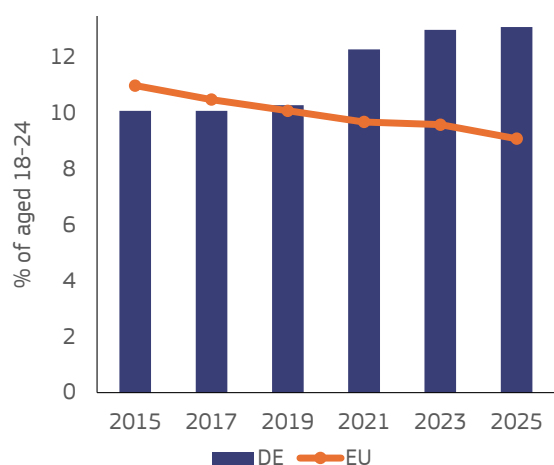
Gaps in early childhood education and care as well as high early school leaving are major problems

Full use is not being made of the potential of early childhood education and care and all-day schools to boost labour market participation. In 2025, Germany received a CSR to improve the availability and quality of early childhood education and care and all-day schools to encourage carers, often women, to work and to promote equal opportunities for all children. However, despite investment to increase capacity in recent years, there is still significant unmet demand for early childhood education and care. There remains a supply gap of 300 000 childcare and kindergarten places as of now, and 150 000 all-day school places still need to be created by 2029. The investment planned under the Special Fund for Infrastructure and Climate Neutrality could provide further support. The legal right to all-day schooling for primary pupils as of school year 2026/2027 is a step in the right direction, even if this right may only be partially fulfilled initially. Speeding up the implementation of the proposals made in the coalition agreement to improve the quality of provision (*Sprach-*

⁽⁴²⁾ Germany has one of the largest gaps in employment rate of nationals (84.2%) vs non-EU nationals (64.6%), and between people born in Germany (80.1%) vs people born outside the EU (66.5%).

Kitas and *Startchancen-Kitas* ⁽⁴³⁾ and the roll-out of nationwide standardised language support would contribute to basic skills acquisition, especially for children who do not have German as their mother tongue and for children from a disadvantaged socio-economic background.

Graph 4.2: **Early school-leavers**



Source: Eurostat

The decline in basic skills and widening socio-economic inequalities in education outcomes would benefit from further action.

While the 2025 CSRs for Germany call on it to improve education outcomes, including by promoting excellence and providing targeted support to disadvantaged groups, limited progress has been observed. Germany has seen a marked drop in basic skills since 2015 and declining equity in education outcomes, alongside declining top-performance. The 2015 strategy to support high-potential students led to the '*Leistung macht Schule*' initiative, for which the federal and state governments are mobilising EUR 125 million, with implementation in 850 schools starting in 2023. Results will take time to materialise and the initiative will have to be rolled out on a larger scale to show a systemic effect. The *Startchancen* programme, which seeks to improve opportunities for disadvantaged students, is an important step

⁽⁴³⁾ *Startchancen-Kitas* offer additional financial resources and opportunities for disadvantaged children, while *Sprach-Kitas* focus on improving German language development.

in the right direction. However, with its aim of reaching 10% of Germany's 40 000 schools by 2034/2035, the coverage of learners at risk of underachievement may be incomplete. The structure of the education system has remained unchanged, encouraging early tracking by ability and reinforcing inequality from an early age. While investment in education has increased over time, coming closer to the EU average (4.5% vs 4.7% of GDP in 2023), further efforts could expand targeted support for underachieving pupils, starting from an early age.

Human capital is lost as more young people miss out on qualifications.

Almost one in seven of Germany's young people (18-24-year-olds) left education and training with no or with very low qualifications. While in the EU the number of early leavers is falling, in Germany it is one of the highest in the EU and increasing (see Graph 4.2). Against the background of demographic ageing, skills shortages and a stagnating economy, this underutilisation of human capital is significantly restricting the size of the skilled work force and undermining Germany's potential for higher productivity growth. Decisive policy action could include collaboration between the federal government and the *Länder* to help at-risk learners. These efforts could be supported by better use of data (such as the anonymous educational trajectory register (*Bildungsverlaufsregister*) proposed in the coalition agreement, however not yet implemented). Combining preventive measures (such as strengthening the acquisition of basic skills, psycho-social support and the enforcement of mandatory schooling or training until the age of 18) and remedial measures (such as flexible learning pathways) (see Annex 13) could support learners at a socio-economic disadvantage.

There is scope to improve cost-efficiency of the welfare system

Poverty and inequality remain challenges, as housing, energy and everyday living

costs rise ⁽⁴⁴⁾. In 2025, 21.2% of the population was at risk of poverty or social exclusion (AROPE), roughly in line with the EU average. However, behind this overall figure, there are pockets of vulnerability. Risks are particularly pronounced in urban areas, among the unemployed, single-parent households and for people born outside the EU. The number of households with very low work intensity has increased in recent years, suggesting that maintaining a stable foothold in the labour market is becoming more difficult.

With nearly every fourth child at risk of poverty or social exclusion, child poverty remains a pressing concern. The share of children at risk of poverty or social exclusion rose from 22.9% in 2024 to 23.4% in 2025. Children with a migrant background are disproportionately affected, and structural factors such as shortages in early childhood education and care, and persistent gaps in educational outcomes linked to parental socio-economic background, continue to limit progress ⁽⁴⁵⁾. Germany's 2023 action plan implementing the European Child Guarantee aims to address these issues, but success will depend on sustained funding and stronger implementation at local level.

Reforms could increase the efficiency and effectiveness of the welfare system. The welfare system is complex and fragmented, with more than 170 benefit schemes and around 30 different administering bodies ⁽⁴⁶⁾. This complexity can make the system difficult to navigate and may prevent some eligible households from receiving support. The 2026 report of the Welfare State Commission proposes reforms to simplify the welfare system and make it more efficient ⁽⁴⁷⁾. The government decided to transform the *Bürgergeld* system of basic income support for

jobseekers into a new minimum income scheme (*neue Grundsicherung*). The reform introduces stricter conditionality and stronger sanctions to encourage labour market participation. While these changes could help improve administrative efficiency and reduce long-term benefit dependence, they also create new social risks: stricter sanctions and tighter rules on housing costs may disproportionately affect vulnerable groups, including families with children, people with mental health conditions and individuals with limited German language skills. Implementing the hospital reform and the proposed primary care reform could help to contain increasing healthcare expenditure and curb further rises in social security contributions. Levers include strengthening prevention, enhancing the integration of care and reducing the reliance on inpatient care (see Annex 15).

Wealth inequality remains at a high level.

A rebalancing of the tax mix, increasing wealth-related taxes, could ease pressure on labour. In 2025, the wealth Gini coefficient was 0.76, one of the highest levels in the euro area, with the top 10% of households holding nearly 60% of total net wealth, and the top 5% alone holding 46%. Wealth inequality also has a strong regional dimension⁽⁴⁸⁾. Fiscal revenues from property and wealth taxation remain comparatively low, contributing to the persistence of wealth concentration, and weighing on social mobility. For younger generations, parental income and background increasingly shape educational and labour market outcomes. Rising wealth inequality and declining social mobility risk undermining social cohesion and equality of opportunity in the longer term ⁽⁴⁹⁾.

⁽⁴⁴⁾ Paritätischer Wohlfahrtsverband, 2025, Armutsbericht, [der-paritaetische.de](https://www.der-paritaetische.de).

⁽⁴⁵⁾ GESIS, 2020, Wealth stratification in the early school career in Germany, blog.gesis.org.

⁽⁴⁶⁾ Initiative für einen Handlungsfähigen Staat, 2025, [ghst.de](https://www.ghst.de).

⁽⁴⁷⁾ BMAS, 2026, Empfehlungen der Kommission zur Sozialstaatsreform, [bmas.de](https://www.bmas.de).

⁽⁴⁸⁾ According to data of the HFCS study from 2021, on average, households in eastern Germany have assets of EUR 150 900, compared with EUR 359 800 in the west.

⁽⁴⁹⁾ ifo, 2025, Rising Inequality, Declining Mobility: The Evolution of Intergenerational Mobility, [ifo.de](https://www.ifo.de).

KEY FINDINGS

In areas covered by existing country-specific recommendations, Germany would benefit from:

- **enhancing the quality of public finances** by strengthening the additionality and productivity of public investment, further addressing bottlenecks in permitting and execution procedures, and limiting subsidies and transfers to the pension system;
- **improving the sustainability of statutory pensions and enhancing future pension adequacy** by reforming the pension system and strengthening occupational and voluntary pension schemes;
- **improving the tax mix**, notably by reducing the labour tax wedge and improving the effectiveness and efficiency of the welfare system to strengthen incentives for increasing hours worked, including for second earners;
- **increasing housing supply and affordability** by further simplifying rules and procedures, mobilising additional building land, reviewing rental law and strengthening social housing;
- **boosting innovation** by further improving the commercialisation of research and funding for disruptive innovation, strengthening high-performing clusters and fostering R&D ecosystems in regions where performance has stagnated;
- **supporting growth financing for start-ups and scale-ups**, notably by expanding venture capital access and strengthening the role of institutional investors as capital providers;
- **enhancing competitiveness and private investment** by simplifying regulations and creating lean administrative procedures;
- **strengthening the single market** by reducing national and regional barriers to the free flow of goods and services as well as the registration of businesses, also by avoiding burdensome national implementation of EU legislation;
- **strengthening economic security**, also by supporting the diversification of trade and investment ties, including to secure access to essential resources, supply chains, markets and technologies and by supporting the domestic supply of critical raw materials;
- **accelerating the modernisation and digitalisation of public administration** by reducing governance complexity through the expansion of common digital building blocks and data register connectivity across levels of government, by simplifying internal workflows and by providing more user-friendly digital services;
- **speeding up the digital infrastructure roll-out** of very high-capacity networks, especially fibre optics;
- **accelerating the modernisation and expansion of electricity infrastructure**, including transmission and distribution grids as well as storage, while improving grid

digitalisation, coordination of system operators and the roll-out of smart meters;

- **reducing structural reliance on fossil fuels in the energy system as well as energy prices**, including by accelerating renewable deployment, ensuring the elimination of bottlenecks for electricity flows between regions and taking measures to alleviate the regional mismatch of supply and demand, enabling demand-side flexibility, and increasing cross-border transmission capacity to help preserve system stability;
- **accelerating decarbonisation of the transport, buildings and industry sectors**, including through improvements in rail infrastructure and digitalisation, the effective roll-out of building renovations particularly in the western and northern regions, and the expansion of clean industrial infrastructure and permitting for hybrid renewable systems especially in sectors with high energy and emissions intensity;
- **supporting labour market adjustment and improving growth prospects** by boosting participation of women, low-income earners and older workers, expanding early childhood education and care and all-day schools, as well as cost-efficient long-term care, facilitating transitions on the labour market through active labour market policies, and attracting talent from third countries; and
- **promoting human capital development** through better access to adult learning, improving basic and digital skills and education outcomes, and reducing early school leaving, especially by disadvantaged groups, including by integrating preventive and remedial measures and attracting qualified teaching staff.

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ANNEX 1: CSR IMPLEMENTATION

Table A1.1: **CSR implementation and Commission assessment**

Germany faces challenges in a wide range of policy areas, as identified in the country-specific recommendations (CSRs). Germany was recommended, among other things, to strengthen public investment, improve the quality of public finances, safeguard the long-term sustainability of the pension system, improve the tax mix, boost innovation, speed up the digitalisation of the public administration, improve the conditions for housing investment, reduce the dependency on fossil fuels, focus investment on efficient energy systems and decarbonisation of buildings and transport, increase the labour supply and improve education outcomes.

The Commission has assessed the degree of implementation of the 2025 CSRs considering the policy action taken by Germany to date*. To do so, the Commission has taken into account the information provided by Germany in its Annual Progress Report as well as other information sources. This annex provides summary information on the policy actions taken or planned by Germany for each CSR. More detailed information on these actions is included in the relevant chapters and other annexes of the report.

*CSR 2 is not assessed in CeSaR. 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.

Recommendation text	Main measures adopted or implemented <i>By 30 April 2026</i>	Preparatory steps / credibly announced measures <i>By 30 April 2026</i>	Assessment of progress
1.1 Reinforce overall defence and security spending and readiness while ensuring debt sustainability in line with the European Council conclusions of 6 March 2025.	Total general government defence expenditure in 2026 is projected at 1.9% of GDP, corresponding to an increase of 0.5 ppt. compared to 2024.	Total general government defence expenditure in 2027 is projected at 2.2% of GDP, corresponding to an increase of 0.8 ppt. compared to 2024.	Substantial progress
1.2 Submit the medium-term fiscal-structural plan by end-July 2025, as planned.	The MTFSP has been submitted on 19 August 2025 and adopted by the Council on 10 October 2025.		Full implementation
1.3 In line with the requirements of the reformed Stability and Growth Pact, limit the growth in net expenditure in 2025 and 2026 to a rate consistent with putting the general government debt on a plausibly downward trajectory over the medium term and maintaining the general government deficit below the 3% of GDP Treaty reference value, while making use of the allowance under the national escape clause for higher defence expenditure.	<ul style="list-style-type: none"> - Cumulated deviation in 2025 amounted to -0.3% of GDP. - Cumulated deviation in 2026 projected at 0.3% of GDP but it is fully explained by the NEC flexibility (0.8 pps. of GDP). 		Full implementation
1.4 Strengthen public investment by tackling the bottlenecks in planning and execution at all levels of government.	<ul style="list-style-type: none"> - Set up of the Special Fund for Infrastructure and Climate Neutrality worth EUR 500 bn, including for additional investment - Accelerated planning and procurement for the German Armed Forces - Simplification of Renewable Energy Permits 	<ul style="list-style-type: none"> - Future Infrastructure Act (parliamentary process has begun): seeking to prioritise, simplify and digitalise rail, motorway and waterway projects - Procurement Acceleration Act (parliamentary process has begun), with the aim to improve permitting and planning procedures 	Some progress

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Table (continued)

Recommendation text	Main measures adopted or implemented By 30 April 2026	Preparatory steps / credibly announced measures By 30 April 2026	Assessment of progress
1.5 Improve the quality of public finances by containing transfers from the federal budget to the pension system and reviewing the efficiency of public spending.	<ul style="list-style-type: none"> - Federal government spending review in Summer 2025 - 2025 subsidy report, identifying trends and inefficiencies in federal subsidy expenditure, albeit without concrete follow-up 	<ul style="list-style-type: none"> - Implementation of performance budgeting recommendations (from the conceptual framework report produced by the government) - The government-appointed welfare state commission presented 26 suggestions on how to improve the efficiency of the welfare system. - The cabinet adopted a law to balance the contributions to statutory health insurance funds which would contribute to sustainability in the short-term once adopted 	Limited progress
1.6 Safeguard the long-term sustainability of the pension system, while maintaining pension adequacy, including by promoting longer working lives and reducing the incentives for early retirement.	<ul style="list-style-type: none"> - Pension package, including the extension of a guarantee that the pension level will not go below 48% of the average person's wage until 2031 (<i>Haltelinie</i>) - Mothers' Pension: increase of pensions accredited for parenting. These measures put additional pressure on the sustainability of the pension system. - The Second Act Strengthening Company Pensions can improve earnings from occupational pensions and thus contribute to pension adequacy, yet coverage extends only to around half of employees. - The reform of individual capital-based pensions (<i>Altersvorsorgedepot</i>) may help strengthen 3rd pillar pensions. - The early start pension (<i>Frühstartrente</i>) creates private savings accounts for children and teenagers, making capital market-based savings more attractive. 	<ul style="list-style-type: none"> - The government has established a pension committee, to propose further pension reforms (expected June 2026). 	Limited progress
1.7 Improve the tax mix to support inclusive growth and sustainable competitiveness, also by reducing disincentives to increase hours worked, in particular for second earners.	<ul style="list-style-type: none"> - "Investment booster" (accelerated depreciation until end-2027), extended R&D tax credit, and others (<i>Investitionssofortprogramm</i>) - Active pension (<i>Aktivrente</i>): EUR 2,000/month tax-free income for employees above retirement age - Further measures go against an improvement of the tax mix (VAT rate reductions for restaurants, increased environmentally harmful subsidies) 	Gradually reducing the corporate tax rate by 1 pp per year 2028-2032 (as part of <i>Investitionssofortprogramm</i>)	Limited progress

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Table (continued)

Recommendation text	Main measures adopted or implemented By 30 April 2026	Preparatory steps / credibly announced measures By 30 April 2026	Assessment of progress
3.1 Boost innovation by facilitating research commercialisation and by increasing public funding for transformative innovation.	<ul style="list-style-type: none"> - Introduction and subsequent expansion of the research allowance worth around EUR 1 bn - New initiative to strengthen spin-offs in selected hubs (“Start-up Factories”) - About one-quarter of the investment of the RRP supports research and innovation-related measures 	<ul style="list-style-type: none"> - High Tech Agenda aims to boost investment in research and innovation for six key technologies (funding of up to EUR 18 bn) but unclear to what extent the budget is truly additional and if it will be used for disruptive innovation - Important Project of Common European Interest on artificial intelligence to develop foundational technologies and sector-specific models for industrial AI application 	Some progress
3.2 Facilitate the diversification of the economy, business dynamism and boost private investment by supporting entrepreneurship, improving access to finance for start-ups and scale-ups, simplifying regulation, and reducing administrative burden.	<ul style="list-style-type: none"> - Capital Growth Fund II: public support for venture capital with limited scale and market coverage - Creation of <i>Deutschlandfonds</i>: EUR 30 bn in guarantees to leverage EUR 130 bn in total investments (uptake unclear) - Location Promotion Act aims to improve conditions for private investment into venture capital, infrastructure, and renewables (impact unclear) 	<ul style="list-style-type: none"> - Modernisation agenda aims to reduce administrative costs for businesses by 25% (EUR 16 bn), to cut compliance burden by EUR 10 bn, reduction of federal staff by 8% and the number of federal agencies as well as a cut in operating expenditure by 10% 	Limited progress
3.3 Speed up the digitalisation of the public administration, including by improving the geographic coverage of digital public services and facilitating cooperation between governmental levels.	<ul style="list-style-type: none"> - RRP 6.1.2 – Amended OZG (Online Access Act) implementation since 2024. However, many online services are only available in some Kommunen or Länder. - RRP 6.2.1 - Joint programme of the federal government and the Länder for an efficient administration that benefits citizens and businesses - RRP 2.1.1 - datalabs and chief data scientists in ministries since 2021 - Ordinance on the Standards for Online Access to Public Services to Strengthen Government Digitalisation (OZSV) 	<ul style="list-style-type: none"> - RRP 6.1.3 - National Once-Only Technical System (NOOTS) to link registers and online services - Roll-out of <i>Deutschlandstack</i>, a digital platform for public administration across all levels of government - Online legal proceedings More limited in scope: - Nationwide digital services announced (e.g. centralisation of car registration to achieve nationwide coverage; 24h company founding) - Digital platform to accelerate planning and approval procedures - Building Information Modelling for construction 	Limited progress
3.4 Accelerate the roll-out of very high-capacity digital communication networks, also involving the private sector.	<ul style="list-style-type: none"> - Telecommunications Law amendment accelerates the expansion of fibre optic and mobile communications networks by creating an ‘overriding public interest’ - Gigabitförderung 2.0 subsidy for network expansion - Federal-regional agreements to speed up permitting in 2023. Implementation depends on Länder 	<ul style="list-style-type: none"> - Further amendment to Telecommunications Law (draft bill published in March) - BnetzA copper-to-fibre migration strategy 	Some progress

(Continued on the next page)

Table (continued)

Recommendation text	Main measures adopted or implemented <i>By 30 April 2026</i>	Preparatory steps / credibly announced measures <i>By 30 April 2026</i>	Assessment of progress
3.5 Improve the conditions for housing investments by simplifying regulation and procedures, reviewing rental law and mobilising additional building land, with the concurrent aim of tackling the housing affordability challenges.	<ul style="list-style-type: none"> - “Construction turbo” (effective since October 2025) helps to mobilise additional building land and speeds up processes but is subject to approval by each municipality - Rent price brake has been prolonged until 2029 supporting affordability but with possible implications for investment incentives in the rental market 	<ul style="list-style-type: none"> - Concept paper for a “housing type E” allowing for a simpler, needs-based standard in construction; announced for 2026 - A law to limit the increase of indexed rents was announced - Fundamental reform of the Federal Building Code to accelerate construction is foreseen 	Limited progress
4.1 Further reduce the overall degree of dependency on fossil fuels and facilitate the expansion of renewable energy.	<ul style="list-style-type: none"> - Adoption and update of several legislative packages incl. Hydrogen Acceleration Act, Carbon Dioxide Storage Act (KSpG) and Geothermal Energy Acceleration Act - Continued expansion of renewable energy capacity with installed renewable capacity reaching 200 GW, including 150.6 GW of solar (+16.5% compared to 2024), 68.1 GW of onshore wind (+4 GW) and 9.5 GW of offshore wind (+0.3 GW) 	<ul style="list-style-type: none"> - Kraftwerkstrategie / Capacity Market: Tender of 12 GW of controllable power capacity, of which 10 GW for gas. While this increases reliance on gas for electricity generation, it is meant to facilitate the phase-out of coal 	Some progress
4.2 Focus investment on efficient and integrated energy systems, including by upgrading the electricity network, ensuring cost-efficient expansion and flexibility to support the integration of renewable energy and to adapt to fluctuating demand and supply to meet increased balancing needs.	<ul style="list-style-type: none"> - German state bought 25% stake in TenneT Germany (TSO) - Implementation of RED III - EUR 36.6 bn for investments under Climate and Transformation Fund (but partly used for temporary relief measures such as subsidising industrial electricity prices) - 2,000 km of new transmission grids, 1280 km of them newly built, were approved on the federal level in 2025, an increase of 45% compared to 2024 - 14.7 bn planned investments in distribution grid in 2025 	<ul style="list-style-type: none"> - AGNES Reform (BNetzA, paper Nov 2025, 5-year implementation) - NEST: Network Regulation Overhaul (BNetzA) 	Some progress
4.3 Accelerate the process of decarbonising the buildings	<ul style="list-style-type: none"> - RRP measures supported at least 145,000 specific renovations related to, inter alia, systems technology (without heating), solar collectors, biomass heating systems and others, and the complete renovation of 10,000 housing units (1.3.3). - Funding programmes (BEG, KfW) continued but outlook uncertain 	<ul style="list-style-type: none"> - Buildings energy act to be replaced by Buildings modernisation act (<i>Gebäudemodernisierungsgesetz</i>): plans to abolish previously legislated requirements for switching to climate-friendly heating solutions, allowing the continued installation of gas and oil boilers in residential buildings. - Energy Performance of Buildings Directive transposition expected 	Some progress

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Table (continued)

Recommendation text	Main measures adopted or implemented By 30 April 2026	Preparatory steps / credibly announced measures By 30 April 2026	Assessment of progress
4.4 and transport sectors, including by renovating the rail network.	<ul style="list-style-type: none"> - RRP measures included the support for publicly accessible recharging points (1.2.1), support for the purchase of 339,450 electric vehicles (1.2.3), projects for hydrogen and fuel cell applications in transport (1.2.7), and registration of 670 zero-emission commercial vehicles (REPowerEu). - Tax incentives for EVs - Rail infrastructure investments of EUR 23.1 bn in 2025, including EUR 18.1 bn in federal investment 	<ul style="list-style-type: none"> - Special Fund for Infrastructure and Climate Neutrality: EUR 16 bn planned for rail maintenance and replacement 	Some progress
5.1 Increase labour supply and tackle the shortage of skilled workers, notably by increasing hours worked,	<ul style="list-style-type: none"> - Active pension (<i>Aktivrente</i>): allows people who have reached the statutory retirement age to voluntarily continue working and benefit from up to EUR 2,000/month tax-free, however with a limited impact, - Citizen benefit act reform to create a “basic security” model to increase incentives for jobseekers’ integration into employment - The ban on consecutive uses of fixed term contracts (<i>Anschlussverbot</i>) was abolished for people having reached the statutory retirement age 	<ul style="list-style-type: none"> - Making overtime, hours worked beyond regular or collectively agreed full time hours tax-free (which may lead to some distortions) 	Limited progress
5.2 strengthening basic, green and digital skills and	<ul style="list-style-type: none"> - Adult education and integration measures provided by the Federal Employment Agencies include basic skills as well as digital skills within labour-market and integration programmes - DigitalPakt II implementation started in January 2026, continuing federal support for school digitalisation 	<ul style="list-style-type: none"> - Further develop the National Skills Strategy, shaped by two main priorities: 1. supporting employees and companies in continuing education during structural change, and 2. using digitalisation and AI for continuing education 	Limited progress
5.3 better attracting and retaining talent from non-EU countries.	<ul style="list-style-type: none"> - Expansion of the Integration through Qualification (IQ) funding programme: “Regional integration networks to promote a culture of welcome and recognition for international workers” 	<ul style="list-style-type: none"> - Work-and-stay agency to simplify working immigration procedures: guidelines adopted November 2025, set up of the agency by 2029 - Reducing the work-ban period for asylum seekers in reception facilities 	Limited progress

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Table (continued)

Recommendation text	Main measures adopted or implemented <i>By 30 April 2026</i>	Preparatory steps / credibly announced measures <i>By 30 April 2026</i>	Assessment of progress
5.4 Improve education outcomes, including by promoting excellence and providing targeted support to disadvantaged groups.	<ul style="list-style-type: none"> - 'Leistung macht Schule (LemaS)', the nation-wide rollout of evidence-based strategies for high-performing students - Support to disadvantaged groups: Start Opportunities Programme: 10-year federal-Länder programme that concentrates EUR 2 bn yearly on 4,000 disadvantaged schools (10% of all schools) 		Limited progress
5.5 Improve the availability and quality of early childhood education and care and whole-day schools to encourage carers, often women, to work and to promote equal opportunities for all children.	<ul style="list-style-type: none"> - RRP 4.1.1 – Investment Programme for Childcare Facilities: EUR 3.8 bn for the expansion of childcare places (2026–2029). - Law establishing a legal entitlement to all-day care: gradual phase-in 2026–2030, combined with EUR 3.5 bn to Länder for infrastructure investments 	<ul style="list-style-type: none"> - Early childhood education and care (ECEC): the 2025 coalition agreement reconfirms federal commitment to high-quality, accessible ECEC, but strong reliance on Länder implementation choices and availability of qualified staff - All-day schools: the 2025 coalition agreement commits to the legal entitlement to all-day primary schooling, but scope of entitlement (daily duration, holidays, inclusion standards) yet to be decided; requires Bund-Länder agreement on standards and delivery models 	Limited progress

Source: Germany's reporting and Commission assessment

This annex discusses selected topics in public finance and developments in fiscal-structural country-specific recommendations (CSRs) addressed to Germany in July 2025.

These CSRs include a call to strengthen defence spending and readiness while implementing a fiscal strategy in line with the Council Recommendation of 10 October 2025. Germany also received recommendations in 2025 to: (i) strengthen public investment; (ii) improve the quality of its public finances by containing transfers from the federal budget to the pension system; (iii) review the efficiency of public spending; and (iv) safeguard the long-term sustainability of the pension system.

On 10 October 2025, the Council of the European Union adopted the Recommendation endorsing Germany’s medium-term fiscal-structural plan. The plan includes a fiscal adjustment over seven years. At the same time, the Council also activated the national escape clause for Germany to facilitate its transition to higher levels of defence spending ⁽⁵⁰⁾⁽⁵¹⁾.

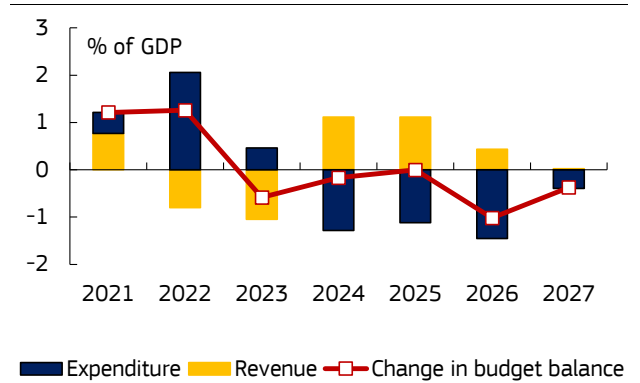
Developments in the government balance, debt and public expenditure ⁽⁵²⁾

Germany’s government deficit amounted to 2.7% of GDP and the government debt-to-GDP ratio was 63.5% at the end of 2025.

Based on the Commission Spring 2026 Forecast, Germany’s government deficit is projected to increase to 3.7% of GDP in 2026 and 4.1% of GDP in 2027. The increase in the deficit is set to be driven by Germany’s rising general government

expenditure on defence, infrastructure, and tax-relief measures.

Graph A2.1: Contributions to the change in the general government balance (% of GDP)



Source: European Commission Spring 2026 Forecast

Rising public investment is improving the quality of expenditure in Germany.

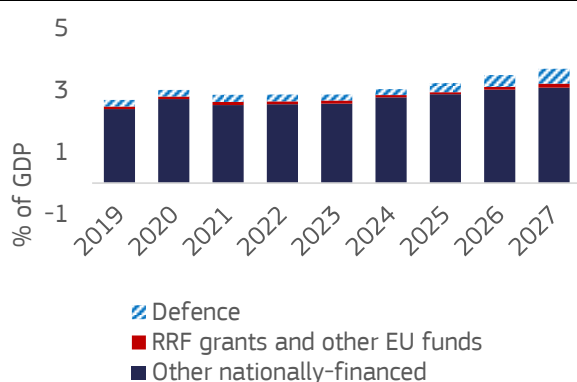
Public investment is set to increase in the coming years (CSR 2025 1.4), driven by the Special Fund for Infrastructure and Climate Neutrality, with spending forecast to rise as a share of GDP from 3.3% in 2025 to 3.7% in 2027 (Graph A2.2), focusing mainly on transport and digitalisation to boost productivity. However, not all spending directly supports infrastructure or climate goals, as some funds are set to be used for subsidies or reallocated from the core budget, reducing true additional investment. At the same time, overall government expenditure has grown significantly since 2020, largely due to rising spending on social benefits, alongside increased subsidies for the green transition, particularly in the energy efficiency of dwellings. This trend raises concerns about spending efficiency (CSR 2025 1.5) and whether alternative approaches – by prioritising social spending (CSR 2025 1.6) and higher carbon taxes – could achieve similar goals more effectively.

⁽⁵⁰⁾ OJ OC, C/2025/5635, ELI:<http://data.europa.eu/eli/C/2025/5635/oj>.

⁽⁵¹⁾ Compliance by Germany with the maximum growth rates of net expenditure recommended by the Council is assessed in COM(2026)200.

⁽⁵²⁾ Figures underpinning fiscal surveillance (net expenditure growth) are provided in the Fiscal Statistical Tables (SWD(2026)200) providing background data relevant for the assessment of the budgetary policies of the Member States.

Graph A2.2: **Public investment evolution and composition (% of GDP)**



Source: European Commission Spring 2026 Forecast

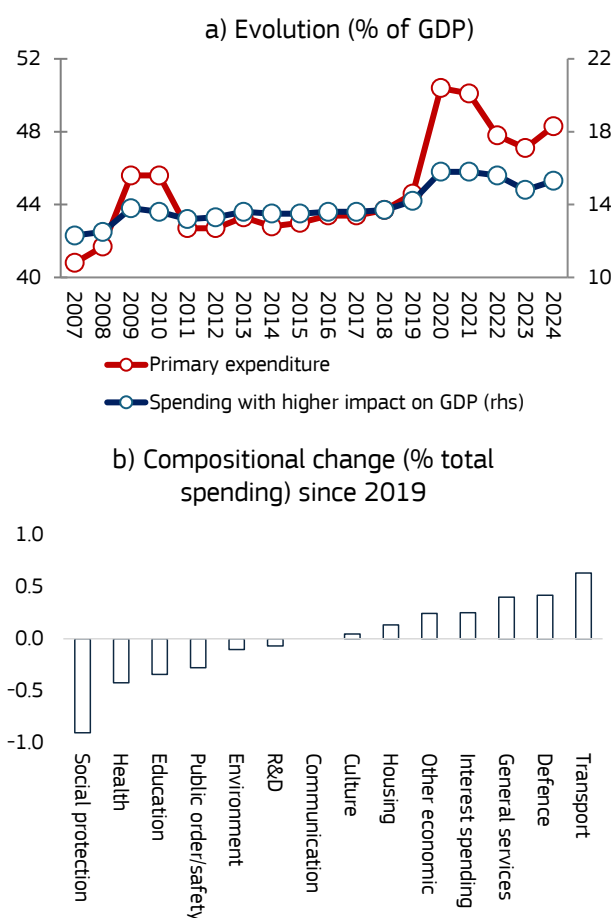
The type of expenditure that has a greater impact on GDP increased from 2007. Zooming in on the composition of spending, social protection accounts for the largest share of total expenditure (above 40%), followed by health, general public services and economic affairs⁽⁵³⁾, representing more than 10% of total spending. (Since 2019, transport) has increased strongly (see Graph A2.3). Spending on general public services, housing, interest, other economic affairs and defence has risen more moderately, with the rise in defence spending reflecting recent security developments. By contrast, spending on communication (including IT & digitalisation) has remained broadly stable since 2019, while spending on education R&D and healthcare has declined. This trend deserves attention, as these categories are generally considered growth-friendly spending categories. In the case of education, this decline is particularly concerning given the drop in Germany's performance in this area (see Annex 13 for further details).

Tax revenues in Germany as a share of GDP are close to the EU average and the country relies heavily on labour taxes, while more growth-friendly taxes are underused. In 2024 Germany's total tax revenues as a percentage of GDP (including compulsory social contributions)

⁽⁵³⁾ This refers to the set of government activities, policies, and expenditures aimed at regulating, supporting, and developing economic activity across major sectors, including general economic and labour policies, agriculture and natural resources, energy, industry, construction, and other economic functions not elsewhere classified. Although transport and communication, as well as research and development activities, are normally considered part of this function, they are treated separately in the graph presented.

amounted to 39.7%, slightly above the EU average of 39.5%. Total tax revenues are projected to increase to 41.1% of GDP in 2026 and 2027 and 7 according to the Spring 2026 Forecast ⁽⁵⁴⁾. The tax mix in Germany relies heavily on labour taxation (CSR 2025 1.7), which is high at all wage levels, while tax types that are considered less detrimental to growth such as recurrent property or environmental taxes are underused (see Annex 3).

Graph A2.3: **Primary spending evolution and composition**



Based on the economic literature, the categories considered to have a greater growth impact include education, R&D, health, transport and communication (See Bartiero and Coumede (2013), Gemmel et al. (2016), Lupu et al. (2018) Cepparulo and Mourre (2020) and OECD (2025)).

Source: Based on the Classification of the Function of Government (COFOG data).

⁽⁵⁴⁾ Data retrieved from the AMECO database (https://economy-finance.ec.europa.eu/economic-research-and-databases/economic-databases/ameco-database_en).

Table A2.1: Projected change in ageing-related expenditure in 2025-2040 and 2025-2070

	Ageing-related expenditure	Change in 2025-2040 (pps GDP) due to:					Ageing-related expenditure
		Pensions	Healthcare	Long-term care	Education	Total	
DE	24.4	0.6	0.2	0.3	0.2	1.4	25.8
EU	24.3	0.5	0.3	0.4	-0.3	0.9	25.2

	Ageing-related expenditure	Change in 2025-2070 (pps GDP) due to:					Ageing-related expenditure
		Pensions	Healthcare	Long-term care	Education	Total	
DE	24.4	0.9	0.5	0.4	0.2	1.9	26.4
EU	24.3	0.2	0.6	0.8	-0.3	1.3	25.6

Source: 2024 Ageing Report (EC/EPC).

Table A2.2: Supplementary pension schemes - scope for expansion

	Assets in 2024 (% GDP)	Gross replacement rate at retirement: (pps change 2025-2040)	Participation in 2024 (% working-age population)	
DE	6.4	-2.9	51.0	DE
EU	32.4	-2.8	55.9	EU

Source: European Commission.

The costs of ageing

Total ageing-related spending in Germany is projected to rise by about 1.5 pps between now and 2040, to around 26% of GDP, with a further 0.5 pps increase between 2040 and 2070 (Table A1.12). The overall increase is the result of a projected rise in pension, long-term care and healthcare expenditure. These projections do not account for the recent pension measures decided by the German government.

Public pension spending as a share of GDP is projected to increase by about 0.5 pps between now and 2040 and by about 1 pp. of GDP between 2040 and 2070. In 2025, Germany received a CSR to safeguard the fiscal sustainability of its pension system (CSR 2025 1.6), including by promoting longer working lives and reducing the incentives for early retirement. Since then, the *Mütterrente* (an extra pension for eligible mothers) was increased and the *Haltelinie* (a minimum pension replacement rate of 48% of full-time salary for people on the average wage who have contributed to the public pension system for 45 years) was extended again to 2031. Both elements will result in an upward revision of projections in Table A2.1 – all else being equal –

and thus greater transfers from the federal budget to the pension system (CSR 2025 1.5).

Supplementary pension schemes can make the pension system more resilient by diversifying retirement income sources. In Germany, however, uptake of these supplementary schemes remains limited. By the end of 2024, private pension assets amounted to around 7% of GDP, while participation covered around 50% of the working-age population⁽⁵⁵⁾. This coincides with rising medium-term public pension spending pressures and a projected decrease in the replacement rate by 2.9 pps between 2025 and 2040 (Table A2.2 and A2.3)⁽⁵⁶⁾.

Public healthcare expenditure is projected to be 7.7% of GDP in 2025 (above the EU average of 6.6%) and is expected to increase by 0.2 pps of GDP between now and 2040 and by a further 0.3 pps between 2040 and

⁽⁵⁵⁾ Source: OECD Pension Market in Focus 2025. The highest participation rate in at least one supplementary pension plan is reported.

⁽⁵⁶⁾ The (gross) replacement rate refers, depending on data availability, to both public and private pensions. It is based on projections from the 2024 Ageing Report.

Table A2.3: **Fiscal Governance Database indicators and Public Accounting Maturity**

2024	Germany	EU Average
Country Fiscal Rule Strength Index (C-FRSI)	14.33	14.81
Medium-Term Budgetary Framework Index (MTBFI)	0.68	0.72
2025 Public accounting maturity of general government	35%	65%

(1) 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 targets/ceilings included in 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. Higher scores are associated with higher rule and MTBF strength. The score for public accounting reflects the degree of maturity in relation to the International Public Sector Accounting Standards (IPSAS). Countries with an accounting maturity of 70% or more in relation to IPSAS are deemed to apply accrual accounting. For more information, see the report on public accounting in the EU (COM(2025)746 and accompanying Staff Working Document SWD(2025)396).

Source: Fiscal Governance Database, European Commission

2070⁽⁵⁷⁾. Public expenditure on long-term care is projected to be 2.0% of GDP in 2024 (above the EU average of 1.7%) and is expected to increase by 0.3 pps of GDP between 2024 and 2040 and by a further 0.1 pps of GDP between 2040 and 2070. Not included in these projections is the expenditure that will be made by the compulsory private insurance system in Germany, which covers roughly 10% of the population.

National fiscal framework

The German independent fiscal institution (IFI), the Advisory Board to the Stability Council, is very small and has a narrow mandate. Its technical staff is less than one full-time equivalent and its mandate has so far focused on monitoring compliance with the fiscal rule focusing on the structural balance of the general government and the attached Joint Forecast Group is responsible for endorsing the macroeconomic forecast. No public policy dialogue takes place between the German IFI and the government, and the IFI's media presence is relatively limited. Although the Board members are well qualified in practice, they are not subject to any formal professional competence requirements. The Advisory Board's access to information is not protected in law, and some issues have been signalled in this area, for example with the format

and timeliness of some information sent by the government to the IFI. The Advisory Board has never been subject to an independent, external evaluation, but an evaluation is planned for the near future.

Spending reviews are an established practice in Germany, but the country would benefit from further institutionalisation of review processes.

The federal government carries out spending reviews roughly every two years, but this only covers selected parts of the federal budget. There is a commitment in the national medium-term fiscal-structural plan to run two more spending reviews by 2029. However, there is no explicit commitment or obligation to use the recommendations from these reviews to inform the budgeting process.

Accrual accounting improves transparency over a public body's financial position and performance and can also support sustainability and intergenerational equity.

Most (14) Member States have implemented accrual accounting across the general government sector and a further five are set to do so by 2030⁽⁵⁸⁾. Germany lags behind the EU average in this area (see Table A2.3), in particular at the federal and state levels of government. The country has no medium-term plans to transition towards accrual accounting⁽⁵⁹⁾.

⁽⁵⁷⁾ Key performance characteristics, recent reforms and investments of the German healthcare system are discussed in Annex 15.

⁽⁵⁸⁾ Report on public accounting in the EU (COM(2025)746 and accompanying Staff Working Document SWD(2025)396). Countries with an accounting maturity of 70% or more in relation to International Public Accounting Standards are deemed to apply accrual accounting.

⁽⁵⁹⁾ Annexes 3.1 and 3.4 of SWD(2025)396.

Germany is making progress on the reforms and investments from the MTP. Germany's Medium-term Plan (MTP) includes a set of reforms and investments underpinning the extension of the fiscal adjustment period. This set is composed of: (i) 15 additional commitments to reforms and investments and (ii) two commitments from the

recovery and resilience plan (RRP). Taking into account the information provided in the Annual Progress Report, Table A2.4 shows the implementation status of the set of reforms and investments due in 2025 and the first half of 2026.

Table A2.4: **Reforms and investments underpinning the extension of the adjustment period of Germany**

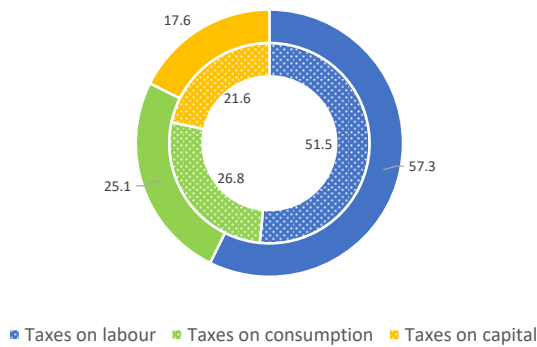
Measures	Key steps	Recommended implementation date	COM assessment 2026
Operationalisation of the Special Fund for Infrastructure and Climate Neutrality	Step 1: By Q3 2025, adopt the laws for the creation of the Special Fund for Infrastructure and Climate Neutrality.	Q3 2025	Completed
Research allowance to support R&D	Step 1: By Q1 2026, adopt a law on the extension of the tax base and eligible expenditure for the research allowance.	Q1 2026	Completed
Simplification of procurement law for the Armed Forces	Step 1: By Q2 2026, simplify procurement laws for the Armed Forces by extending the scope for simplified procurement procedures, speeding up and digitalising procedures.	Q2 2026	Completed
Simplification of procurement law	Step 1: By Q2 2026, simplify procurement laws by extending the scope for simplified procurement procedures, speeding up and digitalising procedures.	Q2 2026	Adopted, entry into force 1 July 2026.
Facilitating employment after reaching retirement age	Step 1: By Q2 2026, lift the ban on pre-employment to facilitate workers' temporary return to the labour market after reaching retirement age by changing the relevant legislation.	Q2 2026	Completed
Extension of the tobacco tax	Step 1: By Q4 2026, adopt a law for an extension of the tobacco tax model.	Q4 2026	Planned, no draft law yet.
Facilitating housing investment (Housing Turbo)	Step 1: By Q1 2026, simplify the legislation for housing construction through temporary rule exemptions, more flexible planning, extended special regulations, and clearer noise conflict guidelines.	Q1 2026	Completed
Set up of a government-backed venture capital (VC) fund	Step 1: By Q4 2026, start fundraising for the 'Growth fund II' targeted at institutional investors with the government as an anchor investor.	Q4 2026	Completed
Report on government subsidies	Step 1: By Q4 2025, publish a first federal subsidy report that analyses the impact of subsidised programmes following the subsidy policy guidelines.	Q4 2025	Completed
Spending reviews	Step 1: By Q4 2025, publish a first spending review.	Q4 2025	Completed
Improving conditions for geothermal energy investments	Step 1: By Q2 2026, simplify authorisation procedures through a Geothermal Energy Acceleration Act.	Q2 2026	Completed
Improving conditions for hydrogen investments	Step 1: By Q3 2026, simplify planning, permitting and related procurement procedures through a Hydrogen Acceleration Act.	Q3 2026	Completed
Federal-Länder working group for an efficient public administration (RRP reform 6.2.1)	Step 1: By Q2 2021, finish a first progress report with recommendation Step 2: By Q2 2022, finish a second progress report Step 3: By Q1 2025, finalise at least 80 % of the measures from the 2nd progress report.	RRP	Completed*
Offshore Wind Energy Act (RRP reform 7.1.5)	Step 1: By Q1 2023, reduce barriers to the development of renewable energies and the necessary grid infrastructure by simplifying the planning and permitting procedures for relevant projects.	RRP	Completed*

The progress of each backward-looking key step (i.e., those scheduled for completion by 30 April 2026) is classified as either 'completed' or factual information is provided. The status of forward-looking key steps due after December 2026 do not appear in the table, as these will be assessed by the Commission in future Country Reports. * These key steps correspond to milestones 136 and 137 of Germany's RRP, which have been assessed as fulfilled as part of a payment request under the RRF.

Source: Annual Progress Report of Germany and Commission's assessment.

This annex provides an indicator-based overview of Germany’s tax system. It includes information on the tax mix, on competitiveness and fairness aspects of the tax system, and on tax collection and compliance. In the area of taxation, the 2025 country-specific recommendations for Germany highlighted challenges in the tax mix to support inclusive growth and sustainable competitiveness, including better work incentives for second earners. Further, the set of reforms and investments underpinning the extended adjustment period for Germany’s medium-term fiscal-structural plan includes the extension of the research allowance (see below).

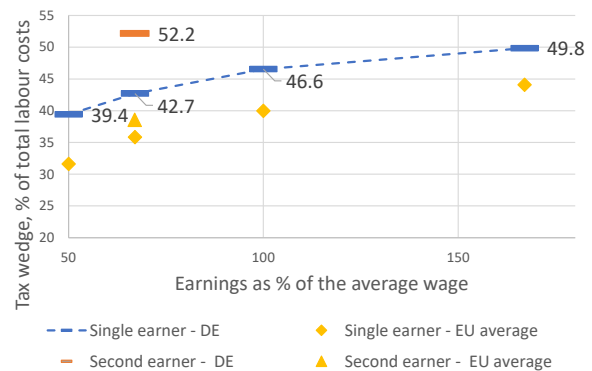
Graph A3.1: Tax revenue by economic function in 2024, %, DE (outer ring) and EU-27 (inner ring)



Source: Taxation Trends Data, DG TAXUD

Germany's tax revenue structure is heavily biased towards labour taxes. In 2024, revenues from labour taxes (personal income tax (PIT), and social contributions) reached 22.7% of GDP, of which social contributions alone accounted for about 16.2% (Table A3.1). Consumption taxes yielded 9.9 % of GDP, mainly from VAT (6.9 %), while taxes on capital contributed 7.0%. Recurrent property taxes accounted for just 0.4% of GDP, well below the EU average of 0.9%, signalling potential to raise revenue and at the same time support municipal finances. Environmental taxes amounted to 1.75% of GDP in 2024, compared to an EU average of 2.08% of GDP. The revenue mix thus deviates markedly from the EU’s policy objectives of shifting taxation toward less distorting taxes on property, consumption and environmental bases (Graph A3.1).

Graph A3.2: Tax wedge for single and second earners as a % of total labour costs, 2025



Note: The second earner tax wedge shows a household’s tax wedge resulting from the wage that a second earner taking up a job at 67% of the average wage receives. It does not show the total tax wedge of the household. The household is assumed to have a first earner at 100% of the average wage and no children. For the methodology of the tax wedge for second earners, see OECD (2024), Taxing Wages 2024.

Source: European Commission

The labour tax burden is considerably higher and less progressive than the EU average. Graph A3.2 shows that the labour tax wedge⁽⁶⁰⁾ for Germany in 2025 was much higher than the EU average, not only for single people at the average wage level, but also for those earning low wages (50% and 67% of the average wage) and high wages (167% of the average wage). The tax wedge for second earners at 67% of the average wage whose partners are at 100% of the average wage was considerably above the EU average. In addition, the difference between the tax wedge for these second earners at 67% of the average wage and for single people at the same wage level was particularly high in Germany, which is indicative of the significant role that the joint taxation system for couples (*Ehegattensplitting*) still plays in reducing work incentives for second earners. The difference between the tax wedge for high- and low-wage earners (i.e. those at 167% and 50% of

⁽⁶⁰⁾ The tax wedge is an indicator of the tax burden on labour that can be assessed at various levels of earnings. It is defined as the sum of personal income taxes, employee and employer social-security contributions and other mandatory contributions, expressed as a percentage of total labour costs (composed of the net wage, personal income tax, social security contributions, and other mandatory contributions). Tax wedge data in the 2026 country reports are calculated by the Joint Research Centre of the European Commission and based on the EUROMOD model, while in the past country reports they were based on the Tax and Benefit model of the OECD. While the underlying methodology is very similar, differences in the assumptions can lead to different results between both models.



Table A3.1: **Taxation indicators**

		Germany					EU-27				
		2019	2022	2023	2024	2025	2019	2022	2023	2024	2025
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	40.1	40.1	38.8	39.6		39.9	39.7	39.0	39.4	
By tax base	Taxes on labour (% of GDP)	22.5	22.2	21.8	22.7		20.6	20.1	19.9	20.3	
	of which, social security contributions (SSC, % of GDP)	15.5	15.4	15.5	16.2		13.0	12.7	12.7	13.0	
	Taxes on consumption (% of GDP)	10.7	10.5	9.8	9.9		11.2	10.9	10.5	10.6	
	of which, value added taxes (VAT, % of GDP)	6.9	7.3	6.9	6.9		7.1	7.4	7.1	7.1	
	Taxes on capital (% of GDP)	6.9	7.5	7.1	7.0		8.1	8.7	8.5	8.5	
Some tax types	Personal income taxes (PIT, % of GDP)	9.6	9.5	8.9	9.2		9.6	9.4	9.3	9.6	
	Corporate income taxes (CIT, % of GDP)	2.6	3.1	3.0	2.9		2.6	3.2	3.2	3.1	
	Total property taxes (% of GDP)	1.1	1.2	1.0	0.9		2.2	2.1	1.9	1.8	
	Recurrent taxes on immovable property (% of GDP)	0.4	0.4	0.4	0.4		1.2	1.0	0.9	0.9	
	Environmental taxes (% of GDP)	2.4	1.8	1.7	1.75		2.6	2.1	2.1	2.08	
	Effective carbon rate in EUR per tonne of CO ₂ equivalents	na	na	96.9	na		na	na	84.8	na	
Progressivity & fairness	Tax wedge at 50% of average wage (single person) (*)	38.9	37.5	38.2	38.7	39.4	32.4	31.6	31.5	31.5	31.6
	Tax wedge at 100% of average wage (single person) (*)	46.6	45.3	45.7	46.0	46.6	40.1	39.7	39.9	39.9	40.0
	Corporate income tax - effective average tax rates (1) (*)	30.3	29.7	29.7	30.6		20.0	19.2	19.0	19.3	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	7.9	11.2	11.3	10.9		7.8	8.0	7.9	7.8	
Tax administration & compliance	Outstanding tax arrears: total year-end tax debt (including debt considered not collectable) / total revenue (in %) (*)	1.0	2.7	3.1	na		31.8	32.6	30.7	na	
	VAT gap (% of VAT total tax liability, VTTL) (**)	10.5	6.6	9.7	9.7		10.5	7.3	8.2	na	

(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 2024. EU-27 refers to the median value. For more data on tax revenues as well as the methodology applied, see the [Data on Taxation Trends webpage](#).

Source: European Commission, OECD, ISORA.

the average wage respectively) is considerably lower for Germany than for the EU as a whole, indicating the low progressivity of the labour tax system.

The tax and benefit system reduces income inequality. The difference in the Gini coefficient before and after taxes and transfers is estimated at around 10.9 percentage points (pps), clearly above the EU average of 7.8 pps⁽⁶¹⁾. While this indicates that the tax-benefit system performs an important redistribution function, its progressivity is limited by several factors: social-security contributions are capped and capital income benefits from separate, often lower taxation (at 25%), being exempt from social security contributions. The tax wedge for low-income earners remains well above the EU average, and high marginal tax rates for second earners discourage full participation in the labour market.

However, the system is complex and overall has limited progressivity, partly generating

disincentives to work. With over 500 types of benefits, the social transfer system is complex, reducing rightful take-up while high transfer withdrawal rates generate disincentives to work. Potential improvements were recently pinpointed by the Welfare State Commission (see Annex 12). A reduction in income tax particularly for low and medium incomes is still planned in the government's coalition agreement and could flatten the steep tax progression in that 'middle class bulge' income region (*Mittelstandsbauch*). The 'active pension' (*Aktivrente*) in effect as of 2026 allows employees above retirement age to earn up to EUR 2 000 per month tax-free, creating incentives to work longer.

Inheritance and gift taxation is complex, regressive and shows further revenue potential. Although Germany's wealth inequality is among the highest in the euro area (see Annex 12), a complex system of allowances to inheritance and gift taxation currently result in higher effective tax rates for low- and medium inheritances than for high inheritances. In particular the transfer of business assets benefits

⁽⁶¹⁾ The Gini coefficient measures the extent to which the distribution of income within a country deviates from a perfectly equal distribution. A coefficient of 0 expresses perfect equality where everyone has the same income, while a coefficient of 100 expresses full inequality where only one person has all the income.

from substantial tax advantages⁽⁶²⁾. A lower overall tax rate, a broader assessment basis without special exemptions combined with generous deferral rules for non-liquid business assets and allowances that protect smaller inheritances could reduce bureaucracy, lower incentives for tax avoidance, and lead to a fairer distribution of the tax burden⁽⁶³⁾. Such a reform seems possible without endangering business continuity⁽⁶⁴⁾ and could increase fiscal revenues from EUR 12 billion by about EUR 2-8 billion⁽⁶⁵⁾. A decision by the Federal Constitutional Court on the preferential treatment of inherited business assets currently in place is expected by the end of 2026.

Reducing environmentally harmful subsidies could also increase tax revenues. While Germany has introduced a national carbon price in 2021, other environmental taxes generate only modest revenues relative to peers. This is also partly due to tax reliefs tackling high energy prices to protect the economy and private households. However, the generally lower taxation of diesel compared to petrol (*Dieselprivileg*) is environmentally unjustified and eliminating it could increase fiscal revenues by EUR 7 billion⁽⁶⁶⁾. As of 2026, environmentally harmful subsidies increased even further, with higher tax expenditures for diesel used in agriculture (*Agrardiesel*) and for the commuter allowance (*Pendlerpauschale*).

Taxation of real estate is relatively limited. A long-overdue reform of the municipal property tax came into force in 2025, though not aimed at increasing revenues. Generous tax expenditures for capital income from selling or renting existing buildings, which distort capital allocation, contribute to rising housing prices and increase inequality. Abolishing these or better targeting

them to incentivise the expansion of housing supply could raise up to EUR 12 billion per year. Profits of real estate companies are fully exempted from the municipal-level corporate income tax (*Gewerbesteuer*) with an average rate of 15%, entailing a revenue loss of around EUR 5 billion⁽⁶⁷⁾. For the *Länder*, the property transfer tax (*Grunderwerbsteuer*) is a major revenue source alongside inheritance and gift tax. However, transfer taxes disincentivise transfers and thus mobility.

Company taxation is relatively high. Germany's statutory corporate income tax (CIT) consists of a 15% federal CIT, a 5.5% solidarity surcharge and a municipal trade tax that varies by locality. The effective average CIT rate is around 29.7%, the highest in the EU, with the EU average at 12.7%. Combined with complex rules and separate state and federal administration, the corporate tax system creates significant compliance costs and disincentives for investment.

However, reform efforts have been undertaken to enhance investment incentives and make Germany more competitive as a tax location for businesses. To improve tax conditions for businesses, in July 2025 Germany adopted an act for an immediate tax investment programme (*Investitionssofortprogramm*) to strengthen Germany as a business location. Among other things, this act reintroduces a declining-balance depreciation for movable fixed assets of up to 30% for investments between July 2025 and end of 2027. It also provides for the first reduction of the corporate tax rate since 2008, by 1 pp. per year between 2028 and 2032 from 15% to 10%, as well as an improved preferential tax treatment of retained profits for limited liability partnerships, which are subject to income tax. In addition, the R&D tax credit was further extended, increasing incentives to invest in innovation.

Municipal business tax remains a cornerstone of local revenue in Germany, despite large differences at regional level. German municipalities rely heavily on the municipal-level business tax (*Gewerbesteuer*) which accounted for almost half of their tax revenue in 2024⁽⁶⁸⁾. In

⁽⁶²⁾ Malmendier, U., Schnitzer, M., Truger, A., & Werding, M., 2026, [Reformbedarf bei der Erbschaft-und Schenkungsteuer in Deutschland](#).

⁽⁶³⁾ Fuest, C., Peichl, A., & Windsteiger, L., 2026. [Zur Reform der Erbschaftsteuer](#).

⁽⁶⁴⁾ Dörrenberg, P., & Langenmayr, D. (2026). [Betriebsvermögen in der Erbschaftsteuer: Was spricht für Ausnahmen- und was dagegen?](#)

⁽⁶⁵⁾ Bach, S., & Sinclair, T., 2026. [Erbschaftsteuerreform: Vergünstigungen abbauen, Freibeträge erhöhen, Steuertarifstufen reduzieren](#). DIW Wochenbericht 4/2026.

⁽⁶⁶⁾ Bundesrechnungshof, 2025, [Maßnahmen zur Stärkung der Einnahmenbasis](#).

⁽⁶⁷⁾ [OECD Economic Surveys: Germany 2025](#).

⁽⁶⁸⁾ <https://www.iwkoeln.de/studien/martin-beznoska-tobias-hentze-bjoern-kauder-eine-reform-der-gewerbesteuer-fuer->

order to limit intermunicipal tax competition and stabilise revenues⁽⁶⁹⁾, the federal government recently raised the minimum threshold for tax multipliers that municipalities can set (*Hebesatz*).

Tax compliance is generally good in Germany, yet gaps remain. The VAT compliance gap was 9.7% in 2023 and 2024, corresponding to a loss of EUR 32 billion in tax revenue in 2024⁽⁷⁰⁾. From the potential VAT revenue, 11.7% was foregone in 2024 because of national tax exemptions and reduced rates. Exemptions increased further as of 2026 with the reduction of the VAT for restaurants from 19% to 7%⁽⁷¹⁾. The CIT compliance gap is estimated at 7.6%, below the EU average of 10.9%. Enforcement could be improved to move closer to Denmark, Netherlands and Finland where around 2% of the company tax revenue is missed, or Austria where 3.8% is missed⁽⁷²⁾. In addition, company tax revenue losses due to profit shifting are among the highest in the EU, with profits amounting to 1.6% of GDP shifted abroad, resulting in the loss of 28% of corporate tax collected⁽⁷³⁾. Outstanding tax arrears (including uncollectable debts) have increased to about 3.1% of tax revenue. Germany lacks an official estimate of the PIT gap, and the shadow economy is estimated at around 8.8% of GDP. Offshore tax evasion through undeclared foreign deposits amounts to roughly 0.24% of GDP⁽⁷⁴⁾⁽⁷⁵⁾.

Digital transformation of the tax administration is slow and fragmented. Unlike

[tragfaehige-kommunal Finanzen.html](#) Bundesministerium der Finanzen, 2025, [Eckdaten zur Entwicklung und Struktur der Kommunal Finanzen 2015 bis 2024](#).

⁽⁶⁹⁾ Beznoska, M., Hentze, T., and Kauder, B., 2026, [Eine Reform der Gewerbesteuer für tragfähige Kommunal Finanzen](#). IW-Kurzbericht Nr. 18, 10 March 2026.

⁽⁷⁰⁾ European Commission, Syntesia, Poniatowski, G., Bonch-Osmolovsky, M., Śmietanka, A. et al., 2025, [VAT gap in Europe – Report 2025](#).

⁽⁷¹⁾ Boysen-Hogrefe, J., 2025, [Gastro-Mehrwertsteuer: Keine überzeugenden Gründe](#). Wirtschaftsdienst, 2025/6.

⁽⁷²⁾ European Commission, 2025, [Corporate Income Tax Gap. Towards an European approach to measuring losses in corporate tax revenues, Final Report](#).

⁽⁷³⁾ Tørsløv, T., Wier, L., & Zucman, G., 2023, [The missing profits of nations](#). The Review of Economic Studies, Volume 90, Issue 3.

⁽⁷⁴⁾ [VAT Gap report 2025](#).

⁽⁷⁵⁾ [Mind the Gap](#) – Country Fiche Germany, Section 2: Monitoring of compliance gaps.

most EU Member States, Germany has no national digital taxation strategy. Responsibilities are divided between the federal and *Länder* authorities and the long-running ‘KONSENS’ IT project has suffered delays and cost overruns. Pre-filled electronic returns are available only for PIT; companies must still fill in all CIT and VAT fields manually. E-filing rates for PIT (around 79%) and VAT (around 95%) remain below the EU average. Artificial-intelligence tools, such as the X-PIDER risk-scoring system and virtual assistants, are being used at federal level but are only slowly being rolled out in the *Länder*. The Growth Opportunities Act from 2024 introduced mandatory e-invoicing and an electronic VAT reporting platform, which should improve compliance and reduce the VAT gap⁽⁷⁶⁾.

Germany’s dividend-arbitrage scandal shows how tax fraud can harm public finances. In ‘cum-ex’ and ‘cum-cum’ transactions, shares were rapidly traded around the dividend record date so that multiple investors could claim refunds of withholding tax that had only been paid once. Investigative reports estimate that these schemes siphoned about EUR 36 billion from the German treasury between 2000 and 2020⁽⁷⁷⁾. The government told the parliament in 2023 that roughly EUR 3 billion had been recovered through final court judgments⁽⁷⁸⁾. Germany has tightened its laws and will introduce a standardised reporting model under the EU’s FASTER directive in 2027 to prevent similar frauds. Germany will receive technical support from the Commission to implement the FASTER directive.

⁽⁷⁶⁾ [Mind the Gap](#) – Country Fiche Germany, Section 5 “Digital transformation of the tax administration”.

⁽⁷⁷⁾ [CORRECTIV: The CumEx Files](#).

⁽⁷⁸⁾ <https://dserver.bundestag.de/btd/21/005/2100548.pdf>.

Germany’s traditionally strong performance in research and innovation (R&I) is under pressure. Reforms are needed to implement the 2025 country-specific recommendations to *boost innovation by facilitating research commercialisation and by increasing public funding for transformative innovation and to facilitate the diversification of the economy, business dynamism and boost private investment by supporting entrepreneurship, improving access to finance for start-ups and scale-ups.* The 2025 European Innovation Scoreboard ranks Germany as a ‘strong innovator’, with a performance above the EU average (111.1%) yet on a decreasing trend⁽⁷⁹⁾ and with significant regional differences (see Annex 18). Germany’s R&D intensity⁽⁸⁰⁾ exceeds the EU average but since 2018 has stagnated, standing at around 3.1%, short of its own target of 3.5%⁽⁸¹⁾ by 2030 and behind global leaders like Israel (6.3%), South Korea (4.96%), the US and Japan (both 3.4%)⁽⁸²⁾. Germany’s R&I performance would benefit from the timely implementation of the measures included in the new government’s coalition agreement and the new High-tech Agenda⁽⁸³⁾. Likewise, it would be beneficial to ensure that R&I funding remains a clear priority and that its level, effectiveness and efficiency are continuously strengthened. Firms are gradually adopting digital technologies in line with the EU average, although uptake of data analytics has stalled. Expanding digital adoption could make up for Germany’s under-representation in high-growth sectors and strengthen its long-term competitiveness.

Excellent science

Germany has a strong public research base, but reform is needed to sustain its performance. Its science system is anchored in a well-established network of public research institutions and backed by numerous R&I funding programmes⁽⁸⁴⁾. Despite this, the impact of Germany’s research – as indicated by the share of publications among the world’s top 10% most cited – is only just above the EU average (10.2% vs 9.4% in 2022). This impact has been slightly decreasing over time, also reflecting broader global shifts. Despite standing above the EU average (0.92% of GDP, compared with an EU average of 0.72% in 2024), public R&D investment has broadly stagnated as a share of GDP, which may limit its contribution to achieving the 3.5% of GDP target⁽⁸⁵⁾. In this context, it would be highly beneficial to: (i) ensure that the planned EUR 18 billion in the Hightech Agenda provides additional funding beyond existing budgets to support strategic technologies; and (ii) use the Special Infrastructure Fund to strengthen research infrastructure and universities. Germany’s research system could also benefit from strengthening the attractiveness and transparency of research careers and modernising personnel structures. This could be achieved in particular by creating more permanent positions below that of the professor position and by strengthening the tenure track programme⁽⁸⁶⁾.

Germany’s R&I funding framework can be more effective and efficient. Currently, only a minority of federal R&I funding programmes undergo causal evaluation to assess whether their

⁽⁷⁹⁾ European Commission, 2025, *European Innovation Scoreboard (EIS), country profile: Germany*, ec.europa.eu.

⁽⁸⁰⁾ Gross domestic expenditure on R&D as a percentage of GDP.

⁽⁸¹⁾ The 2025 coalition agreement restates the 3.5% R&D target, extending it to 2030 (from 2025).

⁽⁸²⁾ Also, the gap to China has almost disappeared, as China increased its R&D intensity from 0.9% in 2000 to 1.8% in 2010, 2.4% in 2020 and 2.8% in 2025.

⁽⁸³⁾ The [Hightech Agenda Germany](#) (launched in 2025) is a national research and innovation strategy aimed at strengthening science and six key technologies to position Germany as a leading high-tech hub.

⁽⁸⁴⁾ [Bundesbericht Forschung und Innovation](#) (2024).

⁽⁸⁵⁾ The literature considers a one-third / two-thirds split between public and private R&D expenditure to be a suitable mix. See for example OECD, 2003, [Targeting R&D: Economic and Policy Implications of Increasing R&D Spending](#). For Germany this would give 1.16% as a target value (i.e. one third of 3.5%).

⁽⁸⁶⁾ Compared internationally, Germany has a very low share of permanent academic positions. In early-career stages, 96% of researchers are on fixed-term contracts; even among PhD-qualified staff, 90% are temporary. Wissenschaftsrat, 2025, [Personalstrukturen im deutschen Wissenschaftssystem](#).

objectives are achieved cost-effectively⁽⁸⁷⁾. Given the multiple layers of public R&I funding – at both federal and state levels – a more systematic and coordinated evaluation approach could increase the overall impact. Large-scale initiatives such as the excellence strategy would benefit from rigorous assessment of their effectiveness in strengthening critical mass in top-tier research⁽⁸⁸⁾. Meanwhile, complex administrative and reporting requirements continue to burden recipients and slow down decision-making and the implementation of R&I activities. This includes burdensome funding application procedures and lengthy public procurement processes⁽⁸⁹⁾. Against this background, swift adoption of the planned Innovation Freedom Act aimed at reducing bureaucratic hurdles to securing research funding would be highly beneficial⁽⁹⁰⁾.

Business innovation

Germany’s reliance on mid-tech industries and a weaker innovation output rate suggest lock-in effects and difficulties in adapting to emerging technologies. Business expenditure on R&D as a percentage of GDP is well above the EU average (2.14% vs 1.49% in 2024) but has broadly stagnated in recent years and is well below global leaders. R&D activity in Germany is concentrated in mid-tech sectors such as automotive, relying even more heavily on mid-tech industries than the EU overall⁽⁹¹⁾. The shift

towards new tech fields is slow compared with the US. This is also reflected in the level of patenting activity which, though still high by average EU standards, has decreased substantially over the last 12 years⁽⁹²⁾. To encourage a shift towards high-tech fields, and in line with the 2025 country-specific recommendation *on increasing public funding for transformative innovation*, the Agency for Disruptive Innovation (SPRIND) supports the development of breakthrough technologies. Results from the first evaluation show that the agency’s instruments are well suited to fostering breakthrough innovations, particularly following the expanded autonomy granted by the SPRIND Freedom Act⁽⁹³⁾. However, there is room for further flexibility⁽⁹⁴⁾. The agency’s budget has increased but remains below that of relevant players in other countries (relative to GDP)⁽⁹⁵⁾, while relevant expert bodies are calling for more funding for breakthrough innovation⁽⁹⁶⁾.

The uptake of digital technologies by firms is gradually increasing, and Germany is making strong efforts to advance its digital technologies and infrastructure. The country performs above the EU average on basic digital intensity for SMEs and the uptake of AI by enterprises. Cloud adoption by enterprises remains broadly in line with the EU average, while the use of data analytics has stagnated (37.1% in 2023 and 37.7% in 2025). This is in contrast with continued progress at EU level (33.3% in 2023 and

⁽⁸⁷⁾ Expertenkommission Forschung und Innovation, 2024, *Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2024*, [e-fi.de](#).

⁽⁸⁸⁾ OECD, 2025, *OECD Economic Survey: Germany 2025* and Schubert et al. (2024): *Research, Technology and Innovation Policy Must Focus on the Generation of Critical Mass* as well as Expertenkommission Forschung und Innovation, 2026, *Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2026*.

⁽⁸⁹⁾ See for instance Stifterverband, 2025, *Wege aus der Bürokratie*.

⁽⁹⁰⁾ The *Innovationsfreiheitsgesetz*, currently being prepared, aims to reduce bureaucratic hurdles to securing research funding, lower administrative burdens and increase freedom for innovation. See among others Expertenkommission Forschung und Innovation, 2025, *Keine Zeit verlieren in der Forschungs- und Innovationspolitik* for concrete proposals on what the act should entail.

⁽⁹¹⁾ See OECD, 2022, *Innovation Review: Germany 2022*, [oecd-ilibrary.org](#); Dietrich et al., 2024, ‘EU-Innovationspolitik: Wie entkommt Europa der „Midtech-Falle“ and European

Commission’, *2023 EU Industrial R&D Investment Scoreboard*.

⁽⁹²⁾ Patent applications filed under the Patent Cooperation Treaty per billion of GDP (in purchasing power standards EUR) stood at 4.3 in 2022 (EU average 2.8), compared with 5.9 in 2016 and 7.2 in 2010. Other sources also show a slower increase in patent intensity (per one million employed) in R&D intensive technologies compared with other countries worldwide, see: <https://www.e-fi.de/dashboard/dev/patente/patentintensitaet>.

⁽⁹³⁾ Fraunhofer ISI, 2025, *Evaluation der Bundesagentur für Sprunginnovationen SPRIND GmbH*.

⁽⁹⁴⁾ Expertenkommission Forschung und Innovation, 2024, *Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2024*, [e-fi.de](#).

⁽⁹⁵⁾ For instance, Defense Advanced Research Projects Agency (US), ARIA (UK), Innovation Fund Denmark, Innosuisse (Switzerland) These examples are indicative only; direct comparisons are difficult given differing mandates and objectives.

⁽⁹⁶⁾ See also Grimm et al., 2025, *Eine Wachstumsagenda für Deutschland*, calling for more funding for ‘high risk – high return’ projects.

39.9% in 2025). To boost digital adoption and innovation, Germany is introducing new measures and updating existing ones: AI service desks assist companies and public administrations in adopting and developing AI solutions. The 'ERP promotional loan for digitalisation' programme now covers more fundamental digital needs, such as basic product improvements. Meanwhile, a digitalisation check assesses companies' digital readiness to optimise investments. On semiconductors, the Important Project of Common European Interest (IPCEI) on Microelectronics and Communication Technologies is complemented by a strategy on microelectronics for research, skilled workers and production. This aims to strengthen production capacities and investment in the semiconductor ecosystem. In parallel, Germany continues to develop interoperable and accessible European data processing technologies via the IPCEI on Next Generation Cloud Infrastructure and Services. Establishing a multi-provider cloud-edge continuum is key for efficient data processing and storage. Both IPCEIs are supported by the Recovery and Resilience Facility (investments 2.1.2 and 2.1.3). Overall, higher adoption rates of digital technologies and increased investment in digital technologies could significantly boost productivity. With Germany under-represented in high-growth sectors, long-term competitiveness could benefit from shifting focus towards innovation, e.g. in AI, semiconductors, and ICT more broadly ⁽⁹⁷⁾.

Germany has strengthened its R&D tax incentive scheme to improve the innovation activity of small to medium-sized enterprises. R&D expenditure by SMEs as a percentage of GDP remains low (0.18% in 2023 vs the EU average of 0.47%). The share of SMEs engaged in innovation has declined, but recent evidence shows that when accounting for firm size and sector, SMEs are often more active in introducing product or process innovations than comparable larger firms, even with lower R&D spending. At the same time, SME innovation continues to be held back by shortages of skilled labour, the costs and risks associated with innovation, and bureaucratic hurdles ⁽⁹⁸⁾. In 2025, Germany expanded its R&D tax incentive scheme

once more by raising the maximum eligible amount to EUR 12 million, keeping the reimbursement rate at 25% (35% for SMEs), and introducing a flat 20% allowance to cover general overhead costs. Recent reports indicate that companies were increasingly using the tax incentive scheme even before the most recent expansion. Nevertheless, further simplification and targeted adjustment could facilitate the application process ⁽⁹⁹⁾.

Structural barriers limit the commercialisation of academic research.

Classical channels of science-business collaboration remain strong, driven by dedicated organisations such as Fraunhofer, while public-private scientific co-publications account for 11.7% of total publications in 2024 (EU average: 7.6%). At the same time, privately funded R&D in public research organisations and universities (contractual research) remains high, though slightly declining ⁽¹⁰⁰⁾. However, this model has mainly supported incremental innovation, while more fundamental transfer of knowledge and technology - e.g. in the form of academic spin-offs - has remained limited ⁽¹⁰¹⁾. One contributing factor is that despite being formally recognised as a core mission, technology and knowledge transfer often receives limited strategic attention, funding and career incentives, discouraging researchers from engaging in commercialisation. Relevant support structures such as technology transfer offices often suffer from financial and personnel instability and high dependency on third-party funding ⁽¹⁰²⁾. In addition, as intellectual property typically lies with the institution, entrepreneurs face bureaucratic and financial hurdles in

⁽⁹⁷⁾ McKinsey, 2025, The power of one: [How standout companies grow national productivity | McKinsey](#).

⁽⁹⁸⁾ Expertenkommission Forschung und Innovation, 2026, [Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2026](#).

⁽⁹⁹⁾ ZEW, 2025, Forschungszulage: [Ein neues Förderinstrument wächst und gedeiht](#) and Expertenkommission Forschung und Innovation, 2026, [Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2026](#).

⁽¹⁰⁰⁾ As measured in public expenditure on R&D financed by business enterprises (national) as % of total public expenditure on R&D. It stood at 11.29 in 2023 (EU average at 7.51) but was on a decreasing trend in the years prior.

⁽¹⁰¹⁾ See for instance OECD, 2022, *Innovation Review: Germany 2022*, [oecd-ilibrary.org](#) and more recently Expertenkommission Forschung und Innovation, 2026, [Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2026](#).

⁽¹⁰²⁾ See Stifterverband, 2025, [Gruendungsradar](#).

accessing it, with negotiations averaging 18 months ⁽¹⁰³⁾.

Germany has launched new flagship initiatives to accelerate commercialisation activities, in line with the 2025 country-specific recommendation. July 2025 saw the launch of the ‘Start-up Factories’ initiative to strengthen spin-off activity in selected hubs ⁽¹⁰⁴⁾. Looking forward, the government aims to bundle transfer-relevant instruments under the ‘Initiative Forschung & Anwendung’ ⁽¹⁰⁵⁾. The set-up will require good coordination to avoid overlaps, particularly as two ministries are still involved ⁽¹⁰⁶⁾. To simplify and increase flexibility of funding instruments, the initiative could build on examples such as the DATipilot and SPRIND instruments. This should be paired with a reduction of bureaucratic and financial hurdles to entrepreneurs transferring intellectual property. The coalition agreement envisions a national intellectual property strategy that should enable the creation of spin-offs in 24 hours, but concrete implementation is lacking ⁽¹⁰⁷⁾. Stronger budgetary prioritisation of transfer activities at state and university level ⁽¹⁰⁸⁾ would strengthen incentives for researchers and universities across research funding programmes to engage in commercialisation. Greater consistency across R&I funding schemes would help address fragmentation and support a more systematic transition from early-stage research to higher technology readiness levels ⁽¹⁰⁹⁾.

⁽¹⁰³⁾Ibid.

⁽¹⁰⁴⁾[Start-up Factories](#).

⁽¹⁰⁵⁾This should include three pillars, including the new ‘Applied Research Association’ (Deutsche Anwendungs- und Forschungs Gemeinschaft - DAFG).

⁽¹⁰⁶⁾The two ministries involved are the Federal Ministry of Research, Technology and Space and the Federal Ministry for Economic Affairs and Energy.

⁽¹⁰⁷⁾In this context, the planned IP strategy requires swift adoption, taking into account existing expert recommendations. The aim is to reduce hurdles to the transfer of intellectual property.

⁽¹⁰⁸⁾See Stifterverband, 2025, [Gruendungsradar](#).

⁽¹⁰⁹⁾Expertenkommission Forschung und Innovation, 2026, [Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2026](#).

Entrepreneurial dynamism

Germany’s overall number of start-ups has grown recently, but sustaining this trend will depend on further increases in venture capital. The number of new start-ups increased by 29% between 2024 and 2025, after growing by 11% the previous year. However, the number of unicorns ⁽¹¹⁰⁾ remains below that of international competitors ⁽¹¹¹⁾ and it remains to be seen whether the downward trend in the high-tech business formation rate can be reversed (see Graph A4.1 below). Venture capital has tripled over the last 10 years (as a percentage of GDP) but remains substantially below that of the US ⁽¹¹²⁾. Increases took place across the different stages (seed, start-up, later-stage), with the gap to the US still particularly pronounced at the later stage. In line with the 2025 country-specific recommendation to facilitate the diversification of the economy, business dynamism and boost private investment by supporting entrepreneurship (see also next paragraph), Germany is making an effort to increase the level of venture capital. Later-stage funding has benefited (among others) from initiatives such as the Future Fund (EUR 10 billion until 2030). More recently it has been supplemented by the WIN initiative ⁽¹¹³⁾ and the Deutschlandfonds ⁽¹¹⁴⁾. Considering the sizeable

⁽¹¹⁰⁾New companies with a market capitalisation of over one million dollars.

⁽¹¹¹⁾See Start-up Verband, 2026, [Startup-Neugründungen in Deutschland](#) and [Deutscher Startup Monitor](#), Bitkom, 2025, [Unicorn Report 2025](#). In mid-2025 Germany was home to 31 unicorns, while the UK had 55 and the US 682 (in early 2025).

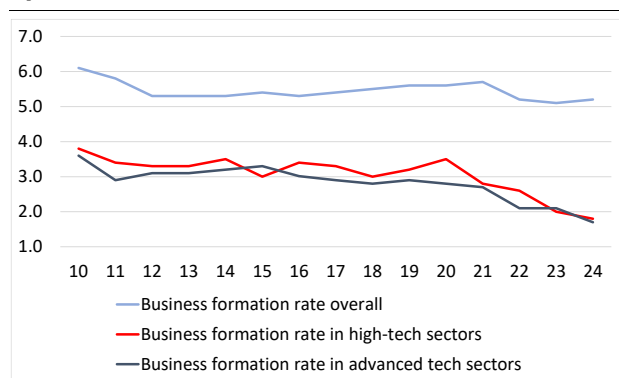
⁽¹¹²⁾2013: 0.023%, 2022: 0.085%, 2024: 0.069% (venture capital in the US stood at 0.54% of GDP in 2024). The 2024 figures for other selected countries are: Denmark – 0.12%, France – 0.09%, Sweden – 0.12. Data from Invest Europe. See also other sources that indicate a stagnation between 2024 and 2025: [KfW](#).

⁽¹¹³⁾The [WIN initiative](#) strengthens Germany’s growth and innovation capital market by mobilising private investment for later-stage financing. It complements the Future Fund by improving conditions for venture and growth capital.

⁽¹¹⁴⁾The [Deutschlandfonds](#) is a framework addressing a spectrum of investment needs, making it easier for private companies and investors to invest in Germany. For instance, through the Deutschlandfonds, KfW co-invests with private investors in large venture and growth capital rounds for German start-ups and scale-ups, with a focus on later-stage financing and industrial technologies.

gap with the US, continued efforts to broaden access to venture capital across all growth phases could play a major role in sustaining momentum and strengthening Germany's start-up ecosystem (see Annex 6 for more details).

Graph A4.1: **Business formation rates in Germany by sector (2010-2024)**



(1) High-tech encompasses industries with the highest R&D intensity and advanced technology industries with moderate R&D intensity (see Neuhaeusler et al. (2022) for more information). The business formation rate is calculated as the number of start-ups in relation to the number of companies.

Source: Based on the German Commission of Experts for R&I (2026).

Timely adoption of planned policy initiatives to reduce regulatory barriers can support innovation. Germany currently faces fragmented and inconsistent rules for accessing and using research data (e.g. varying data access rules between universities and states). Addressing this will require swift adoption of the planned research data act to simplify and legally secure data access through privacy-compliant sharing and reduced bureaucracy⁽¹¹⁵⁾. The proposed regulatory sandboxes act, designed to formalise controlled testing of innovative technologies, has yet to be adopted. It remains essential that the experimentation clauses have broad definitions. This would provide flexibility in testing diverse innovations, make it possible to adapt to unforeseen changes and ensure a lasting impact⁽¹¹⁶⁾. Reports show that Germany performs

is a public-private investment vehicle through which KfW co-invests with private investors in large venture and growth capital rounds for German start-ups and scale-ups, with a focus on later-stage financing and industrial technologies.

⁽¹¹⁵⁾Forschung & Lehre, 2025, [Entwurf zu Forschungsdatengesetz noch in 2025](#).

⁽¹¹⁶⁾Expertenkommission Forschung und Innovation, 2024, [Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2024](#), e-fi.de.

above the EU average in the Innovation Procurement Policy Framework Benchmarking⁽¹¹⁷⁾. Further progress depends on making it easier for start-ups and innovative firms to participate in public tenders. This can be achieved through the planned public procurement acceleration act⁽¹¹⁸⁾ and through greater transparency by making it mandatory to publish tenders on the federal e-procurement platform⁽¹¹⁹⁾ (see Annex 5).

The shortage of skilled workers affects Germany's innovation capacity. Almost half (43.5%) of SMEs consider that a lack of skilled workers/demographic developments is their greatest challenge⁽¹²⁰⁾. This bottleneck is particularly evident in sectors crucial to Germany's innovation performance, e.g. in artificial intelligence and for ICT professionals more generally⁽¹²¹⁾. This is also reflected in the number of computing graduates per 1 000 people aged 25-34, which is rising and at a similar level than the EU average (3.8 in 2024)⁽¹²²⁾. While post-secondary educational attainment remains low, Germany has the highest rate for PhD graduates (see Annexes 11 and 13).

Germany is actively addressing the shortage of skilled workers. To further attract and develop innovative talent, Germany's plans include updating its skilled labour strategy, attracting international start-up founders and boosting women's participation in science, particularly in ICT fields⁽¹²³⁾. In 2024, Germany granted approximately 56 000 EU Blue Cards for highly

⁽¹¹⁷⁾European Commission, 2024, [Benchmarking of national policy frameworks for innovation procurement, Country profile Germany](#). The study assesses 10 indicators, including spending targets for innovation procurement, existence of action plans, and other measures of national innovation procurement capacity.

⁽¹¹⁸⁾[Vergabebesleunigungsgesetz](#).

⁽¹¹⁹⁾OECD, 2025, [OECD Economic Survey: Germany 2025](#).

⁽¹²⁰⁾Expertenkommission Forschung und Innovation, 2026, [Gutachten 2026, e-fi.de](#).

⁽¹²¹⁾OECD (2024): [Artificial Intelligence Review of Germany and Cedefop Labour and Skills Shortage Index | CEDEFOP](#).

⁽¹²²⁾At the same time, the share of STEM graduates (new graduates in science and engineering per thousand population) remains above the EU average (18.27 vs 16.82 in 2024).

⁽¹²³⁾See [Hightech Agenda](#), 2025.

skilled professionals⁽¹²⁴⁾. This represents 72% of the total across the EU. Germany continues to attract a high number of international students, making it one of the top hosting countries worldwide⁽¹²⁵⁾. However, lengthy and complex administrative procedures still limit access to highly educated workers⁽¹²⁶⁾. Since 2023, Germany has simplified legal requirements for recruiting skilled workers from non-EU countries, including recognition of foreign qualifications and a pathway for qualified professionals⁽¹²⁷⁾. Further support may come from the announced Work-and-Stay-Agency. Comparable steps are proposed in the 2024–2034 higher education internationalisation strategy, which calls for easing visa and access rules and improving recognition of prior learning (see Annex 11). Germany set up a “1 000 Heads Programme” with to aim to attract international top researchers, particularly in response to recent pressure on US academia, with 286 researchers relocated in the first year⁽¹²⁸⁾.

Germany is one of only a few EU countries lacking a top-level strategy to support entrepreneurship education. Entrepreneurship education is neither integrated into primary and general secondary education through a cross-curricular approach nor taught as a standalone subject. As in most EU countries, entrepreneurship education is not explicitly mentioned in the teacher competence framework, nor is there an explicit reference to entrepreneurship education in training opportunities for teachers. Nonetheless, entrepreneurial experiences are encouraged and supported as extracurricular activities, even though

they are not compulsory⁽¹²⁹⁾. However, the Standing Conference of the Ministers of Education and Cultural Affairs recognises career orientation as a compulsory aspect of all educational programmes⁽¹³⁰⁾ and includes economic education⁽¹³¹⁾ within this framework. Although entrepreneurship education is not a defined focus in school curricula, several nationwide initiatives exist⁽¹³²⁾. There is also a growing number of programmes in higher education that aim to support entrepreneurship⁽¹³³⁾.

⁽¹²⁴⁾The EU Blue Card is a fast-track tool for recruiting highly skilled non-EU nationals with higher education or equivalent experience (Source for data: Eurostat).

⁽¹²⁵⁾DAAD, 2025, [Number of international students well over 400 000](#).

⁽¹²⁶⁾Expertenkommission Forschung und Innovation, 2024, *Gutachten zu Forschung, Innovation und Technologischer Leistungsfähigkeit Deutschlands 2024*, e-fi.de.

⁽¹²⁷⁾See BMBF and KMK, 2024, [Internationalization of the Higher Education Institutions in Germany](#); Under the SGB III *Modernisierungsgesetz*, responsibility for the recognition of foreign qualifications will be transferred to the Federal Employment Agency (the *Bundesagentur für Arbeit*) from 2029, institutionalising the previously ESF co-funded IQ Network structures (see Annex 13).

⁽¹²⁸⁾[Homepage – Ein Jahr 1.000-Köpfe-Plus: 286 Spitzenforschende gefördert – BMFT](#).

⁽¹²⁹⁾European Commission / EACEA / Eurydice, 2025, [Entrepreneurship education at school in Europe – 2025. Eurydice Report](#).

⁽¹³⁰⁾KMK, 2006, [Vereinbarung über die Schularten und Bildungsgänge im Sekundarbereich I – Beschluss der Kultusminister Konferenz vom 03.12.1993 Ld.F. vom 02.06.2006](#).

⁽¹³¹⁾KMK, 2025, [Empfehlung zur Verbraucherbildung an Schulen – Beschluss der Kultusminister Konferenz vom 12.09.2013 i.d.F. der Bildungsministerkonferenz vom 05.06.2025](#).

⁽¹³²⁾e.g. 'Gründung in School', 'Jugend Gründet', 'Deutscher Gründerpreis für Schüler:innen'.

⁽¹³³⁾The *Hochschulkompass* for example lists 391 study programmes for Business and Organisational Management.

Table A4.1: Key innovation indicators

Germany	2010	2015	2020	2022	2023	2024	2025	EU average (1)	US
Headline indicator									
R&D intensity (gross domestic expenditure on R&D as % of GDP)	2.68	2.88	3.09	3.04	3.13	3.13	:	2.24	3.44
Science and innovative ecosystems									
Public expenditure on R&D as % of GDP	0.89	0.9	1.03	0.92*	0.92*	0.92	:	0.72	0.64
Scientific publications of the country within the top 10% most-cited publications worldwide as % of total publications of the country	11.88	11.27	10.35	10.21	:	:	:	9.44	12.31
Researchers (FTEs) employed by public sector (Gov+HEI) per thousand active population	3.6	3.9	4.4	4.3*	4.2*	4.2	:	4.3	:
International co-publications as % of total number of publications	44.26	49.03	53.39	53.72	54.16	55.92	:	57.24	:
R&D investment & researchers employed in businesses									
Business enterprise expenditure on R&D (BERD) as % of GDP	1.79	1.97	2.06	2.05	2.14*	2.14	:	1.49	2.69
Business enterprise expenditure on R&D (BERD) performed by SMEs as % of GDP	:	0.17	:	:	0.18*	:	:	0.47	0.30
Researchers employed by business per thousand active population	4.7*	5.7	6.7	7.1	7.4*	7.6	:	5.9	:
Innovation outputs									
Patent applications filed under the Patent Cooperation Treaty per billion GDP (in PPS €)	7.16	5.86	5.13	4.30	:	:	:	2.81	2.20
Employment share of high-growth enterprises measured in employment (%)	:	:	:	:	0.65	0.83	:	0.87	:
Digitalisation of businesses									
SMEs with at least a basic level of digital intensity % SMEs (EU Digital Decade target by 2030: 90%)	:	:	:	:	61.38	:	73.55	71.39	:
Data analytics adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	:	37.08	:	37.67	39.85	:
Cloud adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	:	38.50	:	46.03	46.69	:
Artificial intelligence adoption % enterprises (EU Digital Decade target by 2030: 75%)	:	:	:	:	11.55	19.75	25.97	19.95	:
Academia-business collaboration									
Public-private scientific co-publications as % of total number of publications	9.96	10.45	11.2	11.81	11.91	11.72	:	7.62	:
Public expenditure on R&D financed by business enterprises (national) as % of GDP	0.11	0.12	0.11	:	0.1*	:	:	0.06	0.02
Public support for business innovation									
Total public-sector support for BERD as % of GDP	:	0.08	:	:	0.13*	:	:	0.21	:
R&D tax incentives: foregone revenues as % of GDP	:	0.00	0.00	0.00	0.01	:	:	0.10	0.16
BERD financed by the public sector (national and abroad) as % of GDP	:	0.08	:	:	0.12*	:	:	0.11	:
Financing innovation									
Venture capital (market statistics) as % of GDP (calculated as a 3-year moving average)	0.03	0.03	0.05	0.08	0.08	0.07	:	0.06	:
Seed stage funding share (% of GDP)	0.00	0.00	0.00	0.01	0.01	0.00	:	0.01	:
Start-up stage funding share (% of GDP)	0.01	0.01	0.03	0.04	0.04	0.03	:	0.03	:
Later-stage funding share (as % of GDP)	0.02	0.01	0.02	0.04	0.04	0.03	:	0.03	:
Innovative talent									
New graduates in science & engineering per thousand population aged 25-34	:	17.13	17.6	18.56	18.34*	18.27	:	16.82	:
Graduates in the field of computing per thousand population aged 25-34	:	2.42	2.77	3.34	3.42*	3.86	:	3.84	:

EU average for the last available year or the year with the highest number of country data. * Break in series

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

Germany's business environment has many strengths, but faces structural challenges that impact its long-term competitiveness.

The 2025 country-specific recommendations (CSRs) called for measures to *facilitate the diversification of the economy, boost private investment, entrepreneurship and innovation, simplify regulation and reduce administrative burden, speed up the digitalisation of the public administration and accelerate the roll-out of very high-capacity communication networks*. The German recovery and resilience plan (RRP) has led to improvements like enhanced digital public services and streamlined approval processes. However, business investment continued to fall in 2025. While Europe is an important stabiliser for German exports, businesses still face obstacles within the Single Market, including complex business establishment procedures, restrictive or diverging national regulations and a lack of digital administrative procedures. The federal government has taken steps to boost investment, reduce red tape and modernise public administration, which contribute to addressing the related CSRs.

Business dynamics

Germany has an open and diversified economy, but it is particularly vulnerable due to its strong export orientation.

Manufacturing contributed 19.4% to total value added in 2025, which is considerably above the EU average of 15.9% ⁽¹³⁴⁾. Motor vehicles remain Germany's most important export goods (16.3% of total exports or EUR 254.0 billion in 2025), followed by machinery (13.7% or EUR 214.6 billion), data processing equipment, electronic and optical products (8.7% or EUR 136.2 billion) and chemical products (8.6% or EUR 135.0 billion) ⁽¹³⁵⁾. Much of Germany's economic strength is based on its 'Mittelstand', a network of highly specialised small to medium-sized enterprises (SMEs) and midcap businesses, often grouped in industry clusters ⁽¹³⁶⁾.

⁽¹³⁴⁾Federal Statistical Office, 2026, Gross value added, www.destatis.de/.

⁽¹³⁵⁾Federal Statistical Office, 2026, Foreign trade, www.destatis.de/.

⁽¹³⁶⁾Clusterplattform Deutschland, 2026, Cluster Policy, www.clusterplattform.de/. The German cluster platform currently includes 480 cluster organisations, also supported by the 'go-cluster' and 'clusters4future' programmes.

However, SMEs are even more affected than larger companies by structural challenges such as high energy and labour costs, administrative burden and economic and geopolitical uncertainties ⁽¹³⁷⁾. Furthermore, business succession is a major challenge, as an increasing number of business owners cannot find a suitable successor ⁽¹³⁸⁾.

The challenging economic situation has led to further reductions in business investment.

Investment in machinery and equipment fell by about 5.2% in 2025, following a decline by 6% in 2024. German firms also invest less in new products or services than the EU average (14% vs 20% EU average) but more in replacing existing equipment (55% vs 43%) ⁽¹³⁹⁾. While the ifo Business Climate Index showed a modest recovery in 2025, it has fallen again to a four-year low in April 2026 due to the Middle East conflict ⁽¹⁴⁰⁾. However, the high foreign direct investment ⁽¹⁴¹⁾ underlines Germany's central role in the EU economy and still attractive business location.

The federal government is taking steps to boost investment and entrepreneurship.

An Investment Programme Act adopted in July 2025 introduced additional tax incentives and a gradual reduction in corporate income tax by 1 percentage point per year from 2028 to 2032 ⁽¹⁴²⁾ (see Annex 3 and Annex 4). In December 2025, a 'Germany Fund' was launched, managed by the national investment and development bank KfW. The government provides about EUR 30 billion in public funds and guarantees, which is intended to generate around EUR 130 billion in additional investment ⁽¹⁴³⁾. The Location Promotion Act, adopted in December 2025, aims to boost investment by improving financing conditions for infrastructure and renewable energy projects as well as SMEs and start-ups ⁽¹⁴⁴⁾. These measures contribute to addressing the 2025 CSR to *boost*

⁽¹³⁷⁾German Chamber of Industry and Commerce, 2025, *Mittelstand droht dauerhaft abzurutschen*, www.dihk.de/.

⁽¹³⁸⁾German Chamber of Industry and Commerce, 2025, [Report Unternehmensnachfolge 2025](#).

⁽¹³⁹⁾European Investment Bank, 2025, [EIB investment survey](#).

⁽¹⁴⁰⁾ifo Institute, 2026, [ifo Business Climate Index for Germany](#).

⁽¹⁴¹⁾Eurostat, 2026, [Data on FDI stock](#).

⁽¹⁴²⁾Federal Government, 2025, [Investitions-Sofortprogramm](#).

⁽¹⁴³⁾Federal Government, 2025, [Deutschlandfonds](#).

⁽¹⁴⁴⁾Federal Government, 2025, [Standortfördergesetz](#).



private investment by supporting entrepreneurship and improving access to finance for start-ups and scale-ups (see also Annex 4 and Annex 6).

Lack of skilled staff, high energy costs and uncertainty about the future are highlighted by firms as main investment obstacles.

According to the EIB Investment Survey, the main long-term obstacles to investment reported by German firms in 2025 were the availability of skilled staff (91%, 2024: 90%), high energy costs (87%, 2024: 83%) and uncertainty about the future (87%, 2024: 80%)⁽¹⁴⁵⁾. The availability of skilled staff remains a major concern, though pressure has eased since 2023 (see Annex 11). The recent surge in energy prices following the Middle East conflict has added further pressure on many businesses (see Annex 9).

Despite the challenging economic environment, the number of start-ups has increased in the past year.

In 2025, a record high of 3 568 newly founded start-ups was reached, representing an increase of 29% compared with 2024. This positive trend was evident in almost all federal states, but was particularly strong in Bavaria, North Rhine-Westphalia and Saxony. The software sector thereby showed the largest absolute increase, driven in particular by AI-based business models.⁽¹⁴⁶⁾ However, looking at the longer-term development and structure, despite the recent increase, start-up activity has tended to be on a sideways trend since 2018 and the general propensity to start a business in Germany remains relatively low⁽¹⁴⁷⁾ (see Annex 4).

Insolvencies have increased significantly while payment performance by public authorities has worsened.

While German SMEs overall still have good access to finance, companies report a tightening of credit conditions and more restrictive bank lending⁽¹⁴⁸⁾ (see Annex 6). Overall, the share of SMEs experiencing late payments is below the EU average (33.7% vs 48.7%)⁽¹⁴⁹⁾. However, while in previous years Germany was among the earliest payers in the EU,

in 2024 it ranked fifth among EU Member States with the longest payment times in government-to-business transactions and the average payment time was the second highest observed for German public authorities over the 2019–2024 period⁽¹⁵⁰⁾. In 2025 the payment gap also exceeded the EU average (see Table A5.1) At the same time, insolvencies increased significantly, reaching the highest level in 20 years in early 2026, due to the challenging economic environment⁽¹⁵¹⁾, but late payments also weigh on liquidity-constrained SMEs.

Business environment

German businesses call for a substantial reduction in administrative burden.

According to the EIB Investment Survey, the burden of business regulation was reported as being an obstacle by 83% of businesses in 2025, which was considerably higher than the EU average of 69%⁽¹⁵²⁾. The national regulatory control council reported a noticeable increase in compliance costs over the last years⁽¹⁵³⁾. Efforts over the last years aiming to reduce red tape provided only marginal relief (see Annex 7).

There are ambitious objectives to reduce red tape and modernise federal and regional public administration.

In line with the CSR to *simplify regulation and reduce administrative burden*, several ongoing measures aim to improve the business environment. Under Germany's RRP⁽¹⁵⁴⁾, Germany is modernising registers and is implementing the Online Access Act. In December 2025, federal and regional authorities launched a state modernisation agenda, focused on driving digitalisation and reducing bureaucracy⁽¹⁵⁵⁾ (see Annex 7). In November 2025, the government

⁽¹⁴⁵⁾European Investment Bank, 2025, [EIB investment survey](#).

⁽¹⁴⁶⁾Start-up Verband, 2026, <https://startupverband.de/>.

⁽¹⁴⁷⁾KfW 2025, Gründungsmonitor, [KfW-Gründungsmonitor](#).

⁽¹⁴⁸⁾KfW, 2026, KfW-ifo-Kredithürde, [kfw.de](#).

⁽¹⁴⁹⁾ECB, 2026, [Survey on the access to finance of enterprises](#).

⁽¹⁵⁰⁾European Commission, 2025, EU Payment Observatory, [Annual Report 2025](#).

⁽¹⁵¹⁾Leibniz-Institut für Wirtschaftsforschung Halle (IWH), 2026, Insolvenztrend, [iwh-halle.de](#).

⁽¹⁵²⁾European Investment Bank, 2025, [EIB investment survey](#).

⁽¹⁵³⁾National Regulatory Control Council, 2025, Annual Report, [normenkontrollrat.bund.de](#).

⁽¹⁵⁴⁾European Commission, 2026, [Germany's recovery and resilience plan](#).

⁽¹⁵⁵⁾Federal Government, 2025, [Föderale Modernisierungsaagenda](#).

adopted a comprehensive package to further reduce bureaucracy ⁽¹⁵⁶⁾. Eight adopted measures aim to, amongst other things, simplify trade and tax regulations, abolish various reporting obligations and digitise the execution of property contracts. An additional 50 planned measures include an infrastructure reform law to streamline and digitise planning and approval processes, and a further reduction in sustainability reporting requirements. Germany's medium-term fiscal-structural plan includes commitments to further cut red tape for businesses, individuals and administration.

The federal government aims to accelerate business establishment procedures ⁽¹⁵⁷⁾.

Setting up a company takes about three to six weeks, depending on the legal form and type of business. The government aims to reduce this time by implementing a one-stop shop for registration, allowing companies to register within 24 hours through a new web portal as of 2028. This will simplify digital registration by using the federal ID number for identification and automatically forwarding the data to various authorities such as the commercial register, the tax office and social security ⁽¹⁵⁸⁾. Some regions already facilitate faster and fully digital business registration, e.g. Schleswig-Holstein ⁽¹⁵⁹⁾ (see Annex 7).

Although the trends and initiatives for connectivity infrastructure are promising, there is still room for improvement.

Fibre-to-the-premises (FTTP) coverage increased from 29.8% in 2023 to 36.8% in 2024, but was still significantly below the EU average of 69.2% ⁽¹⁶⁰⁾. Coverage is higher in the north than in other parts. The coverage of very high-capacity networks in rural areas increased from 37.6% in 2023 to 45.2% in 2024 but remained below the EU average of 61.9%. Overall 5G coverage increased to 99% (above the EU average of 94.4%), close to saturation levels (see also Annex 18). A

government study identifying areas without mobile broadband provides a detailed data basis for targeted action to improve rural coverage ⁽¹⁶¹⁾. Amendments to the German communication law are expected to accelerate the network roll-out and could contribute to addressing the 2025 CSR *to accelerate the roll-out of very high-capacity digital communication networks*.

Public investment in infrastructure is set to perform strongly.

Germany has a well-developed transport infrastructure, which is, however, in need of maintenance and upgrading. The federal government decided to invest about EUR 115 billion in 2025 and EUR 120 billion in 2026 ⁽¹⁶²⁾. These measures help to address the 2025 CSR *to strengthen public investment*. While Germany made progress on digitalising its railway infrastructure by installing the European Rail Traffic Management System (ERTMS), it is still among the EU Member States with the lowest rate of ERTMS implementation (Annex 19).

Single Market

Recent economic volatility and trade tensions underlined the importance of the Single Market for growth and resilience.

German businesses have a strong export orientation, illustrated by an exports-to-GDP ratio of about 41% and two thirds of German firms being engaged in international trade ⁽¹⁶³⁾. Germany's industry has been particularly affected by recent trade tensions, a decline in global demand and increased competition for some of its key export products. In 2025, exports to China and the US – Germany's most important trading partners – declined by about 12% and 8% respectively ⁽¹⁶⁴⁾. Increased exports to the EU of just under 3% almost completely offset these

⁽¹⁵⁶⁾Federal Government, 2025, [Bundesregierung beschließt umfassendes Entlastungspaket](#).

⁽¹⁵⁷⁾Part of the barriers highlighted in the [Single market strategy](#) ('Terrible Ten') and the [2026 Annual Single Market and Competitiveness Report](#).

⁽¹⁵⁸⁾Federal Government, 2025, [Modernisierungsagenda](#).

⁽¹⁵⁹⁾Start-up Hafen Schleswig-Holstein, 2026, [Unternehmen online gründen mit startuphafen.sh](#).

⁽¹⁶⁰⁾European Commission, 2025, [Germany 2025 Digital Decade Country Report](#).

⁽¹⁶¹⁾Federal Ministry for Digital Transformation and Government Modernisation, 2025, [Analyse von weißen Flecken](#).

⁽¹⁶²⁾Federal Ministry of Finance, 2025, [Special Fund for Infrastructure and Climate Neutrality](#).

⁽¹⁶³⁾European Investment Bank, 2025, [EIB investment survey](#).

⁽¹⁶⁴⁾Federal Statistical Office, 2025, [Foreign trade](#).

declines ⁽¹⁶⁵⁾, underlining the importance of the Single Market.

Regulatory and administrative barriers to the Single Market persist, affecting goods and services trade as well as the freedom of business establishment.

Business associations ⁽¹⁶⁶⁾ and economic experts ⁽¹⁶⁷⁾ call for trade barriers to be reduced and cross-border business activities, financing and start-ups to be made easier. Regarding goods, businesses report that divergent requirements for waste shipment across Member States and within Germany as well as specific requirements for printed food contact materials increase compliance costs for cross-border operations, creating frictions to the seamless functioning of the Single Market. Complex processes for mandatory registration for recycling programmes were also reported to add to the administrative burden for cross-border providers. Regarding services, businesses report that burdensome procedures for the posting of workers, such as those provided under the Minimum Wage Act, create additional obstacles for cross-border operators ⁽¹⁶⁸⁾⁽¹⁶⁹⁾(see Annex 11). The recognition of professional qualifications can also be time-consuming, with procedures decentralised at state or in some cases chamber level and often entailing requirements to provide certified copies. The application process cannot always be completed online. Moreover, Germany faces also challenges in cross-border infrastructure, particularly with respect to rail transport and energy grids (see Annex 9 and Annex 19).

Restrictive or diverging regulation can pose a barrier for cross-border and domestic

business activities ⁽¹⁷⁰⁾. The overall regulatory framework provides favourable conditions for trade in services, but restrictions remain regarding the movement of people and the registration of businesses ⁽¹⁷¹⁾. Business establishment is complicated by – depending on the company form – non-digital procedures in some regions and notarisation requirements as well as different municipal zoning rules. Online business registration is not possible in all municipalities and requirements for registration and licensing might differ between local authorities. Moreover, Germany’s relatively good overall performance in the economy-wide Product Market Regulation indicator hides an uneven performance at the level of individual sectors and regulatory areas ⁽¹⁷²⁾. For example, regulatory restrictiveness remains relatively high for architects, civil engineers and tax advisers. So far, progress in addressing barriers in the field of business services has remained limited. In answer to a Commission survey, Germany reported it fully implemented 5 and partially implemented 1 out of 16 of the 2021 Commission recommendations ⁽¹⁷³⁾. The Commission is currently assessing Germany’s answer to measure actual progress in implementing the 2021 recommendations. In addition, Germany has diverging regional construction codes and variations also exist for technical rules, while the government is working on reforms to simplify and accelerate construction (see Annex 16). The fragmentation of data protection rules across the different federal states also creates additional complexity for businesses.

There is also room for improvement in the timely and compliant transposition of Single Market directives ⁽¹⁷⁴⁾.

This would contribute to reducing legal fragmentation and uncertainty for firms. Germany ranks 14th in the EU average (1.1%) but above the target set by the EU Council in transposing EU directives into national law. Regarding the conformity of the transposed directives, it ranks low (21st) and below the EU

⁽¹⁶⁵⁾Institut der deutschen Wirtschaft, 2025, [Entwicklung der deutschen Exporte im Jahr 2025 nach Ländern](#).

⁽¹⁶⁶⁾German Chamber of Industry and Commerce, 2026, [Binnenmarkt: Europas Herzstück verwirklichen](#); 2024, [DIHK-Umfrage zu Binnenmarkthindernissen](#).

⁽¹⁶⁷⁾German Council of Economic Experts, 2025, Annual Report 2025/26, [www.sachverstaendigenrat-wirtschaft.de](#).

⁽¹⁶⁸⁾European Round Table for Industry (ERT), Single Market Compendium of Obstacles, 21 May 2025, [Single Market Compendium of Obstacles](#).

⁽¹⁶⁹⁾Institut für Mittelstandsforschung, 2023, [Influence of administrative burdens on the cross-border posting of employees by SMEs in border regions](#)

⁽¹⁷⁰⁾Part of the barriers highlighted in the [Single market strategy](#) ('Terrible Ten') and the [2026 Annual Single Market and Competitiveness Report](#).

⁽¹⁷¹⁾OECD, 2025, [Services Trade Restrictiveness Index \(STRI\)](#).

⁽¹⁷²⁾OECD, 2025, [Product market regulation](#).

⁽¹⁷³⁾COM(2021) 385 final [eur-lex.europa.eu/](#).

⁽¹⁷⁴⁾Part of the barriers highlighted in the [Single market strategy](#) ('Terrible Ten') and the [2026 Annual Single Market and Competitiveness Report](#).

average (1.5% vs 1.1%). The average duration of infringement proceedings also exceeds the EU average ⁽¹⁷⁵⁾. However, Germany resolved 90.2% of the SOLVIT cases it handled in 2025 as lead centre, which is better than the EU average of 84.6%.

Compliance of products circulating in the Single Market ⁽¹⁷⁶⁾ is key to ensuring a level-playing field for law-abiding companies and the safety of consumers. In Germany, the number of market surveillance investigations has increased compared with 2019. In 2025, national authorities reported in the EU system for market surveillance (ICSMS) a total of 136 investigations per one million inhabitants, which is equivalent to the EU median. The number of notifications remains limited in absolute terms, which may also be the result of insufficient IT national interoperability to the ICSMS system. The upcoming revision of the Market Surveillance Regulation will upgrade ICSMS to a fully interoperable EU digital platform.

As technological change accelerates, the effectiveness of the European Standardisation System depends on the ability of national standardisation bodies to mobilise experts. Germany should support the German Institute for Standardisation (DIN) and the Electrotechnical standardisation institute (DKE) to ensure continued involvement of a critical mass of stakeholders and experts in standardisation activities. Emerging fields such as AI and quantum technologies require not only broader participation but also continuous upskilling of experts to make them fit for the digital transition and remain responsive to innovation. For Germany, this investment is key to building a future-proof standardisation system and maintaining its influence within the ESS and at the international level, ensuring that businesses can fully benefit from the opportunities of the Single Market.

Digitalisation of public services remains a challenge, including for Single Market procedures, despite positive developments. 40% of businesses are dissatisfied with public

⁽¹⁷⁵⁾European Commission, 2025, Single Market and Competitiveness Scoreboard, [Country data: Germany](#).

⁽¹⁷⁶⁾Part of the barriers highlighted in the [Single market strategy \('Terrible Ten'\)](#) and the [2026 Annual Single Market and Competitiveness Report](#).

administration services, which is considerably higher than the EU average of 24%, and 44% of businesses indicate that this leads to additional costs for them (see Annex 7) ⁽¹⁷⁷⁾. Germany is still lagging behind in the digitalisation of public services in the context of the Digital Decade targets ⁽¹⁷⁸⁾, including in administrative procedures relevant for the Single Market for cross-border users ⁽¹⁷⁹⁾. Despite some recent progress, the use of e-IDs remains limited (see Annex 7). Similarly, progress concerning length and digitalisation of building permits is limited (see Annex 16).

Germany has a decentralised procurement system. Most procurement is done at local and regional levels. Indicators suggest a good performance overall. For example, the percentage of contracts awarded based on a single bid was 18% in 2025 (improving from 20% in 2024 and below the EU median), signalling more competition. The rate of direct awards without an open or competitive procedure was 7% in 2025, in line with the EU median (see Table A5.1). This is also corroborated by the OECD indicator on public procurement ⁽¹⁸⁰⁾.

Germany has taken steps to modernise and simplify its public procurement system. Germany's medium-term fiscal-structural plan contains a commitment to reform its public procurement system by mid-2026. In line with this commitment, the federal government has launched a reform to simplify, digitalise and accelerate public procurement procedures, which was adopted by the Bundestag in April 2026 and enters into force on July 1st 2026 ⁽¹⁸¹⁾. The reform package aims at awards above the EU thresholds and should reduce red tape costs by around EUR 300 million annually. A further reform of the procurement regulation below the EU thresholds is also planned for 2026. Moreover, a national notification service for public contract awards

⁽¹⁷⁷⁾European Commission, 2025, [Eurobarometer – Public opinion in the European Union](#), Eurobarometer 568.

⁽¹⁷⁸⁾European Commission, 2025, [State of the Digital Decade 2025 report](#).

⁽¹⁷⁹⁾Part of the barriers highlighted in the [Single market strategy](#) ('Terrible Ten') and the [2026 Annual Single Market and Competitiveness Report](#).

⁽¹⁸⁰⁾OECD, 2024, [Product Market Regulation indicators](#).

⁽¹⁸¹⁾Federal Ministry of Economic Affairs and Energy, 2026, [Bundesrat stimmt Vereinfachung und Beschleunigung der öffentlichen Beschaffung zu](#).

centralises data on tenders from different platforms and contributes to making Germany's procurement processes more transparent by publishing data on awarded contracts using a standard format ⁽¹⁸²⁾.

Businesses' views on corruption risks in public procurement are below the EU average. In Germany, 51% of companies (EU average: 58%) consider tailor-made specifications for particular companies in public procurement procedures and 51% (EU average: 51%) collusive bidding to be a 'very' or 'fairly widespread' practice. Among companies that have experience of and have participated in a public procurement procedure, 18% think that corruption has prevented them from winning a public tender or a public procurement contract in practice (EU average: 25%). 53% of businesses perceive the level of independence of the Federal Cartel Office to be 'very' or 'fairly good' when it is reviewing public procurement cases (EU average: 59%) ⁽¹⁸³⁾.

A fragmented e-procurement landscape and data quality issues highlight the need for interoperable systems, common standards and stronger data governance. Given Germany's decentralised e-procurement service, with at least 21 or more different separate procurement services in operation, economic operators must use several systems to access all public procurement procedures, creating complexity and barriers to participation. This underlines the need for introducing interoperability and common standards. The once-only principle is only partially implemented at national level, and buyers across the EU still lack digital access to relevant evidence. Moreover, Germany lacks a dedicated entity responsible for monitoring and assessing the uptake of public procurement. The German system would benefit from a dedicated public procurement data collection and analysis

service to support data-driven oversight of the procurement lifecycle ⁽¹⁸⁴⁾ (see Annex 7).

Industry and economic security

Energy-intensive industries have been facing particular challenges. High energy costs and global competition put pressure on energy-intensive industries, which account for about 16% of Germany's total manufacturing gross value added. Production of chemicals, paper, glass and ceramics for example has declined by over 20% since 2021 (see Graph A5.1) ⁽¹⁸⁵⁾. To provide additional relief, the government agreed to introduce an 'industrial electricity price' for the years 2026-2028 with a target price of 5 cents/kWh ⁽¹⁸⁶⁾, to be financed in particular through the 'Special Climate and Transformation Fund'. 'Carbon contracts for difference' support climate-friendly production processes, for example in steel, cement, paper or glass industries ⁽¹⁸⁷⁾ (see Annex 8 and Annex 9).

⁽¹⁸²⁾Procurement Office of the Federal Ministry of the Interior, 2026, [e-Vergabe](#). "Marktplatz Deutschland" is the Federal Government's central project to advance the modernisation of government procurement, which is to be launched in 2027.

⁽¹⁸³⁾European Commission, 2025, [Justice Scoreboard, Flash Eurobarometer survey 555 on the Perceived independence of the national justice systems among companies in the EU](#).

⁽¹⁸⁴⁾European Court of Auditors, *Public Procurement in the EU. Less competition for contracts awarded for works, goods and services in the 10 years up to 2021*, 2023, <https://www.eca.europa.eu/>.

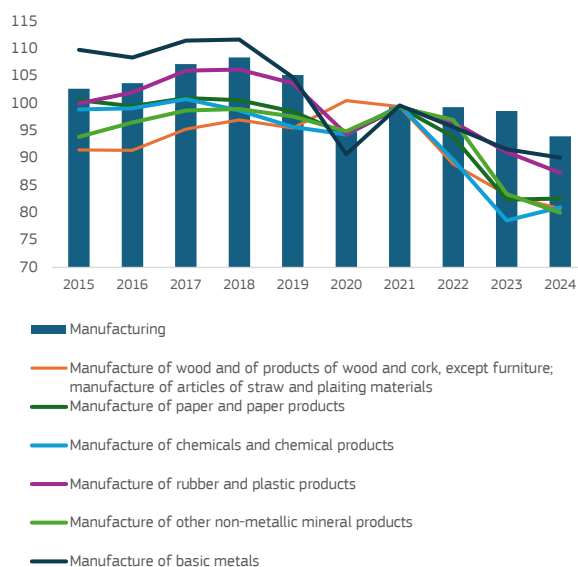
⁽¹⁸⁵⁾Federal Statistical Office, 2025, www.destatis.de/.

Production index as of December 2025: Glass and ceramics 78.2%, Chemicals 74.0%, Paper 80.3%, Metal 90.5%, Mineral products 91.4% (2021 = 100).

⁽¹⁸⁶⁾Federal Ministry for Economic Affairs and Energy, 2025, <https://www.bundeswirtschaftsministerium.de/>.

⁽¹⁸⁷⁾Federal Ministry for Economic Affairs and Energy, 2025, [Carbon Contracts for Difference - Klimaschutzverträge](#)

Graph A5.1: **Manufacturing industry production: total and selected sector, index (2021=100), 2015-2024**



Source: Eurostat

Germany’s largest industrial sector, the automotive industry, is facing increased competition.

Output of the German car industry showed a slow recovery in 2025, with overall passenger car production increasing slightly to around 4.2 million units, but is still about 12% below pre-crisis 2019 levels. The industry faces strong competitive pressure from China, high costs associated with the transition to electric vehicles and declining profits and sales in key markets. This has led to significant job losses over the last years. The RRP supported the replacement of the private vehicle fleet by electric vehicles. In 2025, 2.86 million new passenger cars were registered, with battery electric vehicles reaching a market share of about 19.1% (up from 13.5% in 2024) ⁽¹⁸⁸⁾. With the support of the RRP, public electric vehicle charging points have further increased.

Germany supports the transition towards a net-zero economy and has made sound progress in implementing the Net-Zero Industry Act.

It has successfully designated a system of single points of contact at regional level, which is crucial for streamlining communication and coordination among stakeholders. Furthermore, the regions have established contact points to administer net-zero

strategic projects ⁽¹⁸⁹⁾. Germany has four confirmed net-zero strategic projects, in Schleswig-Holstein, Bavaria and North Rhine-Westphalia ⁽¹⁹⁰⁾. With regard to net-zero acceleration valleys, the country’s interest in promoting net-zero activities is evident, with the net-zero valleys Lausitz and Northwest Germany having been formally designated and other such initiatives in progress, which can help attract further strategic projects and investments. In February 2026, Germany launched a EUR 3 billion state aid scheme to support strategic investments that add cleantech manufacturing capacity in line with the objectives of the Clean Industrial Deal ⁽¹⁹¹⁾.

Manufacturing depends heavily on imports of raw materials.

With 39.5% of material inputs stemming from imports (EU average: 22.4%), Germany is particularly vulnerable to supply chain disruptions (see Table A5.1). Moreover, Germany’s industry strongly relies on critical raw materials for the green and digital transitions, which are essential for the production of high-tech products, including electric vehicles, wind turbines and electronics. The government encourages the diversification of strategic value chains. A raw materials fund was launched in 2024 to support projects in the areas of extraction, processing and recycling ⁽¹⁹²⁾ and a first project received funding in 2025 ⁽¹⁹³⁾, which aims to extract and process lithium in Germany for up to 500 000 electric cars per year. Recycling may also still offer potential to further reduce the need for imported raw materials (see Annex 8).

⁽¹⁸⁹⁾Federal Ministry for Economic Affairs and Energy, 2026, [Der europäische Net Zero Industry Act \(NZIA\)](#).

⁽¹⁹⁰⁾Federal Ministry for Economic Affairs and Energy, 2025, [A big boost for climate-neutral key-enabling technologies](#).

⁽¹⁹¹⁾European Commission, 2026, [Commission approves €3 billion German State aid scheme](#).

⁽¹⁹²⁾Federal Ministry for Economic Affairs and Energy, 2024, [Rohstofffonds der Bundesregierung startet | BMWF](#).

⁽¹⁹³⁾Bundesregierung, 2025, [Startschuss für erstes Projekt des Rohstofffonds](#).

⁽¹⁸⁸⁾Kraftfahrt-Bundesamt, 2026, [Neuzulassungen von Personenkraftwagen \(Pkw\) im Jahresverlauf 2025](#).

Table A5.1: Single Market and Industry

Austria								
POLICY AREA	INDICATOR NAME	2021	2022	2023	2024	2025	EU-27 average	
Business environment and investment								
Productivity and investment	Labour productivity (GDP per hour worked in PPP terms), % of EU27 ¹	116.0	119.7	118.5	117.6	115.9	100.0	
	Business investment (share of GDP) ¹	15.8	15.4	15.3	14.1	-	12.6	
	Public investment (share of GDP) ¹	3.6	3.4	3.7	3.9	-	3.9	
Business environment and simplification	Impact of regulation on long-term investment, % of firms reporting business regulation as a major obstacle ²	35.4	26.1	30.2	46.8	41.0	34.0	
SME liquidity	EIF Access to Finance for SMEs index - loans ³	0.73	0.70	0.52	0.37	-	0.43	
	EIF Access to Finance for SMEs index - equity ³	0.19	0.12	0.14	0.10	-	0.19	
Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment ⁴	11.7	13.6	16.6	13.7	15.3	17.4	
	Payment gap - public sector, difference in days between offered and actual payment ⁴	11.8	13.7	15.4	18.1	14.8	13.6	
	Share of SMEs experiencing late payments, % ⁵	from private entities in the previous or current quarter	-	-	-	42.6	44.6	47.1
		from public entities in the previous or current quarter	-	-	-	16.9	12.1	15.9
Single Market								
Integration	EU trade integration, average(intra-EU imports + intra EU exports)/GDP, % ¹	38.3	42.1	39.3	37.6	37.1	40.7	
	EEA Services Trade Restrictiveness index ⁶	0.063	0.062	0.062	0.062	0.062	0.050	
Public procurement	Single bids, % of total contractors ^{7*}	26	28	28	36	27	27	
	Direct awards, % of negotiated procedures ^{7*}	10	8	7	12	12	6	
Compliance	Transposition deficit, % of all directives not transposed ⁸	1.9	1	1	1.2	1.5	1	
	Conformity deficit, % of all directives transposed incorrectly ⁸	1.5	1.2	1.4	1.5	1.7	1.1	
	SOLVIT, resolution rate per country, % ⁸	74.44	71.9	70	79.8	73.3	84.6	
	Number of pending infringement proceedings ⁸	29	27	24	26	26	25	
Industry and economic security								
Energy-intensive industries	Electricity prices for non-household consumers ¹	0.0875	0.1513	0.1971	0.1539	0.1405	0.1462	
	Electrification (electricity as a share of total energy consumption in industry) ¹	30.8	29.3	29.2	-	-	32.7	
	Share of energy from renewable sources (renewable energy generation as a share of overall energy consumption) ¹	34.6	34.1	41.6	43.0	-	25.2	
Critical raw materials	Material import dependency, % ¹	43.0	41.9	41.6	40.9	-	22.4	
	Circular material use rate ¹	11.2	12.2	14.2	15.2	-	12.2	
Operational cleantech manufacturing capacity in 2025 ⁹	- Solar PV (c: cell, w: wafer, M: module), GW	0.01 (c), 0.475 (m)		- Electrolyzer, GW		-		
	- Heat pump assembly	0.06		- Battery, GW		-		

Source: (1) Eurostat, (2) EIB Investment Survey, (3) EIF SME Access to Finance Index, (4) Intrum Payment Report, (5) SAFE survey, (6) OECD, (7) data up to 2024: Single Market and Competitiveness Scoreboard, 2025: Commission calculation based on TED data, accessible at the Public Procurement Data Space (PPDS) (*) the value represented here under EU average is the median, (8) Single Market and Competitiveness Scoreboard, (9) European Commission calculations.

Table A6.1: Savings and Investment Union summary diagnostics

Germany		
Topic	Main features	Relative EU positioning
Assets-backed pension schemes	Assets at 17.2% of GDP (32.3% in the EU) 10-year real return of 0.6 (1.4% in the EU)	Medium level pension assets yielding a low real return.
Households' financial assets	EUR 113,035 per capita (EUR 85,098 in the EU) o/w 9.0% in listed shares and bonds (7.6% in the EU) o/w 13.6% in investment funds (11.0% in the EU) o/w 13.4% in life insurance (13.4% in the EU) o/w 13.5% in pension claims (13.6% in the EU)	A relatively well-diversified portfolio, though overinvested in bank deposits.
Venture capital (VC) Private equity (PE)	VC at 0.069% of GDP (0.064% in the EU) PE at 0.343% of GDP (0.487% in the EU)	Modest venture capital and private equity investments.
Capital taxation	26.375 % tax on capital gains and €1,000 tax-free per person per year via a Freistellungsauftrag,	No preferential tax treatment for equity investments, average rates of capital taxation. No savings and investment account.
1-3 4-10 11-17 18-24 25-27	Colours indicate the country's relative ranking based on five groups, ranging from the three best to the three worst performers. The relative ranking as regards an SIU diagnostic topic derives from a consistent cross-country comparison, the starting point of which is the average of the underlying main features.	

Source: ECB (pensions), Eurostat (households' financial wealth), FISMA CMU dashboard (VC and PE), national sources (capital taxation).

Germany's economic and financial landscape is characterised by conservative and low-risk investment behaviour across firms, households and institutional investors. This has supported stability, but limited growth. Although German financial wealth and institutional assets are large in aggregate, risk-taking remains concentrated among a small subset of firms and households. Ongoing reforms aim to rebalance the financial system towards greater use of capital-based financing and funded pensions, in line with the CSR 2025 on improving access to finance for start-ups and scale-ups, but progress remains modest so far. In particular, in 2025, Germany stepped up implementation of the CSR on improving access to finance for start-ups and scale-ups by expanding and operationalising key public-private investment vehicles to mobilise additional venture and growth capital for innovative firms, in particular: (i) the Wachstumsfonds Deutschland (including Wachstumsfonds II); (ii) Deutschlandfonds; and (iii) the Zukunftsfonds.

Business landscape and company funding

The German *Mittelstand* is the structural backbone of the national economy. Germany's business landscape is characterised by a large base of small and medium-sized enterprises (SMEs), the so-called *Mittelstand*, which make up 99.6% of all companies and employ 58.4% of the

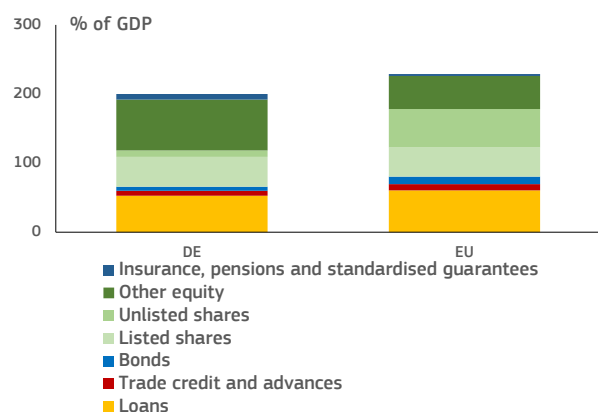
workforce (194). Despite their large number, a sharp divide exists in their economic output: while SMEs generate 49.4% of total value added, a small group of large enterprises (0.4% of firms) account for 50.6% of the German economy's value added (see Annex 5 for more details). This business structure has concrete implications for the corporate sector's demand for funding, which are discussed in this annex.

German companies prioritise internal capital use over external financing. In aggregate, the total assets of German NFCs were equivalent to 212.7% of GDP in 2024, below the average EU level of 238.4%. The funding mix of German NFCs presents some marked differences compared with the EU average, largely reflecting the specific legal structure of the German corporate sector. In particular, 'other equity' accounts for 38% of total NFC funding in Germany, compared with only 21% in the EU on average. This 'other equity' category mainly covers equity held in quasi-corporations (such as GmbH&CoKG), which are highly prevalent within the German *Mittelstand*. It further highlights the strong reliance of German firms on retained earnings and non-market equity financing. At the same time, there are several large, globally active German corporations with shares listed on stock markets and a substantial share of revenues generated abroad. This is reflected in the fact that listed shares play a somewhat larger role in Germany, accounting for 22% of total NFC funding, compared with 19% on average in the EU. By contrast, loans account for a very similar share of NFC funding in Germany and the EU (around

(194)2025 SME Country fact sheet, Germany.

27% of total funding in both cases), underlining the continued importance of bank intermediation across Europe. Finally, market-based debt financing remains considerably less developed in Germany, with corporate bonds accounting for only 3% of total NFC funding, compared with nearly 5% in the EU on average. German corporations also have pension liabilities on their balance sheet equivalent to 8.1% of GDP in 2024.

Graph A6.1: **Composition of non-financial corporations' funding**



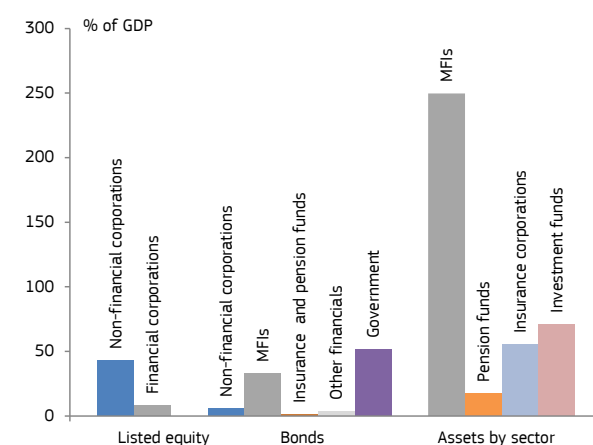
Source: Eurostat, FISMA E2 calculations, end-2024

Size and structure of the financial sector

Germany's financial sector is characterised by a large number of small banks with relatively high operational costs. In December 2025, German banks held assets worth EUR 10.8 trillion, equivalent to 238.7% of GDP, and slightly below the EU average of 245.3% (see Graph A.6.2) The German banking sector is strongly decentralised, reflecting the presence of many small and locally oriented cooperative banks and savings banks. The top five banks in Germany accounted for only 35% of total German banking assets in 2024. Banks are organised along three so-called pillars, namely savings banks, cooperative banks and commercial banks, each of which has a different ownership structure and legal mandates. Mergers of banks across pillars remain difficult and rare despite operational inefficiencies in the banking sector. These operational inefficiencies are also reflected in relatively high costs: the cost-to-income ratio of German banks stood at 58.3% in March 2025 compared with an EU average of 54%.

Investment funds, especially real estate funds, play an important role. Germany is the third largest domicile for investment funds in the EU, with EUR 4.5 trillion under management, roughly equivalent to Germany's GDP. In particular, Germany is the leading European domicile for real estate funds. German insurance corporations hold assets worth the equivalent of 55.5% of GDP. Pension funds of different types (*Pensionsfonds*, *Pensionskassen*, *berufsständische Versorgungswerke*) remain relatively modest, with total assets equivalent to 17.2% of GDP at end-2024 ⁽¹⁹⁵⁾.

Graph A6.2: **Capital markets and financial intermediaries**



(1) MFIs refers to monetary financial institutions

Source: ECB, AMECO, FISMA E2 calculations, end-2024

The size of the domestic capital market is relatively modest in comparison with European peers. The market capitalisation of listed equity issued by German corporations was equivalent to 56.4% of GDP in Q2-2025, significantly lower than in some of the most developed capital markets in the EU. German equity accounts for only 19% of all outstanding shares issued in the EU, which pales in comparison with Germany's 24% share of the EU economy. This is primarily because many of Germany's most successful companies are privately held and not listed stock exchanges. Moreover, significant

⁽¹⁹⁵⁾These figures do not include all assets underpinning future pension claims. In particular it omits direct claims, direct insurance and support funds, with a total value of about EUR 470 billion (11% of GDP), and which are three of the five different implementation alternatives of occupational pension provision in Germany. Nor does it include any third pillar schemes.

sectors in Germany, like automotive and chemicals, often trade at lower price-to-earnings ratios than high-growth tech or high-margin luxury sectors. The outstanding volume of debt securities issued by German issuers reached 95% of GDP at end-2024. The public sector accounts for the largest share (52% of GDP), followed by debt issued by the financial sector (38% of GDP) and NFCs (6% of GDP). The structure of German debt securities has been relatively stable in recent years, with only a modest increase in the share of corporate bonds.

Germany hosts seven stock exchanges, the largest of which is the Frankfurt Stock Exchange, owned by Deutsche Börse Group.

Although Frankfurt maintains a traditional trading floor, approximately 90% of share trading in Germany happens on Xetra, Deutsche Börse's electronic trading platform. Deutsche Börse is the second-largest stock exchange group in the EU with around EUR 2.3 trillion in listed market capitalisation⁽¹⁹⁶⁾, trailing Euronext's EUR 6.6 trillion, and has remained independent despite a trend for consolidation among European exchanges. Many foreign companies choose Deutsche Börse as a secondary listing venue for their shares. Including those secondary listings, the total number of all companies listed on German exchanges reached 12 711 at end-2025⁽¹⁹⁷⁾. Deutsche Börse also owns Eurex, a leading derivatives marketplace. Outside Frankfurt, six regional stock exchanges support smaller and local companies. The largest regional exchange is the Stuttgart Stock Exchange, known for its electronic trading platform Euwax and for having the largest trading volume in bonds, especially those issued by SMEs. Börse Stuttgart also owns the Nordic Growth Market, Sweden's second-largest exchange, BX Swiss in Bern, and the OTC platform Cats, making it the sixth-largest stock exchange group in Europe. Other regional German exchanges include those in Berlin and Munich, and the exchanges operated by BÖAG Börse AG in Düsseldorf, Hamburg, and Hannover.

⁽¹⁹⁶⁾FESE monthly statistics, March 2026.

⁽¹⁹⁷⁾CEIC.

The number of German-listed companies on German stock exchanges has steadily declined over recent years.

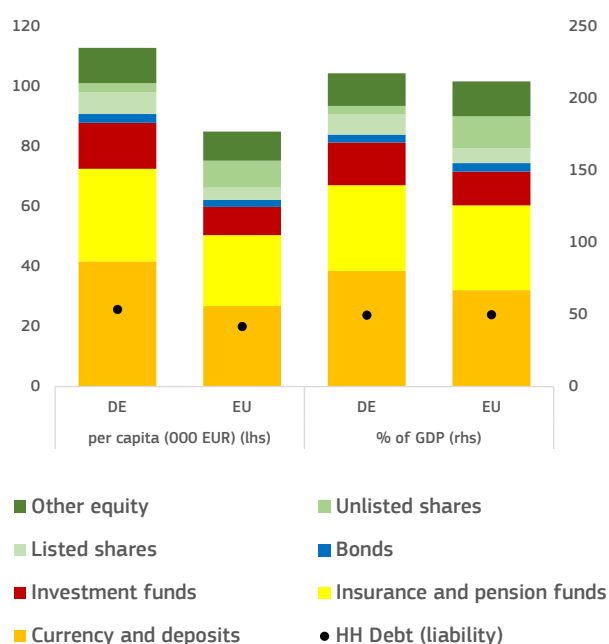
Despite a recent minor surge with four initial public offerings in 2024 and three in 2025, the number of domestic companies listed on German exchanges stood at 539 at end-2025, and thus well below the 662 listed companies recorded in 2015. Small and medium-sized German enterprises rarely use capital markets for financing. Moreover, some well-known German companies, have recently chosen to list abroad, for example in New York.

Households' participation in capital markets

German households hold substantial financial wealth and show a preference for low-risk instruments.

In 2024, German households held financial assets of around EUR 112 000 per capita on average, compared with around EUR 85 000 in the EU on average. In GDP terms, the financial assets of German households are equivalent to 267% of GDP, broadly comparable to the EU average of 262%. When comparing the relative composition of these portfolios with EU peers, German households differentiate themselves through a significantly higher concentration in currency and deposits, alongside a greater preference for investment funds and listed shares than the EU average. This is reflected in portfolios that are more oriented toward liquid and publicly traded assets than private equity compared with European peers. Germany currently lacks a dedicated savings and investment account with a favourable tax treatment. The rise of online broker accounts is expanding retail access to capital markets and creating new financing opportunities for companies, potentially boosting investment and economic growth. At the same time, the rise of online broker accounts introduces new risks in the digital relationship between these 'neo-brokers' and their customers. In 2025, the Consumer Arbitration Office of BaFin, Germany's Federal Financial Supervisory Authority, received 35% more complaints than the previous year, mostly related to securities transactions, largely involving neo-brokers. These complaints reflected challenges such as order execution, transfer delays, and issues with tax reporting.

Graph A6.3: **Composition of households' financial assets**



Source: Eurostat and FISMA E2 calculations., end-2024

Despite relatively strong international performance, financial literacy in Germany remains uneven and insufficiently coordinated. Germany is among the few Member States that does not have a comprehensive national strategy for financial literacy in place. The federal government formally launched work on their strategy in March 2023 however, progress on the strategy seems to have stalled. Despite not having a strategy Germany performs relatively well in international comparisons, including the OECD/INFE survey (2023), the lack of recent comprehensive data on the level and coverage of financial education makes it difficult to assess developments over time. At the same time, various recent indicators point to weaknesses in basic financial literacy among parts of the population. For instance, according to a private source⁽¹⁹⁸⁾, over-indebtedness increased again in 2025 for the first time since 2018, reaching around 5.67 million cases (8.16% of the population). And recent evidence from the Deutsche Bundesbank⁽¹⁹⁹⁾ further highlights disparities in financial outcomes: while wealthier households benefit from positive returns driven by capital market investments, less

⁽¹⁹⁸⁾<https://www.creditreform.de/aktuelles-wissen/schuldneratlas>.

⁽¹⁹⁹⁾<https://www.bundesbank.de/de/presse/presenotizen/geldvermoegensbildung-und-aussenfinanzierung-in-deutschland-im-dritten-quartal-2025-936614>.

wealthy households tend to hold low-yield deposits and insurance products, resulting in negative real returns. Moreover, financial education initiatives in Germany remain fragmented, with significant overlaps in target groups and content, limited coordination among providers, and no comprehensive national strategy⁽²⁰⁰⁾.

The banking sector: resilience and financing of the economy

German banks face a profitability challenge although they have solid capital and liquidity metrics and are thus not constrained in their role of funding the economy. German banks are well capitalised, with capital ratios close to the EU average (see Table A6.2), improving overall resilience in the banking system. Although German banks have been able to improve their profitability in recent years, largely thanks to higher interest rates and lending margins, they remain less profitable overall than banks in other European countries. This lower profitability reflects high costs, high staffing levels and explicit mandates in parts of the banking system that prioritise stakeholder welfare over shareholder value. Return on equity rose to 5.7% in 2023 and 7.1% in the first half of 2025, but it remained far below the EU average of 9.8%. MREL (minimum requirement for own funds and eligible liabilities) and the combined buffer requirement in addition to MREL, comfortably exceed all regulatory requirements. Both liquidity and asset quality metrics (see Table A6.2) are very strong, and all major domestic banks have navigated the EU-wide stress tests effectively. However, the banks' asset quality outlook is subject to increased uncertainty due to the current conflict in the Middle East and its impact on energy prices and economic growth.

Corporate credit growth has been volatile in the past few years. After stagnating for several years, credit demand for new corporate loans started to pick up again in 2024 and accelerated in 2025, with credit growing by 4.8% year-on-year in

⁽²⁰⁰⁾«Finanzbildungsangebote in Deutschland: Bestandsaufnahme, kritische Würdigung und Perspektiven für die nationale Strategieentwicklung Zeitschrift für ökonomische Bildung». Heft Nr. 13/2024, S. 238-335.

Q3 2025. Credit demand was widespread across both large and small firms in 2024. This credit recovery is expected to continue as policy rates have been steadily decreasing, and banks have been easing their lending standards. Sectors with particularly strong growth in demand for credit include construction, real estate, and manufacturing, all of which are sectors that benefit from robust public infrastructure spending. Lending to households grew relatively strongly in both 2024 and Q1 025, with year-on-year growth of 5.2% in Q3 2025, driven by mortgage credit. Overall, household credit is poised for more gradual growth in the coming years.

Role of non-bank financial intermediaries

Although Germany's insurance sector has substantial assets and some risk-bearing capacity, its overall impact on deepening the country's capital market remains modest.

Germany's insurance sector is one of Europe's largest, with total assets of insurers equivalent to 53.6% of GDP in Q2 2025. As investors, insurance companies typically stick to safe, fixed-income securities and liquid assets. Although the performance of these assets remains modest, insurers have maintained a stable solvency profile. Based on data from EIOPA's Insurance Statistics for Q2 2025, German insurers' asset exposure is clearly tilted towards market-based instruments and diversified investment vehicles. Collective investment undertakings represent the largest asset class, with exposures of around EUR 824 billion, underscoring the importance of fund-based intermediation in insurers' portfolios. Direct equity holdings are also significant at roughly EUR 480 billion, pointing to significant risk-bearing capacity. Fixed income remains a core component, with corporate bonds amounting to around EUR 351 billion and government bonds about EUR 305 billion, reflecting the continued role of bonds for income generation and capital preservation. In addition, insurers hold sizeable positions in mortgages and loans of around EUR 112 billion and maintain cash and deposits of approximately EUR 82 billion for liquidity management. Property exposures stand at around EUR 30 billion, while structured notes and collateralised securities together remain relatively small. Overall, the asset mix suggests a balance

between yield seeking through equities and funds, and prudence through bonds and loans, consistent with the long-term liability profile of German insurers.

The investment strategies of German institutions for occupational retirement provision (IORPs) continue to prioritise capital preservation over greater returns.

German IORPs managed total assets of EUR 254.8 billion in September 2024, broadly stable compared with pre-pandemic levels after a dip observed in 2022. Investments accounted for around EUR 239 billion, with collective investment undertakings representing by far the largest exposure at EUR 149 billion, or about 58% of total assets. Direct bond holdings amounted to EUR 79 billion, equivalent to roughly 31% of total assets, split between corporate bonds at EUR 52 billion and government bonds at EUR 25 billion. Direct equity exposure remained limited, with total equities at just EUR 4 billion, corresponding to around 1.4% of assets, of which listed equities accounted for less than EUR 0.1 billion. Direct real estate exposures stood at EUR 6 billion, or around 3% of assets, while alternative funds represented EUR 11 billion, or around 4%. Cash and cash equivalents remained marginal at below 1% of assets. Overall, the data point to a strongly risk-averse investment profile, with German IORPs relying predominantly on fixed-income instruments and fund-based structures and maintaining very limited direct exposure to equities and alternative assets. This partially explains the rather meagre investment return of pension providers with a 10-year real return average of just 0.6%.

Pension provision in Germany relies on a mix of public, occupational and private schemes with a moderate degree of capital backing.

The backbone of Germany's pension system is the public pension insurance scheme, which is a pay-as-you-go scheme. Participation in this scheme is obligatory for most employees in Germany. Certain professions are covered by their own pillar 1 schemes. There are 91 of these schemes in Germany with about 1.1 million members in total compared with a working population of about 47.4 m. These pillar 1 schemes are generally capital backed and held total assets of about EUR 280.2 billion in 2023 ⁽²⁰¹⁾. They are not

⁽²⁰¹⁾Deutscher Bundestag, Drucksache 21/723, June 2025.

supervised by BaFin, the Federal Financial Supervisory Authority, but by relevant authorities of the *Länder*. Cases of significant asset losses have raised questions about the professionalism of supervision and the management of the schemes. In addition to the pillar 1 schemes, half (51%) of employees liable to social insurance contributions benefit from a workplace pension arranged by their employer. These take various forms: direct claims, direct insurance, support funds, pension funds type 1 (*Pensionskassen*) and pension funds type 2 (*Pensionsfonds*). The assets of pension funds type 1 and pension funds type 2 (159 funds in total) were valued at EUR 321.6 billion in 2024, equivalent to 7.4% of GDP. However, the biggest share of occupational pension schemes is accounted for by so-called direct claims, that is direct pension liabilities owed by the relevant companies. These pension liabilities are insured in the event that the sponsoring company falls insolvent. Some of the companies with such schemes, especially large corporations, have removed them from their balance sheets via contractual trust arrangements which are managed separately and independently from the companies. As the population ages, these funded systems, which in the past 10 years offered an annual real return of 0.6% on average, may play an increasingly critical role in supplementing statutory provisions in the future. Further promoting supplementary pension pillars may be beneficial to the wider German economy via additional investment, provided it is designed to strengthen capital markets without further increasing the already high cash saving rate. The more widespread adoption of funded pension schemes across the population could reduce precautionary saving, as households would gain confidence that their retirement needs are secured through professionally managed, diversified capital investments rather than relying primarily on low-yield bank deposits. Moreover, a larger funded second pillar in Germany would create institutional demand for equities and long-term bond financing, providing stable capital for corporate investment. The recent Second Act Strengthening Company Pensions (*Betriebsrentenstärkungsgesetz II*), in force since 1 January 2026, is a key reform that allows more employees to benefit from an occupational pension, in particular by: (i) promoting collective defined contribution schemes; (ii) introducing automatic enrolment options; (iii) enhancing tax incentives and subsidies; and (iv) reducing employers' liability risks. Almost all occupational pension schemes in

Germany are set up as defined benefit (DB) schemes, entailing clearly determined liabilities decades in advance. Therefore, the investments of these DB pension schemes are relatively conservative with limited equity exposures. Furthermore, pension provision is complemented by a range of pillar 3 schemes that individuals can take out at their own discretion, mainly in the form of insurance contracts and fund investment plans. In March 2026, the Bundestag paved the way for a fundamental overhaul of Germany's third pillar pensions. The *Riester-Rente*, which has been the central vehicle in Germany's pillar 3 private pension system, will be reformed effective for new contracts by January 2027, and replaced by a new system called *Altersvorsorgedepot*. Under the new regime, individuals can choose from a broad range of investment products including funds. Crucially, the mandatory 100% capital guarantee is removed, allowing savers to benefit from higher long-term returns in the stock market, albeit with higher personal risk. Individual contributions will be topped up by the government. The new scheme has the potential to substantially increase participation in financial markets for broad swathes of the population.

Venture capital ecosystem

The German venture capital (VC) ecosystem suffers from a lack of domestic sources of financing, especially for scale-up financing.

As in other European countries, the German VC market is quite small, with annual start-up financing by VCs equivalent to roughly 0.07% of GDP⁽²⁰²⁾, close to the EU average of 0.06% (see Annex 4 for more details). Deal volume in 2025 amounted to EUR 7.2 billion, declining from EUR 7.5 billion in 2024. As in other European countries, companies in the growth or scale-up stages struggle to obtain sufficient financing⁽²⁰³⁾. Given a shortage of domestic sources, 57% of

⁽²⁰²⁾Average of the years 2022-2024, OECD.

⁽²⁰³⁾See Bundesfinanzministerium 2026: [Kukies, J. and Noyer, C., Financing innovative ventures in Europe. Recommendations to close the scaleup financing gap, deepen the Savings and Investments Union and strengthen Europe's competitiveness, 2026.](#)

funding in the scale-up stage originates from other countries ⁽²⁰⁴⁾.

A range of government programmes supports the VC system, but the exclusively private players are still small. Public support for the VC ecosystem in Germany is characterised by a small number of programmes that invest in VC funds on a pari-passu basis. These have been set up by the Federal Government under the leadership of KfW, the government-owned development bank, and the European Investment Fund. The programmes are designed to ‘crowd-in’ private investments. There are also some small boutique private funds-of-funds. In recent years, financing opportunities for start-ups in the early or seed stage have improved thanks to a number of public sector initiatives. Given a pronounced gap in financing for companies in the scale-up stage (i.e. companies that are more mature than those in the start-up or seed stages), recent government policy has shifted to give more attention to the scale-up phase.

Tax arrangements complicate the development of VC in Germany. VC/PE funds typically operate in a partnership structure and are thus tax-transparent, aiming to avoid taxation at fund level. However, the requirements for this regime are quite stringent in Germany. Therefore, since VC/PE funds actively support or intervene in the management of their investment companies, local tax authorities may classify their activity as “commercial” (Gewerbliche Infektion). This could render a fund’s entire income subject to Trade Tax, creating a tax burden that cannot be recovered by tax-exempt investors such as pension funds or charitable organisations. This risk persists even for funds incorporated abroad if the effective place of management is Germany. Since VC is a localised business, requiring domestic-focused knowledge, this directly hampers the competitiveness of the VC/PE ecosystem (see also Annex 4).

Germany has consolidated its start-up funding programmes into a multi-layered investment offensive, with the *Germany Fund (Deutschlandfonds)* serving as the central pillar. The *Germany Fund* supports investments across the energy and industrial sectors, as well as venture capital, allowing for total investments of

up to EUR 30 billion in public funds and guarantees to catalyse EUR 130 billion in total investment. The *Germany Fund* incorporates the *German Future Fund (GFF, Zukunftsfonds)* which provides financing for start-ups, especially for their capital-intensive growth phase. Within this framework, *KfW-Capital*, a specialised subsidiary of the government-owned development bank *KfW*, manages several programmes, often in cooperation with the European Investment Fund. Additional funding comes from the *European Recovery Programme (ERP) Special Fund*, which supports funds-of-funds programmes managed by *KfW Capital* and the *European Investment Fund* acting as an anchor investor. One such programme is the *ERP-VC Fund* which invests directly in VC funds targeting German start-ups. While technology-agnostic, the *ERP-VC Fund* prioritises information and communication technology, life sciences, and industrial technology, typically co-investing alongside private investors. Another key instrument is the *High-Tech Gründerfonds*, Germany’s most active seed-stage investor. Operating as a public-private partnership, it provides early financing (typically around EUR 1 million) for high-potential tech start-ups with a focus on industrial technology, life sciences, climate technology, and digital technology. The *Growth Fund Germany (Wachstumsfonds)*, part of the *GFF*, completed fundraising in 2023 at a volume of roughly EUR 1 billion, ranking it among Europe’s largest VC funds-of-funds. It aims to mobilise institutional capital (pension funds, insurers) and targets the growth stage of young companies (series B and beyond). Its goal is to reduce reliance on US or Asian investors for scaling German ‘unicorns’. Its successor *Growth Fund II (Wachstumsfonds II)*, began fundraising in 2026. To further bolster deep tech, the government recently introduced the *Scale-up Direct* and *FOAK* (First-of-a-Kind) modules as part of the *Deutschlandfonds*. These efforts are reinforced by the *WIN Initiative*, a 2024 pact with the private financial sector aiming to mobilise EUR 12 billion in additional growth capital by 2030. Finally, direct incentives like the *INVEST-Grant* remain crucial, providing business angels with a 20% tax-free acquisition grant and an exit grant to offset capital gains taxes.

⁽²⁰⁴⁾[FISMA 2025: Study of barriers to, and drivers of, the scaling-up of funds investing in innovative and growth companies.](#)

Table A6.2: **Financial Sector Indicators**

	2018	2019	2020	2021	2022	2023	2024	2025-Q3	EU	
Banking sector	Total assets of MFIs, % of GDP	226.4	235.0	259.2	249.1	263.1	244.5	249.6	241.4	246.1
	Common equity Tier 1 ratio	15.7	15.5	16.0	15.7	15.9	17.0	17.6	17.2	16.8
	Total capital adequacy ratio	18.4	18.1	18.8	18.5	18.8	19.8	20.5	20.2	20.2
	Overall NPL ratio, % of all loans	1.4	1.2	1.2	1.1	1.1	1.3	1.5	1.6	1.9
	NPL ratio, loans to NFCs	2.7	2.3	2.5	2.2	2.2	2.9	3.6	3.7	3.5
	NPL ratio, loans to HHs	1.7	1.3	1.4	1.3	1.2	1.3	1.5	1.6	2.1
	Return on equity ratio ¹	2.4	2.1	2.2	4.0	4.3	5.7	5.6	6.8	9.6
	Loans to NFCs, % of GDP	26.3	27.0	28.8	28.4	29.0	27.7	27.2	26.5	29.3
	Loans to HHs, % of GDP	48.9	49.6	53.2	52.4	50.6	48.2	47.4	46.6	43.6
	NFC credit growth rate, %	5.3	5.1	3.9	5.2	10.9	1.0	0.1	0.2	2.5
	HH credit growth rate, %	3.9	4.4	4.7	5.1	4.3	0.6	0.8	1.8	2.6
Non-banking sector	Stock market capitalisation, % of GDP	47.6	54.1	56.7	62.5	46.6	48.8	51.3	55.8	69.9
	Initial public offerings, % of GDP	0.20	0.02	0.14	0.58	0.00	0.06	0.10	-	0.06
	Market funding ratio	53.6	52.0	50.7	51.0	49.9	49.5	49.8	-	49.7
	Private equity, % of GDP	0.317	0.385	0.409	0.473	0.453	0.413	0.343	-	0.487
	Venture capital, % of GDP	0.042	0.048	0.052	0.075	0.083	0.084	0.069	-	0.064
	Financial literacy, composite index	-	-	-	-	-	48.5	-	-	45.5
	Bonds, % of HHs' financial assets	2.2	2.1	1.8	1.6	1.8	2.6	2.6	-	2.8
	Listed shares, % of HHs' financial assets	4.3	5.0	5.5	6.6	5.8	6.2	6.4	-	4.8
	Investment funds, % of HHs' financial assets	9.5	10.3	10.5	12.2	11.6	12.2	13.6	-	11.0
	Insurance/pension funds, % of HHs' financial assets	33.7	33.8	32.7	30.9	28.2	27.7	27.4	-	27.8
	Total assets of insurers, % of GDP	64.3	67.6	72.7	69.7	54.9	54.7	55.2	54.0	53.9
	Pension assets, bn EUR	-	-	-	326.3	293.9	311.8	321.6	-	5813.8
	Pension assets, % of GDP	-	-	-	8.9	7.4	7.4	7.4	-	32.3
	10y real return average of pension assets, %	-	-	-	-	-	0.9	0.6	-	1.4
	Pension funds assets, ECB (% of GDP)	-	17.3	18.8	19.0	16.9	16.8	17.2	17.1	23.0

(1) Annualised data

EU data for credit growth and pension fund assets (ECB) refer to the euro area average. Private equity and VC, % of GDP is calculated as a three-year moving average. Pension assets (OECD) include assets of *Pensionskassen* and *Pensionsfonds*, but not other types of funds, and thus understate the volume of pension assets.

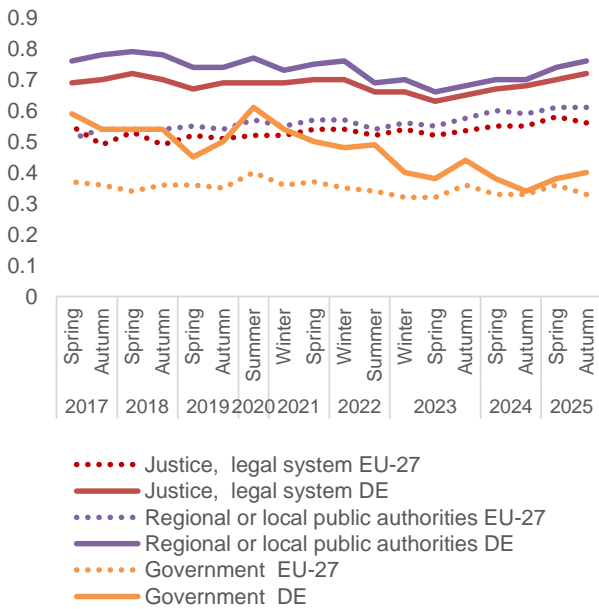
Source: ECB, Eurostat, OECD, EIOPA, CMU Dashboard, AMECO

An effective institutional framework is essential for competitiveness. This requires public trust built on integrity, quality legislation, regulatory simplification and efficient services for people and businesses. The 2025 country-specific recommendations call on Germany to simplify regulation, reduce administrative burden and speed up digitalisation of the public administration, including by improving the geographic coverage of digital public services and facilitating cooperation between governmental levels. To address these challenges, in 2025 the government adopted a comprehensive modernisation strategy for the federal administration alongside a modernisation strategy for federal-Länder cooperation. A Ministry for Digitalisation and State Modernisation was founded to steer reforms across governance levels, particularly on digitalising and modernising the public administration.

public administration as complex (48%) and slow in delivering services (40%)(²⁰⁵), and consider the state overwhelmed and lacking the capacity to fulfil its functions (73%).(²⁰⁶) This points not only to service delivery problems, but deeper structural weaknesses in how administrative responsibilities, procedures and interfaces are organised. In contrast, trust in the judiciary remains robust, at 70%, placing Germany in the top seven Member States, a figure which has stayed relatively unchanged. Trust is highest in regional and local authorities, at 74%, above the EU average. However, this figure has been declining slightly since 2017, suggesting that pressures linked to administrative overload, complex regulation and limited implementation capacity are affecting all governance levels.(²⁰⁷) Both people and companies express strong confidence in public administration protecting their data (68% and 76% respectively). However, 33% of businesses report difficulties due to data protection rules, significantly higher than the EU average of 13%, positioning Germany highest in this issue(²⁰⁸) and showing fragmented implementation across all governance levels, with 18 general public data protection supervisory authorities (one federal and one for each Land, apart from Bavaria which has two).(²⁰⁹)

Public trust

Graph A7.1: Trust in justice, regional / local authorities and in government



EU-27 since 2019; EU-28 before
Source: European Commission, Standard Eurobarometer surveys

Public trust in Germany’s institutions varies significantly (Graph A7.1). There is an erosion of trust in the federal government, with a sharp decline from 61% to 38% (EU: 36%), the second-largest decline in the EU. In addition, people view

Quality of lawmaking

Germany’s strong lawmaking framework falters in practice. There are comprehensive formal requirements for regulatory impact assessments (RIAs) and *ex post* evaluations for both primary and subordinate legislation at federal level. However, RIAs are not systematically published. The *Normenkontrollrat* (national regulatory control council) repeatedly identifies shortcomings in the problem definition, baseline

(²⁰⁵)European Commission, 2026, Flash Eurobarometer surveys [567](#) and [568](#) on satisfaction with administrative services.
(²⁰⁶)Dbb Beamtenbund und Tarifunion, 2025, [Handlungsfähigkeit des Staates: Geyer fordert Reformen | dbb.de](#).
(²⁰⁷)Deutsche Städtetag, 2025, [Kommunalhaushalte kollabieren – bislang undenkbare Verschuldungsspirale droht | Staedtetag.de](#).
(²⁰⁸)European Commission, 2026, Flash Eurobarometer surveys [567](#) and [568](#) on satisfaction with administrative services.
(²⁰⁹)OECD, 2025, OECD Economic Surveys: *Germany 2025*, OECD Publishing, Paris, [OECD Economic Surveys: Germany 2025 \(EN\)](#).

Table A7.1: **Germany. Selected indicators on better regulation practices**

Tools for smart legislation:	
Share of possible impacts assessed for all primary laws when developing legislation	●
Regulators are required to identify and quantify the benefits of a new primary law	●
Regulators are required to identify and assess the impacts of alternative non-regulatory options	●
Tools for effective implementation: when developing laws, regulators are required to:	
Assess the level of compliance	●
Identify and assess potential enforcement mechanisms	●
Specify the methodology of measuring progress in achieving the law's goals	●
Oversight of better regulation:	
There is an external body responsible for reviewing the quality of RIAs and of ex post evaluations	●
There are publicly available assessments of the effectiveness of RIA in modifying regulatory proposals	●
There are reports on the level of compliance by government department with the requirements of RIA	●
There are indicators on the percentage of ex post evaluations that comply with guidelines	●
The effectiveness of ex post evaluations in improving the regulatory stock has been assessed in the last five years	●
● High / yes / for all primary laws	● Medium / in part / for major primary laws
● Low / for some primary laws	● Very low / no / never

(1) 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

setting and impact anticipation of legislation. Many legislative proposals fail to adequately assess counterfactual ('do-nothing') scenarios and only partially quantify administrative burdens and compliance costs. Although *ex post* evaluations are formally intended to inform new legislation, they are not consistently applied, which reduces learning effects and allows complexity to build over time⁽²¹⁰⁾. These weaknesses, combined with risk avoidance, lack of continuous monitoring and persistent coordination failures across ministries and administrative layers undermine delivery and contribute to complex implementation arrangements and higher administrative burdens.

Stakeholder engagement is formally well developed but measures having an impact on Länder and municipalities are not always considered⁽²¹¹⁾. Open public consultations are also rare and stakeholders, including from the business sector, criticise short consultation periods in practice⁽²¹²⁾. Also, there is no unified publicly accessible platform to help identify implementation risks and administrative burdens at an early stage⁽²¹³⁾. The *Digitalcheck* (digital-ready legislation) is now obligatory and applied to

over 80% of federal regulatory proposals, improving transparency in the legislative workflow. However, it is often perceived as a checklist rather than an analytical steering tool⁽²¹⁴⁾. In addition, *Praxis-Checks* (reality checks) are increasingly used to test the impact of implementation, with around 20 conducted between July 2024 and February 2025, though their scale remains limited relative to the volume of legislation⁽²¹⁵⁾.

Forthcoming reforms intend to strengthen regulatory quality oversight and the lawmaking process more broadly. These include expanding the mandate of the *Normenkontrollrat* to include reviewing the bureaucratic burden of subordinate legislation⁽²¹⁶⁾ and strengthening the '*Zentrum für Legistik*' (centre for lawmaking) as a hub for consolidated tools and methodological support. Their success will depend on consistent application across ministries, sufficient analytical capacity and strong central steering to deliver measurable improvements in regulatory quality.⁽²¹⁷⁾

⁽²¹⁰⁾NKR - Presse & Aktuelles - Einfach, schnell, wirksam. Den Staat neu gestalten.

⁽²¹¹⁾NKR, 2025, [NKR - Annual Reports](#).

⁽²¹²⁾European Commission, 2025, Rule of Law Report, p. 16.

⁽²¹³⁾OECD, 2025, Better Regulation Practices across the European Union 2025, <https://doi.org/10.1787/6f007516-en>.

⁽²¹⁴⁾NKR, 2025, [NKR - Annual Reports](#).

⁽²¹⁵⁾NKR, 2025, [NKR - Presse & Aktuelles - Einfach, schnell, wirksam. Den Staat neu gestalten](#).

⁽²¹⁶⁾Federal Ministry for Economic Affairs and Energy, 2025, [German Medium-Term Fiscal-Structural Plan 2025-2029](#).

⁽²¹⁷⁾Federal Ministry for Digital Transformation and Government Modernisation, 2025, [Modernization Agenda for a Fast German](#).

Table A7.2: **Digital Decade key performance indicators: availability of digital public services**

	Germany			EU-27
	2023	2024	2025	2025
Digital public services for citizens (0 to 100)	78	76	79	82
Digital public services for businesses (0 to 100)	81	79	77	86
Access to electronic health records (0 to 100)	70	87	87	83

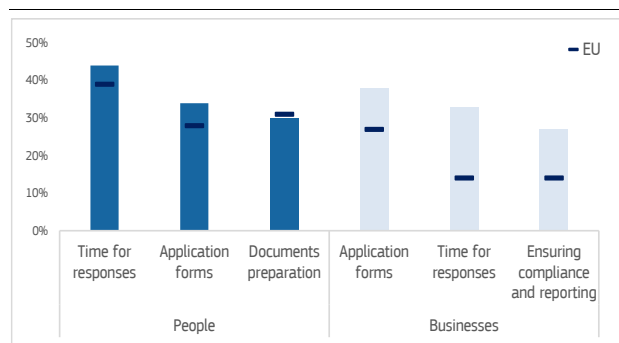
(1) Digital Decade target by 2030: 100. (2) Publishing year, data were collected in the previous year

Source: European Commission, State of the Digital Decade report 2025

Digital and user-friendly public services

Digitalisation and user-friendliness of public services remain a key challenge, in particular for businesses. While 53% of people are satisfied with public administration services, only 35% of businesses are, placing Germany among the weaker performers in the EU. Some 47% of people – the highest proportion in the EU – believe that more digital services would improve their experience, indicating unmet demand⁽²¹⁸⁾. People also report frequent friction, with 44% needing more contact with the administration than expected and 60% being repeatedly asked to provide the same information⁽²¹⁹⁾.

Graph A7.2: **Most time-consuming aspects of service delivery**



Source: European Commission. Flash Eurobarometer 567 / 568 on satisfaction with administrative services (2026)

⁽²¹⁸⁾European Commission, 2026, Flash Eurobarometer surveys [567](#) and [568](#) on satisfaction with administrative services.

⁽²¹⁹⁾European Commission, 2026, Flash Eurobarometer surveys [567](#) and [568](#) on satisfaction with administrative services.

The availability of digital public services for citizens remains below the EU average (Table A7.2). The proportion of internet users that interacted with e-government services is still catching up with the EU (Germany: 70%; EU: 76%)⁽²²⁰⁾. For example, the central administrative portal *verwaltung.bund.de* is known to only 36% of citizens and used by only 12%, a slight improvement since 2022⁽²²¹⁾. Other factors that would encourage greater use are mobile access (69%), user-friendly design (68%) and step-by-step guidance (67%).

Low uptake of digital identity compounds the digital gap. Only 25% of people use the eID function despite it being available for 15 years already, a figure that has increased only slowly. Only 42% of ID holders even activated the eID function. Usage varies significantly among different demographic groups, suggesting that complexity and eID usability disproportionately affect women, older people, lower-educated groups and people in rural areas, compounding digital divides⁽²²²⁾. Availability of electronic health records is above the EU average (Germany: 87; EU: 83)⁽²²³⁾, yet only 13% of people have used digital health services. The electronic patient record system '*ePA für alle*' became mandatory for some information (for example, medical reports) in 2025⁽²²⁴⁾.

The availability of digital public services for businesses also remains below the EU average (Table A7.2). Challenges with public

⁽²²⁰⁾European Commission, Eurostat, 2026, [E-government activities of individuals via websites](#).

⁽²²¹⁾Initiative D21, 2025, [eGovernment MONITOR 2025](#).

⁽²²²⁾Initiative D21, 2025, [eGovernment MONITOR 2025](#).

⁽²²³⁾European Commission, 2025, Digital Decade: eGovernment Benchmark.

⁽²²⁴⁾Initiative D21, 2025, [eGovernment MONITOR 2025](#).

administration services translate into higher costs for business: 62% of businesses report delays, 44% increased operational costs and 22% lost business opportunities due to dealings with public administration, underlining the competitiveness implications of slow and fragmented digitalisation⁽²²⁵⁾. Some 28% of businesses report that digital public services do not reduce but actually increase time and effort, suggesting replication of analogue complexity⁽²²⁶⁾.

Germany's digitalisation efforts are hindered by fragmented implementation across different administrative levels.

Despite substantial investments supported by the Recovery and Resilience Facility, such as the development of the national once-only technical system (NOOTS; RRF investment 6.1.3) and the digitalisation push under the Online Access Act⁽²²⁷⁾ (RRF investment 6.1.2), there is uneven adoption, divergent procedures and unclear responsibilities across administrative layers. The structural challenges to this lie in the decentralised administrative model. While strategic digital initiatives and legislative design are often decided at federal level, implementation often lies with the *Länder* and the over 11 000 municipalities, each retaining substantial autonomy over procedures, IT systems and organisational arrangements. As a result, digitalisation often reproduces and sometimes exacerbates existing administrative complexity instead of delivering end-to-end simplification. Around 60% of administrative services have been digitalised under the OZG framework so far, yet only a few services are consistently available nationwide, and a patchwork of solutions rather than uniform service delivery exist, depending on where people or businesses are based. Limited data reuse is reflected in the low availability of pre-filled forms (score of 38 out of 100), which are offered for life events for citizens and businesses, far below the EU average of 71⁽²²⁸⁾. The lack of pre-filled data suggests limited data exchange, service integration and interoperability.

⁽²²⁵⁾European Commission, 2026, Flash Eurobarometer surveys [567](#) and [568](#) on satisfaction with administrative services.

⁽²²⁶⁾European Commission, 2026, Flash Eurobarometer surveys [567](#) and [568](#) on satisfaction with administrative services.

⁽²²⁷⁾[BSI, Online Access Act](#).

⁽²²⁸⁾European Commission, 2025, Digital Decade: eGovernment Benchmark.

Germany is working on the national and cross-border exchange of data between authorities through the NOOTS and the EU once-only technical system⁽²²⁹⁾. Germany still has to identify the types of documents and data to exchange through the system and explore ways to shift from the submitting documents to exchanging structured data. The NOOTS will start connecting registers and online services in 2026.

Although formats of cooperation exist, additional tools are needed to overcome fragmentation. These include common standards, mandatory reuse of digital building blocks, shared infrastructures and more systematic task bundling or consolidation where tasks and needs are similar across governance levels, which could improve service quality and generate significant savings⁽²³⁰⁾.

The permits system illustrates how digital fragmentation affects competitiveness and investment.

Slow and complex planning and approval procedures continue to delay housing, energy and infrastructure projects and raise compliance costs for businesses. Germany's public investment efficiency has declined by about 15% over the last decade and Germany scores below other EU Member States on infrastructure planning/coordination. These bottlenecks are exacerbated by uneven local administrative capacity, fragmented registries and limited use of shared digital platforms. Differences in procedures across *Länder* and municipalities reduce scale effects and act as barriers to more efficient service delivery⁽²³¹⁾.

The new Ministry for Digitalisation and State Modernisation, along with its *Digitalvorbehalt* and initiatives like the *Deutschland-Stack*, signals stronger political ambition and steering. The Association of local counties (Landkreistag) is also

⁽²²⁹⁾European Commission, *Once-Only Technical System Accelerator*, [Ec.europa.eu](#).

⁽²³⁰⁾NKR, 2025, [Bündelung im Föderalstaat. Zeitgemäße Aufgabenorganisation für eine leistungsfähige und resiliente Verwaltung](#).

⁽²³¹⁾[Germany: 2025 Article IV Consultation-Press Release: Staff Report; and Statement by the Executive Director for Germany; IMF Country Report No. 26/036; January 26, 2026](#).

receiving technical support for IT consolidation and increasing interoperability between counties⁽²³²⁾.

Civil service

The civil service remains a key institutional strength but is increasingly constrained by structural challenges which affect the implementation of digital and administrative reforms. Demographic pressure is particularly acute. The retirement wave over the next 15 years is expected to create a deficit of nearly one third of federal staff, raising significant replacement and knowledge-loss risks, above the EU average. (For municipal employees see Annex 18). At the same time, the share of staff with higher education remains below the EU and participation in continuous training is also significantly lower, limiting re- and upskilling in digital, analytical and managerial skills⁽²³³⁾. A persistent gender gap in senior management limits leadership diversity and reduces the attractiveness of the civil service for highly qualified women⁽²³⁴⁾. These pressures are becoming harder to absorb as personnel expenditure has doubled over the past decade and material expenditure has also risen strongly, while complexity and staffing gaps persist⁽²³⁵⁾.

A core challenge lies in the fragmented and insufficiently transparent organisation of the federal administration, particularly HR and support functions. Under the *Ressortprinzip*, each ministry and many of the around 950 subordinate federal entities maintain their own HR processes, while no central civil service agency or shared federal HR data repository exists to support common standards in recruitment, mobility, training or performance management. This limits the ability to manage the workforce strategically across the federal administration, weakens transparency on tasks, structures and costs,

⁽²³²⁾[Germany - Reforms and Investments - European Commission](#).

⁽²³³⁾[Eurostat](#) 2024. European Commission, Eurostat, 2026, European Union Labour Force Survey, [Employed persons by economic activity \(NACE Rev. 2\) \(2008-2026\)](#).

⁽²³⁴⁾European Institute for Gender Equality, 2025, [Gender Statistics Database](#).

⁽²³⁵⁾Konrad Adenauer Foundation, 2025, [Mehr Leistung – Weniger Staat?](#).

reduces economies of scale in support functions and makes it harder to respond coherently to demographic change and new skill needs.

The newly adopted modernisation agenda seeks to address some of these weaknesses through more strategic and service-oriented personnel management. It includes measures on strategic workforce planning, mobility and reskilling, leadership development, digital and change management skills, modernisation of service law and the bundling of personnel services where needs are similar. This acknowledges that greater administrative effectiveness will require not only better staffing policies, but also more standardised processes, shared service provision and a more coherent organisational set-up across the federal administration. It also aims to reduce staff by 8% in parts of the federal administration by 2029 and to streamline structures and internal service delivery, marking a shift away from continued expansion. At the same time, many measures remain based on pilots, shared standards and cross-government coordination, meaning that ministries retain substantial responsibility for implementation⁽²³⁶⁾.

In parallel, Technical Support (TSI) projects support the federal administration in strengthening implementation capacity, including on task reviews, service redesign, monitoring frameworks for burden reduction and reforms in HR management.

Integrity

Perception of corruption when doing business remains very low, but experienced corruption is slightly higher than EU average. Some 47% of businesses consider corruption widespread (EU: 63%) but only 14% of businesses consider that corruption is a problem when doing business, way below the EU average⁽²³⁷⁾. Sectors particularly vulnerable to corruption are health and the construction sector (see Annex 5). At the same

⁽²³⁶⁾Federal Ministry for Digital Transformation and Government Modernisation, 2025, [Modernisierungsagenda Bund - Bundesministerium für Digitales und Staatsmodernisierung](#).

⁽²³⁷⁾European Commission, 2025, Flash Eurobarometer survey [557](#) on Businesses' attitudes towards corruption in the EU.

time, more businesses have been asked or expected to offer a gift, a favour or extra money for permits, services or procurement compared to the EU average (Germany: 12%; EU: 10%). Businesses reporting appropriate punishment for bribery of senior officials matches the EU average (Germany: 33%; EU: 33%)(²³⁸).

Germany has taken limited new steps to improve corruption prevention and detection while remaining effective. High-level cases are pursued, and no systemic weaknesses have been identified. However, broader reforms to strengthen the liability of legal persons and corporate sanctions for foreign bribery have still not been completed. Germany also operates a well-functioning public register for lobbyists. Concerns remain regarding the secondary activities of Members of Parliament (MPs). Certain prohibitions are in place for remunerated lobbying activities of MPs. However, there is no requirement to disclose potential conflicts of interest, especially in respect of private companies. There have been no developments to increase transparency over financial and business interests of federal ministers and other high-level officials.

Justice

The justice system is continuing to operate efficiently overall. The time taken to reach a decision in civil and commercial cases at first instance courts decreased slightly (from 249 days in 2023 to 232 days in 2024). The estimated time to resolve administrative cases at first instance courts remained consistently higher (391 days in 2023 compared to 389 days in 2024). The quality of the justice system is good overall. Germany is performing moderately well in terms of digitalising its justice system. The country lags behind in digital solutions to initiate and follow proceedings in civil/commercial and administrative cases, as well as in the general public's online access to published judgments. But it performs very well on arrangements for producing machine-readable judicial decisions(²³⁹).

(²³⁸) [European Commission, 2025, Rule of Law Report.](#)

(²³⁹) For a more detailed analysis of the performance of the justice system in Germany, see the upcoming 2026 EU Justice Scoreboard and the 2025 Rule of Law Report.

Germany's industrial base is undergoing a transformation to meet climate targets and remain competitive in a net-zero and circular setting. With a strong policy landscape that includes initiatives like the climate and transition fund (*Klima- und Transformationsfonds*, KTF), Germany is fostering innovation in low-carbon technologies and supporting the transition to clean industrial production, but the slow build-up of the required infrastructure and lengthy industrial permitting constitute bottlenecks. In 2025, Germany received a country-specific recommendation to renovate the rail network as part of accelerating the decarbonisation of the transport sector. For the next years, Germany has allocated significant funding to decarbonised mobility including rail infrastructure. At the same time, persistent capacity constraints and low punctuality highlight unresolved structural challenges despite governance and funding reforms. Despite being a leader in recycling and secondary raw material patents, the integration of these materials into manufacturing is sluggish, pointing to a reliance on primary resources. Challenges such as air and water pollution continue to persist, while enhanced fiscal measures could strengthen circularity efforts. This annex reviews the areas in need of urgent attention in Germany's clean industry decarbonisation, circular economy and climate mitigation, looking at a number of different aspects ⁽²⁴⁰⁾.

Industry decarbonisation

Greenhouse gas emissions from industry

Germany's manufacturing sector is relatively greenhouse gas (GHG) emission efficient, with most emissions coming from energy use rather than industrial processes ⁽²⁴¹⁾. About

⁽²⁴⁰⁾For regional aspects of decarbonisation, see Annex 18.

⁽²⁴¹⁾This Annex discusses the transition of Germany's manufacturing industry, specifically its energy-intensive industries, to low-carbon and net-zero modes of production, which is key to preserving competitiveness on the path towards climate neutrality as mandated by the European Climate Law. A broader perspective on the current competitiveness challenges facing Germany's manufacturing industry is provided in Annex 5. For a more detailed

one-fifth of Germany's total emissions are from manufacturing ⁽²⁴²⁾. While Germany's manufacturing production has the highest proportion of energy-related emissions among the EU countries (2023), its total emissions in the sector are 20% more efficient than the EU average, making Germany the sixth best in the EU in this regard ⁽²⁴³⁾. However, Germany's reduction in emission intensity was slower than the EU average, decreasing by 16% in the five years to 2023. The energy-related GHG emission intensity of Germany's manufacturing production has fallen, but a significant shift to clean energy has not yet happened ⁽²⁴⁴⁾. Iron and steel, cement and chemicals are the biggest GHG emitters in Germany's manufacturing sector, with the manufacture of metals being particularly GHG emission intensive compared with the EU average.

Policies to promote industry decarbonisation

Germany complements the carbon price incentive of the EU emissions trading system (ETS) with targeted support of about EUR 35 billion per year for industry decarbonisation ⁽²⁴⁵⁾. Its climate law (amended in June 2021) prescribes limiting GHG emissions from industry to 118 Mt CO₂eq by 2030, or about two thirds of the 2021 level of 182 Mt ⁽²⁴⁶⁾.

description of greenhouse gas emissions from industry, see European Commission (2025), [2025 Country Report - Germany](#), Annex A7. Clean industry and climate mitigation.

⁽²⁴²⁾21%, in 2024. Data on the manufacturing sector exclude the NACE division C19 – manufacture of coke and refined petroleum products, for better match of the sectoral data from Eurostat (gross value added) with those from the UNFCCC under the Common Reporting Format. Also see further indicators on industry decarbonisation, as well as the annotation for further information, in table A8.1 at the end of this Annex.

⁽²⁴³⁾See European Commission (2025), [2025 Country Report – Germany](#), pp. 61ff.

⁽²⁴⁴⁾Energy-related emission intensity dropped by 8% (EU average: 16%), while the share of electricity and renewables remained at around 39%. Emission intensity from industrial processes fell by 18%, which is less than the EU's average of 23%.

⁽²⁴⁵⁾Funding for industry decarbonisation under the KTF, including hydrogen infrastructure but excluding electricity cost subsidies; see footnote 6 for details.

⁽²⁴⁶⁾Erstes Gesetz zur Änderung des Bundes-Klimaschutzgesetzes, vom 18. August 2021, Bundesgesetzblatt Jahrgang 2021, Art. 1 (10).



Germany's key funding instrument for climate mitigation is the climate and transition fund (*Klima- und Transformationsfonds*, KTF), boosted by a new special fund for infrastructure and climate neutrality⁽²⁴⁷⁾. Its measures to facilitate the decarbonisation of manufacturing production comprise subsidies for: (i) developing the hydrogen value chain as part of the first Important Project of Common European Interest (IPCEI) on hydrogen (with EUR 1.2 billion in 2025 and EUR 1.5 billion in 2026)⁽²⁴⁸⁾; (ii) supporting energy and resource efficiency measures in the economy (with about EUR 950 million each for 2025 and 2026); and (iii) providing specific funding for industry and climate mitigation (*Bundesförderung Industrie und Klimaschutz*, BIK) and carbon contracts for difference (*Klimaschutzverträge*) (with about EUR 700 million for 2025 to 2026). *Bundesförderung Industrie und Klimaschutz* supports small and medium-sized industries (known as *Mittelstand*) in particular, covering industry decarbonisation and carbon management, and also including applied research and development projects⁽²⁴⁹⁾. The first call for

applications focused on energy-intensive sectors such as chemicals, steel, ceramics, paper and pulp, and cement and lime⁽²⁵⁰⁾. Ongoing projects include the electrification of blast furnaces for steel production, low-carbon technologies for technical ceramics, and CO₂ capture in cement production, to name a few⁽²⁵¹⁾. As of early 2026, the second call for application remains in a preparatory phase, with the competitive auction expected in mid-2026, subject to EU state aid approval⁽²⁵²⁾. In autumn 2025, Germany also launched the preparatory stage of the 2026 bidding round for carbon contracts for difference, which now also includes support for carbon capture utilisation and storage projects⁽²⁵³⁾. Germany's measures to foster industry decarbonisation, also form part of its recovery and resilience plan⁽²⁵⁴⁾. In addition to subsidies for low-carbon and net-zero industrial production technologies, Germany has budgeted subsidies for electricity-intensive companies to compensate for emissions trading-related electricity price

⁽²⁴⁷⁾For an overview, see Bundesfinanzministerium, [Das Sondervermögen für Infrastruktur und Klimaneutralität](#), 5.12.2025. The special fund for infrastructure and climate neutrality (*Sondervermögen Infrastruktur und Klimaneutralität*) is a debt-financed government vehicle adopted by the parliament in March 2025. The KTF was set up in 2022 to support the transition to climate neutrality. A main part of its funding is revenue accruing to Germany from the EU ETS and from CO₂ pricing under the Fuel Emissions Trading Act (*Brennstoff-emissionshandelsgesetz*, BEHG), with revenue of EUR 5.3 billion and EUR 4.3 billion (from the EU ETS) and EUR 15.4 billion and EUR 16.7 billion (from the BEHG) expected for 2025 and 2026 respectively. The special fund is [expected to boost the KTF](#) by a total of EUR 100 billion through annual tranches of EUR 10 billion from 2025. With further revenue from reserves, overall funding is envisaged of about [EUR 37 billion in 2025 and EUR 35 billion in 2026](#). For planned expenditure from the KTF, see the [government's draft budgetary plan](#) of 15 August 2025 (Deutscher Bundestag – 21. Wahlperiode, Drucksache 21/600), Annex 3, Chapter 6092., Overview X on the 20 largest grants from the federal government as defined in the 29th subsidy report on p. 139 of the same document, and the [recommendation for a decision of the budget committee](#) on Germany's draft budget 2026 of 17 November 2025 (Deutscher Bundestag, Drucksache 21/600), *ibid*.

⁽²⁴⁸⁾See Bundesministerium für Wirtschaft und Energie: [IPCEI Wasserstoff: Gemeinsam einen Europäischen Wasserstoffmarkt schaffen](#), accessed on 12.12.2025. The figures for the planned spending for 2025 and 2026 on the different measures are from the 2025 draft budgetary plan and the recommendation of the budget committee as indicated above.

⁽²⁴⁹⁾Source: exchange in writing (questionnaire) with national authorities as part of the fact-finding for the European

Semester analysis. On the BIK initiative, also see Projektträger Jülich (PTJ), [Bundesförderung Industrie- und Klimaschutz \(BIK\) – Förderung von CCU und CCS](#), and Kompetenzzentrum Klimaschutz in energieintensiven Industrien: [Bundesförderung Industrie und Klimaschutz: Modul 1](#), both accessed on 12.12.2025. The first funding guidelines of module 1 expired in 2023; for the amended version, see [Bundesanzeiger, Amtliche Veröffentlichungen 30.08.2024](#), B1 to B3.

⁽²⁵⁰⁾Without excluding other sectors. For an overview, see Bundeswirtschaftsministerium (2024), [Gute Nachricht für die Transformation des Mittelstands: Bundesförderung Industrie und Klimaschutz gestartet](#), Schlaglichter der Wirtschaftspolitik 10/2024, and Industrie- und Handelskammer zu Hagen: [Bundesförderung Industrie und Klimaschutz \(BIK\)](#).

⁽²⁵¹⁾See the [product database](#) of Kompetenzzentrum Klimaschutz in energieintensiven Industrien (accessed on 12.12.2025).

⁽²⁵²⁾See Kompetenzzentrum Klimaschutz in energieintensiven Industrien, [Bundesförderung industrie und Klimaschutz](#), accessed on 12.12.2025, as well as Clean Energy Wire, 2025, <https://www.cleanenergywire.org/news/germany-starts-preparations-2026-round-industry-climate-contracts>.

⁽²⁵³⁾See Bundesministerium für Wirtschaft und Energie, [Vorbereitendes Verfahren für CO₂-Differenzverträge startet](#), 6.10.2025. These contracts specify decarbonisation milestones within their duration of 15 years, while hedging for CO₂ and energy price risks and cost differences with fossil-based production methods in this period.

⁽²⁵⁴⁾With EUR 2.105 billion from the Recovery and Resilience Facility and EUR 3.5 billion from the KTF, see Bundesfinanzministerium, [Übersicht zum Deutschen Aufbau- und Resilienzplan \(DARF\), Komponente 1.1 Dekarbonisierung, insb. durch erneuerbaren Wasserstoff](#), 5.11.2025.

increases. Those subsidies are worth about EUR 2.85 billion in 2025 and EUR 4 billion in 2026 respectively ⁽²⁵⁵⁾.

Germany has taken legislative measures to expand the infrastructure needed for net-zero industry. In late 2025, the amended CO₂ Storage Act entered into force ⁽²⁵⁶⁾, paving the way for the larger-scale commercial capture and storage of CO₂, with the aim of providing a fully functional carbon capture and storage infrastructure in the early 2030s. The amended framework makes it possible to retrofit natural gas pipelines to transport CO₂, to tap into Germany's potential for geological storage in its exclusive economic zone and continental shelf in the North Sea and to opt into onshore storage at *Land* level. In late February, the Bundestag also adopted legislation to accelerate the supply framework for green hydrogen⁽²⁵⁷⁾. Both acts qualify sectoral infrastructure projects as serving overriding public interest, with the aim of speeding up permitting procedures. In the meantime, the ratification of the London Protocol and the amendment of the Deep Sea Disposal Act (the legal bases for CO₂ export and storage in the North Sea respectively) are pending adoption. Germany is also considering stimulating demand for climate-friendly products through public procurement ⁽²⁵⁸⁾. To step up coordinated efforts to achieve its sustainability objectives for 2030, including in the areas of sustainable economic growth and climate mitigation, the government has tasked a deputy ministers' committee for sustainable development with setting out specific actions to implement its 2025 sustainability strategy ⁽²⁵⁹⁾.

⁽²⁵⁵⁾Bundeshaushaltsplan 2026, Annex 3, [bundeshaushalt.de](https://www.bundeshaushalt.de).

⁽²⁵⁶⁾[Gesetz zur Änderung des Kohlendioxid-Speicherungsgesetzes vom 25. November 2025](#), Bundesgesetzblatt Nr. 282/2025, 27.11.2025.

⁽²⁵⁷⁾Deutscher Bundestag, 2026, <https://www.bundestag.de/dokumente/textarchiv/2026/kw09-de-wasserstoffhochlauf-1149758?>

⁽²⁵⁸⁾Source: exchange in writing (questionnaire) with national authorities as part of the fact-finding for the European Semester analysis.

⁽²⁵⁹⁾Deutscher Bundestag – 21. Wahlperiode, [Drucksache 21/2696, Unterrichtung durch die Bundesregierung: Nachhaltigkeit für ein modernes und zukunftsfähiges Deutschland: Beschluss der Bundesregierung, zugeleitet mit Schreiben des Bundeskanzleramtes vom 5. November 2025](#), 5.11.2025.

Despite Germany's broad toolkit to facilitate the clean industry transition, challenges remain. According to the authorities, the key challenges are: the high cost of energy and of the transition; the limited availability of green energy, notably hydrogen; access to the grid and to H₂ and CO₂ infrastructure, lengthy permitting procedures, and excessive bureaucracy. The willingness to invest in net-zero industry is also constrained by uncertainty about the development of the ETS price, the demand for CO₂ transportation (including transit), the availability of CO₂ storage facilities and energy price developments. Many of the present industry decarbonisation measures are in their early stages, with broad-based implementation envisaged for the last third of the decade. To achieve its industry decarbonisation objective, Germany would benefit from credibly setting out the relevant policies, including investment support, to provide credibility and certainty.

A particular challenge to investment in low-carbon technologies is the lack of clarity for hybrid projects. The permitting framework is well developed for single-technology renewable projects (e.g. offshore wind ⁽²⁶⁰⁾), but less so for hybrid ones combining energy generation with other technologies such as hydrogen production ⁽²⁶¹⁾. For such projects, overlapping jurisdictions and an unclear division of responsibilities between authorities give rise to procedural deadlocks. Germany would benefit from developing a dedicated permitting standard for offshore hybrid projects in particular, similar to the existing frameworks for offshore wind. Establishing clear administrative responsibilities and providing guidance for integrated renewable hydrogen developments would enable innovation while enhancing legal certainty.

A systematic approach to industrial decarbonisation is lacking, amidst steadily decreasing output ⁽²⁶²⁾. While industry emissions fell by 3.8% from 2024 to 2025, this was mostly due to lower production in energy-intensive

⁽²⁶⁰⁾As also included under the REPowerEU chapter of Germany's recovery and resilience plan.

⁽²⁶¹⁾This insight stems from the implementation of projects with support from the Innovation Fund, the EU's funding programme for the deployment of innovative net-zero and low-carbon technologies.

⁽²⁶²⁾Destatis, 2026, [Production in January 2026](#).

industries ⁽²⁶³⁾. The sector's transition depends on electrification, the availability and use of green energy, notably hydrogen, and Carbon, Capture and Storage (CCS) in hard to abate sectors. The Hydrogen Acceleration Act and the amended Carbon Storage Act tackle two crucial legal bottlenecks but momentum to build the necessary environment for the scaled development of electrification and CCS projects is building slowly. Production, transport (core pipeline network), storage and industrial contracts are issues affecting both areas. Integrated solutions are being hindered by lengthy industrial permitting procedures that are fragmented across Länder, technologies, sectors ⁽²⁶⁴⁾, and are sequential rather than parallel. This causes multi-year delays for electrification projects and negatively impacts investment certainty despite available funding.

Reduction of effort sharing emissions

Compliance with effort sharing limits with domestic measures

Germany's effort sharing emissions are projected to be above its target in 2030; previous years' unused emission allocations would not suffice to cover the gap for compliance with the Effort Sharing Regulation ⁽²⁶⁵⁾. In 2024, GHG emissions from

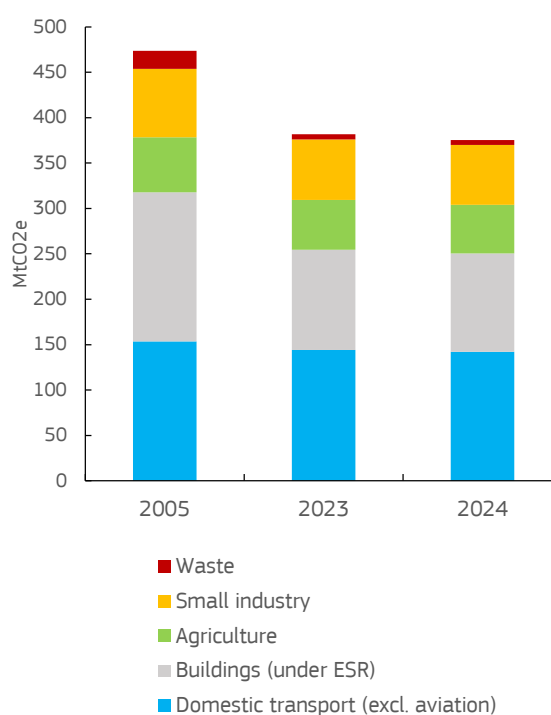
⁽²⁶³⁾Umweltbundesamt, 2026, [Umweltbundesamt.de](https://www.umweltbundesamt.de).

⁽²⁶⁴⁾Many investments do not benefit from the acceleration rules because they fall outside the defined scope or trigger additional approvals (construction law, transport access, site development).

⁽²⁶⁵⁾The European effort sharing regulation sectors cover emissions from areas like transport, buildings, agriculture, and waste, with each EU country assigned a binding emission reduction target that is calibrated to reflect its economic capacity and ability to deliver cost-effective reductions. The national GHG emission reduction target is set out in Regulation (EU) 2018/842 (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). The emissions from effort sharing sectors for 2024 are based on approximated inventory data. The final data will be established in 2027 after a comprehensive review. Projections about the impact of current policies ('with existing measures', WEM) and additional policies ('with additional measures', WAM) as per Germany's 2025 reporting under Article 17 of Regulation (EU) 2018/1999 (the Governance Regulation). Also see European Commission (2025), [Climate Action Progress Report 2025](#) – Technical Information, Commission staff

Germany's effort sharing sectors are expected to have been 22.6% below those of 2005. By 2030, current and planned policies and measures are expected to lead to a decrease by 36.8%, leaving a gap of 13.2 percentage points to the 2030 target of -50%. Germany could bridge part of this gap with own unused annual emission allocations from previous years but would also need transfers of allocations from other Member States to comply with the Effort Sharing Regulation. The timely implementation of its additional measures and identification of new ones will remain crucial for Germany to progress towards climate neutrality.

Graph A8.1: **Greenhouse gas emissions in the effort sharing sectors, 2005, 2023, and 2024**



Source: European Environment Agency.

Sustainable transport

In 2024, 38% of Germany's effort sharing emissions came from road transport, having decreased by only 8% from 2005 levels ⁽²⁶⁶⁾.

For Germany, the 2025 country-specific recommendations highlighted challenges for decarbonising the transport sector, including the derelict state of the rail network. Under its recovery and resilience plan, Germany has

working document, Brussels, Chapter 9 (pp. 111ff.), and in particular Tables 25 and 26.

⁽²⁶⁶⁾See Graph A8.1, and Table A8.1 at the end of this Annex.

invested in further supporting electric mobility. This includes investments in public charging infrastructure and projects for hydrogen and fuel cell applications in transport. In addition, Germany has significantly increased investment and accelerated large-scale renewal under DB InfraGO. Total spending on rail infrastructure was budgeted at around EUR 23.1 billion in 2025, while federal rail infrastructure investment amounted to EUR 18.1 billion⁽²⁶⁷⁾ – nearly EUR 9 billion more than in 2023. The government has committed EUR 106.5 billion for railway infrastructure up to 2029⁽²⁶⁸⁾. Deutsche Bahn reported extensive construction activity, including around 2 173 km of track rebuilt, 2 065 switches renewed, roughly 950 stations modernised and 60 new signal boxes commissioned in 2025, along with expansion of the European Train Control System to 683 km⁽²⁶⁹⁾. However, performance gaps persist: infrastructure remains heavily utilised, digital deployment is uneven, and punctuality remains low (just above 60% for long-distance services). This shows that modernisation has not yet resolved structural capacity constraints or reliability problems. Legal reforms have focused mainly on governance, funding frameworks and cost regulation and have included reforms to train-path pricing, faster planning and approval procedures, and further organisational unbundling of infrastructure within the Deutsche Bahn group⁽²⁷⁰⁾.

⁽²⁶⁷⁾Integrated Interim Report, Deutsche Bahn, 2025, <https://zbitr.deutschebahn.com/2025/en/interim-group-management-report-unaudited/development-of-business-units/db-infrago-business-unit/development-of-the-infrastructure/>.

⁽²⁶⁸⁾EU Transport News, 2025, <https://www.eustransportnews.com/post/german-federal-government-commits-106-5-billion-railway-infrastructure-investment-through-2029>.

⁽²⁶⁹⁾RailMarket News, 2026, <https://railmarket.com/news/infrastructure/45702-germany-s-rail-network-sees-eur19bn-works-in-2025?region=me>.

⁽²⁷⁰⁾Integrated Interim Report 2025, Deutsche Bahn, <https://zbitr.deutschebahn.com/2025/en/interim-group-management-report-unaudited/fundamentals/development-of-business-environment/national-environment>.

Sustainable industry

Circular economy industry

Germany's circular economy strategy is ambitious, but implementation remains uneven, with slow adoption of secondary materials. The national circular economy strategy (NCES)⁽²⁷¹⁾ adopted at the end of 2024 aims to massively reduce the use of primary raw materials and boost resource efficiency, yet progress remains uneven across sectors. On the one hand, Germany ranks among the EU leaders for recycling rates: 66.9% of municipal waste is recycled (EU average: 48%), 94% of construction and demolition waste is recovered⁽²⁷²⁾ (EU average: 89%) and Germany is fifth for the recycling of plastic packaging (approximately 52% in 2023, which is above the EU average of 42%⁽²⁷³⁾). Germany also stands out as the European leader in patents related to recycling and secondary raw materials. In 2019, it filed 104 patents. Though this number dropped to 46 in 2020, it is still well above the EU average⁽²⁷⁴⁾. The pace of innovation in Germany is driven by a surge in patent applications, especially related to the reuse of waste materials, where Germany is the only European country competing with larger economies such as the US⁽²⁷⁵⁾.

⁽²⁷¹⁾German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection. National Circular Economy Strategy (NCES), 2024, <https://www.bundesumweltministerium.de/en/topics/circular-economy/circular-economy-strategy>.

⁽²⁷²⁾Techno-economic and environmental assessment of construction and demolition waste management in the European Union, JRC, 2024, https://build-up.ec.europa.eu/system/files/2024-04/JRC2024-Techno-economic_and_environmental_assessment_of_CDW_management_in_the_EU_Final_with_identifiers_2.pdf.

⁽²⁷³⁾Eurostat, Packaging waste by waste management operations, https://ec.europa.eu/eurostat/databrowser/view/env_waspac_custom_14718907/default/table?lang=en.

⁽²⁷⁴⁾Eurostat, Patents related to recycling and secondary raw materials, https://ec.europa.eu/eurostat/databrowser/view/cei_cie020/default/table?lang=en&category=cei.cie_cie.

⁽²⁷⁵⁾German Patent and Trade Mark Office, Patent Offices offer a 'showcase' for green innovations 2025, https://www.dpma.de/english/services/public_relations/press_releases/15october2025/.

On the other hand, while per capita material consumption has decreased by 24% over the past five years⁽²⁷⁶⁾ and resource productivity has increased in parallel, by 46.6% between 2019 and 2024⁽²⁷⁷⁾, waste generation is still very high. Germany ranks fifth in terms of municipal waste generation per capita⁽²⁷⁸⁾ and seventh in terms of construction and demolition waste per capita. Secondary material use has grown only marginally in the past 10 years, from 11.7% to 14.8%, underscoring a persistent reliance on primary resources⁽²⁷⁹⁾.

Furthermore, Germany’s fiscal tools for circular practices remain underdeveloped, limiting potential revenue and waste reduction. Total environmental tax revenue is lower than the EU average (1.71% of GDP in 2020; EU average: 2.24%)⁽²⁸⁰⁾⁽²⁸¹⁾, with taxes on pollution and resources making up a very small

share of the total (0.01%⁽²⁸²⁾). Introducing fiscal instruments like the ‘pay-as-you-throw’ system across municipalities and regions or a CO₂ tax on incineration could help reduce the amount of mixed municipal waste⁽²⁸³⁾ and generate additional revenues⁽²⁸⁴⁾. More specifically, assuming a hypothetical tax on waste incineration of EUR 8.1/Mt in scenario B or EUR 19.5/Mt in a more ambitious scenario A, Germany could achieve a decrease in waste incineration of around 8.3% in scenario B and 20% in scenario A by 2030. Equivalent monetary gains would be estimated at EUR 5.85 million or EUR 12.2 million respectively (Figure 1).

Germany has seen a significant improvement in waste management. At 1.6%, Germany reported limited landfilling of municipal waste as compared with the EU average (21.3%) in 2024. This was a slight decrease from 2010 (1.3%). The incineration rate decreased to 31.5% between 2010 and 2024⁽²⁸⁵⁾. The fact that waste from mechanical biological treatment outputs is landfilled but reported as incinerated implies that the actual landfill rate might be higher than reported. There is no tax on municipal waste incineration in Germany, but there is a ban on

⁽²⁷⁶⁾Eurostat, Material footprint, https://ec.europa.eu/eurostat/databrowser/view/cei_pc020/default/table?lang=en.

⁽²⁷⁷⁾Germany ranks fifth in terms of municipal waste generation per capita (Eurostat, Generation of municipal waste per capita, https://ec.europa.eu/eurostat/databrowser/view/cei_pc031/default/table?lang=en) and seventh in terms of construction and demolition waste per capita (JRC, A report on sustainable management of construction and demolition waste, 2024, <https://build-up.ec.europa.eu/en/resources-and-tools/publications/report-sustainable-management-construction-and-demolition-waste>).

⁽²⁷⁸⁾Eurostat, Generation of municipal waste per capita, https://ec.europa.eu/eurostat/databrowser/view/cei_pc031/default/table?lang=en.

The share of municipal waste incineration remains stable at EUR 6.2 billion annually, reflecting a reliance on consumption-driven materials (Eurostat, Municipal Waste by waste management operations, https://ec.europa.eu/eurostat/databrowser/view/env_wasmun/default/table?lang=en).

⁽²⁷⁹⁾Eurostat, circular material use rate, https://ec.europa.eu/eurostat/databrowser/view/env_ac_cur/default/table?lang=en&category=env_env_mrp.

⁽²⁸⁰⁾European Commission: Directorate-General for Environment, RPA Europe, Conduct in-depth assessments on environmental priorities to support the greening of the European Semester and integration of environmental priorities into the EU’s economic governance framework, 2025.

⁽²⁸¹⁾European Commission, Environmental Implementation Review (2025), Germany country report, https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en.

⁽²⁸²⁾European Commission: Directorate-General for Environment, Camboni, M., Markandya, A., Tyrer, D., Goonesekera, S. et al., *Greening the European Semester – Resource and pollution taxes. Annex 6, Country factsheets*, Publications Office of the European Union, 2026, <https://data.europa.eu/doi/10.2779/7798318>.

⁽²⁸³⁾An average of 25% less municipal waste can be achieved when a ‘pay-as-you-throw’ system is applied, (Dornbusch, H. J., et al., 2020, Vergleichende Analyse von Siedlungsrestabfällen aus repräsentativen Regionen in Deutschland zur Bestimmung des Anteils an Problemstoffen und verwertbaren Materialien – Abschlussbericht, UBA Texte No 113/2020, Umweltbundesamt, Deassau-Rosslau, 2020, https://www.umweltbundesamt.de/sites/default/files/medien/479/publikationen/texte_113-2020_analyse_von_siedlungsrestabfaellen_abschlussbericht.pdf).

⁽²⁸⁴⁾EEA, Early warning assessment related to the 2025 targets for municipal waste and packaging waste. <https://www.eea.europa.eu/en/analysis/publications/many-eu-member-states/early-warning-assessment-related-to-the-2025-targets-for-municipal-waste-and-packaging-waste/germany>.

⁽²⁸⁵⁾Eurostat, Municipal waste by waste management operations, https://ec.europa.eu/eurostat/databrowser/view/env_wasmun/default/table?lang=en.

landfilling waste with a total organic carbon rate above 3% ⁽²⁸⁶⁾.

Extended producer responsibility schemes are well developed in Germany. There are six schemes in operation for oils, packaging, paper, tyres, batteries, electronic waste, end-of-life vehicles, plastic fishing gear and single-use plastics ⁽²⁸⁷⁾.

Finally, in order to achieve its circular economy objectives, Germany's total investment needs amount to EUR 42 billion per year, especially for circular economy measures in the areas of mobility, food and the built environment ⁽²⁸⁸⁾.

Bioeconomy industry

In Germany, bioeconomy value added has grown slightly more than domestic GDP in recent years, driven in particular by the food and beverages and bio-based chemicals and plastics subsectors. Among the bioeconomy subsectors, food and beverages is the sector that registered the highest growth in value added (4.5% on average between 2018 and 2023) ⁽²⁸⁹⁾ ⁽²⁹⁰⁾. This growth reflects Germany's role as a major agri-food processing hub, benefiting from robust domestic demand and strong export activity across the EU. While overall bioeconomy employment has fallen slightly, bio-based chemicals and plastics registered the highest growth in total employment between 2018 and 2023 (2.8%) ⁽²⁹¹⁾.

⁽²⁸⁶⁾EEA, Early warning assessment related to the 2025 targets for municipal waste and packaging waste, 2025, <https://www.eea.europa.eu/en/analysis/publications/many-eu-member-states/early-warning-assessment-related-to-the-2025-targets-for-municipal-waste-and-packaging-waste>.

⁽²⁸⁷⁾LIFE4EPR mapping tool, <https://life4epr.ent.cat/>.

⁽²⁸⁸⁾European Commission, Environmental Implementation Review (2025), Germany country report, https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en.

⁽²⁸⁹⁾Bioeconomy subsectors: food and beverages; bio-based textiles; wood products and furniture; bio-based chemicals and plastics.

⁽²⁹⁰⁾Joint Research Centre, Developments of Economic Growth and Employment in Bioeconomy Sectors across the EU, https://datam.jrc.ec.europa.eu/datam/mashup/BIOECONOMIC_S/.

⁽²⁹¹⁾Ibid.

Labour productivity in the bioeconomy – measured as value added per person employed – stood at 87.9% of the national average and has been growing from 80.5% in 2018 ⁽²⁹²⁾.

Furthermore, in Germany, R&D business expenditure from bioeconomy-relevant subsectors has grown at a significantly faster pace than overall R&D business expenditure (6.9% compared with 3.8% on average between 2018 and 2023) ⁽²⁹³⁾. This above-average R&D investment signals growing private sector confidence in bioeconomy innovation and is in line with Germany's broader national bioeconomy strategy, which emphasises the role of research and digitalisation in accelerating the transition to sustainable, bio-based production systems ⁽²⁹⁴⁾.

Zero-pollution industry

Over the past decade, Germany has made significant progress in reducing key air pollutants through cleaner energy production, tighter vehicle emission standards and improvements in industrial technology. Emissions of several air pollutants have decreased significantly in Germany since 2005 despite a continued increase in GDP ⁽²⁹⁵⁾.

Despite this progress, Germany continues to grapple with significant air pollution costs. In 2022, it ranked among Europe's worst performers, with multiple air quality zones exceeding the ozone targets, and annual damage costs estimated at EUR 192 million for ozone alone ⁽²⁹⁶⁾.

⁽²⁹²⁾Ibid.

⁽²⁹³⁾Joint Research Centre, Business expenditure in Research and Development (R&D) in the EU bioeconomy, https://datam.jrc.ec.europa.eu/datam/mashup/BERD_BIOECONOMY/.

⁽²⁹⁴⁾Federal Government of Germany (2020), *National Bioeconomy Strategy*, Federal Ministry of Education and Research (BMBF) and Federal Ministry of Food and Agriculture (BMEL), available at: [National Bioeconomy Strategy](#).

⁽²⁹⁵⁾European Commission, Environmental Implementation Review (2025), Germany country report, https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en.

⁽²⁹⁶⁾European Commission: Directorate-General for Environment, EMRC, Logika Group and RPA Europe; Update of the costs of not implementing EU environmental law (2025), <https://op.europa.eu/en/publication-detail/>

Meanwhile, the other main air pollutants (ammonia, non-methane volatile organic compounds, sulfur dioxides, NO_x and PM_{2.5}) are estimated to create annual costs of as much as EUR 91 billion⁽²⁹⁷⁾. This underscores the need for further action, particularly in industrial regions and urban transport corridors. The European Environment Agency (EEA) estimates point to 371 years of life lost per 100 000 inhabitants attributable to air pollution due to PM_{2.5} concentrations that exceed the World Health Organization's air quality guideline levels⁽²⁹⁸⁾.

Furthermore, no new taxes on major air pollutants such as NO_x, SO₂ or particulate matter have been implemented in the same period⁽²⁹⁹⁾. Introducing a pollution tax system could reduce these pollutants by 7–30%, depending on the tax rate, while generating up to EUR 190 million in revenue by 2030⁽³⁰⁰⁾.

Water pollution from industry also remains a critical challenge. Positive developments for water pollution in Germany include a 38% reduction in industrial heavy metal releases (cadmium, mercury, nickel and lead) and a 28% drop in total organic carbon emissions to water since 2010, as reported under the Industrial Emissions Directive⁽³⁰¹⁾. However, 100% of

Germany's surface water bodies is still failing to achieve good chemical status due to the presence of ubiquitous, persistent, bio-accumulative and toxic substances (uPBTs)⁽³⁰²⁾ that often result from past industrial activities. Water pollution by industry imposes direct and indirect costs of EUR 72 million annually⁽³⁰³⁾, not yet sufficiently borne by the polluters.

The total economic cost of industrial pollution in Germany is EUR 95 billion per year – encompassing healthcare expenses, lost productivity and environmental degradation⁽³⁰⁴⁾⁽³⁰⁵⁾. Yet, investment still falls short. To meet national and EU targets for pollution prevention and control, Germany would need to spend an additional EUR 9.4 billion per year (about 0.24% of GDP), largely focused on improving air quality – particularly in industrial regions and urban transport corridors⁽³⁰⁶⁾.

[/publication/4dead000-263d-11f0-8a44-01aa75ed71a1/language-en?mc_cid=d30edf72a9&mc_eid=3bdab86db2](https://www.eea.europa.eu/en/publication-detail/-/publication/4dead000-263d-11f0-8a44-01aa75ed71a1/language-en?mc_cid=d30edf72a9&mc_eid=3bdab86db2). The damage cost is calculated in terms of value of a life-year (VOLY).

⁽²⁹⁷⁾European Commission: Directorate-General for Environment, IEEP, Green taxation and other economic instruments – Internalising environmental costs to make the polluter pay, 2021, https://environment.ec.europa.eu/publications/green-taxation-and-other-economic-instruments-internalising-environmental-costs-make-polluter-pay_en.

⁽²⁹⁸⁾EEA, 2025, Harm to human health from air pollution in Europe: burden of disease status, 2025, <https://www.eea.europa.eu/en/analysis/publications/harm-to-human-health-from-air-pollution-burden-of-disease-status-2025>.

⁽²⁹⁹⁾European Commission: Directorate-General for Environment, Camboni, M., Markandya, A., Tyrer, D., Goonesekera, S. et al., *Greening the European Semester – Resource and pollution taxes. Annex 6, Country factsheets*, Publications Office of the European Union, 2026, <https://data.europa.eu/doi/10.2779/7798318>.

⁽³⁰⁰⁾Ibid.

⁽³⁰¹⁾EEA, Water pollutant releases changes from 2010 to 2022 for the EU Member States, 2024,

<https://www.eea.europa.eu/en/analysis/maps-and-charts/water-pollutant-releases-3>.

⁽³⁰²⁾European Commission. Third River Basin Management Plans Second Flood Hazard and Risk Maps and Second Flood Risk Management Plans Member State: Germany, February 2025, <https://op.europa.eu/en/publication-detail/-/publication/3c606531-e394-11ef-be2a-01aa75ed71a1/language-en>.

⁽³⁰³⁾European Commission: Directorate-General for Environment, IEEP, Green taxation and other economic instruments – Internalising environmental costs to make the polluter pay, 2021, https://environment.ec.europa.eu/publications/green-taxation-and-other-economic-instruments-internalising-environmental-costs-make-polluter-pay_en.

⁽³⁰⁴⁾European Commission: Directorate-General for Environment, Camboni, M., Markandya, A., Tyrer, D., Goonesekera, S. et al., *Greening the European Semester – Resource and pollution taxes. Annex 6, Country factsheets*, Publications Office of the European Union, 2026, <https://data.europa.eu/doi/10.2779/7798318>.

⁽³⁰⁵⁾EEA, The costs to health and the environment from industrial air pollution in Europe – 2024 update, 2024, <https://www.eea.europa.eu/en/analysis/publications/the-costs-to-health-and-the-environment-from-industrial-air-pollution-in-europe-2024-update>. The costs reported are calculated in terms of value of a statistical life (VSL).

⁽³⁰⁶⁾European Commission: Directorate-General for Environment, EMRC, Logika Group and RPA Europe; Update of the costs of not implementing EU environmental law (2025), https://op.europa.eu/en/publication-detail/-/publication/4dead000-263d-11f0-8a44-01aa75ed71a1/language-en?mc_cid=d30edf72a9&mc_eid=3bdab86db2.

Table A8.1: Key clean industry and climate mitigation indicators: Germany

Climate mitigation											
Germany								Trend		EU	
Industry decarbonisation	2018	2019	2020	2021	2022	2023	2024	2018	2023		
GHG emissions intensity of manufacturing production, g/tCO ₂ e	247	243	255	244	218	207	-	↘	330	-	
Share of energy-related emissions in industrial GHG emissions (%)	66.2	66.9	67.9	68.2	68.5	69.2	-	↘	55.5	57.9	
Energy-related GHG emissions intensity of manufacturing and construction, g/tCO ₂ e	1756	1741	1849	1766	158.4	151.3	-	↘	2039	1630	
Share of electricity and renewables in final energy consumption in manufacturing, %	39.5	39.4	38.2	38.6	38.9	38.5	41.0	↗	42.8	43.9	
Energy intensity of manufacturing, GWh/tCO ₂ e	0.90	0.88	0.95	0.89	0.82	0.78	0.79	↘	1.27	1.05	
Share of energy-intensive industries in manufacturing production, % in GVA	14.82	14.61	15.47	14.30	14.71	14.47	-	↘	-	-	
GHG emissions intensity of production in sector (1) g/tCO₂e											
- paper and paper products (NACE C17)	687	681	711	741	726	639	-	↘	722	619	
- chemicals and chemical products (NACE C20)	715	692	677	679	681	641	-	↘	-	-	
- other non-metallic mineral products (NACE C23)	1,703	1,743	1,919	1,762	1,665	1,924	-	↘	2,495	2,352	
- basic metals (NACE C24)	2,845	2,856	2,859	3,751	3,162	2,735	-	↘	2,842	3,099	
Reduction of effort sharing emissions											
GHG emission reductions relative to base year, %											
- domestic road transport	6.4	5.7	-5.5	-16.5	-18.9	-21.4	-22.6	↘	-1.4	-5.6	
- buildings	-24.8	-21.1	-20.8	-22.6	-28.0	-32.6	-34.0	↘	-20.3	-33.5	
	2005		2021	2022	2023	2024		Target	WEM	WAM	
Effort sharing: GHG emissions, Mt; target, gap, %	484.7		404.9	393.1	380.8	375.3		-50.0%	-36.4%	-36.8%	
Sustainable road transport											
New zero-emission vehicles, electricity motor, %	1.05	1.75	6.65	13.58	17.75	18.43	13.51	↗	1.03	8.96	
Number of publicly accessible AC/DC charging points	-	-	41,199	59,774	83,816	120,612	159,958	200,830	446,956	n/a	
Share of electrified railways, % of total	52.89	53.55	54.02	54.58	54.84	54.85	55.25	↗	55.47	56.49	
Sustainable industry											
Germany								Trend		EU-27	
Circular economy transition											
Material footprint, tonnes per person	15.7	15.5	14.8	15.2	14.6	12.3	11.7	↘	14.8	13.7	
Circular material use rate, %	12.1	12.5	12.9	12.3	12.6	14.5	14.8	↗	11.6	12.2	
Resource productivity, €/kg	2.8	3.0	3.0	3.1	3.5	4.1	4.4	↗	2.1	3.0	
Employees in circular economy	1.7	1.7	1.7	1.7	1.6	1.7	-		2.1	2.0	
Patents in circular economy	85.04	117.6	137.6	78.9					12.3	12.0	
Recycling rate	67.1	66.7	70.3	71.4	69.6	68.7	66.9		46.40	48.1	
Plastic recycling	47%	43%	46%	48%	51%	52%	-		41%	42%	
Construction and demolition waste (CDW) recovery	93	-	94						88	89	
Bioeconomy industry											
Value added, million EUR	117,984	127,533	124,745	132,635	156,808	156,732	-	4.8%	642,438	863,436	
Employment, total number of people employed	2,141,880	2,165,281	2,096,080	2,099,311	2,128,762	2,124,481	-	-0.1%	17,649,040	17,085,642	
Productivity											
Value added per worker, thousand EUR	55.1	58.9	59.5	63.2	73.7	73.8	-	5.0%	36.4	50.5	
Value added per worker, % of national average	80.5	84.4	86.3	86.4	93.6	87.9	-	1.5%	62.2	70.7	
R&D business expenditure											
Total bioeconomy (biomass producing and converting sectors)	3,905	3,941	4,057	5,807	6,421	5,836	-	6.9%	15,672	23,335	
Total R&D business expenditure	72,101	75,830	71,032	75,761	81,809	90,408	-	3.8%	196,587	259,525	
Zero pollution industry											
Damage cost for industrial pollution	110.2	92.1	84.7	94.6	-	-	-		414.9	352.7	
Water industrial pollutants releases											
Cd, Hg, Ni, Pb	nitrogen		TOC		Phosphorus						
	2021	change (2010)	2021	change (2010)	2021	change (2010)	2021	change (2010)			
28,873	-30%	34,541,300	-26%	3,128,000	-31%	1,170,400	-37%	9744.0	Poor (%)	100%	
Water chemical status											

Sources and notes: Industry decarbonisation: All data are from Eurostat; data following the UNFCCC Common Reporting Format (CRF) are from the European Environment Agency (EEA), republished by Eurostat. (1) Sectors covered: all divisions of section C - Manufacturing - of the NACE Rev. 2 statistical classification of economic activities, except C19 (manufacture of coke and refined petroleum products). (2) GHG emissions as per UNFCCC Common Reporting Framework (CRF) categories 1.A.2 - fuel combustion in manufacturing in industries and construction (that broadly correspond to the broadly correspond to the NACE sections C - Manufacturing and E - Construction, excluding C-19), and CRF2 - industrial processes and product use. The figures show the emissions in the 1.A.2 category as a share of the sum of CRF1.A.2. and CRF2 emissions. (3) Sectors covered: CRF 1.A.2 as described above. Gross value added (GVA) data in the denominator aligned in sectoral coverage, in 2020 prices. (4) Sectors covered: NACE section C excluding C19. (5) Nominator: NACE divisions C17, 20, 23, 24; denominator: NACE section C excluding C19 (see above). (6) GVA (denominator) in 2020 prices. **Reduction of effort sharing emissions:** Data source: European Environment Agency, [greenhouse gas data viewer](#); European Commission, [Climate Action Progress Report](#), 2025. For details, see the footnote in the "Reduction of effort sharing emissions" section. **Sustainable road transport:** (7) Source: [Eurostat](#); (8) Source: [European Alternative Fuels Observatory](#); (9) Source: [Eurostat](#). For all climate mitigation indicators, the trend arrows compare the latest available data (year t) with the data four years earlier (t-4). **Sustainable industry:** Bioeconomy value added, employment and productivity: JRC, [Developments of Economic Growth and Employment in Bioeconomy Sectors across the EU](#). Bioeconomy R&D business expenditure: JRC, [Business expenditure in Research and Development \(R&D\) in the EU bioeconomy](#). Damage cost for industrial pollution: EEA, [The costs to health and the environment from industrial air pollution in Europe](#), 2024. Water industrial pollutants releases: EEA, [Industrial releases of pollutants to water and economic activity in the EU-27](#), 2024. Water chemical status: WISE, [Surface water bodies: Chemical status](#), 2024 and WISE [Groundwater bodies: chemical status](#), 2024. Other indicators: Eurostat. For circular economy indicators, the trend arrows compare the latest available data (year t) with the data two years earlier (t-2).

This annex outlines the progress made and the ongoing challenges faced in increasing energy affordability, while advancing the transition to net zero. It reflects the implementation of past energy-related country-specific recommendations.

Germany's 2025 energy-related country specific recommendations highlighted the need to further reduce overall dependency on fossil fuels while facilitating the expansion of renewable energy. They also called for investment to focus on efficient and integrated energy systems, including by upgrading the electricity network and by ensuring cost-efficient expansion and flexibility to support the integration of renewable energy and to adapt to fluctuating demand and supply so as to meet increased balancing needs. In addition, they recommended accelerating the process of decarbonising the buildings sector.

Germany continues making progress in renewable energy expansion, particularly in solar and onshore wind, but the deployment of renewables in heating and cooling and in transport was stagnant and the permitting process is still not fully digitalised. Germany is expanding its electricity grid, while prioritising cost-efficient expansion in line with system needs. But challenges remain such as grid congestion, scaling up system flexibility or digitalisation of electricity networks, particularly at distribution level, to drive Germany's clean energy transition.

Energy prices and costs

Despite major government intervention over the last year to lower household energy bills, both gas and electricity household consumer prices in Germany remained above the EU average, while non-household retail gas prices were unchanged and non-household electricity prices remained above the EU average.

During the first half of 2025, household electricity prices in Germany decreased slightly on 2024, while remaining the highest in the EU, at EUR 0.3835/kWh, and significantly above the EU average. Household

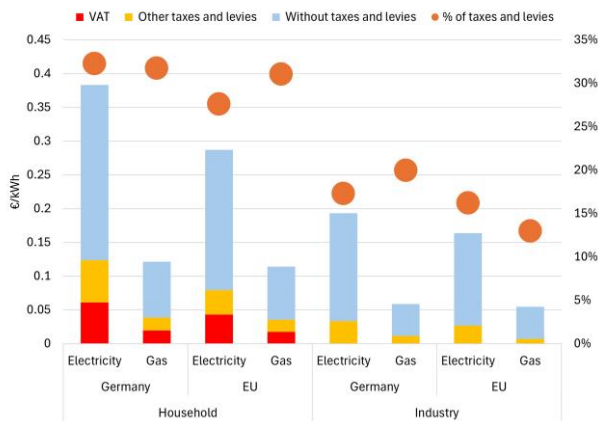
gas prices increased to EUR 0.1216/kWh, slightly above the EU average. Retail electricity prices for industrial consumers followed similar trends and were again above the EU average. Gas prices for non-household consumers remained stable and in line with the EU average. Importantly, final energy prices in Germany during the first half of 2025 showed a very high electricity-to-gas price ratio. For large businesses, electricity was 3.3 times more expensive than gas during the first half of 2025 with taxes and levies (excluding VAT) accounting for 17% of total electricity bills and 20% of total gas bills ⁽³⁰⁷⁾. Excluding taxes and levies, the electricity-to-gas price ratio would have increased to 3.4. For household consumers, the impact of taxes and levies on the electricity-to-gas price ratio would be virtually non-existent, as they account for 32% of both, electricity and gas prices ⁽³⁰⁸⁾.

In 2026, Germany introduced the following energy price measures: i) it abolished the gas storage levy for all consumers (EUR 3.4 billion); ii) it reduced grid fees for all consumers (EUR 6.5 billion/year); iii) it reduced tax on electricity to the EU minimum for manufacturing, agriculture and SMEs (EUR 3.0 billion/year); iv) it subsidised the 'industrial electricity price' for energy-intensive industry, (EUR 3-5 billion/year until end of 2028); and v) it continued financing taxes and levies on renewables from the federal budget to reduce electricity costs, particularly for households.

⁽³⁰⁷⁾It is important to note that the fiscal component of the industrial electricity bill might change from 2026 onwards as the German government has decided to lower excise duty rates for some energy-intensive industrial sectors and to remove the gas storage levy due to a higher carbon tax on gas.

⁽³⁰⁸⁾Analysis based on S1 2025 Eurostat data.

Graph A9.1: **Electricity and gas prices for household and non-household consumers, first half of 2025**



(i) For household consumers, the consumption band is DC for electricity and D2 for gas.
 (ii) For non-household consumers, the consumption band is ID for electricity and I4 for gas. VAT and recoverable charges are not displayed for non-household consumers as these are typically recovered by businesses. This also applies to the ‘% of taxes and levies’, which is shown excluding VAT and recoverable charges for non-household consumers.
 (iii) ‘Without taxes and levies’ indicates the retail price excluding all taxes and levies. It always includes the energy/supply and network cost components, which are not disaggregated in Eurostat’s six-monthly price dataset.

Source: Eurostat

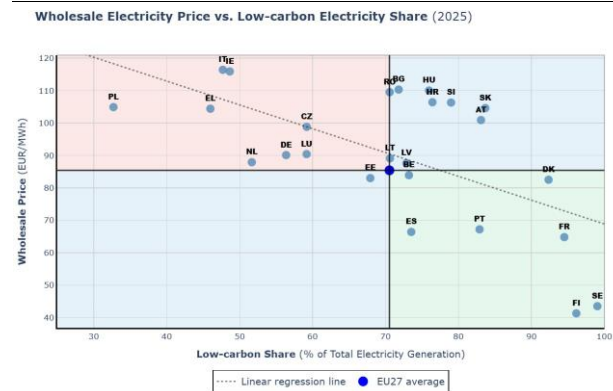
Due to continued reliance on fossil fuels for electricity generation and limited non-fossil flexibility, wholesale electricity prices in the German-Luxembourgish bidding zone averaged 90 EUR/MWh in 2025, exceeding the EU average of 85⁽³⁰⁹⁾. Despite renewables accounting for over 56.4% of electricity generation in Germany in 2025, natural gas maintained its structural role as the dominant marginal price-setter, keeping costs elevated. Average day-ahead electricity prices increased by 15% in 2025 amid rising natural gas procurement costs and heightened electricity demand. Short-run marginal costs⁽³¹⁰⁾ of natural gas in the EU increased from EUR 96/MWh in 2024 to nearly EUR 103/MWh in 2025. Although daytime electricity prices have fallen in recent years owing to growing incorporation of solar power, Germany remains vulnerable to severe price spikes during peak-

⁽³⁰⁹⁾Source: Ember.

⁽³¹⁰⁾Short run marginal costs (SRMC) are the sum of the variable costs associated with producing electricity using hard coal and fossil gas. These are fuel costs, carbon costs and variable operating and maintenance costs. Estimates are provided by Ember.

demand hours. This is because low solar output in the evening and early morning combined with limited non-fossil flexibility require gas fuelled thermal plants to significantly ramp up generation to cover the supply–demand gap. As a result, price spreads⁽³¹¹⁾ in Germany averaged EUR 122/MWh in 2025, up 14% from 2024, nearly matching the EU average.

Graph A9.2: **Low-carbon electricity generation vs. electricity wholesale prices, 2025**



Unavailable data for Cyprus and Malta. Wholesale price is given as average of day-ahead electricity prices over 2025. EU-27 average is calculated as consumption-weighted. EU low-carbon share is calculated out of total EU electricity generation. Low-carbon share by country is calculated out of total public electricity generation. Low-carbon includes renewables and nuclear.

Source: Eurostat

Flexibility and electricity grids

Germany is making progress in expanding its electricity grid and intends to prioritise cost-efficient expansion in line with system needs.

Germany belongs to both the Core⁽³¹²⁾ and Hansa⁽³¹³⁾ capacity calculation regions (CCRs)⁽³¹⁴⁾. The Hansa CCR has high trade capacity overall, while the Core CCR offers lower trade capacity. As of 1 January 2026, EU Member

⁽³¹¹⁾Spread refers to the difference between the highest and lowest hourly day-ahead electricity prices in a single day.

⁽³¹²⁾Core is the capacity calculation region (CCR) which covers Belgium, Czechia, Germany, France, Croatia, Hungary, the Netherlands, Austria, Poland, Romania, Slovenia, Slovakia (and, once connected, Ireland).

⁽³¹³⁾The Hansa CCR includes Denmark, Germany, the Netherlands, Poland and Sweden.

⁽³¹⁴⁾A CCR is a group of countries that calculate cross-border electricity trade flows together.

States must ensure that a minimum of 70% of technical cross-border capacity is available for trading. Germany has implemented an action plan to reach the 70% threshold by 31 December 2025. In line with the findings of the bidding zone review report by the European Network of Transmission System Operators for Electricity, Germany has issued a second action plan setting out measures to further reinforce its grid⁽³¹⁵⁾ and increase cross-border electricity trading.

Germany is actively engaging with neighbouring countries to develop new interconnections. A recent example is its agreement with Denmark to construct the Bornholm Energy Island (European Highway), concluded at the North Sea summit in Hamburg in January 2026. This will be the world's largest cross-border energy transition project, which is expected to feed 3 GWs of offshore wind energy into the European grid.

As of 2026, Germany's electricity interconnection level is 9.37%, demonstrating the continued rapid expansion of renewable generation which is outstripping growth in available cross-border capacity. Germany is continuing to expand its transmission and distribution grid and expects to meet the EU's target of 15% interconnection capacity by 2030. At present, Germany has 128 ongoing expansion projects covering 16 800 km⁽³¹⁶⁾, of which 16% are operational, 31% under construction and 41% in the permitting stage. Germany has made progress on new synchronisation measures, has amended its legislation, specifically the Grid Expansion Acceleration Act (NABEG), and is nationally implementing the revised Renewable Energy Directive (RED III) in the grid sector to accelerate and increase grid expansion and better synchronise this with renewable energy expansion.

In 2023, Germany launched its electricity storage strategy to support the market-driven expansion of electricity storage. This strategy addresses issues such as licensing, grid fees and accelerated connection. Germany has the

highest level of non-fossil flexibility deployment in the EU (around 9 GW), followed by Italy (also 9 GW) and Spain (7 GW). The dominant technology is mechanical storage (7 GW). Electrochemical storage, with 2 GW installed capacity, is expected to grow substantially. Almost 9 GW of electrochemical storage projects have been announced, and almost 2 GW are either under construction or have been granted a permit.

Germany's regulatory framework is a barrier to demand-side flexibility and storage due to disincentives in the grid fee structure and problems with grid connections. These disincentives include discounts for large consumers with steady demand (i.e. industry). Germany has launched a working group to address this and has created a roadmap to ramp up dynamic tariffs. An initial proposal setting out new rules has been announced for mid-2026. Demand response and storage can play a part in helping to provide ancillary services and congestion management. Currently, there are long waiting times for storage projects to be connected. Germany is therefore considering adapting its connection rules to better reflect system needs. Aggregators can participate in Germany's day-ahead and intraday markets.

The first transmission pipeline (measuring 400 km) in Germany's hydrogen core network was entered into operation by GASCADE in 2025. Germany is part of various hydrogen infrastructure projects involving EU Member States and third countries. They include i) the Iberian H2 corridor with Portugal, Spain and France; ii) the Southern H2 corridor with Italy, Austria, Tunisia and Algeria; iii) a hydrogen pipeline with Norway, resumed after its cancellation in 2024, and iv) a cross-border pipeline with Denmark due to become operational in 2030.

In 2024, 99% of households had regulated fixed-price energy contracts (unchanged since 2023), which limit flexibility and lead to higher costs for consumers. Although smart meters are crucial for demand flexibility, Germany's roll-out has been very slow. As of December 2025, smart meters represented only 5.5% of all meters, and around 23.3% in cases where smart meters are mandatory⁽³¹⁷⁾. Germany

⁽³¹⁵⁾Source: as per Fraunhofer Institute, Germany curtailed approximately 6.7TWh, up to September 2025 due to grid bottlenecks.

⁽³¹⁶⁾[Netzausbau - Prognose zum Stromnetzausbau.](#)

⁽³¹⁷⁾Source: Quarterly monitoring of the [Bundesnetzagentur](#).

has opted to incentivise roll out, instead of applying sanctions and will table a proposal in this regard in spring 2026. Households are increasingly becoming prosumers. In 2024, 7% of households were prosumers.

In 2024, electricity accounted for 22.8% of final energy consumption (FEC) (below the EU average of 23.4%), a share which has remained largely unchanged over the last decade⁽³¹⁸⁾, partly due to an unfavourable electricity-to-gas price ratio that disincentivises electrification and cost-effective decarbonisation. Electricity accounts for 21.7% and 35.1% of household and industrial FEC respectively (see Annex 8). In the transport sector, the share of FEC accounted for by electricity remains negligible at 3.0%. Further progress in electrification across sectors would help to cost-effectively decarbonise the economy and bring the benefits of affordable renewable generation to consumers.

Renewables and long-term contracts

Germany has made further progress in facilitating the expansion of renewables while continuing to reduce its overall dependency on fossil fuels.

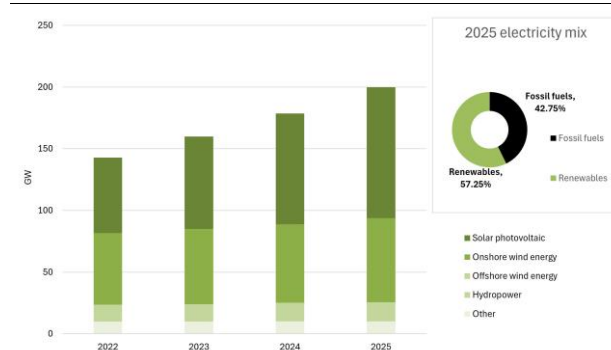
Germany's legal framework has enabled it to significantly accelerate the roll-out of renewable energy installations in the past two years, with record levels of permitting for wind and grid projects. Challenges nevertheless remain, with the deployment of renewables in heating and cooling and in transport largely stagnant in 2024 and the permitting process still not fully digitalised.

In 2025, renewables accounted for 56.4% of the electricity mix (vs an overall EU renewables share of 44.8%), remaining essentially stable compared to the previous year (56.3% in 2024, +0.1 percentage points), due to unusual weather conditions and lower wind levels. Germany had an

⁽³¹⁸⁾The CAGR (compound annual growth rate) was 0.35% between 2015 and 2024. The minimum/maximum shares were 21.3% and 22.8%, respectively. (Source: Eurostat).

installed capacity of 200 GW of renewables⁽³¹⁹⁾ in 2025, including 106 GW of solar (+16.5% compared to 2024), 68.1 GW of onshore wind (+4.6 GW) and 9.7 GW of offshore wind (+0.5 GW). In addition, Germany published a schedule for significant auction volumes for onshore and offshore wind and solar photovoltaic energy on the Union Renewable Development Platform⁽³²⁰⁾ In offshore wind, Germany aims to expand to 30 GW by 2030, 40 GW by 2035 and 70 GW by 2045. Germany will be the largest wind offshore market in the EU.

Graph A9.3: Germany's installed renewable capacity vs electricity generation mix



Electricity mix is given as net electricity generation (gross electricity production minus consumption of power stations' auxiliary services). Electricity produced in pumped hydro plants is excluded from total net electricity production, as it was previously counted as electricity produced from another source.

"Other" includes renewable municipal waste, solid biofuels, liquid biofuels, and biogas.

Source: IRENA, Eurostat

Germany has Europe's second largest power purchase agreement (PPA) market after Spain, with more than 11 077 GWh/y covered by PPAs between 2021-2025 based on publicly announced projects (108 deals in total). Nevertheless, the capacity under PPAs dropped sharply between 2023 and 2024, from 7 307 GWh to 3 920 GWh, although the number of deals remained stable (36 deals in 2023, 38 in 2024).

In 2024, Germany became the first Member State to launch funding via carbon Contracts for Difference for SMEs and larger industrial

⁽³¹⁹⁾[Renewable capacity statistics 2026](#).

⁽³²⁰⁾[Member States overview | Union Renewable Development Platform](#).

corporations in order to support and advance the decarbonisation of industry ⁽³²¹⁾.

Energy efficiency

Germany has made progress in accelerating the decarbonisation of buildings.

Overall, Germany made moderate progress in improving energy efficiency but risks reversing progress through legislation cementing the dominance of fossil fuels in residential heating. In 2024, final energy consumption (FEC) decreased by 1.1% to 184.8 Mtoe, as compared to 2023, continuing the downward trend observed since 2019. Germany's FEC in 2024 is thus slightly aligned with the trajectory to its expected contribution in 2030. A reduction in FEC has been observed in a number of sectors between 2019 and 2024: in industry by 13.1%, mainly due to the economic downturn and reduced industrial output, in services by 13.8%, in transport by 11.5% and in the residential sector by 10%. This overall decline reflects continued efficiency improvements reinforced by recent policy developments.

In 2024, Germany began implementing the Energy Efficiency Act (EnEfG), which for the first time establishes a binding, cross-sectoral framework with concrete energy-saving obligations, notably mandatory energy or environmental management systems and waste-heat utilisation requirements for large enterprises and data centres. At the same time, Germany is investing in energy efficient building renovations under its recovery and resilience plan. Moreover, federal funding for energy efficiency and decarbonisation has been consolidated and expanded under the Climate and Transformation Fund (KTF), providing grants and concessional financing for building renovations, industrial efficiency measures and SMEs.

In 2025, these instruments were brought further into operation, with increased emphasis on implementation, compliance and monitoring, alongside continued support for high-efficiency buildings and technologies

through revamped building renovation schemes. While recent trends confirm tangible progress across all sectors, sustaining and accelerating such efficiency gains will depend on these measures being effectively rolled out and taken up at scale. Most notably, the government has agreed to revise the Gebäudeenergiegesetz, now renamed the Gebäudemodernisierungsgesetz (Building Modernisation Act), removing earlier requirements for climate-friendly heating and allowing the installation of gas and oil boilers in residential buildings⁽³²²⁾. This change risks locking consumers into fossil-fuel based heating systems, exposing them to fluctuating oil and gas prices, and slowing the rollout of heat pumps.

The decline in FEC in the residential sector was mostly driven by changes in heating behaviour, such as the optimisation of household temperature settings and other technical savings. Nevertheless, the climate, in particular colder winters and hotter summers, as well as an expansion of the housing stock, increased energy consumption. Germany's 11.2% reduction in residential FEC between 2019 and 2024 is not in line with its 2020 long term renovation strategy, which set an objective of a 39% reduction in energy consumption between 2018 and 2030.

Given that buildings are responsible for 40.3% of energy use in Germany, they play an important role in improving energy efficiency. Therefore, Germany is encouraged to submit its draft national building renovation plan pursuant to the recast of the Energy Performance of Buildings Directive to ensure a clear and predictable pathway towards an energy-efficient and decarbonised building stock.

Heating and cooling account for 83% of Germany's residential final energy consumption, with renewables supplying 17% of total energy consumed for heating and cooling across all sectors. Over 14 million households rely on gas boilers for heating, while another 5 million households use oil boilers. Approximately 230 000 heat pumps were sold in 2024, a decrease of 48% compared to the previous year, taking Germany's total stock of heat pumps to around 2 275 000. Electricity in

⁽³²¹⁾BMWK, 2024, Carbon contracts for difference announced, [bmwk.de](https://www.bmwk.de).

⁽³²²⁾Source: BMWK.

Germany was 3.15 times more expensive than gas during the first half of 2025. This means that end users who choose a heat pump over a gas boiler save energy but end up paying more.

Germany's district heating systems, e.g. in Munich, are among the leading examples in Europe for incorporating energy efficiency and decarbonisation measures into the district heating and cooling sector. Under its recovery and resilience plan, Germany is investing in efficient heat networks for district heating, supported to a large extent by renewable energy and waste heat.

Security of supply and diversification

Germany is actively working to diversify away from Russian gas. Since the end of 2022, Russian gas has been gradually replaced by pipeline gas (from Belgium, the Netherlands and Norway) and LNG (mainly from the US) imported through floating storage regasification units (FSRUs). The state-owned Deutsche Energy Terminal GmbH operates three FSRUs, one in Brunsbüttel and two in Wilhelmshaven. A further FSRU is privately run in Mukran. Moreover, an additional FSRU is set to become operational in Stade in 2026. In 2025, Germany imported a total of 10.1 bcm of LNG, of which the vast majority (92%) came from the US.

Despite making progress in deploying renewables, Germany's overall energy mix in 2024 was still heavily based on fossil fuels. Oil accounted for 37% of gross inland consumption, natural gas for 26% and coal for 15%. Renewables (including biofuels) accounted for 20%⁽³²³⁾. Germany's reliance on fossil fuels underscores the importance of its ongoing energy transition efforts in order to diversify energy sources and strengthen energy security.

In response to rising energy prices following the regional crisis in the Middle East, Germany has coordinated the IEA collective action to release 400 million barrels of emergency oil reserves, contributing approximately 2.64 million tonnes, and implemented measures to limit fuel price

⁽³²³⁾Source: [Eurostat](#). Electricity and heat are excluded from gross inland consumption to avoid double-counting. The focus is on primary energy sources.

increases to once daily at petrol stations, with fines up to €100 000 for violations. An additional measure includes a 17-cent reduction in fuel tax. Germany has also strengthened antitrust oversight to combat excessive pricing.

Fossil fuel subsidies

In 2024, environmentally harmful⁽³²⁴⁾ fossil fuel subsidies without a planned phase-out before 2030 represented 0.28% of Germany's GDP⁽³²⁵⁾. Additionally, Germany's Effective Carbon Rate averaged EUR 96.85 per tonne of CO₂ above the EU weighted mean of EUR 84.80⁽³²⁶⁾⁽³²⁷⁾.

⁽³²⁴⁾Explicit fossil fuel subsidies (e.g. direct transfers) and implicit fossil fuel subsidies (i.e. tax expenditures linked to forgone tax revenues that have an identifiable fiscal impact for the central budget) that support fossil fuel energy production, transmission and/or consumption.

⁽³²⁵⁾European Commission calculation based on underlying data from the *Study on energy subsidies and other government interventions in the EU – 2025 edition*, Enerdata.

⁽³²⁶⁾OECD, 2024, *Pricing Greenhouse Gas Emissions 2024*.

⁽³²⁷⁾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.

Germany has advanced its climate adaptation policies with the Federal Climate Adaptation Act but faces challenges on resilience. Vulnerabilities include significant investment needs for infrastructure and ecosystem restoration; and exposure to heatwaves, wildfires and flooding (particularly in coastal areas). Insurance coverage for natural disasters remains inadequate, posing economic risks. Water scarcity is especially pronounced in northern regions but can be addressed by improving water management and infrastructure investment. Efforts to restore natural habitats are ongoing but are impeded by widespread degradation and funding shortfalls. Effective policy implementation would benefit from strengthened governance coordination and enhanced capacity at sub-national levels to ensure comprehensive climate resilience and adaptation.

Climate adaptation and preparedness

Germany is exposed to climate change impacts which will require significant investments in all sectors. See Annex 19 for regional aspects to climate change vulnerability. In 2025, Germany experienced a record dry spring⁽³²⁸⁾, resulting in unusually low Rhine water levels with implications for ecosystems and river transport. Heatwaves have a significant impact on Germany. In summer 2025, severe wildfires in eastern Germany triggered evacuations and required a large-scale emergency response. Copernicus EMS Rapid Mapping was activated⁽³²⁹⁾. Germany had 6 282 heat-related fatalities in 2024 – close to the EU-27 median but well below the mean⁽³³⁰⁾. Furthermore, parts of Germany are in one of the three types of EU regions identified as hotspots most affected by climate risks (i.e. low-lying coastal regions). These areas are

⁽³²⁸⁾DWD, 2025, https://www.dwd.de/DE/presse/pressemitteilungen/DE/2025/20250415_pm_trockenheit_news.html?nn=16210.

⁽³²⁹⁾Copernicus Emergency Management Service, 2025, <https://storymaps.arcgis.com/stories/66b40f837f0f45aab962b636b1dc4eea>.

⁽³³⁰⁾Janoš et al., 2025, *Heat-related mortality in Europe during 2024 and health emergency forecasting to reduce preventable deaths*, <https://www.nature.com/articles/s41591-025-03954-7>. The mean is pulled up by some Member States (e.g. Greece, Croatia, Italy and Romania).

particularly at risk from flooding, erosion and saltwater intrusion aggravated by sea level rise⁽³³¹⁾. If current levels of coastal protection are not raised, the direct economic damage and social impact from coastal flooding in Germany is projected to rise sharply this century⁽³³²⁾. Available sources estimate that investment needs related to climate adaptation will be significant in the future. A recent study commissioned by DG CLIMA⁽³³³⁾ estimates that Germany will need to invest almost EUR 9.6 billion per year up to 2050. This would be equivalent to 0.19% of annual GDP (lower than the EU average of 0.5%). The priority area for investment would be infrastructure retrofitting and reinforcement (more than 50% of the total), followed by ecosystems restorations (around 26%) and food (around 15%).

Germany is continuing with strategy-setting for adaptation and establishing an implementation model. The Federal Climate Adaptation Act (KAnG) entered into force in 2024. It was accompanied by a comprehensive adaptation strategy⁽³³⁴⁾, including an action plan that outlines over 180 specific measures to address the targets and around 90 further measures and instruments. The plan was developed with input from a climate impact and risk analysis. It identifies 33 measurable goals in order to guard against extreme weather events (e.g. heat, drought, heavy rain and flooding). The Länder are now required to prepare their own adaptation strategies by 2027 and to support

⁽³³¹⁾EEA, 2024, *European Climate Risk Assessment*, <https://www.eea.europa.eu/en/analysis/publications/european-climate-risk-assessment>.

⁽³³²⁾Nature Communications, 2020, *Economic motivation for raising coastal flood defenses in Europe*.

⁽³³³⁾European Commission (2026), *Assessment of adaptation investment needs*, Table 25, [https://op.europa.eu/en/publication-detail/-/publication/d2039eac-f742-11f0-b9bc-01aa75ed71a1/language-en%20\(Table%208\)](https://op.europa.eu/en/publication-detail/-/publication/d2039eac-f742-11f0-b9bc-01aa75ed71a1/language-en%20(Table%208)). The study provides detailed estimates of adaptation investment needs at the level of the EU and individual Member States per type of measure. It relies on a common methodology that makes estimates comparable across the EU. Four accompanying methodological reports provide a detailed description of how the results were estimated to ensure full transparency.

⁽³³⁴⁾The KWRA, see Climate Adapt, 2021, https://climate-adapt.eea.europa.eu/en/news-archive/climate-impact-and-risk-assessment-2021-for-germany?utm_source=chatgpt.com.



municipal adaptation concepts⁽³³⁵⁾. In 2025, sub-national progress continued, with Hamburg⁽³³⁶⁾ and Bremen⁽³³⁷⁾ adopting new adaptation strategies and Saxony-Anhalt updating its strategy⁽³³⁸⁾. Monitoring is being carried out through a federal indicator system managed by the Umweltbundesamt (UBA). The 2027 national monitoring report is expected to inform the next update of the adaptation strategy in 2028⁽³³⁹⁾. Governance and coordination have strengthened, but effective delivery still depends on the capacity of the Länder and municipalities, and funding and staffing constraints are still limiting comprehensive local uptake (particularly in smaller municipalities).

The Covenant of Mayors – referenced in the EU Adaptation Strategy – provides a platform for municipal action. The share of Germany's population covered by the EU Covenant of Mayors signatories has been slowly increasing but remains one of the lowest in the EU in 2024 (19% vs EU-27: 34%). 36% of German signatories have submitted a sustainable energy and action plan (SECAP) on time (i.e. within two years of their initial commitment to the EU Covenant) and 11% have submitted at least one monitoring report within the recommended timeframe (i.e. within two years of submitting their SECAP)⁽³⁴⁰⁾. This indicates a growing commitment among German municipalities to increase climate resilience, but it

also shows that implementation of policies is lagging behind at the local level.

Climate risks have a direct and significant effect on Germany's economy, but insurance coverage is significantly stronger than the EU average. Between 1980 and 2024, Germany recorded EUR 187 billion in economic losses caused by weather and climate-related extreme events. It suffered some of the highest damage in the EU in absolute terms, per capita and per km²⁽³⁴¹⁾. Germany belongs to the group of Member States with the second highest share of natural catastrophes damages in relation to GDP⁽³⁴²⁾, behind south-eastern Member States. Germany has higher-than-average insurance coverage against weather-related and climate-related events in the EU (31% vs EU-27:19%⁽³⁴³⁾), but the insurance gap remains large. It is not mandatory to have insurance coverage for the two highest risk factors (river and coastal floods). For disaster compensation, Germany has largely relied on ad hoc public relief (e.g. Aufbauhilfe after the 2021 floods). Germany does not have a national insurance scheme in place⁽³⁴⁴⁾, but such a scheme could help improve insurance coverage and reduce the insurance protection gap (especially for materially exposed households and SMEs). However, policy awareness has grown. The Länder have publicly pushed for mandatory/expanded natural hazard cover alongside dedicated adaptation financing. The private sector has demonstrated some concrete designs

⁽³³⁵⁾BMUKN, *Federal Climate Adaptation Act*, 2024, p.7, https://www.bundesumweltministerium.de/fileadmin/Daten_BMU/Download_PDF/Gesetze/kang_en_bf.pdf.

⁽³³⁶⁾*Strategie zur Anpassung Hamburgs an den Klimawandel*, 2025, <https://www.hamburg.de/resource/blob/1023070/d91af265423c662f23accb68a6b712b0/d-klimaanpassungsstrategie-data.pdf>.

⁽³³⁷⁾*Klimaanpassungsstrategie Bremen, Bremerhaven*, 2025, https://www.klimaanpassung.bremen.de/sixcms/media.php/13/Klimaanpassungsstrategie_BremenBremerhaven_2025.pdf.

⁽³³⁸⁾*Klimawandel in Sachsen-Anhalt, Monitoringbericht 2025*, 2025, https://mwu.sachsen-anhalt.de/fileadmin/Bibliothek/Politik_und_Verwaltung/MWU/Klimaschutz/Klimawandel-Anpassungsstrategie/Klimawandelmonitoringbericht_2025.pdf.

⁽³³⁹⁾UBA, 2024, https://www.umweltbundesamt.de/themen/neue-deutsche-anpassungsstrategie-soll?utm_source=chatgpt.com.

⁽³⁴⁰⁾European Commission, https://eu-mayors.ec.europa.eu/en/key_figures.

⁽³⁴¹⁾EEA, 2025, *Economic losses from weather- and climate-related extremes in Europe*, <https://www.eea.europa.eu/en/analysis/indicators/economic-losses-from-climate-related>.

⁽³⁴²⁾ECB and EIOPA, 2024, *Towards a European system for natural catastrophe risk management*, https://www.eiopa.europa.eu/document/download/d8c87070-f602-4bf7-b8d8-726ec0b5c173_en?filename=eiopa-ecb-climate-insurance-protection-gap.pdf. Chart 2. This figure includes earthquakes which happened in 2020-2023.

⁽³⁴³⁾EEA, 2025, *Economic losses from weather- and climate-related extremes in Europe*, <https://www.eea.europa.eu/en/analysis/indicators/economic-losses-from-climate-related>.

⁽³⁴⁴⁾ECB and EIOPA, 2024, *Towards a European system for natural catastrophe risk management*, p. 16, https://www.eiopa.europa.eu/document/download/d8c87070-f602-4bf7-b8d8-726ec0b5c173_en?filename=eiopa-ecb-climate-insurance-protection-gap.pdf.

(e.g. Elementar from Germany's insurance association GDV ⁽³⁴⁵⁾).

Climate-proofing has not been systematically applied across sectors and key infrastructure. Germany does not outline clear policies and measures to integrate the climate adaptation imperative into the energy system ⁽³⁴⁶⁾. The national adaptation strategy has identified a low medium-term risk in the energy area and this will be looked at in more detail in the upcoming update of the strategy (2028) ⁽³⁴⁷⁾. On transport, the strategy has a land-based target and a water-based target. The land-based target focuses on reducing the number of incidents due to extreme weather events. With regard to the water-based target, the adaptation measures are intended to help reduce the impacts of low-water periods. The vulnerability index of the TEN-T network to climate change has been assessed as the lowest in the EU. This is mainly due to Germany's high general adaptation preparedness and high transport adaptation preparedness ⁽³⁴⁸⁾. However, the study also cautions that it 'cannot classify any Member State as 'non-vulnerable' ⁽³⁴⁹⁾. Going forward, predominantly coastal floods as well as heatwaves are likely to play an important role in Germany and are associated with the highest expected costs for adaptation. An estimated total of EUR 5.8 billion will need to be invested until mid-century in TEN-T, mostly in railways (EUR 2.6 billion) and maritime ports (EUR 2 billion) ⁽³⁵⁰⁾.

⁽³⁴⁵⁾GDV (the German insurance association), *Basic protection for all: Insurers present framework for a safeguard system against natural catastrophes*, https://www.gdv.de/gdv-en/media/basic-protection-for-all-insurers-present-framework-for-a-safeguard-system-against-natural-catastrophes-194810?utm_source=chatgpt.com.

⁽³⁴⁶⁾Staff working document accompanying the EU-wide assessment of the final updated national energy and climate plans, Delivering the Union's 2030 energy and climate objectives, NECP assessment, COM (2025/274 final), p. 42.

⁽³⁴⁷⁾BMUKN, Climate Adaptation Strategy, p. 28, <https://www.bundesumweltministerium.de/en/download/2024-german-climate-adaptation-strategy>.

⁽³⁴⁸⁾European Commission, 2024, *Support study on the climate adaptation and cross-border investment needs to realise the TEN-T network*, Publications Office of the European Union, p. 69. <https://data.europa.eu/doi/10.2832/7839720>.

⁽³⁴⁹⁾Ibid., p. 70.

⁽³⁵⁰⁾Ibid., p. 108.

There is scope to tap into nature-based solutions (NbS) more widely and systematically. In 2025, Germany recorded the highest number of fires and area burnt since the early 2000s ⁽³⁵¹⁾. It is becoming increasingly evident that wildfires are no longer confined to the summer months but can occur both earlier and later. Nature-based solutions and prevention play a key role in increasing resilience, but their large-scale and systematic uptake across different sectors remains uneven. NbS are most advanced in river and floodplain restoration (as shown, for example, by the EU-supported LIFE project Living River Lahn ⁽³⁵²⁾, which restores natural river dynamics and flood retention capacity). Urban NbS (e.g. green roofs, de-paving and cooling corridors) are increasingly being promoted but remain locally driven. Since 2024, progress has accelerated with the federal action programme for natural climate protection ⁽³⁵³⁾. This and the German adaptation strategy ⁽³⁵⁴⁾ are strengthening the policy and funding framework by mainstreaming NbS. However, scaling-up still depends on municipal capacity, land availability and long-term financing.

Water resilience

Germany faces seasonal water scarcity, particularly in North and North-East Germany as well as in parts of Bavaria.

Spring 2025 was one of the driest periods since weather records began in 1931. Between 1 February 2025 and mid-April 2025, precipitation was 68% below average ⁽³⁵⁵⁾. Agriculture, water utilities and energy production are among the most water-dependent sectors ⁽³⁵⁶⁾. Furthermore,

⁽³⁵¹⁾According to [EFFIS](#), in 2025 the number of fires and the area burnt were considerably higher than in 2006-2024 (38 fires burning 5 475 ha of forest).

⁽³⁵²⁾LIFE Public Database. <https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE14-IPE-DE-000022/living-river-lahn-one-river-many-interests>.

⁽³⁵³⁾BMUKN, Aktionsprogramm Natürlicher Klimaschutz, [Link](#). For more information, see the section within this annex on 'Sustainable Agriculture and Land Use'.

⁽³⁵⁴⁾UBA, 2024, https://www.umweltbundesamt.de/themen/neue-deutsche-anpassungsstrategie-soll?utm_source=chatgpt.com.

⁽³⁵⁵⁾Helmholtz Centre for Environmental Research (UFZ), Drought Monitor Germany, <https://www.ufz.de/index.php?en=37937>.

⁽³⁵⁶⁾EEA, 2025, *Water abstraction by economic sector, 2000-2023*,

reduced water levels can restrict cargo capacity and aquaculture production, raising shipping/production costs and consumer prices. The national water exploitation index plus (WEI+) ⁽³⁵⁷⁾ indicates low overall pressure due to abundant renewable freshwater resources. However, large regional disparities persist and the JRC European Drought Risk Atlas shows a very differentiated picture. Northern parts of Germany are especially vulnerable because of factors like sandy soils, lower average precipitation and slow groundwater recharge ⁽³⁵⁸⁾. A recent study ⁽³⁵⁹⁾ shows that Germany is losing more water than it restores and that climate change as well as changing land use patterns are widening the gap. The cost of inaction could amount to at least EUR 20-25 billion annually or EUR 500-625 billion cumulatively by 2050.

Water productivity in Germany ⁽³⁶⁰⁾ stood at EUR 170 per m³ of abstracted water in 2022 (above the EU-27 average of EUR 151 per m³), reflecting efficient water management practices, low per capita water consumption and advanced wastewater treatment systems. In 2023, public water supply accounted for 22.2% of freshwater abstraction. Energy production was the largest abstractor, at 50.3% ⁽³⁶¹⁾. Since 2014, abstraction from fresh surface water has been slowly decreasing (by

27%), due to a shift toward less water-intensive technologies. However, in view of the increase in climate-change-induced dry periods and the risk of over-abstractions, Germany could increase and harmonise the use of abstraction permits and fees for all water users nationwide; better monitor the actual abstracted amounts; and harmonise the inconsistent use of exemptions from water fees. The Länder currently set their own charges for water abstraction. 14 of the 16 Länder levy charges for the abstraction, extraction or discharge of groundwater (between EUR 0.15 and EUR 0.31 per m³). The German drinking water network is one of the most efficient in the EU (it loses less than 7% and is on a downward trend) ⁽³⁶²⁾.

The good ecological status of Germany's surface water bodies (SWBs) improved slightly between the second and third river basin management plans (RBMPs), but from an initially very low level of 8.1% to 9.3% ⁽³⁶³⁾. The main pressures remain nutrient pollution from agriculture and physical alterations. Coastal and transitional waters are particularly affected by pollution (100% fail to achieve good ecological status or potential). The high density of barriers and obstacles ⁽³⁶⁴⁾ on Germany's rivers and smaller streams impacts the good ecological status of surface water. It isolates and fragments habitats; reduces migration of fish species; and blocks the transport of sediments, thereby increasing the risk of floods. Germany has some of the most fragmented river networks in the EU with about 2 barriers per km of river/stream in Germany (EU-average is about 1 barrier per 1.4 km). The third RBMP ⁽³⁶⁵⁾ states that around 37% of all reported water bodies are significantly

<https://www.eea.europa.eu/en/analysis/indicators/water-abstraction-by-source-and/water-abstraction-by-economic-sector>.

⁽³⁵⁷⁾Eurostat, Water Exploitation Index, plus, https://ec.europa.eu/eurostat/databrowser/view/sdg_06_60/default/table?lang=en. WEI is a measure of how much water is being used compared with the total renewable freshwater resources available for a given territory and period.

⁽³⁵⁸⁾Rossi, et al. (JRC), 2023, European Drought Risk Atlas, Publications Office of the European Union, <https://publications.jrc.ec.europa.eu/repository/handle/JRC135215>.

⁽³⁵⁹⁾BCG and NABU, 2026, *Every Drop Counts – Pathways to Restore Germany's Water Balance*, <https://www.bcg.com/publications/2026/every-drop-counts-pathways-to-restore-germanys-water-balance>.

⁽³⁶⁰⁾Water productivity is a metric that is calculated by dividing GDP (in chain-linked volume) by total water abstraction. It indicates the average economic value (GDP) a Member State creates for each unit of water it takes from nature.

⁽³⁶¹⁾EEA, 2025, *Water abstraction by economic sector 2000-2023*, <https://www.eea.europa.eu/en/analysis/indicators/water-abstraction-by-source-and/water-abstraction-by-economic-sector>.

⁽³⁶²⁾Umweltbundesamt, 2024, Öffentliche Wasserversorgung, <https://www.umweltbundesamt.de/daten/wasser/wasserwirtschaft/oeffentliche-wasserversorgung#grundwasser-ist-wichtigste-trinkwasserressource>.

⁽³⁶³⁾WISE, *Surface water bodies: ecological status or potential*, <https://water.europa.eu/freshwater/resources/metadata/wfd-dashboards/surface-water-bodies-ecological-status-or-potential-group-table>.

⁽³⁶⁴⁾AMBER, *Adaptive Management of Barriers in European River*.

⁽³⁶⁵⁾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)*, https://environment.ec.europa.eu/topics/water/water-framework-directive/implementation-reports_en.

affected by pressures from hydropower and that this impacts ecological status. The impacts include the interruption of the biological and hydromorphological continuity of watercourses (preventing migratory fish of reaching their spawning grounds); direct damage to organisms by hydropower turbines (around 22% of the fish of all ages pass through a turbine die and an even larger percentage is injured); and habitat changes affecting water levels downstream. Furthermore, 35% of Germany's water bodies are heavily modified water bodies (HMWBs) and 17% are artificial with a lower environmental objective. The designation of HMWBs is largely the result of land drainage for agriculture (66%), urbanisation (28%) and flood protection (19%). Germany's measures to address the problem include the federal programme 'Blue Belt Germany', which funds the implementation of measures on rivers and floodplains and is designed to last 30 years. Every year, around EUR 60 million is made available by the federal government for renaturation of federal waterways and floodplains⁽³⁶⁶⁾. All German SWBs failed to achieve good chemical status. This is mainly due to ubiquitous persistent, bio-accumulative and toxic substances (uPBTs) emitted during combustion of fossil fuels and industrial use⁽³⁶⁷⁾. Current analysis indicates that the environmental objectives of the Water Framework Directive (WFD) will not be achieved. These challenges could be better addressed by improving administrative capacity and coordination between different sectors of administrations responsible for different elements of water management. The lack of coordination limits access to high-quality water for industrial and agricultural use and increases water treatment costs.

Germany is basically fully compliant with the requirements of the Urban Wastewater Treatment Directive (UWWTD), reaching 99.9% in 2022. This means that the collection, biological treatment with nitrogen and/or

⁽³⁶⁶⁾Bundesprogramm Blaues Band Deutschland, https://www.blaues-band.bund.de/Projektseiten/Blaues_Band/DE/00_Home/home_node.html.

⁽³⁶⁷⁾European Commission, staff working document accompanying the Report on the Third River Basin Management Plan for Germany, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD%3A2025%3A25%3AFIN&qid=1738746144581>.

phosphorus removal of urban wastewater complies with EU legislation. This is above the EU average of 75.9%⁽³⁶⁸⁾. Annual investment costs for collection systems were EUR 2 641 million in 2020, but current costs are not available. Past annual investment costs for treatment plants were EUR 1 355 million in 2020, but current and projected costs for 2022 are not available⁽³⁶⁹⁾. Overall, Germany still needs to invest around EUR 3.7 billion per year (0.1% of GDP), mostly on waste water treatment, in order to meet the various environmental targets set by the Water Framework Directive and the Floods Directive⁽³⁷⁰⁾.

Nature restoration

Germany's economy is structurally exposed to nature loss through its dependency on ecosystem services⁽³⁷¹⁾. About 41% of gross value added (GVA) relies directly on the ecosystem (below the EU average of 44%). However, the entire economy is vulnerable to nature degradation, because all sectors are interlinked through supply and customer connections, potentially leading to cascading effects along value chains.

Germany has exceptionally rich biodiversity, but habitat degradation is increasingly widespread. About 39% of Germany's territory is designated as protected areas – way above the EU average of 26.4%⁽³⁷²⁾. Protected areas include national nature conservation sites, national parks, national nature monuments and landscape protection areas. Many of these do not meet the

⁽³⁶⁸⁾Germany | Country profiles on urban waste water treatment | WISE Freshwater.

⁽³⁶⁹⁾Internal documents, Implementation of Directive 91/271/EEC (UWWTD), 2022.

⁽³⁷⁰⁾European Commission, 2025, *Environmental Implementation Review, Germany country report*, https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en.

⁽³⁷¹⁾Hirschbuehl et al. (JRC), 2025, *The EU economy's dependency on nature*, Vasilakopoulos, P. editor(s), European Commission, <https://publications.jrc.ec.europa.eu/repository/handle/JRC140304?mode=full>.

⁽³⁷²⁾ Eurostat, *Protected Areas Indicator*, https://ec.europa.eu/eurostat/databrowser/view/env_bio4/default/table?lang=en&category=env.env_biodiv.

Commission's criteria for the 30% protected area target set out in the EU's biodiversity strategy ⁽³⁷³⁾. It would be beneficial if Germany were to focus on improving the quality of existing designated areas (particularly in terms of effective site management and monitoring). A recent inventory and assessment of biodiversity in Germany ⁽³⁷⁴⁾ indicates that more than half of Germany's habitat types are in an unfavourable condition. Overall, 60% of the 93 habitat types described have an insufficient or poor conservation status and are on a deteriorating trend. The situation is particularly concerning for grasslands, formerly species-rich arable fields, mires, swamp forests, marshes and springs. More than half of the marine and coastal habitat types of the North and Baltic Seas are at long-term risk. Furthermore, almost a third of all species on the Red Lists are at risk (i.e. they are threatened with extinction or are highly endangered) and about 3% are already considered extinct. Land-use intensification, urban and infrastructure expansion, climate change, pollution and hydrological alteration are the main drivers of this degradation.

Germany is aligning national policy, planning and on-the-ground river restoration actions with existing EU water and nature legislation. It is preparing for the implementation of the EU Nature Restoration Law, which includes the aim of making at least 25 000 km of rivers in the EU free-flowing by 2030. The network of all rivers and flowing watercourses in Germany is very extensive, with a total length of more than 500 000 km. However, many sections are canalised, straightened or restricted by bank reinforcements. Regional and local river restoration projects ⁽³⁷⁵⁾ are being implemented with the aim of enhancing biodiversity, reconnecting ecosystems and reestablishing natural flows. Germany could mitigate the impact of floods by stepping up its efforts to improve river continuity, ensuring minimum ecological

flows, improving the general hydrological situation and increasing fish protection. Free-flowing rivers also generate broader socio-economic benefits (e.g. an enhanced rural landscape, new recreation and tourism opportunities, strengthened local job creation, improved water quality, and better sediment transport that protects deltas and coastal areas against erosion and rising sea levels). Ambitious initiatives like the action plan on nature-based solutions for climate and biodiversity (ANK) ⁽³⁷⁶⁾ and the national water strategy ⁽³⁷⁷⁾ aim to restore ecosystems and adapt infrastructure to climate extremes.

Nature degradation is further amplified by invasive alien species. 48 were recorded in Germany in 2024, inflicting estimated damage of more than EUR 8 billion up to 2020 (primarily affecting agriculture, fisheries and public health) ⁽³⁷⁸⁾. However, eutrophication (a threat to biodiversity and ecosystem integrity) has partially improved, with the areas at risk declining from 86% to 70% since 2005 ⁽³⁷⁹⁾.

Germany is continuing its climate and environmental efforts as challenges intensify, but a biodiversity financing gap persists. Germany faces an estimated EUR 638 million/year shortfall in funding designed to address conservation priorities. Despite cohesion policy investment of up to EUR 580 million in the current financing period, this shortfall underscores the need for increased investment in habitat restoration ⁽³⁸⁰⁾.

⁽³⁷³⁾EEA report, *Europe's Environment* 2025, <https://www.eea.europa.eu/en/europe-environment-2025/countries/germany>.

⁽³⁷⁴⁾Oekom science, *Faktencheck Artenvielfalt*, 2024, https://www.feda.bio/wp-content/uploads/2025/01/Faktencheck-Artenvielfalt-Gesamtbericht_hq.pdf.

⁽³⁷⁵⁾Bundesamt für Naturschutz, 2025, *Auenrenaturierungsprojekte an Flüssen in Deutschland*, <https://www.bfn.de/daten-und-fakten/auenrenaturierungsprojekte-fluessen-deutschland>.

⁽³⁷⁶⁾BMUKN, Aktionsprogramm Natürlicher Klimaschutz, <https://www.bundesumweltministerium.de/download/aktionsprogramm-natuerlicher-klimaschutz-kurzfassung>.

⁽³⁷⁷⁾BMUKN, Nationale Wasserstrategie, <https://www.bundesumweltministerium.de/download/nationale-wasserstrategie-2023>.

⁽³⁷⁸⁾Neobiota, 2021, *Economic Cost of invasive alien species across Europe*, <https://neobiota.pensoft.net/article/58196/>. European Commission, 2025, *Environmental Implementation Review, Germany Country Report*, [https://ec.europa.eu/transparency/documents-register/detail?ref=SWD\(2025\)310&lang=en](https://ec.europa.eu/transparency/documents-register/detail?ref=SWD(2025)310&lang=en).

⁽³⁷⁹⁾EEA, 2024, *Eutrophication caused by atmospheric nitrogen deposition in Europe*, <https://www.eea.europa.eu/en/analysis/indicators/eutrophication-caused-by-atmospheric-nitrogen>.

⁽³⁸⁰⁾European Commission, 2025, *Environmental Implementation Review, Croatia country report*, https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en.

Sustainable agriculture and land use

Germany'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). Germany's LULUCF sector has generated strong emissions since 2018. This worrying trend is primarily attributed to drought- and pest-related forest damage, which results in forests no longer being able to offset high emissions from drained organic soils to the extent previously assumed. To meet its 2030 LULUCF target, additional carbon removals of 3.8 MtCO₂-eq are needed⁽³⁸¹⁾. The latest available projections show a gap to target of 3.7 MtCO₂-eq⁽³⁸²⁾. Additional measures are therefore needed in the land sector in order to reach the 2030 target. In addition to increasing LULUCF net removals, further investment in healthy forests and soils is key to building resilient biobased product value chains and enabling a growing, competitive EU bioeconomy. Continuing improvements in the system for monitoring net removal data and projections will be crucial to supporting timely and effective action in the sector.

Germany is scaling up nature-based measures and monitoring in order to strengthen LULUCF removals, with delivery towards 2030 now the key challenge. No further LULUCF-specific legislation is planned and Germany is now focusing on implementation in order to address the weakened LULUCF sink. The federal action plan on nature-based solutions (ANK)⁽³⁸³⁾ is being operationalised through EUR 4.5 billion⁽³⁸⁴⁾ for peatland rewetting,

climate-resilient forest management and soil measures (2024-2029). Germany is also upgrading monitoring and reporting systems under the ANK, with the Federal Agency for Nature Conservation playing a coordinative role. Peatland restoration under the national peatland protection strategy is moving into practical roll-out (aim: 5 MtCO₂-eq reduction annually from drained peatlands by 2030⁽³⁸⁵⁾). To complement the strategy, Germany has joined the 'Peatlands Breakthrough' initiative as a champion country⁽³⁸⁶⁾.

Germany faces environmental and public health risks due to persistent agricultural pollution pressures and rapid transfer of contaminants in groundwater systems. Germany's functional urban area (FUA) has considerably expanded in recent years. Net land taken each year between 2018 and 2021 accounted for 507 ppm/year of the Germany's total urban surface. Most land has been taken from arable land. This ongoing 'land take' and the associated soil-sealing is reducing ecosystem resilience, decreasing carbon sequestration and impairing flood protection⁽³⁸⁷⁾.

Water quality is improving very slowly. Under the EU Nitrates Directive, 50% of Germany's groundwater monitoring stations recorded average nitrate concentrations in excess of 25 mg/l between 2016 and 2019⁽³⁸⁸⁾. Almost 27% were above 50 mg/l, the EU threshold for safe drinking water. These worrying numbers reflect systemic agricultural pressures. Stricter rules on fertilisation that have been put in place to implement a judgment of the CJEU⁽³⁸⁹⁾ might lead to improvements in the next reporting period. Nitrate

⁽³⁸¹⁾National LULUCF targets of the Member States in line with Regulation (EU) 2023/839, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02018R0841-20230511>.

⁽³⁸²⁾European Commission, *EU Climate Action Progress Report 2025*, https://climate.ec.europa.eu/eu-action/climate-strategies-targets/progress-climate-action/eu-climate-action-progress-report-2025_en.

⁽³⁸³⁾BMUKN, *Aktionsprogramm Natürlicher Klimaschutz*, <https://www.bundesumweltministerium.de/download/aktionsprogramm-natuerlicher-klimaschutz-kurzfassung>.

⁽³⁸⁴⁾BMUKN, *Fragen und Antworten zum Aktionsprogramm Natürlicher Klimaschutz*, <https://www.bundesumweltministerium.de/presse/fragen-und-antworten-faq/fragen-und-antworten-zum-aktionsprogramm-natuerlicher-klimaschutz>.

⁽³⁸⁵⁾Willenbockel, 2024, *Peatland restoration in Germany: A dynamic general equilibrium analysis*, https://www.sciencedirect.com/science/article/pii/S0921800924000843?utm_source=chatgpt.com#bb0010.

⁽³⁸⁶⁾Press release from the Global Peatlands Initiative, <https://globalpeatlands.org/germany-joins-peatland-breakthrough-champion-country>.

⁽³⁸⁷⁾EEA, 2022, *Land take and land degradation in functional urban areas*, <https://www.eea.europa.eu/en/analysis/publications/land-take-and-land-degradation>.

⁽³⁸⁸⁾EEA, 2025, *Nitrate in groundwater in Europe*, <https://www.eea.europa.eu/en/analysis/indicators/nitrate-in-groundwater-8th-eap>.

⁽³⁸⁹⁾Judgment of 21 June 2018, European Commission v Federal Republic of Germany, case C-543/16.

pollution is contributing to the eutrophication of the North and Baltic Seas, declining fish stocks and high costs of removing excess nitrates from drinking water. Effective measures are needed to address excess nitrate deposition, especially in areas with high livestock density. Germany has a livestock density of 0.98 livestock units per hectare in 2020⁽³⁹⁰⁾ (above the EU average of 0.75). A 20% reduction in agricultural ammonia emissions between 2018 and 2023⁽³⁹¹⁾ underscores improvement in emission control and Germany is projected to be on track⁽³⁹²⁾ to meet its reduction commitments to be achieved by 2030. However, the fact that nitrate pollution is continuing does indicate gaps in nutrient management strategies.

Pesticide contamination remains a critical issue. 48% of German surface water bodies (rivers) broke regulatory limits for pesticide residues between 2018 and 2023⁽³⁹³⁾. EU total contaminated area of 27% of surface waters. Pesticides not only threaten aquatic ecosystems and related socio-economic activities (such as fisheries and coastal tourism) but also pose long-term risks to human health through contaminated drinking water and food chains. The level of pesticides contamination in soil is also high. 65% of agricultural soils show pesticides residues above 0.5 mg/kg-1⁽³⁹⁴⁾.

⁽³⁹⁰⁾Eurostat, Livestock density index. <https://ec.europa.eu/eurostat/databrowser/view/tai09/default/table?lang=en>.

⁽³⁹¹⁾EEA, Air pollutant emissions data viewer (Gothenburg Protocol, Air Convention) 1990-2023. <https://www.eea.europa.eu/en/topics/in-depth/air-pollution/air-pollutant-emissions-data-viewer-1990-2023>.

⁽³⁹²⁾EEA, 2025, Magnitude of emission reductions (percentage) required by EU Member States to meet their emission reduction commitments for 2030 onwards, based on 2023 data, <https://www.eea.europa.eu/en/analysis/publications/air-pollution-in-europe-2025-reporting-status-under-the-national-emission-reduction-commitments-directive/magnitude-of-emission-reductions-percentage-required-by-eu-member-states-to-meet-their-emission-reduction-commitments-for-2030-onwards-based-on-2023-data>.

⁽³⁹³⁾EEA, 2024, *Pesticides in rivers, lakes, and groundwater in Europe*, <https://www.eea.europa.eu/en/analysis/indicators/pesticides-in-rivers-lakes-and>.

⁽³⁹⁴⁾Vieira et al. (JRC), 2023, *Pesticides residues in European agricultural soils – Results from LUCAS 2018 soil module*, Publications Office of the European Union, <https://publications.jrc.ec.europa.eu/repository/handle/JRC133940>.

Table A10.1: Key Adaptation Indicators

Climate adaptation and preparedness:							EU-27
	2019	2020	2021	2022	2023	2024	latest data
Drought impact on ecosystems <i>[area impacted by drought as % of total]</i>	17.72	15.48	0.1	18.17	0.23	-	2.76
Forest fires burned area ⁽¹⁾ <i>[burned area in ha. per year]</i>	2,006	314	121	4,293	975	826	354,510
Economic losses from extreme events <i>[EUR million at constant 2022 prices]</i>	8,513	1,661	40,126	11,314	2,230	5,130	40,452
Insurance protection gap ⁽²⁾ <i>[composite score between 0 and 4]</i>	-	-	-	2	2	2	-
Sub-national climate adaptation action <i>[% of population covered by the EU Covenant of Mayors for Climate & Energy]</i>	16	16	17	19	19	19	34
Water resilience:							EU-27
	2019	2020	2021	2022	2023	2024	latest data
Water Exploitation Index Plus, WEI+⁽³⁾ <i>[total water consumption as % of renewable freshwater resources]</i>	4.03	4.12	3.81	4.57	3.35	-	4.53
Water productivity <i>[EUR per m³]</i>	147	147	160	170	-	-	151
Water abstraction <i>Water abstraction by source (% from surface water)</i>	70.69%	69.58%	68.37%	67.05%	-	-	-
	Agriculture	Electricity cooling	Manufacturing	Public water supply	Mining and Quarrying	Construction	
<i>Water abstraction by sector</i>	1.86%	50.31%	16.49%	22.20%	4.97%	4.17%	
Status of water bodies ⁽⁴⁾ <i>[% of water bodies in a good status]</i>							
Surface water bodies (ecological)	-	-	-	-	-	9%	38%
Groundwater bodies (quantitative)	-	-	-	-	-	95%	93%
Nature restoration:							EU-27
	2019	2020	2021	2022	2023	2024	latest data
Ecosystem dependency <i>[% of direct dependency]</i>	-	-	-	41%	-	-	44%
Protected area <i>[% of terrestrial protected areas]</i>	37.8	38.2	38.3	38.3	39.1	-	26.4
Invasive alien species (IAS) <i>[number of IAS of Union concern]</i>	-	-	-	-	-	48	29.2
Damage cost of IAS <i>[EUR billion]</i>	-	-	-	-	8.12	-	1.69
Eutrophication <i>[AAE of area at risk of eutrophication]</i>	-	-	-	435	435	-	295
Sustainable agriculture and land use:							EU-27
	2012-2018		2018-2021		2024		latest data
Yearly net land taken by Member State <i>[ppm of total urban surface per Member State]</i>	493		507		-		670
Land conversion in functional urban area <i>[% of total land taken from 2018-2021]</i>							
Arable land					64%		
Complex and mixed cultivation					0%		
Forests					8%		
Herbaceous vegetation associations					2%		
Open spaces with little or no vegetation					0%		
Pastures					24%		
Permanent crops					1%		
Water					1%		
Wetlands					0%		
	2019	2020	2021	2022	2023	2024	latest data
Nitrates in groundwater ⁽⁵⁾ <i>[mgNO₃/l]</i>	22.7	22.5	22.3	22.2	22.2	-	
Livestock density <i>(number of livestock units per hectare of utilised agricultural area)</i>	0.98		0.91		-		0.75
Ammonia emissions <i>[% of total utilised agricultural area]</i>	93%	93%	93%	93%	93%	-	94%
Pesticide contamination on rivers and lakes water bodies <i>[% of monitoring sites with pesticides exceeding thresholds, 2018-2023]</i>					rivers	48%	27%
					lakes	0%	18%
Pesticide contamination in soil <i>[% of samples with a concentration over 0.5 mg/Kg⁻¹]</i>						65%	57%
Net greenhouse gas removals from LULUCF ⁽⁶⁾ <i>[ktCO₂-eq]</i>	72121.0	76655.9	63087.2	75603.5	68652.8	-	-198,421

(1) EFFIS (European Forest Fire Information System). <https://forest-fire.emergency.copernicus.eu/apps/effis/statistics/estimates>.

(2) The climate protection gap refers to the share of non-insured economic losses caused by climate-related disasters, based on modelling of the risk from floods, wildfires and windstorms, and on the insurance penetration rate. Scale: 0 (no protection gap) – 4 (very high gap). EIOPA, 2025, Dashboard on insurance protection gap for natural catastrophes.

(3) This 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 water scarcity, while values equal to or greater than 40% indicate severe water scarcity.

(4) 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).

(5) Indicator refers to concentrations of nitrate (NO₃) in groundwater, measured as milligrams per litre (mg NO₃/L). Nitrate 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 is limited to 50 mgNO₃/L to avoid threats to human health.

(6) Net removals are expressed in negative figures and net emissions are expressed in positive figures. Reported data are from the 2025 greenhouse gas inventory submission. The 2030 value of net greenhouse gas removals is taken from Regulation (EU) 2023/839 – Annex IIa.

Source: Eurostat, EEA and JRC.

Germany continues to face challenges related to labour supply and ongoing economic restructuring. Over the past year, employment has remained high but stagnant, unemployment has slightly increased from a low point, and labour shortages have eased. Although economic growth is expected to rebound and could bring modest short-term improvements, the manufacturing sector is experiencing structural changes, leading to a shift in employment away from certain areas; this could lead to regional labour market adjustment needs. An employment shift to public services and the ageing population limited the rise in unemployment in 2025. As the population ages and labour shortages persist, policy measures are underway to boost labour supply, including investments in early childhood education and care and all-day schools, the law on active pensions and the creation of the new Work-and-Stay Agency. However, additional reforms and policies would be beneficial to substantially expand labour supply and manage structural change through improved job-to-job transitions. The 2025 country-specific recommendations for Germany highlighted the need to increase labour supply and tackle the shortage of skilled workers, including by increasing the number of hours worked, strengthening people’s basic, green and digital skills, and attracting and retaining talent from non-EU countries. The recommendations also emphasised the need to promote longer working lives and reducing incentives for early retirement ⁽³⁹⁵⁾.

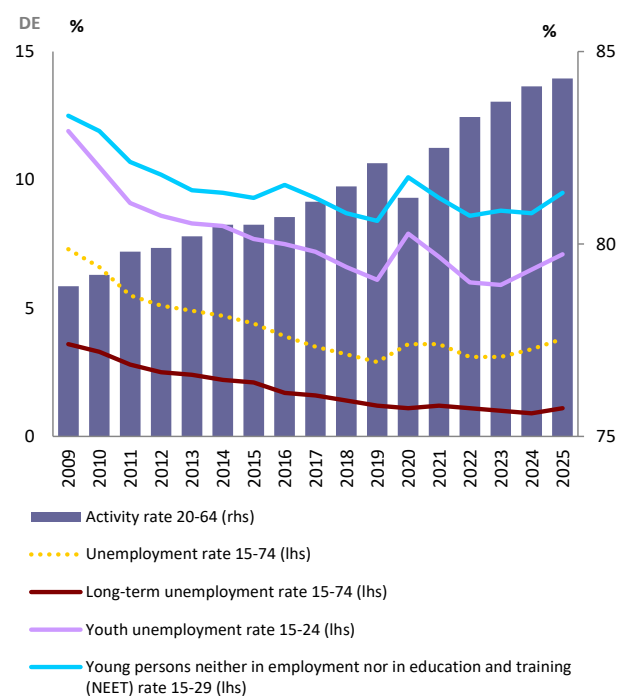
Employment stagnated, unemployment edged up in 2025, and a cyclical recovery is expected to bring only small improvements. Amid economic slowdown, the employment rate remained at 81.1% in 2025, above the EU average (76.1%) and 1.9 pps below the national employment target (83% by 2030). The activity rate continued to rise, increasing by 0.1 pps to 80.3%, well above the EU average (75.7%). The economic downturn led to a 0.4 pps rise in the

⁽³⁹⁵⁾CSR 2025.5.(1.-3) Increase labour supply and tackle the shortage of skilled workers, notably by increasing hours worked, strengthening basic, green and digital skills and better attracting and retaining talent from non-EU countries.

CSR 2025.(1.6) ‘Safeguard the long-term sustainability of the pension system, while maintaining pension adequacy, including by promoting longer working lives and reducing the incentives for early retirement.’

unemployment rate, to 3.8% in 2025, and a 0.6 pps rise in youth unemployment to 7.1%; however, both remained below the respective EU averages of 6% and 15.2%⁽³⁹⁶⁾. Long-term unemployment grew slightly, to 1.1%, and the use of short-time work for economic reasons declined (156 000 in February 2026, a decline of 114 000 in a year) ⁽³⁹⁷⁾. Labour hoarding (companies holding on to more staff than they need) has eased though it remains above the EU average. The likelihood to transition from unemployment to employment remains low ⁽³⁹⁸⁾. As labour demand has been softening, employment is forecast to shrink by 0.1% in 2026, before growing again by 0.1% in 2027, reflecting accelerating economic growth⁽³⁹⁹⁾.

Graph A11.1: **Key labour market indicators**



Source: Eurostat, LFS [lfsi_emp_a, une_rt_a, lfsi_neet_a, une_ltu_a]

⁽³⁹⁶⁾However, youth unemployment shows a marked regional variation, reaching 9.8% in Berlin and 8.1% in Sachsen-Anhalt in 2024, along with the share of young persons neither in employment nor in education and training (11.3% in Berlin and 9.9% in Schleswig-Holstein).. <https://www.oecd.org/en/data/tools/oecd-regions-and-cities-atlas.html>.

⁽³⁹⁷⁾Bundesagentur für Arbeit (2026): [Die Lage am Arbeits- und Ausbildungsmarkt in Deutschland](#), April 2026.

⁽³⁹⁸⁾Ifo Employment Barometer, April 2026.

⁽³⁹⁹⁾European Commission, [Spring Forecast for Germany](#), 2026.



Labour shortages have eased but continue to pose challenges to production and investment.

Amid weak economic growth, the job vacancy rate stood at 2.6% in Q4-2025, above the EU average (2.0%). Still, this is a significant drop from its post-pandemic peak (4.5% in Q2-2022). Vacancy rates are highest in construction (5.1%) and in professional, scientific and technical activities and administrative and support service activities (4%), and lowest in industry (1.6%) and real estate activities (1.9%). A relatively large share of firms in services report that labour shortages are a factor limiting their production (20.6% in Q2-2026), above the EU average (19.5%)⁽⁴⁰⁰⁾. In 2025, 73% of firms identified the availability of skilled labour as a barrier to investment⁽⁴⁰¹⁾. Looking ahead, demographic ageing is expected to keep the labour market tight.

The manufacturing sector is experiencing structural change, leading to a shift in employment away from certain areas.

Restructuring in manufacturing is driven by increasing competitive pressures from technological catch-up and industrial policies in China and Southeast Asia, the twin transitions, demographic change and skills shortages. This challenge has been compounded recently by heightened uncertainty, geopolitical tensions and US tariffs. Between 2021 and 2025, the number of people employed in manufacturing declined by 219 000, from 7.47 million to 7.25 million. The number of new job openings, start-ups and investments also stagnated in manufacturing⁽⁴⁰²⁾. Furthermore, Germany is also strongly affected by industrial challenges⁽⁴⁰³⁾. Displaced manufacturing workers tend to have higher qualifications and currently exhibit high job-to-job mobility, reducing their risk of falling into long-term unemployment⁽⁴⁰⁴⁾. However, if restructuring trends intensify, these may not hold up and stronger support may be warranted. Expenditure

⁽⁴⁰⁰⁾Source: [European Business and Consumer Surveys](#).

⁽⁴⁰¹⁾EIB (2025): [EIB Investment Survey – Germany Overview](#).

⁽⁴⁰²⁾Anger, S. et al. (2025): [Zentrale Befunde zu aktuellen Arbeitsmarktthemen 2025](#), IAB.

⁽⁴⁰³⁾Heikkonen, H. – Listl, N. – Reuter, A. (2025): [Mapping the impact of industrial decline on European regions](#). European Commission, Single Market Economic Briefs, No. 16.

⁽⁴⁰⁴⁾Duell, N. – Sold, K. (2026): Workers displaced from manufacturing: their trajectories and public policies to support them. Report of the European Centre of Expertise (ECE) in the field of employment and labour market policies.

on activation measures has fallen markedly in the last couple of decades, from 1% of GDP in 2003 to 0.3% in 2013 and to 0.2% in 2024 (0.4% in the EU). The duration of short-time work in industry can be extended to up to two years until the end of 2026⁽⁴⁰⁵⁾, but despite this possibility the take-up of short-time work fell. Training during short-time work could help mitigate this trade-off. ‘Transfer short-time work’ schemes support displaced workers with active policy measures to find new jobs, while ‘regional labour market hubs’⁽⁴⁰⁶⁾ coordinate job rotation between employers and provide career guidance and support for upskilling and reskilling. However, these instruments are small in scale and have yet to be evaluated.

While regional labour market disparities are moderate, structural change in the labour market is likely to affect regions unevenly.

Employment rates range from around 85.1% in Oberbayern and 84.3% in Bayern and Schwaben to 74.7% in Bremen. Unemployment is highest in large cities such as Berlin (5.5%), Leipzig (5.2%), Bremen (5.1%) and Hamburg (5.3%) and lowest in southern and western federal states. Urban labour markets benefit from a dynamic service sector and a younger, better qualified workforce, but also exhibit higher unemployment due to greater labour turnover and a relatively large share of low-qualified workers. Northern regions and large cities (Bremen, Hamburg and Berlin) appear resilient to current transformation trends. By contrast, Saarland, Rheinland-Pfalz, parts of Nordrhein-Westfalen (the Ruhr region), Niedersachsen, and Eastern regions such as Thüringen, Sachsen-Anhalt and Brandenburg, are undergoing pronounced structural shifts, with limited capacity to absorb displaced labour, as reflected in higher unemployment rates. Mecklenburg-Vorpommern is characterised by limited structural dynamism alongside weak employment growth⁽⁴⁰⁷⁾. A key impediment to growth is limited labour market mobility due to lack of affordable housing in growth poles and sticky rental markets (see Annex 16).

⁽⁴⁰⁵⁾<https://www.recht.bund.de/bgbl/1/2025/338/VO.html>.

⁽⁴⁰⁶⁾DGB (2024): [Arbeitsmarkt – Drehscheiben](#).

⁽⁴⁰⁷⁾German Council of Economic Experts (2025): Spring Report 2025, Chapter 4 – [Structural Change in Germany: Productivity, regional aspects and the labour market](#).

Constraints on the labour supply of women might influence the high part-time and marginal employment and contribute to gender gaps in income and pensions. Germany has one of the highest female employment rates in the EU (77.7% vs EU: 71.3% in 2025) but also exhibits one of the largest gender gaps in part-time employment (37.1 pps vs EU: 19.7 pps in 2025). Women are over-represented in marginal part-time jobs (*Minijobs*), accounting for 63% in 2024, which come with very limited coverage for insurance-based social security benefits. These factors contribute to a relatively high gender pension gap (24.2% in 2025). 20% of women working part-time indicate a preference to work more hours, on average an extra 11 hours per week⁽⁴⁰⁸⁾. Obstacles to work more include the lack of quality early childhood education and care with long opening hours, where the supply gap is estimated to be 300 000 places⁽⁴⁰⁹⁾. There are also provision gaps in full-day schools where a quarter of schools signal that they will not be able to offer all first-graders a place in autumn 2026, despite this is a legal right⁽⁴¹⁰⁾. There is also a need to create 264 000 places between now and autumn 2029⁽⁴¹¹⁾ (see Annex 13). In addition, a lack of long-term care solutions reduces the labour supply: 30% of women and 9% of men worked part-time in 2025 because of caring for children or adults in need of care. Gender employment and pay gaps are more pronounced among people with a migrant background and are largest for refugees.

Labour supply among older people could be increased by delaying labour market exit and by encouraging employment beyond the statutory retirement age. Employment of older workers has increased in recent years, reflecting the gradual increase in the statutory retirement age and rising education levels. Nevertheless, the average effective age of labour market exit remains below the statutory retirement age, by 2.4

⁽⁴⁰⁸⁾Anger, S. et al. (2025): [Zentrale Befunde zu aktuellen Arbeitsmarktthemen 2025](#), IAB.

⁽⁴⁰⁹⁾Geis-Thöne, W. (2025): Kinderbetreuung: 300.000 Kitaplätze für unter Dreijährige fehlen. [iwkoeln.de](#).

⁽⁴¹⁰⁾VBE (2026), Rechtsanspruch schützt vor Qualitätsdiskussion nicht. [vbe.de](#).

⁽⁴¹¹⁾BMBFSFJ (2025), Dritter Bericht der Bundesregierung zum Ausbaustand der ganztägigen Bildungs- und Betreuungsangebote für Grundschulkindernach §24a SGB VIII. [bmbfsfj.bund.de](#).

years for women and 2.1 years for men. Later retirement is more common in western Germany and in cities⁽⁴¹²⁾. Early withdrawal from the labour market is driven by health constraints, caregiving or job-related issues. Early retirement is relatively advantageous financially: pension benefit reductions for early retirement for individuals with at least 35 working years are much lower than in other countries⁽⁴¹³⁾. Only 14.3% of people who receive a pension go back to work within the first six months of retirement, which is lower than the OECD average of 22.4%⁽⁴¹⁴⁾.

A large proportion of persons with disabilities are employed in sheltered workshops, working without employee status or entitlement to the national minimum wage⁽⁴¹⁵⁾. The disability employment gap is 22 pps (against the EU average of 24 pps). A third of young persons with disabilities were neither in employment nor in education or training (31% in 2023).

Immigration from non-EU countries, along with better integration of people with a migrant background, could be beneficial for labour supply amid demographic change. The number of working-age people (20-64) is projected to decline by 4 million in the decade until 2035 due to an ageing population. Net migration fell from 430 000 in 2024 to 222 000 in 2025. At the same time, between 2024 and 2025, there was a 7.7% increase in visas issued for employment purposes and the employment of non-EU nationals increased by 3.4%. The employment rate of non-EU nationals (63.2%) lags behind that of German nationals and EU mobile citizens (83.9% and 81.3%, respectively)⁽⁴¹⁶⁾. According to the OECD, increasing labour force participation among women, older people and

⁽⁴¹²⁾IAB (2025): [Ältere gehen im Westen später in Rente als im Osten und auf dem Land früher als in Städten](#).

⁽⁴¹³⁾If retiring before the statutory retirement age, benefits in Germany are reduced by 3.6% for each year under the statutory retirement age. This is low by international standards.(OECD (2025): [Pensions at a Glance. oecd.org](#).

⁽⁴¹⁴⁾Walwei, U. (2024): [Ältere Arbeitskräfte im demografischen Wandel: Beschäftigungspotenziale im internationalen Vergleich](#). IAB-Forschungsbericht 14/2024.

⁽⁴¹⁵⁾European Semester 2025-2026 [Country fiche on disability equality: Germany](#).

⁽⁴¹⁶⁾CSR 2025.(5.3): 'better attracting and retaining talent from non-EU countries.'

people with a migrant background could increase annual GDP per capita growth in Germany by 0.3 pps ⁽⁴¹⁷⁾.

Real wages have broadly recovered, with strong increases in the minimum wage. Wage growth reached 5.1% in 2024 and 5% in 2025. Real wages grew by 2.6% in 2024 and 2.2% in 2025. These increases follow a contraction in 2022 and a weak recovery in 2023, with rapid disinflation contributing to the current rebound. Negotiated wages, excluding one-off payments, rose by 4.7% and 3.6% year-on-year in Q3- and Q4-2025 ⁽⁴¹⁸⁾, before the energy price increase in 2026, partly reflecting pressures in manufacturing. The statutory minimum wage increased by 41.5% between January 2022 and January 2026, a rise of around 17% in real terms.

Recent measures aim to strengthen collective bargaining coverage. Trade union density remains at 14.1%, having declined from nearly 35% in the early 1980s ⁽⁴¹⁹⁾. Collective bargaining coverage is at around 50%, down 26 pps since 1998 ⁽⁴²⁰⁾. A recently adopted law (*Tarifreuegesetz*) will only allow public contracts and concessions to be awarded to companies that offer employees working conditions that are in line with collective agreements. A national plan to promote collective bargaining, as required by the EU Directive on Adequate Minimum Wages, is to be submitted by Germany.

The low-wage sector is large, driven by incentives in social benefits and by marginal part-time employment. The share of low-wage earners fell from 22.5% in 2014 to 19% in 2022, yet it remains considerably higher than the EU average (14.7% in 2022). The prevalence of low wages is particularly high among young people (affecting 32.7% under the age of 30) and the low-qualified (45.1%). Wage compression at the bottom of the wage distribution partly reflects minimum wage increases ⁽⁴²¹⁾. While the wage-

benefit gap has widened in recent years, some disincentives to seek better-paid jobs persist, linked to social benefits ⁽⁴²²⁾. Marginal part-time employment (*Minijobs*) also contributes to low-wage employment (these are jobs that do not provide access to full insurance-based social security benefits, training, jobs with more hours, and better pay and working conditions). More broadly, the persistence of low-wage employment reflects fewer opportunities for upward mobility in the sectors and contractual arrangements where low pay is prevalent ⁽⁴²³⁾.

Germany is taking measures to tackle labour market challenges, but there is scope for further efforts. To support the labour supply of women, the country is investing EUR 4 billion in 2025-2026 in infrastructure and quality early childhood education and care. This includes funding for language learning and care for children from disadvantaged backgrounds ⁽⁴²⁴⁾ and the expansion of all-day schooling. To support employment after retirement, Germany has lifted the ban on consecutive fixed-term employment contracts for those over the statutory retirement age. Moreover, the new law on active pensions allows those over the statutory retirement age to earn up to EUR 2 000 EUR tax-free per month. To encourage longer working lives, jobs and working conditions adapted to older workers could be supported, along with access to training and reduced incentives for early retirement. Other measures such as overtime bonuses provide incentives for additional working hours ⁽⁴²⁵⁾. Reforms to taxation, health insurance and marginal part-time employment could incentivise women to work more hours. Other incentives could include flexible work options and better access to long-term care. Women with a migrant background could be further assisted through language training, easier recognition of qualifications and by supporting work integration social enterprises, that

⁽⁴¹⁷⁾OECD (2025): [Employment Outlook – Germany](#).

⁽⁴¹⁸⁾Bundesbank (2026): Monthly Report, April 2026 – Statistical Annex. [bundesbank.de](#).

⁽⁴¹⁹⁾OECD [ICTWSS database](#).

⁽⁴²⁰⁾Destatis: [Tarifbindung von Arbeitnehmern](#).

⁽⁴²¹⁾Duell (2026): Low-wage earners among the young and low qualified. Report of the ECE in the field of employment and labour market policies.

⁽⁴²²⁾Blömer, M. et al. (2024): [‘Lohnt’ sich Arbeit noch? Lohnabstand und Arbeitsanreize im Jahr 2024](#), Ifo Schnelldienst, 1/2024.

⁽⁴²³⁾Duell (2026): Low-wage earners among the young and low qualified. Report of the ECE in the field of employment and labour market policies.

⁽⁴²⁴⁾Eurydice (2025): [Germany: National reforms in early childhood education and care](#).

⁽⁴²⁵⁾CSR 2025. (5.1): ‘Increase labour supply and tackle the shortage of skilled workers, notably by increasing hours worked.’

provide targeted assistance to vulnerable individuals. Germany aims to facilitate skilled immigration with a new Work-and-Stay Agency and intends to improve employment opportunities for refugees by reducing their employment ban to a maximum of three months. The latter reform is planned for 2028. To support the redeployment of displaced workers on a larger scale, it could be beneficial to provide comprehensive packages of counselling, placement and training, and when needed, temporary and targeted hiring and wage subsidies. Further policies could be beneficial to support regional labour mobility. Collective bargaining could be further supported with measures to fight the circumvention of collective bargaining obligations. This would make subsidies conditional on collective bargaining agreements and provide more flexibility in working hours in exchange for collective bargaining coverage.

Germany has a relatively well-developed welfare system, but considerable challenges related to poverty and inequality remain. Despite its comprehensive welfare system, the country faces persistent pressures from rising housing costs, poverty, particularly among children and non-EU-born people, and high wealth inequality, all of which continue to strain social cohesion. The 2025 country-specific recommendations called on Germany to safeguard the long-term sustainability of the pension system without compromising pension adequacy⁽⁴²⁶⁾.

Poverty and the risk of social exclusion persist, mainly due to rising living costs. In 2025, 21.2% of the population were at risk of poverty or social exclusion (AROPE), which is slightly above the EU average. The severe material and social deprivation rate remains slightly below the EU average in 2025 (5.6% vs EU 6.3%), reflecting sustained pressure on household incomes from rising living costs. Key drivers of poverty include rising housing (see Annex 16), energy, and living costs. Regional differences persist, with the highest AROPE rates recorded in Bremen (35.4%) and Trier (25.8%), with eight other regions exceeding 24% and the national average. In 2025, cities (24.9%) were more affected than rural areas (17%).

Severe material and social deprivation affected 5.6% of the population in 2025. This is slightly below the EU average. Deprivation worsened between 2021 and 2023 due to increases in the cost of living, particularly for energy and transport, exacerbated by Russia's war of aggression against Ukraine. Although there have been some recent improvements, they have not been sufficient to offset the deterioration between 2021 and 2023. Among people living below the poverty threshold, improvements have only been observed in some areas, such as payment arrears, the ability to afford a nutritious meal every two days and the ability to cope with unexpected expenses⁽⁴²⁷⁾.

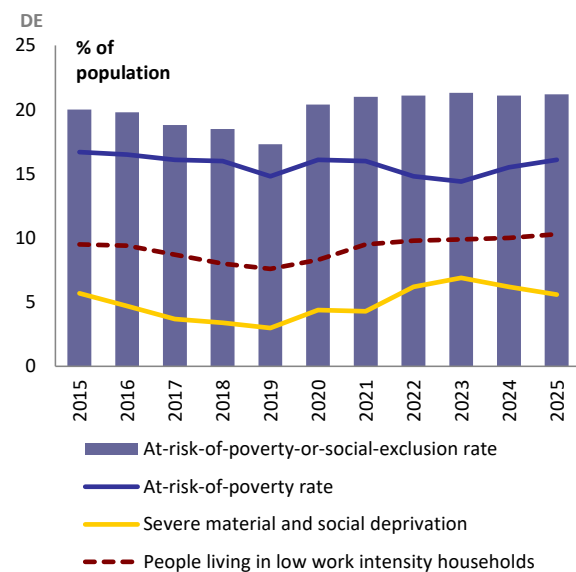
⁽⁴²⁶⁾CSR 2025.1.5 'Improve the quality of public finances by containing transfers from the federal budget to the pension system and reviewing the efficiency of public spending.'

CSR 2025.1.6 'Safeguard the long-term sustainability of the pension system, while maintaining pension adequacy, including by promoting longer working lives and reducing the incentives for early retirement.'

⁽⁴²⁷⁾Paritätischer Wohlfahrtsverband (2025): [Arbeitsbericht](#).

Low work intensity increased further, reaching 10.3%, this being well above the EU average (7.9%). Germany's 2030 national target is to reduce the number of people living in households with very low work intensity by 1.2 million, including 300 000 children, thereby contributing to reducing poverty and social exclusion. In 2025, 6.4 million individuals were affected, compared with 5.2 million in 2020, the reference year used to assess progress on Germany's 2030 poverty-reduction target. The European Social Fund Plus (ESF+) contributes to this goal by allocating EUR 2.16 billion to social inclusion and EUR 0.24 billion to social innovation, with 5.8% of ESF+ funding dedicated to combating child poverty⁽⁴²⁸⁾. A comprehensive approach could help address the multiple dimensions of poverty and achieve the national anti-poverty target.

Graph A12.1: **At-risk-of-poverty rate and its components**



Source: Eurostat, EU-SILC [ilc_peps01n, ilc_li02, ilc_mdspd11, ilc_lvhl11n]

Child poverty has eased slightly but remains a concern. Germany aims to reduce child poverty by ensuring that parents are employed. By 2030, it

⁽⁴²⁸⁾The total amount of ESF+ funding is EUR 6.5 billion for the 2021-2027 period. Investment in education and training amounts to around EUR 2.04 billion. ESF+ supports labour market measures with EUR 1.83 billion, while 36.9 million EUR have been allocated to support the Strategic Technologies for Europe Platform (STEP). 13.8% of ESF+ funding is dedicated to youth employment measures. These investments also contribute to reducing poverty.



seeks to reduce the number of children living in low work intensity households by 300 000 relative to the 2020 level of 3 144 000. The AROPE rate for children declined from its peak in 2022 (24.4%) to 23.5% in 2025, remaining below the EU average (24.3%), but having increased slightly since 2024 (22.9%). However, the absolute number of children at risk of poverty or social exclusion remains higher than in 2020, similarly to the number of children living in very low work intensity households. Children with a migrant background are disproportionately affected. These trends hinder progress towards the national 2030 target. Germany is implementing the European Child Guarantee through its 2023 action plan, which could help address regional shortages in early childhood education and care and improve educational inclusion. This is important because educational outcomes are still strongly linked to parental socio-economic background. Despite progress in areas such as access to out-of-school activities and housing, gaps remain in ensuring that children in need have access to key services such as early childhood education and care, support to prevent early school leaving and quality alternative care (see Annex 13). Additional funding and policy initiatives aligned with the Child Guarantee at state and municipal levels could improve implementation outcomes.

Some groups face significantly higher risks of poverty and social exclusion. In 2025, 39.3% of people born outside the EU were at risk of poverty or social exclusion (compared with 17.1% for the native-born population), highlighting significant disparities relating to migration background. This results in a gap slightly above the EU average (22.2 percentage points (pps), compared with 21.3 pps at EU level). Refugees make up a substantial proportion of this group and often face significant constraints, including interrupted education and limited language skills, which hinder their integration into society and, for adults, restrict access to the labour market. Single parents and people living alone continue to face the highest poverty risks, with AROPE rates of 44.3% and 35.2% respectively, while young adults (18–24) and older people (65 and over) are also disproportionately affected. Employment status remains a key determinant: unemployed and inactive individuals face an especially high risk of poverty and social exclusion, with unemployed people in Germany being 16.1 pp. more likely to be at risk than in the EU (82.4% in Germany and 66.3% in the EU). Some progress has been made

in reducing in-work poverty, with recent increases in the minimum wage (Annex 11).

Older people, particularly women, are exposed to poverty risks. In 2025, 21% of people aged 65 and over were at risk of poverty or social exclusion, which was the same as the average for the total population and higher than the EU average (18.8%). Women (22.8%) are more affected than men (18.7%), reflecting persistent gender inequalities in careers and pension entitlements. On average, women's pensions are around 24.2% lower than men's⁽⁴²⁹⁾. Accordingly, among people aged 75 and over, the poverty or social exclusion risk faced by women exceeds that faced by men by 5.7 pp. Over 730 000 pensioners rely on social assistance⁽⁴³⁰⁾, representing about 4% of the elderly population – double the figure recorded in 2005. However, this is still less than half the proportion of the general population who rely on social assistance.⁽⁴³¹⁾ Persons with severe disabilities face particularly high risks: 40.1% were at risk of poverty or social exclusion in 2025, which is above the EU average of 37.2%, and almost 23 pps higher than for persons without disabilities. Recent and planned pension reforms can contribute to future pension adequacy. However, their impact may be undermined if parts of private pension savings are not protected during unemployment. Improving financial literacy could support retirement planning (see Annex 6).

The share of the population reporting an inability to keep their homes adequately warm has declined, at 5.7% in 2025, remaining 3.1 pps below the EU average, with the rate falling again after an increase in 2022 and 2023. The upcoming introduction of the EU emissions trading system for buildings and road transport (ETS2) is projected to increase households heating costs at a rate similar to the EU average. From 2026, the Social Climate Fund is expected to help mitigate this impact through targeted energy efficiency investments. Transport affordability poses a particular challenge for low-income households. In 2025, 6.6% of German households were unable to afford a car, which is above the EU average of 5.5%. Among households at risk of poverty, the

⁽⁴²⁹⁾Destatis (2026), Im Fokus: Rente. [destatis.de](https://www.destatis.de).

⁽⁴³⁰⁾Destatis (2025), 4,1 % mehr Empfängerinnen und Empfänger von Grundsicherung im Alter und bei Erwerbsminderung Ende 2024. [destatis.de](https://www.destatis.de).

⁽⁴³¹⁾BMAS (2024), Grundsicherung im Alter. [bmas.de](https://www.bmas.de).

percentage was significantly higher (22.3% vs EU average: 16.5%). According to the 2024 EU SILC ad hoc module on access to services, 24.4% of the population reported not using public transport because of schedule issues (EU average: 13.3%), while 8% cited financial reasons (EU average: 3.4%). The NUTS2 regions of Niederbayern, Lüneburg and Trier, where approximately 13% of the population is at risk of poverty, have particularly poor public transport services ⁽⁴³²⁾. Transport fuel costs are projected to increase moderately due to ETS2, which could put additional pressure on households that rely on private car travel. Strengthening the affordability and availability of public transport will therefore be essential. In areas with limited access, target-group specific support could focus on zero-emission vehicle options.

The reform of social assistance could improve administrative effectiveness and work incentives, but it may also have unintended consequences for some groups.

The transition from the existing minimum income scheme (*Bürgergeld*) to a new minimum income guarantee (*neue Grundsicherung*) signals a shift towards stricter conditions and an emphasis on labour market integration, based on expanded sanctioning powers for job centres. Measures such as enhanced monitoring, tighter housing-cost rules and faster placement are intended to strengthen accountability and reduce long-term benefit dependence, potentially improving administrative effectiveness and engagement with employment services. However, the reform could also entail risks that need to be addressed. Income-reducing sanctions could disproportionately affect dependent children, while housing benefit-related sanctions could destabilise families and exacerbate stigma in tight rental markets. Individuals with mental health issues, addiction problems or limited German literacy skills may also be disproportionately penalised. Moreover, an exclusive focus on rapid job placement may come at the expense of necessary skills development and vocational training, potentially perpetuating precarious or unstable employment.

Rising social security costs underscore the need to enhance system and spending efficiency. Social security contributions are among the highest in the EU and have risen

⁽⁴³²⁾Data from Commission's Transport Poverty Hub.

further ⁽⁴³³⁾, with further increases expected due to demographic ageing. Transfers from the budget to social security have also increased, posing a risk of crowding out investment expenditure. (See also Annexes 2, 3, 11 and 15).

There is scope to reform Germany's complex social welfare system, as recommended by the Welfare State Commission.

Established in August 2025, the Welfare State Commission (*Sozialstaatskommission*), aimed to address the inefficiencies of a system comprising more than 170 benefit schemes administered by around 30 different agencies. In its final report, published in January 2026, the Commission sets out 26 recommendations to make the system simpler, more transparent and fairer. The report recommends harmonising existing welfare structures to create a more integrated framework that brings together the minimum income scheme (*Bürgergeld*, to become *Grundsicherung*), housing benefits (*Wohngeld*) and child allowance (*Kinderzuschlag*). It also proposes creating a central digital portal across federal, state and municipal levels, enabling simplified applications, secure data-sharing across authorities, simplified procedures and greater use of automatic benefit disbursement (for example, automatic payment of child benefits following birth). The Commission also recommends reducing benefit deductions for earned income to strengthen incentives for continued or extended employment. The report also calls for a comprehensive simplification of legislation and administrative procedures. ⁽⁴³⁴⁾

High wealth inequality has an adverse impact on social fairness, cohesion and mobility.

In Q3-2025, Germany had one of the highest Gini coefficients – a common measure of wealth inequality – in the euro area, at 0.76 (euro area average: 0.72⁽⁴³⁵⁾). The wealthiest 10% accounted for 59.6% of the country's net wealth, and the top 5% for 46%, some of the highest levels in the euro area. Income inequality, as measured by the

⁽⁴³³⁾For statutory healthcare, the average supplemental contribution increased from 1.6% in 2023 to around 2.5% in 2025 and 2.9% in 2026. For long-term care, the contribution rate increased from 3.05% in 2022 to 3.4% in 2023 and then to 3.6% in 2025.

⁽⁴³⁴⁾BMAS, 2026, Empfehlungen der Kommission zur Sozialstaatsreform, [bmas.de](https://www.bmas.de).

⁽⁴³⁵⁾ECB, 2026, Distributional Wealth Accounts and HFCS survey, data.ecb.europa.

S80/S20 ratio, stood at 4.7 in 2025, close to the EU average (4.62). Furthermore, the revenue share from property and wealth taxation remains below the EU average (see Annex 3). This taxation structure exacerbates wealth inequality. Rebalancing the tax mix could ease pressure on labour and make the tax system less distortive.

Social mobility has declined substantially in recent decades. Intergenerational income mobility has declined substantially over time in Germany, particularly for cohorts born from the late 1970s onwards. Parental income now plays an increasingly decisive role in determining children's educational attainment and subsequent earnings. This decline in mobility has coincided with a marked rise in income inequality, leading researchers to describe the combination of rising inequality and falling income mobility as a 'toxic mix'⁽⁴³⁶⁾.

Germany's long-term care system performs comparatively well in terms of adequacy and affordability. The system has been based on compulsory long-term care insurance since 1995 and combines extensive cash benefits with in-kind services. In 2022, public expenditure on long-term care in Germany accounted for around 1.9% of GDP, above the EU average (1.7%). A relatively high proportion is devoted to cash benefits (36.7% vs 25% overall in the EU), reflecting the system's strong support for family-based care. This is confirmed by the fact that the share allocated to residential care is also high (40.2%), although it is lower than the EU average of 46.2%. Germany performs relatively well in terms of the affordability of care⁽⁴³⁷⁾. For people aged 65 and over with moderate care needs, public social protection covers 100% of home care costs (EU: 62%), resulting in zero out-of-pocket expenditure (EU: 43% of the median income). For those with severe needs, public coverage reaches 76% for home care and 83% for residential care, both above the EU averages. For care recipients with low needs coverage is 38% which is below the EU average of 57%⁽⁴³⁸⁾. Social economy organisations

(including *Wohlfahrtsverbände*) play a key role delivering care services in Germany. However, according to the federal-state working groups on care and financing (*Versorgung und Finanzierung*, within the *Zukunftspakt Pflege*)⁽⁴³⁹⁾, Germany's current long-term care insurance system faces increasing pressures from demographic change, rising costs, fragmented responsibilities and bureaucratic complexity, and therefore requires structural simplification, stronger prevention and rehabilitation measures, improved coordination, and more sustainable financing to remain viable and socially equitable in the long term.

⁽⁴³⁶⁾Baarck, J., Bode, M., Peichl A. (2025): Rising Inequality, Declining Mobility: The Evolution of Intergenerational Mobility in Germany. CESifo Working Paper No. 12058. [ifo.de](https://www.ifo.de).

⁽⁴³⁷⁾[EU Monitoring Framework on the Council Recommendation on access to affordable high-quality long-term care.ec.europa.eu](https://ec.europa.eu/eu_monitoring/framework-on-the-council-recommendation-on-access-to-affordable-high-quality-long-term-care-ec.europa.eu).

⁽⁴³⁸⁾The OECD model's assumptions on care needs, formal service use, benefit rules and out-of-pocket/private co-

payments, are designed to support cross-country comparability rather than reproduce national expenditure accounts.

⁽⁴³⁹⁾BMG (2025): Eckpunkte für eine nachhaltige Struktur und Finanzierungsreform, [bmg.de](https://www.bmg.de).

Germany’s education and training system is facing widening skills and equity gaps as well as rising rates of low qualified young people, leading to human capital losses and skills shortages. Persistent unmet demand for early childhood education and care (ECEC) is a drag on labour force participation. Declining basic skills and increasing numbers of early school leavers exacerbate socio-economic disparities and hinder labour-market entry. Although adult learning rates are high overall, limited funding and flexibility of training opportunities, as well as insufficiently targeted outreach towards low-skilled and unemployed learners currently restrict greater adult participation in training, particularly in strategic economic sectors. The 2025 country-specific recommendations (CSRs) for Germany highlighted the need to improve the availability and quality of ECEC and whole-day schools, and to strengthen basic, green and digital skills to improve education outcomes ⁽⁴⁴⁰⁾.

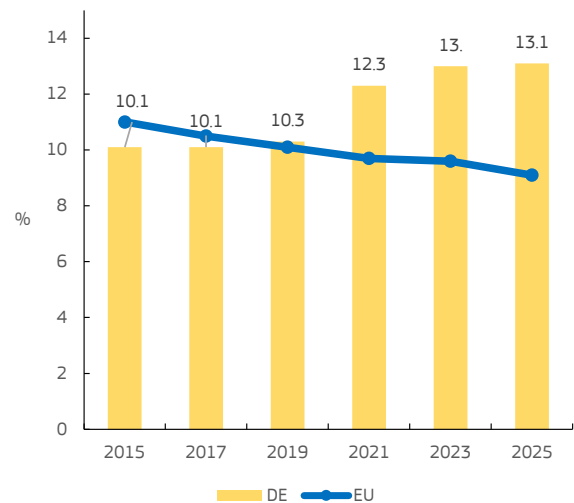
Demand for ECEC remains partly unmet, reducing workforce participation. In 2025, 26.2% of children under three attended ECEC (EU average: 40.5%), far below the 2030 national target of 40.4%. Participation is higher among advantaged children (28.3%) compared to disadvantaged ones (13.8%). The gap between parental need and ECEC participation for under-three-year-olds was 16.2% in western Germany in 2024, and 7% in the east ⁽⁴⁴¹⁾ (see also Annex 11). Staff shortages persist. By 2030, western Germany might require 51 200 to 88 400 additional ECEC staff, while eastern Germany anticipates a surplus by 2035 ⁽⁴⁴²⁾. Among children between three years old and school age, ECEC participation is relatively high (95.3% vs an EU average of 94.6% in 2023).

⁽⁴⁴⁰⁾CSR 2025.5.2: ‘strengthening basic, green and digital skills’;
 CSR 2025.5.4: ‘Improve education outcomes, including by promoting excellence and providing targeted support to disadvantaged groups.’;
 CSR 2025.5.5: ‘Improve the availability and quality of early childhood education and care and whole-day schools to encourage carers, often women, to work and to promote equal opportunities for all children.’

⁽⁴⁴¹⁾BMBFSFJ (2025). [Kindertagesbetreuung Kompakt. Ausbaustand und Bedarf 2024](#), p. 22.
⁽⁴⁴²⁾Meiner-Teubner, Ch. et al. (2024). [Plätze. Personal. Finanzen.](#) Teil 1, p. 21. he

Germany is making efforts to expand ECEC capacity and improve quality, but some key measures have not been launched yet. To enhance ECEC quality, the federal government is funding the ‘Third Act for Further Development of Quality and Participation in Child Day Care’ and measures under the Special Fund for Infrastructure and Climate Neutrality (EUR 940 million planned in 2026). The Startchancen-Kitas programme announced in the 2025 coalition agreement, aiming to invest in ECEC in disadvantaged areas and in language learning, has not been launched yet ⁽⁴⁴³⁾. The coalition agreement also proposes mandatory diagnostics of German language proficiency for four-year-olds, with corresponding support measures in collaboration with the Länder, but details have not been announced yet. Currently, language assessments vary significantly between Länder, with only seven Länder conducting comprehensive language assessments before school enrolment; seven others target specific groups and two do not perform comprehensive assessments ⁽⁴⁴⁴⁾. Language assessments support the early detection of learning difficulties to help children acquire basic skills.

Graph A13.1: **Early leavers from education and training, of those aged 18-24**



Source: Eurostat (edat_ifse_14)

⁽⁴⁴³⁾Koalitionsvertrag zwischen CDU, CSU und SPD, 21. Legislaturperiode.
⁽⁴⁴⁴⁾Autor:innengruppe Bildungsberichterstattung (2024). [Bildung in Deutschland 2024](#), p. 121.



Early school leaving rates are high and increasing, particularly affecting individuals born outside of Germany and those with disabilities. In 2025, 13.1% of 18-24-year-olds had no or low qualifications, meaning lower secondary education at most (EU average: 9.1%). Early leaving from education and training has increased since 2021, compared to a downward trend across the EU on average. Rates are higher than the EU average across all groups, although there are significant discrepancies between them. German natives have an early leaving rate of 10% (EU average: 7.7%). At 32.1%, the rate is higher for individuals born in other EU countries (EU average: 18.9%), compared to 26.8% for those born outside the EU (EU average: 20.8%). For individuals with some disabilities, the rate was 22.2% in 2024 (EU average: 17.1%), while those with severe disabilities had a rate of 52.7% (EU average: 44.2%). Regionally, Bremen, Berlin, Schleswig-Holstein, Saarland, Rhineland-Palatinate and Lower Saxony face an early leaving rate above 14%, while only Bavaria and Saxony report rates below 12% ⁽⁴⁴⁵⁾.

Over the last decade, the increase in underachievement in basic skills has hindered human capital development and widened socio-economic disparities. Between a quarter and a third of 15-year-olds underperform in mathematics, reading and science ⁽⁴⁴⁶⁾. While the share of top performers remains above the EU average, the decline is more pronounced than the EU average, with mathematics seeing the largest drop: -4.7% between 2018 and 2022 (EU average: -3.1%). In 2022, 46.6% of students from disadvantaged backgrounds failed to reach minimum proficiency in mathematics, a noticeable rise from 29.8% in 2015. Additionally, two thirds (64%) of students born abroad underachieve in mathematics, compared to 21.9% of non-immigrant students, further contributing to the widening socio-economic gap in education. To address these challenges, the federal government, in collaboration with the Länder, is implementing several initiatives. The Startchancen programme launched in the 2024/2025 school year, funded with EUR 20 billion over 10 years, aims to bridge socio-economic gaps, targeting a 50% reduction in

⁽⁴⁴⁵⁾Statistische Ämter des Bundes und der Länder (2025). [Internationale Bildungsindikatoren im Ländervergleich 2025](#), p. 41.

⁽⁴⁴⁶⁾OECD, 2022 PISA.

underachievement in mathematics and German at participating schools. The programme aims to cover around 4 000 schools and around 10% of students. As the programme is in the early stages of implementation, results are not yet available. Germany has one of the earliest and most stringent systems for separating educational pathways, at around the age of 10. Delaying tracking, making assignment to tracks more inclusive and further increasing permeability between pathways could improve educational outcomes of weaker performers, without deteriorating outcomes of better performing pupils ⁽⁴⁴⁷⁾.

Germany is facing teacher shortages and anticipates that the legal entitlement to all-day primary school care will be only partly fulfilled. The Standing Conference of the Ministers of Education and Cultural Affairs (KMK) forecasts a shortage of 49 000 teachers by 2035, including a deficit of 43 000 in lower secondary schools ⁽⁴⁴⁸⁾. To address teacher shortages, Germany has taken measures such as improving the preparatory service, attracting 'career changers' (*Quereinsteiger*) and encouraging retired teachers to return to the classroom ⁽⁴⁴⁹⁾. The KMK and the Länder have launched initiatives to attract more teachers as short-term solutions, without structural reforms of mainstream initial teacher education ⁽⁴⁵⁰⁾. Such solutions include qualifications for single-subject teachers, dual teacher training programmes and master's programmes for career changers. From the 2026/2027 school year, all primary school children will have a legal entitlement to all-day care, initially applying to every child in the first year of school. The federal government anticipates a shortage of 30 000 to 65 000 places at the time

⁽⁴⁴⁷⁾McNamara, S., & Klein, T. (2025). Folgen (zu) früher Leistungsdifferenzierung: Lehren aus Ungarn für das deutsche Schulsystem. *Wirtschaftsdienst*, 105(9), 671-678. [Wirtschaftsdienst.de](#).

⁽⁴⁴⁸⁾KMK (2024). [Lehrkräfteeinstellungsbedarf und -angebot in der Bundesrepublik Deutschland 2024-2035 – Zusammengefasste Modellrechnungen der Länder](#).

⁽⁴⁴⁹⁾KMK (2022). [Gemeinsame Leitlinien der Länder zur Deckung des Lehrkräftebedarfs](#).

⁽⁴⁵⁰⁾KMK (2024). [Maßnahmen zur Gewinnung zusätzlicher Lehrkräfte und zur strukturellen Ergänzung der Lehrkräftebildung](#).

the entitlement comes into effect ⁽⁴⁵¹⁾. All-day schooling not only facilitates greater labour-market participation among caregivers but also provides learning opportunities that particularly benefit disadvantaged students.

Germany is behind the EU average in terms of public investment in education relative to GDP. In 2023, public expenditure on education was below the EU average in terms of both the share of total expenditure (9.2% vs 9.6%) and the share of GDP (4.5% vs 4.7%). However, the costs of vocational training as part of the dual system are primarily covered by private stakeholders. Municipalities identified an investment gap of EUR 67 billion in schools in 2024 ⁽⁴⁵²⁾. The German Council of Economic Experts, in its 2025/2026 report, identifies substantial investment needs in general education. It recommends establishing a permanent public infrastructure fund with minimum investment quotas for education set at Länder level, for example as expenditure per pupil ⁽⁴⁵³⁾.

Skills shortages affect all skills levels in Germany. There is a strong demand for skilled professionals with vocational education and training (VET) and higher education qualifications, including in science, technology, engineering and mathematics (STEM) fields. By 2030, over half (54%) of Germany's job openings will need medium-level qualifications (12 percentage points higher than the EU average), and demand will increase for jobs requiring higher qualifications (including engineers and healthcare specialists) ⁽⁴⁵⁴⁾. Shortages are especially widespread in Bavaria and Rhineland-Palatinate, in particular in manufacturing and healthcare professions. High demand for IT and scientific professionals is particularly pronounced in southern and eastern Germany ⁽⁴⁵⁵⁾. Measures that can help manage the decline of employment in manufacturing linked to restructuring (see Annex 11) include promoting targeted upskilling and

reskilling, updating vocational training, adapting curricula and increasing investment in new net-zero technologies in VET schools and training centres. Better access to upskilling and reskilling for under-represented groups in adult learning, including people with a migrant background, can improve the availability of skills for shortage occupations. In 2023, Germany hosted the highest number of migrants in the EU in absolute terms (12.3 million), including 27% of all Ukrainian refugees that fled to the EU. In 2024, 30% of these migrants were overqualified, mostly women ⁽⁴⁵⁶⁾, widening the migrant gender pay gap (30%) ⁽⁴⁵⁷⁾. Measures that can help to better match qualifications with jobs include providing adequate language training, facilitating skills validation and recognition, streamlining migration procedures ⁽⁴⁵⁸⁾, and offering more flexible upskilling and reskilling opportunities. The European Social Fund Plus (ESF+) co-funded the Network IQ project, which offers counselling for skills validation and recognition. Whereas national skills intelligence forecasts produced by the BA and BIBB ⁽⁴⁵⁹⁾ support policymaking, stronger coordination between the regional and the national methodologies for employment forecasting could improve comparability and cross-regional analysis.

While employment in information and communications technology (ICT) and green jobs grew more than brown skills hiring ⁽⁴⁶⁰⁾, reforms are not targeted enough to meet the skills demands of the twin (green and digital) transition. The employment share in energy-intensive industries, primarily vehicle manufacturing, was comparatively high in 2024 (4.8%), but has been declining recently (see Annex 11). Yet, worker participation in training within these industries remains below the EU average, and several occupations crucial to the energy transition face shortages, such as renewable energy technology, plumbing, heating, and roofing ⁽⁴⁶¹⁾. While the share of ICT specialists in total

⁽⁴⁵¹⁾Bundesregierung (2025), [Dritter Bericht zum Ausbaustand der ganztägigen Bildungs- und Betreuungsangebote für Grundschul Kinder](#).

⁽⁴⁵²⁾KfW (2025), Kommunalpanel. [kfw.de](#).

⁽⁴⁵³⁾Sachverständigenrat, 2025, *Jahresgutachten 2025/26*, [sachverstaendigenrat-wirtschaft.de](#).

⁽⁴⁵⁴⁾CEDEFOP (2023): [Skills forecast Germany](#).

⁽⁴⁵⁵⁾Bundesagentur für Arbeit (2024): [Fachkräftenadar](#).

⁽⁴⁵⁶⁾DG EMPL (2025), [ESDE Quarterly review 2025](#).

⁽⁴⁵⁷⁾IQ Fachstelle Einwanderung und Integration (2025): [Migrant \(Gender\) Pay Day: Bis wann arbeiten Migrant*innen „umsonst“?](#)

⁽⁴⁵⁸⁾Bertelsmann (2023): [Studie Ausländerbehörden zwischen Anspruch und Alltag](#).

⁽⁴⁵⁹⁾BA (Federal Employment Agency) and BIBB (Bundesinstitut für Berufsbildung).

⁽⁴⁶⁰⁾IAB (2025): [Firms in the green transition - IAB-Forum](#).

⁽⁴⁶¹⁾BA (2025): [The green transition of the labour market](#).

employment (5.3%) is around the EU average (5.0%), companies in Germany have more difficulties to fill ICT vacancies than their EU peers (8.7% of enterprises reported hard-to-fill vacancies for ICT specialist roles vs an EU average of 5.5% in 2024). Young people's interest in green-skills apprenticeships has grown. The number of filled green-skills positions increased by 14% between 2013 and 2021, suggesting that 'greening' VET enhances its appeal, except in regions facing structural transition⁽⁴⁶²⁾. The Skills and Training Radar also highlights twin-transition positions with limited substitution options and insufficient VET training capacity⁽⁴⁶³⁾.

Digital skills are improving gradually but remain uneven, with persistent gaps by educational attainment. In 2025, 59.6% of adults had at least basic digital skills, nearly reaching the EU average of 60.4%. Rural areas remain slightly below the EU average (51.9% vs 52.8%). Educational attainment plays a key role: 77.4% of highly educated adults have at least basic digital skills (EU average: 82.3%), but only 35.4% of those with low or no education do (EU average: 37.6%)⁽⁴⁶⁴⁾. Among eighth graders, 41% lacked basic digital skills in 2023⁽⁴⁶⁵⁾. Recent action has more strongly focused on digital education (e.g. the December 2025 'Digitalpakt Schule 2.0' initiative paved the way for EUR 5 billion of federal and Länder support for digital education in 2026-2030). 13% of the 'Digitalpakt 1.0' funds were allocated to VET schools and their pupils account for around 20% of the total number of pupils across all types of schools⁽⁴⁶⁶⁾, while the 2025 country-specific recommendation covers digital skills of the working population⁽⁴⁶⁷⁾. The Recovery and

Resilience Facility also supports digital education investments.

The VET system is strong but faces challenges in skills gaps, labour-market relevance and access to training, particularly affecting vulnerable groups. Work-based learning reached 93% in 2025 (EU average: 66%) and the employment rate for VET stood at 91,5 % in 2025, compared to an EU average of 80,2%. The Vocational Education Excellence Initiative (2022) promotes modern training methods through digitalisation and increasing international mobility and partnerships in VET. However, declining basic skills and equity issues in the German school system undermine success in accessing in-company apprenticeships after mandatory school, and hence quality jobs later, also in strategic sectors in high demand. In 2024/2025, only 43% of 444 000 applicants were able to secure a position (ISCED 5), the lowest in 25 years, while 38% became unemployed. Only 33% of foreign applicants were successful, against 46% of German nationals. Hamburg, Berlin, Schleswig-Holstein, Brandenburg and North Rhine-Westphalia reported the most unplaced applicants⁽⁴⁶⁸⁾. In specific cases, the Act to Strengthen Vocational Training and Skills covers part of the wage and training costs through subsidies from the public employment service. The act includes a training guarantee that offers intra-regional mobility grants, covering the first year of in-company training for targeted unplaced applicants. However, in 2025, demand exceeded the 7 000 subsidised placements⁽⁴⁶⁹⁾. The ESF+ co-funds inter-company apprenticeship training (*Überbetriebliche Lehrlingsunterweisung, ÜLU*) and learning workshops (*Bildungs/Jugend-werkstätten*). Career counselling, psycho-social support⁽⁴⁷⁰⁾ and support to basic skills for pupils in upper secondary VET could help address equity gaps.

STEM education is relatively popular, but its full potential for competitiveness is not yet used. Germany has a comprehensive STEM strategy from ECEC to higher education, and enrolment in tertiary STEM programmes is significantly higher than in the EU on average

⁽⁴⁶²⁾IAB (2024): [Vocational training: Occupations with green skills are in high demand - IAB-Forum](#).

⁽⁴⁶³⁾BIBB / Berufe- und Kompetenzradar.

⁽⁴⁶⁴⁾Eurostat, Table ISOC_SK_DSKL_I21: Individuals' level of digital skills.

⁽⁴⁶⁵⁾IEA, 2023, ICILS.

⁽⁴⁶⁶⁾BMBF: [Fortschrittsbericht Digitalpakt Schule 2023-2024](#); Destatis: [Allgemeinbildende und Berufliche Schulen – Schnellmeldung Schülerinnen und Schüler, Schuljahr 2025-26](#).

DIHK (2023): [Schulische Bildung verbessern - Fachkräfte für die Wirtschaft sichern](#).

⁽⁴⁶⁷⁾CSR 2025.5.2: 'strengthening basic, green and digital skills'.

⁽⁴⁶⁸⁾Bundesagentur für Arbeit (2025): [AM-kompakt-Situation-Ausbildungsmarkt.pdf](#) p. 15.

⁽⁴⁶⁹⁾Bundesagentur für Arbeit (2025): [AM-kompakt-Situation-Ausbildungsmarkt.pdf](#).

⁽⁴⁷⁰⁾[Monitor Bildung und psychische Gesundheit BiPsy-Monitor](#).

(35.5% vs 26.9% in 2023). However, this needs to be seen in the context of an overall lower tertiary educational attainment rate (40.9% vs an EU average of 44.8% in 2025), with regional disparities (see Annex 19). In addition, women remain under-represented: they make up only 29.7% of STEM students at tertiary level (EU average: 32.2%), with especially low rates in ICT and engineering. The number of international STEM students has risen significantly in recent years, while an even higher rate of international STEM students staying in Germany after graduation could contribute to higher growth rates and have a net positive impact on public finances ⁽⁴⁷¹⁾. In 2024, 33.3% of students in medium-level VET programmes pursued STEM fields, slightly below the EU average of 36.6%. In VET STEM programmes, female enrolment was 10.0% (EU average: 15.9%), with particularly low rates in Brandenburg (9.4%), North Rhine-Westphalia (9.6%) and Saarland (9.7%) ⁽⁴⁷²⁾.

Participation in adult learning exceeds the EU average, but more flexibility, funding and targeted outreach could help tackle labour shortages and structural change. Overall, adult learning participation (53.7%) surpassed the EU average (39.5%) in 2022. Yet, in 2023, company training was still below pre-pandemic levels ⁽⁴⁷³⁾. Increased public-private partnerships and stronger social partner involvement in adult learning and strategic sectors could improve outcomes. Training participation is lower among those with low qualifications (30%) and unemployed people (31.7%) than among those with medium (49.9%) or high (71.5%) qualifications and employed people (58.4%) ⁽⁴⁷⁴⁾. The country also shows larger literacy gaps by education, income and family background than the respective OECD averages – and the widest of all PIAAC countries ⁽⁴⁷⁵⁾. Work-capable beneficiaries receiving basic income support are mainly 25-49-year-olds (53%), without a vocational diploma (68%) and are often

foreign nationals (over 50%) ⁽⁴⁷⁶⁾. Measures to address these issues could include providing psycho-social support and increased basic skills training, especially for parents and single parents, including financial education and extended language courses when needed. It is key to ensure labour-market relevance of skills in cooperation with social partners, and to expand partial qualifications and on-the-job training. In the area of lifelong learning there is room to support skills portability, validation and transparency by expanding micro-credentials and badges ⁽⁴⁷⁷⁾ as validation procedures are currently too expensive for vulnerable groups ⁽⁴⁷⁸⁾. Implementing individual learning accounts could boost adult learning in line with labour-market needs. The government has not yet announced the successor of 'Alpha Decade', the main national measure to boost basic skills among adults. Further targeted support for firms investing heavily in training and the twin transition could help address the perceived underinvestment in training ⁽⁴⁷⁹⁾.

⁽⁴⁷¹⁾Geis-Thöne et al. (2025), [Volkswirtschaftliche Effekte der Zuwanderung über die Hochschulen](#).

⁽⁴⁷²⁾BMBFSFJ- [Anteil von Frauen und Männern in beruflichen Ausbildungen zu MINT-Berufen - Open Data Portal](#).

⁽⁴⁷³⁾IAB (2025): [Forschungsbericht](#).

⁽⁴⁷⁴⁾Bilger, F. & Koubek, E. (2024). [Weiterbildungsverhalten in Deutschland 2022. Ergebnisse des Adult Education Survey – AES-Trendbericht](#).

⁽⁴⁷⁵⁾Network of Experts in Adult Learning (2025) [Country report on basic skills](#), p. 11-12.

⁽⁴⁷⁶⁾PD Dr. Joachim Wolff (IAB, 2025) calculations on data of the Bundesagentur für Arbeit.

⁽⁴⁷⁷⁾DIE (2025): [Microcredentials und Badges – Herausforderungen und Lösungsansätze für digitale Lernnachweise in der Erwachsenen- und Weiterbildung](#).

⁽⁴⁷⁸⁾[Validierungsverfahren: Berufliche Kompetenzen zertifizieren lassen - IHK Südlicher Oberrhein](#).

⁽⁴⁷⁹⁾IAB (2025): [IAB-LinkedIn-Branchenwechsel-Radar](#).

Table A14.1: **Social Scoreboard for Germany**

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)	53.7				
	Early leavers from education and training (% of the population aged 18-24, 2025)	13.1				
	Share of individuals who have basic or above basic overall digital skills (% of the population aged 16-74, 2025)	59.6				
	Young people not in employment, education or training (% of the population aged 15-29, 2025)	9.5				
	Gender employment gap (percentage points, population aged 20-64, 2025)	6.8				
	Income quintile ratio (S80/S20, 2025)	4.68				
Dynamic labour markets and fair working conditions	Employment rate (% of the population aged 20-64, 2025)	81.1				
	Unemployment rate (% of the active population aged 15-74, 2025)	3.8				
	Long term unemployment (% of the active population aged 15-74, 2025)	1.1				
	Gross disposable household income (GDHI) per capita growth (index, 2008=100, 2024)	116.2				
Social protection and inclusion	At risk of poverty or social exclusion (AROPE) rate (% of the total population, 2025)	21.2				
	At risk of poverty or social exclusion (AROPE) rate for children (% of the population aged 0-17, 2025)	23.5				
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2025)	34.0				
	Disability employment gap (percentage points, population aged 20-64, 2025)	23.0				
	Housing cost overburden (% of the total population, 2025)	11.2				
	Children aged less than 3 years in formal childcare (% of the under 3-years-old population, 2025)	26.2				
	Self-reported unmet need for medical care (% of the population aged 16+, 2025)	1.0				
Critical situation	To watch	Weak but improving	Good but to monitor	On average	Better than average	Best performers

Update of 4 May 2026. 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 2026 for details on the methodology (https://employment-social-affairs.ec.europa.eu/joint-employment-report-2026_en).

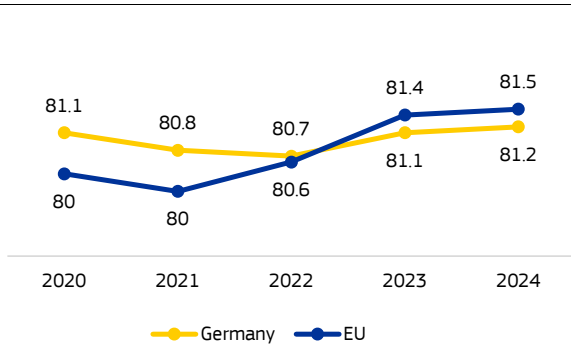
Source: Eurostat



Germany’s health system faces challenges which negatively affect the health of its population, social fairness and productivity.

Population ageing, combined with lifestyle-related risk factors - especially among lower-educated groups - contribute to growing morbidity and disability. Germany figures among the EU countries with the highest hospital admission rates for selected chronic conditions, in particular congestive heart failure, reflecting weak care coordination and over-reliance on inpatient care. It puts increasing pressure on the healthcare system. In response, Germany is advancing broad reforms to improve efficiency, reduce hospitalisations, and strengthen outpatient care.

Graph A15.1: Life expectancy at birth, years



Source: Eurostat (indicator: demo_mlexpec)

Life expectancy at birth in Germany stands just below the EU average, with stable treatable mortality, despite some fluctuations in recent years (see Graph A15.1).

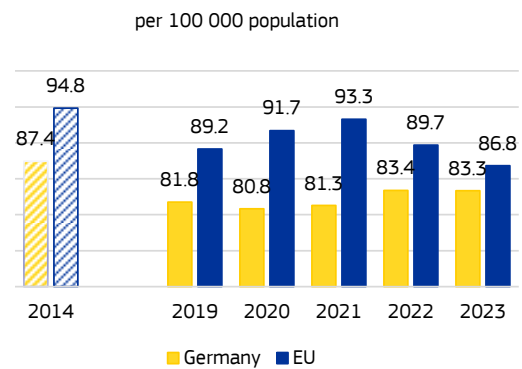
Germany performs relatively well in preventing deaths from treatable conditions, with rates remaining stable over the past decade, indicating an effective healthcare system despite limited improvements. Diseases of the circulatory system (cardiovascular diseases CVDs) are the leading cause of death - with rates slightly above the EU average in 2023. CVD death rates are followed by cancer, with large disparities between regions. Taken together CVDs and cancer accounted for 56% of all deaths in 2023. The suicide rate is also slightly above the EU average, showing limited improvements in the last decade

Germany's population is rapidly ageing, with implications for healthcare (see Annex 2).

In 2024, 22% of the German population were aged 65 and over, a share projected to rise to 28% by 2050. CVDs and cancer are both the leading causes of death in Germany and the leading

causes of morbidity and disability. There were over 1 million estimated new cases of CVDs in 2021. Ischaemic heart disease is the most common CVD, with an estimated 441 000 new cases each year in Germany, representing 36% of all new cases. Germany’s 30-day hospital mortality rate stood at 8 deaths per 100 patients due to heart attacks in 2023, which is higher than the EU average. By contrast, the 30-day hospital mortality rate for ischaemic stroke was 7 per 100, which is below the EU average, suggesting the presence of effective acute care structures, such as specialised stroke units and standardised treatment pathways.

Graph A15.2: Treatable mortality



Age-standardised death rate - mortality that could be avoided through optimal quality healthcare.

Source: Eurostat (indicator: hlth_cd_apr)

Preventable mortality was just above the EU average in 2023.

The share of healthcare spending allocated to prevention fell sharply in 2023 despite being still above the EU average (4.8% vs 3.7%)⁽⁴⁸⁰⁾. About 530 000 new cases of cancer were expected to be diagnosed in Germany in 2022, and almost 4.9 million people were living with the condition in 2020 according to European Cancer Information System (ECIS)⁽⁴⁸¹⁾ estimates. The high prevalence rate highlights the importance of focusing on the quality of life of cancer patients, living longer. Germany has implemented and expanded population-based national screening programmes for breast, colorectal and cervical cancer. A national lung cancer screening programme for high-risk groups aged 50-75 was introduced as a service covered by statutory health insurance on 1 April 2026. These initiatives

⁽⁴⁸⁰⁾OECD/European Observatory on Health Systems and Policies (2025), *Country Health Profile 2025: Germany. State of Health in the EU*.

⁽⁴⁸¹⁾[ECIS - European Cancer Information System | ECIS - European Cancer Information System](#).

Table A15.1: Key health indicators

	2020	2021	2022	2023	2024	10-year change**	EU average* (latest year)
Cancer mortality per 100 000 population	240.3	235.7	237.3	234.8	n.a.	0.93	233.1 (2023)
Mortality due to circulatory diseases per 100 000 population	348.3	345.1	361.5	349.7	n.a.	0.87	313.0 (2023)
Current expenditure on health, purchasing power standards, per capita	4 790	5 198	5 432	5 414	5 796	1.50	3834.9 (2023)
Public share of health expenditure, % of current health expenditure	85.8	85.9	86.7	85.9	86.3	1.02	80.6 (2023)
Spending on prevention, % of current health expenditure	3.6	7.2	8.4	4.8	n.a.	1.45	3.7 (2023)
Available hospital beds per 100 000 population***	652	645	640	633	n.a.	0.93	440 (2023)
Doctors per 1 000 population*	4.5	4.5	4.6	4.7	n.a.	1.16	4.3 (2023)*
Nurses per 1 000 population*	12.0	12.0	12.1	12.2	n.a.	1.17	7.6 (2023)*
Mortality at working age (20-64 years), % of total mortality	13.5	13.7	13.0	13.0	12.8	0.87	14.3 (2023)
Consumption of antibiotics in the community and hospital sectors, defined daily doses per 1 000 inhabitants	n.a.	n.a.	n.a.	13.3	13.8	n.a.	20.3 (2024)

*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 2023 data (or latest available). 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 Portugal (licensed to practice) and Slovakia (professionally active). Latest data update on nurses for Belgium and Sweden: 2022; for France: 2021; for Luxembourg: 2017.

** latest available 10-year trend: ratio 2023/2014 or 2024/2013; a factor of 2.00 means that it has doubled in 10 years.

***'Available hospital beds' covers somatic care, not psychiatric care.

Source: Eurostat

are closely aligned with the Europe's Beating Cancer Plan and are supported by Germany's National Cancer Plan and National Decade Against Cancer, both of which aim – among other things – to further develop early detection, promote outreach and introduce innovations. Germany participates in several joint actions funded by EU4Health, aimed at preventing cancer and other non-communicable diseases⁽⁴⁸²⁾, while also developing networks for better care⁽⁴⁸³⁾, including European Reference Networks (ERNs) for rare and complex diseases.

Preventable mortality in Germany is closely linked to lifestyle behavioural risk factors, especially for people with lower levels of education. Alcohol consumption among adults remains slightly higher than the EU average in 2022. The proportion of 15-year-olds who reported having been drunk more than once in their life shows a more concerning trend, with an increase from 25% in 2014 to 31% in 2022, which stood much higher than the EU average. The share of obesity is slightly above the EU average. Poor nutrition is a main driver of rising trends in people being overweight and obese. Only around 55% of Germans report consuming vegetables daily (EU average 60%), while the consumption of fruit is the same as the EU average. As in other countries,

⁽⁴⁸²⁾ [JA PreventNCD - Reducing Europe's cancer and NCD burden through coordinated strategies on health determinants.](#)

⁽⁴⁸³⁾ JANE-2; EUnetCCC JA - The European Comprehensive Cancer Centre Network.

many behavioural risk factors in Germany are more common among people with lower education levels. People with lower levels of education were almost 70% more likely to be obese⁽⁴⁸⁴⁾. The share of adults smoking daily in Germany has fallen over the past decade – from 21% in 2013 to 15% in 2021, which is below the EU average of 19%. However, smoking among 15-year-olds has increased, with 17% reporting that they had smoked in the past month in 2022, up from 15% in 2018. This figure is now equal to the EU average. The regular use of vaping products among young adults is higher than the EU average (4.8% vs 2.7%). In response and as highlighted in the medium-term fiscal and structural plan (MTFSP), the federal government will draw up a proposal to review and update the existing tobacco duty framework. Furthermore, in May 2024 the Federal Government of Germany introduced its National Suicide Prevention Strategy Germany 2024, outlining measures and recommendations to strengthen suicide prevention, with a focus on health literacy and empowerment, psychosocial counselling and support, and improved networking and coordination.

A large share of Germany's health spending is earmarked for inpatient care. With health spending per capita among the highest in the EU, the system remains strongly hospital-focused. Inpatient care accounted for 27% of spending in

⁽⁴⁸⁴⁾ *Country Health Profile 2025: Germany* – see earlier Footnote.

2023, ahead of outpatient care (25%, compared with 28.4% in the EU). Public funding remains the largest share of current health spending, reaching 86% in 2023, above the EU average of 80%. However, according to the 2025 Eurofound living and working in the EU survey, unmet needs for mental healthcare in Germany was on an upward trend between 2021 and 2024, remaining well above the EU average. In 2024, 10% of adults reported unmet mental healthcare needs, an increase compared with 4% in 2021, which highlights the potential longer-term effects of the COVID-19 pandemic, along with other social, economic and psychological stresses ⁽⁴⁸⁵⁾.

Germany continues to face structural challenges in primary and integrated care.

Following recent reform efforts, the focus has now shifted to their implementation. Germany continues to report a high number of hospital beds (633 per 100 000 people in 2023, well above the EU average). The country reports among the highest rate of hospital admissions in the EU for specific ambulatory care sensitive conditions that can typically be managed effectively in outpatient settings. Almost half of these cases were linked to congestive heart failure (47%) ⁽⁴⁸⁶⁾. These persistently higher avoidable admission rates point to structural challenges in primary and integrated care. A fundamental challenge stems from the lack of coordination between outpatient and inpatient care, which often causes patients to be admitted to hospitals despite their conditions being treatable in the outpatient setting. Recent and upcoming reforms, which are also included in the MTFSP, aim to address these challenges by (i) prioritising a primary care practitioner system; (ii) ensuring closer coordination across care providers; and (iii) avoiding unnecessary referrals of patients with chronic conditions to emergency units or hospital wards.

Germany is advancing reforms to improve efficiency, reduce inpatient cases and ensure cost-effectiveness and quality. The current hospital reform focusses on modernising service delivery while strengthening outpatient care to better meet future demands. As part of the reform, a new hospital reimbursement system

⁽⁴⁸⁵⁾Country Health Profile 2025: Germany – see earlier Footnote.

⁽⁴⁸⁶⁾Country Health Profile 2025: Germany – see earlier Footnote.

aims to remove incentives for unnecessary medical procedures by partially replacing DRG-based payments with flat (*service-based*) payments at the level of hospitals according to their assigned *service groups*. A transformation fund of up to EUR 50 billion will support hospital restructuring from 2026 to 2035. In parallel, a reform commission has been tasked to propose recommendations on the financing of statutory health insurance ⁽⁴⁸⁷⁾. A first set of short-term recommendations has been adapted as part of a proposed law which makes changes to both revenue-raising and expenditure policies, with the aim to stabilize contribution rates as of 2027. The reform commission will present recommendations for more comprehensive structural reforms by the end of 2026.

Antibiotic consumption (in hospital and the community) in Germany rebounded sharply after COVID-19 pandemic.

Consumption reached 13.8 defined daily doses per 1 000 population per day in 2024 - just above 2019 levels. More efforts would be needed to meet the 2030 recommended national target ⁽⁴⁸⁸⁾, which could come about following Germany's revision of its national strategy in 2024. The current German Antimicrobial Resistance Strategy defines national and international goals to be achieved in the fight against antibiotic resistance, presented in six areas. The strategy is supplemented by an action plan describing the initial priority measures in each field to achieve set goals.

Germany's healthcare workforce is ageing, with high numbers of nursing graduates but comparatively low numbers of medical graduates.

The country has a large workforce of practising nurses and physicians, and with a growing proportion aged 55 and over is increasingly reliant on foreign doctors. The country has 40% of all foreign doctors coming from EU countries and 60% from non-EU countries and in parallel a growing outflow of doctors ⁽⁴⁸⁹⁾. Some geographical disparities remain in the availability of general practitioners. The number of medical graduates in Germany has remained relatively

⁽⁴⁸⁷⁾[FinanzKommission Gesundheit](#), Federal Ministry of Health.

⁽⁴⁸⁸⁾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](#).

⁽⁴⁸⁹⁾OECD/European Commission (2024), *Health at a Glance: Europe 2024: State of Health in the EU Cycle*.

stable, but increasing healthcare demand outstrips supply. Although Germany trains an above-average number of nursing graduates compared with the average across the EU, the supply remains below expected future demand. This means that further measures will be needed to strengthen nursing training and secure a skilled nursing workforce.

The opportunities offered by e-health, especially for hard-to-reach areas, are not yet fully embraced in Germany. Investments to boost the digital transformation of Germany's health sector are being implemented under its national recovery and resilience plan (RRP). Measures focus on (i) strengthening public health services, including by rolling out a nationwide IT system for infection prevention and control; and (ii) future-proofing hospitals by improving digital infrastructure, emergency capacities, telemedicine capacities, robotics integration and cybersecurity measures. Further funding for digital health comes from the 2021-2027 cohesion policy funds. The share of people accessing their personal health records online and of those using online health services (excluding phone) instead of in-person consultations further increased in Germany in 2024 compared with 2022. However, they stand far below the EU average, in particular when it comes to the use of electronic health records. The low level recorded reflects the historically slow roll out of electronic patient records, lack of awareness among patients and sluggish participation by doctors. The level of digital literacy in the country is slightly below the EU average (59.5% of individuals with at least basic digital skills in 2023 vs an EU average of 60.4% (see Annex 13). Germany's digitalisation strategy for healthcare, published in 2023 shows the need to develop electronic patient records further so that patients can access them via a secure health platform. The nationwide roll out of the ePA began in April 2025, making it available to those covered by the Statutory Health Insurance (SHI).

Germany's pharmaceutical sector has experienced strong growth since the COVID-19 pandemic, with a marked acceleration from 2021 onward. Employment in the pharmaceutical sector has sharply risen (+30% increase from 2019 to 2022), positioning Germany well above the EU average and asserting its leadership in this field. However, despite the

number of patents ⁽⁴⁹⁰⁾ granted in 2024 remained well above the EU average, the figure declined in 2025. Meanwhile, Germany's medical imaging capacity remains stable, indicative of a robust diagnostic infrastructure. In parallel, Germany's strength in research is reinforced by its volume of clinical trials (9.12 per million population). However, in the last few years such trials have observed a slow downward trend, mirroring the trend observed across the EU ⁽⁴⁹¹⁾.

⁽⁴⁹⁰⁾European Patent Office: [Statistics & Trends Centre | epo.org](https://www.epo.org/statistics).

⁽⁴⁹¹⁾US National Library of Medicine, <https://clinicaltrials.gov>.

High costs and standards with cumbersome procedures, highlighted in the 2025 country-specific recommendation, aggravate supply shortages, especially in growth regions, driving up prices and rents. To ensure insurability, construction projects have to adhere to common market practice, going well beyond legal minimum standards. This increases costs significantly. Transactional taxes and additional costs, like notary fees, are also high compared with the rest of the EU. Cumbersome and lengthy procedures for land-use planning and permitting, as well as limited digitalisation, result in costly delays. Against this background, the 2025 country-specific recommendations called for improving 'the conditions for housing investments by simplifying regulation and procedures, reviewing rental law and mobilising additional building land, with the concurrent aim of tackling the housing affordability challenges.' While first steps to tackle some of these problems are underway, implementation and uptake are not yet known.

High house prices and rents for new rental contracts limit personal and labour mobility, partly due to policy measures. High prices of construction materials, shortages of skilled labour and scarcity of land have driven up construction costs. Since 2005, house prices and rents for new contracts have increased significantly more than inflation and income. However, average rents have increased less than inflation and income. As a result, personal and labour mobility are hampered, weighing on economic growth. The underlying reasons include policy measures that make investing in rental units less attractive, for example by limiting rents and rent increases, resulting in the real rents of existing contracts falling. Given the high share of tenants and the need for private capital to cover the housing gap, the sector's attractiveness for private investment is key.

Funding is being increased to start reversing the decade-long decline in social housing stock while misoccupancy could be reduced. The stock of social housing has been declining significantly over the last years and there is considerable misoccupancy⁽⁴⁹²⁾. Federal funding is

⁽⁴⁹²⁾Misoccupancy refers to people living in social housing whose circumstances have improved to the extent that they are no longer eligible for that housing. See German Council of Economic Experts, 2024, Annual Report 2024/2025, [sachverstaendigenrat.de](https://www.sachverstaendigenrat.de).

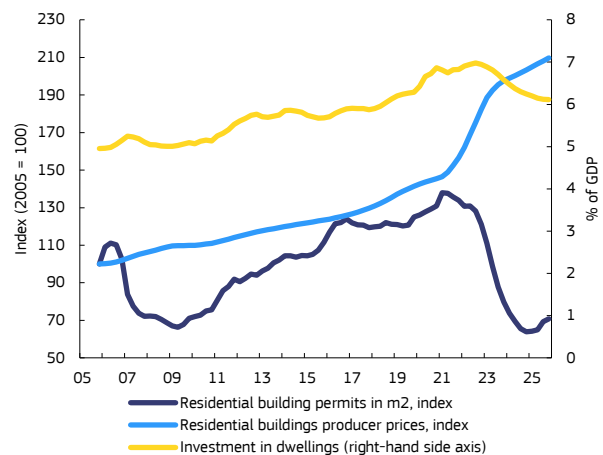
now being stepped up, but social policies remain mainly based on housing allowances despite their weaknesses.

Housing market developments

High prices and rents reflect low housing supply, exacerbating housing shortages.

Housing construction has decreased by more than 20% in real terms since 2020 (see Graph A16.1). This has exacerbated housing shortages and significantly dampened GDP growth. The decline reflects high construction costs and increased interest rates. In 2024, Germany had the highest price level for housing construction in the EU, at 147% of the EU average (see Graph A16.2). In 2025, 238 400 housing permits were issued, 10.8% more than a year earlier, but still 37% below the 2021 level, signalling low construction activity. The share of unoccupied dwellings was 7.7% in 2021, the second lowest in the EU after the Netherlands (4.1%).

Graph A16.1: House supply indicators in DE since 2005



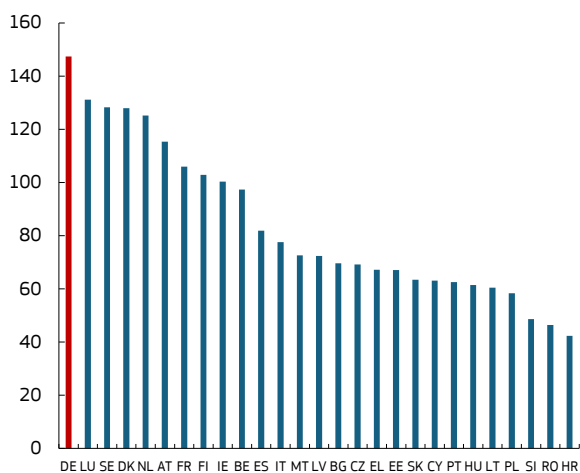
Source: Eurostat

The German construction sector continues to face severe labour shortages⁽⁴⁹³⁾. Both the job vacancy rate in the construction sector and the percentage of construction managers indicating that labour shortages are a factor limiting their business declined (to 3.9% in Q3 2025 and to

⁽⁴⁹³⁾BaulInfoConsult, 2025, Jahresanalyse Deutschland 2025/2026 – 'Fachkräftemangel und Baukosten prägen 2025 und 2026'.

27.4% in January 2026, respectively). However, three out of four manufacturers and a large share of companies in the building sector consider the acute lack of skilled workers to be the central issue slowing down projects, driving up costs and limiting the urgently needed expansion of housing and infrastructure⁽⁴⁹⁴⁾. At the same time, the sector struggles with precarious working conditions that make recruitment a challenge. Physically demanding labour, combined with comparatively unattractive wages and frequent use of subcontracting chains, creates risks of exploitation, wage dumping or violations of minimum standards, affecting migrant workers in particular.

Graph A16.2: **Price level for residential construction, % compared to the EU average**



Source: Eurostat [[prc_ppp_ind_1](#)]

Estimates of the housing shortage differ.

While most experts agree that the 252 000 housing units completed in 2024 are insufficient, estimates of the housing shortage differ considerably. On the high end, the Pestel Institut identified a shortage of 1.4 million affordable housing units at the end of 2024⁽⁴⁹⁵⁾. The Commission estimates the additional housing investment need for 2025-2035 at about 80 000 dwellings annually, with two thirds in metropolitan regions⁽⁴⁹⁶⁾. The need for new housing is very uneven across Germany, concentrated in areas

such as urban centres with a growing population⁽⁴⁹⁷⁾.

Rents for existing contracts have declined in real terms, but people signing new contracts face increasingly higher prices and lower rental affordability.

Rental price developments are particularly important for Germany, as the country has the highest share of tenants in the EU, with 52.8% of people living in a household that rents its home, against the EU average of 31.6% in 2024 (see Table). As a result of rental price control arrangements such as the *Kappungsgrenze*, rental prices of existing contracts increased by only 18.6% between 2013 and 2024, i.e. much lower than inflation (30.1%) and disposable income (44.8%)⁽⁴⁹⁸⁾. At the same time, prices for new rental contracts increased by 50.8% in Germany as a whole and by 76.3% in the seven biggest cities, reflecting strong demand in the face of restricted supply. High rents of new contracts in key regions weigh on rental affordability for a large share of the population, in particular those facing vulnerable situations (see below). In addition, the resulting gap between existing and new rental prices leads to a 'lock-in effect', creating a disincentive for people with existing contracts to move out, reducing housing and ultimately labour mobility⁽⁴⁹⁹⁾.

After a temporary fall, house prices have started to increase again, weighing on purchase affordability.

Between 2012 and 2022, nominal house prices increased by 80% (see Graph A16.3), significantly outpacing inflation and income growth, thereby reducing purchase affordability, and leading to overvaluation (based on the standard European Commission methodology). This overvaluation declined in 2022-2024, as prices fell by 10% amid a sharp increase in mortgage rates. However, higher rates also reduced households' borrowing capacity, and house prices remain relatively high, especially in urban centres. Price growth gradually resumed and, in 2025, house prices were 3.2% above their level a year earlier, supported by gradually

⁽⁴⁹⁴⁾DIHK-Fachkräftereport 2025/2026.

⁽⁴⁹⁵⁾Pestel Institut, 2026, *Sozialer Wohn-Monitor 2026*. Wohnungsmarktsituation, Wohnungsbedarfe, sozialer Wohnungsbau. [mieterbund.de](#).

⁽⁴⁹⁶⁾Balouktsi et al., 2026, Housing investment needs in the EU. [JRC Technical Report 144419](#).

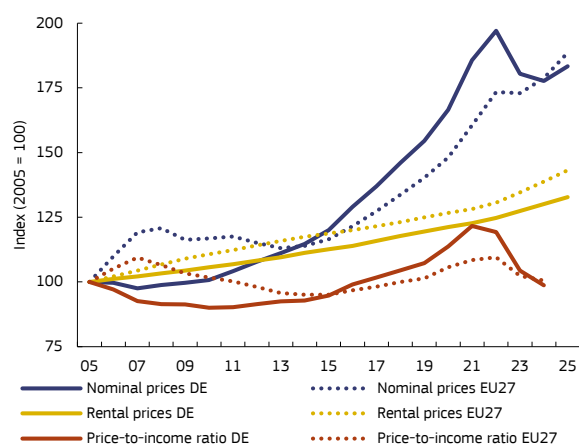
⁽⁴⁹⁷⁾BBSR, 2025, BBSR-Wohnungsbedarfsprognose. BBSR-Analysen *KOMPAKT* 16/2025. [bbsr.bund.de](#).

⁽⁴⁹⁸⁾Adjusted gross disposable income of households per capita in percentage points.

⁽⁴⁹⁹⁾Falck, O., Krause, S., & Zamorski, P., 2025, Mieten-Wachstumshemmnis und sozialer Sprengstoff in deutschen Großstädten?. *ifo Schnelldienst*, 78(10), 04-16. [ifo.de](#).

declining mortgage interest rates and slowly-recovering real household incomes amid structurally staggered housing supply, which may weigh on purchase affordability going forward.

Graph A16.3: **House prices, rents and price-to-income evolution in DE and EU27 since 2005**



Source: Eurostat

Structural policies

Housing investment remains constrained by regulatory complexity and limited land availability. Reflecting these challenges, the 2025 country-specific recommendations called on Germany to simplify regulation and procedures, review rental law and mobilise additional building land, with the concurrent aim of tackling housing affordability challenges (for regional aspects on housing affordability see Annex 18). In response, several measures were adopted in 2025, most notably the Act to Accelerate Housing Construction and to Secure Housing, which entered into force on 30 October 2025. The 'construction turbo' (*Bau-Turbo*) introduces a package of measures aimed at expanding housing supply and easing major bottlenecks, but key aspects for making it an effective tool remain unclear (see below).

The limited availability of building land and lengthy planning procedures are major obstacles to expanding housing supply. Land-use planning processes in Germany are complex and time-consuming, taking on average four to nine years, which stands in contrast to the

urgent housing needs in many regions⁽⁵⁰⁰⁾. To make additional building land available, the construction turbo introduces a temporary exemption until 2030 that allows deviations from planning law for housing projects. With municipal approval, projects can be authorised within three months without prior changes to land-use plans, covering new construction, extensions and repurposing. This has the potential to ease supply constraints in urban areas. However, its effectiveness will critically depend on uptake at municipal level, as local consent remains mandatory⁽⁵⁰¹⁾. In addition to the temporary exemption, the construction turbo also amends the Federal Building Code to facilitate housing construction, including allowing residential development beyond existing land-use plans and in areas without such plans or outside designated construction zones.

High construction costs are driven by complex building regulations and demanding technical standards. Beyond land scarcity, Germany's legal and contractual framework typically requires builders to meet costly technical and comfort standards, often exceeding what is legally necessary. These standards are widely applied to avoid legal disputes and ensure insurability, but they raise costs and slow down construction. To address this, the housing type E; approach proposes a new legal basis allowing contracting parties to agree on simpler, needs-based standards and to deviate from non-essential rules, based on the experience of Hamburg, which suggests that the building cost per square metre can be cut by a third⁽⁵⁰²⁾. A concept paper was published in November 2025, but the timeline for implementation remains unclear⁽⁵⁰³⁾. The uptake in practice will depend on the concrete formulations e.g. if the housing type E is defined as a temporary deviation from normal practice or as new legal standard. Lastly, building law is fragmented across federal, state and municipal levels, with regional differences in requirements and procedures that further increase

⁽⁵⁰⁰⁾BBSR, 2025, Verfahrensbeschleunigung der Bauleitplanung, [bbsr.bund.de](https://www.bbsr.bund.de).

⁽⁵⁰¹⁾ZIA, 2025, Stellungnahme Bau-Turbo, [bundestag.de](https://www.bundestag.de); BFW, 2025, Stellungnahme Bau-Turbo, [bundestag.de](https://www.bundestag.de).

⁽⁵⁰²⁾[bezahlbarbauen.hamburg.de](https://www.bezahlbarbauen.hamburg.de).

⁽⁵⁰³⁾BMJV/BMWSB, 2025: Gebäudetyp E, Gemeinsame Eckpunkte, [bmjv.de](https://www.bmjv.de).

costs and hinder innovation, including modular and serial construction methods.

Rent control does not address the underlying causes of housing affordability challenges.

The federal government has prolonged the rent price brake (*Mietpreisbremse*) until the end of 2029. It limits rents for new leases in tight housing markets to no more than 10% above the local comparable rent, with exemptions for new buildings and extensively modernised dwellings. The rent increase within existing contracts is limited to 15% in three years in tight housing markets (*Kappungsgrenze*). Evaluations show that the rent price brake has been effective in curbing the increase in rents paid for regulated dwellings⁽⁵⁰⁴⁾. At the same time, rent control comes with adverse effects, such as reduced mobility of tenants, and may further increase rents in the unregulated new-build segment. The rental law has therefore not been made more investment friendly, as recommended by the country-specific recommendation. Parallel to the controlled segment effectively covering mainly the renting of unfurnished housing, there has been an increasing share of furnished apartments offered, with considerably higher rent increases⁽⁵⁰⁵⁾. In April 2026 the German government made the rental regulation even more restrictive including by regulating further renting of furnished units and imposing that landlords need to cover part of heating costs for certain installations, further weighing on incentives to offer and invest in rental units. The effect on housing affordability is therefore mixed⁽⁵⁰⁶⁾. If rent control is too restrictive, it can weaken private investment incentives in the housing sector and hinder the efficient use of available housing⁽⁵⁰⁷⁾.

Further possibilities to accelerate construction and reduce housing costs remain. The coalition agreement mentions that

⁽⁵⁰⁴⁾DIW, 2018, Mietpreisbremse ist besser als ihr Ruf, aber nicht die Lösung des Wohnungsmarktpblems, [diw.de](https://www.diw.de).

⁽⁵⁰⁵⁾BBSR, 2026, Rental housing segments – significance and impact on the rental housing markets. [bbsr.bund.de](https://www.bbsr.bund.de).

⁽⁵⁰⁶⁾Baye & Dinger, 2023, Investment incentives of rent controls and gentrification – Evidence from German micro data, [uni-osnabrueck.de](https://www.uni-osnabrueck.de).

⁽⁵⁰⁷⁾German Council of Economic Experts, 2024, Wohnen in Deutschland: Knappheiten beheben und Zugang erleichtern, [svr-wirtschaft.de](https://www.svr-wirtschaft.de); DIW, 2022, Rent Control Effects through the Lens of Empirical Research, [diw.de](https://www.diw.de).

the construction turbo will be followed by a fundamental reform of the Federal Building Code to accelerate construction. Important levers include the digitalisation of land-use plans and further simplification and digitalisation of building permitting. To make additional building land available, improving links to suburban areas could expand enable the use of available land and housing outside cities⁽⁵⁰⁸⁾. Lastly, there is room for improving taxation and regulation on housing transactions. Incentives to use available building land could be improved, by shifting taxation from transactions to recurrent taxation. Housing transaction costs, including notary and registration fees, acquisition tax and potentially agent fees, are high in international comparison⁽⁵⁰⁹⁾.

Vulnerable groups

Housing cost overburden, while declining overall, has increased for parts of the population.

In 2025, 11.2% of the population lived in households spending more than 40% of their disposable income on housing (see Table)⁽⁵¹⁰⁾. Older people are particularly affected (13.8%, compared with 8.5% in the EU), while close to one in three individuals in the lowest income quintile faces housing cost overburden (31.5% compared to 26% in the EU). Middle-income households are not shielded either. 7% spend more than 40% of their income on housing, more than double the EU average of 3.3%. Single-person households (22.6%, EU:20.1%) and people with disabilities (14.3%, EU: 9.9%) are also disproportionately exposed. Rising housing costs are especially challenging for students living away from home, who spent on average 53% of their

⁽⁵⁰⁸⁾Projektteam STAWAL, 2024, Stadtstruktur, Wohnstandortwahl und Alltagsmobilität. Neue Befunde für die Stadt- und Verkehrsentwicklung. Berlin und Dortmund. [zukunft-nachhaltige-mobilitaet.de](https://www.zukunft-nachhaltige-mobilitaet.de); Henger, R. et alM (2019), Mobilität und Wohnen – neue Perspektiven für die Stadtentwicklung. [iwkoeln.de](https://www.iwkoeln.de).

⁽⁵⁰⁹⁾German Council of Economic Experts, 2024, Annual Report 2024/2025, [sachverstaendigenrat.de](https://www.sachverstaendigenrat.de); Cousin, G., Frayne, C., Dias, V. M., & Vašíček, B., 2025, Housing in the European Union: Market Developments, Underlying Drivers, and Policies. *European Economy*, Discussion Paper 228. [europa.eu](https://www.europa.eu).

⁽⁵¹⁰⁾The overburden rate should be read together with the tenure structure (homeowner, tenants), that may differ across country and regions.

disposable income on housing in 2024 ⁽⁵¹¹⁾, more than twice the share of the population as a whole (24.5%).

Housing-related expenses represent a major driver of poverty and social exclusion. In 2025, 34.9% of individuals at risk of poverty also experienced housing cost overburden. In addition, 4.5% of the population reported arrears on utility bills, an increase of 1.2 percentage points compared with 2020 ⁽⁵¹²⁾.

While the stock of social housing has significantly declined, public funding is being stepped up. Social housing fulfils an important supply function for households whose access to the regular housing market is difficult, such as single parents, large families and immigrants. A strategic expansion of publicly funded housing could also exert downward pressure on rents in the private sector ⁽⁵¹³⁾. Over the past two decades, the number of social rental housing units in Germany has fallen from approximately 2.5 million in 2000 to around 1 million in 2024. This decline in social housing units is partly due to expiring time-limited social binding (*Sozialbindung*), which obliges landlords to rent at below-market rates and only to eligible households, in return for subsidies. The duration of this binding varies by federal state and funding programme but typically lasts around 15–25 years. In 2024 around 80% of the newly subsidized rental units come with a social binding of at least 30 years. Projections of the German Council of Economic Experts show that an average of 40 000 units will lose their social housing status every year up until 2035 ⁽⁵¹⁴⁾. Between 2020 and 2024, around 41 000 to 62 000 units per year were newly designated as social housing. However, as a similar number lost that status when restrictions expired, the total number only increased in 2023 and 2024 ⁽⁵¹⁵⁾. In addition, estimates from individual federal states suggest

that between 10% and 30% of subsidised dwellings are occupied by households that are no longer entitled to social housing. As announced by the Minister for Housing, a misoccupancy levy (*Fehlbelegungsabgabe*) could be charged for tenants whose income exceeds the eligibility threshold, as is done already in some of the federal states ⁽⁵¹⁶⁾, to help ensure that social housing units are distributed to those in need, for as long as social housing units remain scarce. Avoiding high administration costs and segregation are important considerations for implementation. The federal government has increased funding from around EUR 1 billion in 2020 to EUR 4 billion in 2026. At the same time, the low level of new construction is not due to funding constraints alone; several bottlenecks limit delivery. Construction costs have risen sharply due to the higher prices of materials, energy standards and labour shortages.

Housing allowances are an important element of social policies, but only partly substitute the provision of social housing. In Germany, more than 11 million tenant households are entitled to a housing eligibility certificate (*Wohnberechtigungsschein*) – and thus to social housing ⁽⁵¹⁷⁾. While public expenditure on housing support has risen, much of this increase has taken the form of subject-based subsidies, such as housing allowances (*Wohngeld*), which were received by 1.2 million households at the end of 2024. These payments provide significant short-term relief but may also contribute to persistently high or even rising rents when supply constraints remain unaddressed.

Homelessness is rising and remains a significant challenge. Despite the government's objective to end homelessness by 2030 (formulated in the national action plan against homelessness, which seeks to combat homelessness through expanded affordable housing, stronger prevention measures, improved support services and closer cooperation between federal, state and local governments as well as civil society actors ⁽⁵¹⁸⁾), around 47 000 people

⁽⁵¹¹⁾Destatis, 2025, Studierendenhaushalte geben im Schnitt 53 % des Einkommens für Wohnkosten aus, [destatis.de](https://www.destatis.de)

⁽⁵¹²⁾Der Paritätische, 2025, Bericht zu Wohnarmut, [der-paritaetische.de](https://www.der-paritaetische.de).

⁽⁵¹³⁾OECD/European Union, 2025, Social Economy in Europe: Contributing to Competitiveness and Prosperity, Local Economic and Employment Development (LEED), [oecd.org](https://www.oecd.org).

⁽⁵¹⁴⁾German Council of Economic Experts, 2024, Annual Report 2024/2025, [sachverstaendigenrat.de](https://www.sachverstaendigenrat.de).

⁽⁵¹⁵⁾Bundestag, 2025, Kleine Anfrage, Drucksache 21/3231. [bundestag.de](https://www.bundestag.de).

⁽⁵¹⁶⁾This is used in Hessen for tenants whose incomes exceed the threshold for social housing eligibility by more than 20%.

⁽⁵¹⁷⁾dgfm, 2023, Forderungen vom Bündnis Soziales Wohnen www.dgfm.de.

⁽⁵¹⁸⁾bmwsb, 2024, Nationaler Aktionsplan zur Überwindung der Wohnungslosigkeit, www.bmwsb.de.

Table A16.1: Housing affordability selected indicators

	unit	EU27					DE				unit	2023	2024	2025
		2000-25 avg.	2023	2024	2025		2000-25 avg.	2023	2024	2025				
House price to income ratio	2000-25 avg = 100	100.0	102.0	100.2		100.0	103.2	97.6		YoY%	-12.5	-5.4		
Rent to income ratio	2000-25 avg = 100	100.0	85.1	83.5	84.5	100.0	81.5	80.0	78.7	YoY%	-2.5	-1.9	-1.7	
Overburden rate, total	%	9.9	8.8	8.2		13.9	13.0	12.0	11.2	PPS/y	1.1	-1.0	-0.8	
Overburden rate, tenant with market rent	%	23.8	20.3	19.2		18.4	14.9	13.8	13.2	PPS/y	1.1	-1.1	-0.6	
Overvaluation gap	%					-2.0	8.3	3.0	3.0					
Deflated construction production price	2010 = 100	102.2	112.2	111.8	110.5	107.4	131.0	131.5	132.7	YoY%	2.9	0.6	1.2	
Building permits	m ² per ths persons	483.5	376.9	362.9	379.9	381.7	302.6	240.7	267.0	YoY%	-34.1	-20.5	10.9	
Residential construction investment	% GDP	5.5	5.8	5.1	5.0	5.8	6.6	6.2	6.1	YoY%	-4.3	-6.1	-1.6	
Share of ownership	%	70.0	69.1	68.4		50.8	47.6	47.2	47.2	PPS/y	2.4	-0.8	0.0	
Share of people living in overcrowded homes	%	17.7	16.8	16.9		8.2	11.4	11.5	11.7	PPS/y	0.2	0.1	0.2	

Source: Eurostat and European Commission calculations. The overburden rate should be read together with the tenure structure (homeowner, tenants), that may differ across country and regions.

were sleeping rough in 2024, with a further 439 500 in emergency accommodation and over 60 000 staying involuntarily with relatives or friends ⁽⁵¹⁹⁾. Broader estimates suggest that more than one million people may be affected when insecure housing situations are included, reflecting the combined effects of poverty, high housing costs and shortages of affordable and social housing ⁽⁵²⁰⁾.

⁽⁵¹⁹⁾bmwsb, 2024, Wohnungslosenbericht der Bundesregierung [bmwsb.bund.de/](https://www.bmwsb.bund.de/).

⁽⁵²⁰⁾BAG Wohnungslosenhilfe, 2024, Mehr als eine Million wohnungslose Menschen in Deutschland, www.bagw.de.

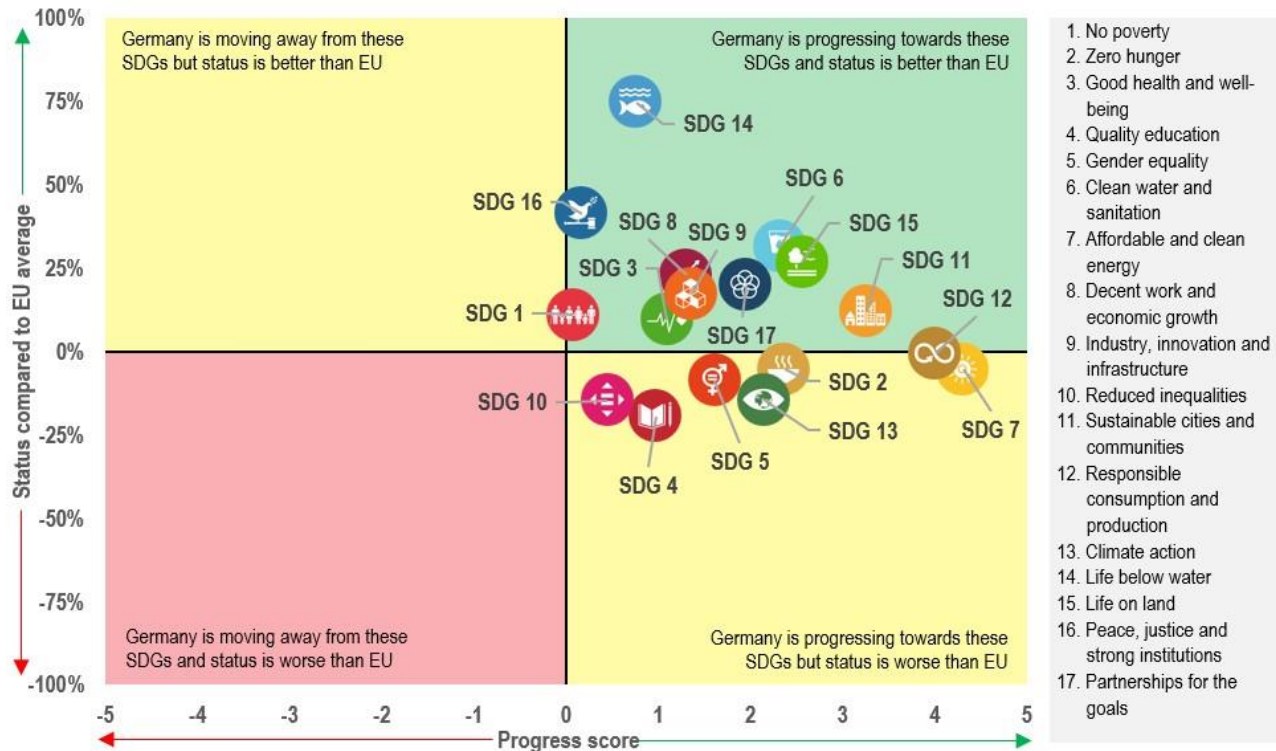


This annex assesses Germany’s progress on the sustainable development goals (SDGs) along the dimensions of competitiveness, sustainability, social fairness and macroeconomic stability. The 17 SDGs and their related indicators provide a policy framework under the UN’s 2030 Agenda for Sustainable Development. 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.

Germany performs well and is further improving on SDGs on competitiveness (SDGs 8 and 9). However, Germany is performing below the EU average on SDG 4

(Quality education), hampering growth and competitiveness. Germany performs above the EU average on SDG 8 (Decent work and economic growth) and on SDG 9 (Industry, innovation and infrastructure). With 3.13% of GDP allocated to R&D in 2024, Germany has some of the highest R&D spending in the EU. The proportion of R&D personnel in the active population rose from 1.78% in 2019 to 1.98% in 2024 (EU: 1.59% in 2024). Regarding infrastructure, however, only 77.4% of households had high-speed internet connection in 2024 (EU: 82.5%). The share of low-achieving 15-year-olds in mathematics increased strongly from 21.1% in 2018 to 29.5% in 2022. A rising number of young people leave education early (10.3% in 2019, vs 13.1% in 2025), well above the EU average (9.1% in 2025). Adult participation in learning in the past four weeks (9.3%) was below the EU average (EU: 13.7% in 2025). The German recovery and resilience plan (RRP) targets bottlenecks for digitalising the administration and the economy, for instance by

Graph A17.1: Progress towards the SDGs in Germany



For a detailed progress assessment towards the various SDGs, see the annual Eurostat report ‘[Sustainable development in the European Union](#)’; for extensive data on the short-term SDG progress of EU countries, see [Key findings – Sustainable development indicators](#); for an interactive visualization of SDG progress of EU countries, see [SDG country overview](#). 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 or six 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 29 April 2026. Data refer mainly to the period 2019-2024 or 2019-2025. Data on SDGs may vary across the report and its annexes due to different cut-off dates.

supporting digitalising vehicle supplier companies. It also helps address upskilling and reskilling needs, including for digital skills.

While Germany performs well on several SDGs related to sustainability (SDGs 6, 9, 11, 14, 15), though improving, it still needs to catch up with the EU average on zero hunger (SDG 2), responsible consumption and production (SDG 12) as well as on affordable and clean energy (SDG 7) and climate action (SDG 13). It performs well on sustainable agricultural production and has reduced agriculture's environmental impact. It has reduced nitrate levels in groundwater (SDG 6) and the use and risk of chemical pesticides (SDG 2), although both remain above the EU average, and has achieved reductions in premature deaths due to fine particulate matter (SDG 11). It has also made some progress on energy consumption indicators, including increasing the percentage of renewable energy in gross final energy consumption (SDG 7) from 17.3% in 2019 to 22.5% in 2024. Nevertheless, this is still below the EU average (25.2%). On SDG 13 (Climate action), net greenhouse gas emissions decreased from 10.1 tonnes per capita in 2019 to 8.5 tonnes in 2024, although they still remain above the EU average (6.5 tonnes). Average CO₂ emissions per km from new passenger cars fell considerably between 2019 and 2024 (SDG 12; 159 g in 2019 vs 117.1 g in 2024) but are above the EU average (107.9 g). Various measures in Germany's RRP that support the use of renewable hydrogen in industry, and the transport sector will help reduce greenhouse gas emissions and increase the share of renewable energy.

Germany is performing well on some SDG indicators related to social fairness (SDGs 1, 3, 8). However, it still needs to catch up with the EU average on quality education (SDG 4), gender equality (SDG 5), affordable and clean energy (SDG 7) and reducing inequalities (SDG 10). Germany generally performs better than the EU average in areas linked to poverty, health and decent jobs and growth. On health (SDG 3), road traffic deaths and fatal accidents at work have declined and are proportionally below their level in the rest of the EU. At the same time, 20.8% of the adult population was obese in 2025, up from 19% in 2019 and above the EU average of 16.3% (in 2025). While the overall share of people at risk of

poverty or social exclusion (SDG 1) is aligned with the EU average, there is a significant urban-rural gap (SDG 10). On gender equality (SDG 5), the unadjusted gender pay gap is particularly high in Germany (15.6%, vs 11.1% in the EU in 2024) and the gender gap for being outside the labour force due to caring responsibilities and wanting to work is far above the EU average. There is also room for improvement on integrating non-EU citizens into education and training and the labour market (SDG 10). Germany performs worse than the EU average on EU/non-EU citizenship gaps for early school leaving (19.4 pps vs 16.8 pps in the EU in 2025), as well as on the percentage of young people not in education, employment or training (13.3 pps vs 10.2 pps in the EU in 2025) and on the employment rate (20.6 pps, vs 11.8 pps in the EU in 2025). Tertiary educational attainment (SDG 4), although improving, remained below the EU average in 2025 (40.9%; EU: 44.8%). The German RRP promotes apprenticeships and helps improve educational outcomes for students with a learning backlog, often from disadvantaged backgrounds.

Germany is performing well on SDG indicators related to macroeconomic stability (SDGs 8, 16, 17) and has further improved its performance. It performs well on SDG 16 (Peace, justice and strong institutions), showing a stable and secure environment for pursuing economic activities, and on SDG 8 (Decent work and economic growth). The country further increased its employment rate from 79.7% in 2019 to 81.1% in 2025 (vs EU 76.1%). The percentage of young people not in education, employment or training increased to 9.5% in 2025, but remains below the EU average (11%), and long-term unemployment is low (1.1% vs EU 1.9% in 2025). In contrast, at 20.3% of GDP in 2025, Germany's investment share remained below the EU average of 21.7% of GDP. The German RRP includes reforms to speed up public investment and tackle investment bottlenecks to unlock private investment and reduce the savings-investment imbalance.

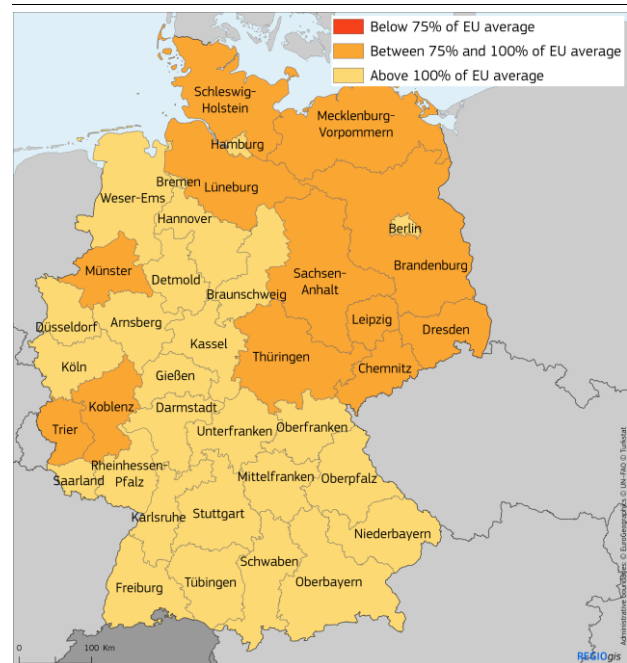
As the SDGs form an overarching framework, any links to relevant SDGs are either explained or depicted with icons in the other annexes.

Regional development trends

Sluggish economic growth in northern and western regions has resulted in a narrowing of internal disparities in Germany. Germany's GDP per head (in purchasing power standard, PPS) stayed above the EU average between 2004 and 2024, with the 16 regions (NUTS 1) following rather distinct trajectories. Over the last two decades, the most advanced and industrialised economies of the western and northern parts of the country have experienced GDP per head growth lower than the less developed regions of the central and eastern part of Germany. Hamburg and Bremen have recorded lower GDP per head growth over the last two decades (0.6% and 0.2% annually respectively), as has Nordrhein-Westfalen (0.7%), the most populated region and home to the industrial Ruhr region. This decline mostly took place in the last decade. By contrast, most regions in the eastern part were able to slightly converge towards the EU average. However, this convergence seems to have stalled in recent years amid general slow growth of the German economy. Between 2014 and 2024, almost two-thirds of German NUTS 2 regions (24 out of 38) had an average GDP per head growth ranked among the bottom 20% of EU regions. Despite slightly better economic performance, most eastern regions, apart from Berlin, continue to lag behind, with GDP per head ranging from 82% to 97% of the EU average.

Even though still significant, disparities in productivity between eastern and western regions have narrowed over the last decade (2014-2024). Productivity growth was the highest in eastern regions, with Mecklenburg-Vorpommern standing out at 1.3%, followed by Sachsen, Sachsen-Anhalt, Schleswig-Holstein, Berlin, Brandenburg and Thüringen, all recording growth of 0.6–0.7%. By contrast, annual productivity growth was negative in Nordrhein-Westfalen, Hessen, Bremen and Saarland, all in the western part of the country. Productivity remains significantly higher in the western and southern part in 2024, with rates above 110% of the EU average (Hamburg stands out at 131%). In the eastern regions (except Berlin), it is below the EU average.

Map A18.1: GDP per head compared with the EU average.



(1) 2021-2023 average GDP per head in purchasing power standard compared with the EU average.

Source: Commission calculations based on Eurostat 16 July 2025 data.

Key challenges for regional competitiveness

Overall, R&D spending remains significantly lower than the EU average in eastern regions and some other parts of the country, which is reflected in patent applications. In 2023, gross domestic expenditure on R&D (GERD) was lowest in Niederbayern, Weser-Ems, Lüneburg, Koblenz and Münster (0.7-1.16% of GDP), whilst business enterprise R&D expenditure (BERD) was less than 0.5% of GDP in Mecklenburg-Vorpommern, Sachsen-Anhalt, Brandenburg, Weser-Ems and Münster. R&D activity is heavily concentrated in the western and southern regions. The strongest performers include Braunschweig, Oberbayern, Karlsruhe, Rheinhessen-Pfalz and Stuttgart (5.3-7.8% of GDP GERD; 4-7.4% of GDP BERD), driven by strong industrial clusters. Similarly, Oberbayern and Stuttgart had a high number of patent applications per million people in 2020-2022 (549 and 499 applications, respectively), ranking them among the EU's leading innovation regions. In less developed areas, less than 50 patents per million people were filed.



Table A18.1: **Main development trends, challenges and the concentration of resources**

Main development trends	
Transition regions (population 21.83 million)	According to available data from 2021-2023, the following regions fulfil the criteria to be transition regions: Brandenburg, Mecklenburg-Vorpommern, Lüneburg, Münster, Koblenz, Trier, Dresden, Chemnitz, Leipzig, Sachsen-Anhalt, Schleswig-Holstein and Thüringen. In Münster, Koblenz, Leipzig, and Schleswig-Holstein GDP per head value has fallen below the EU average of 100%. Still, it is Mecklenburg-Vorpommern, Lüneburg, Trier, Chemnitz, Sachsen-Anhalt, and Thüringen that have a GDP per head value less than 90% of EU average. Brandenburg, Dresden, Münster, Koblenz, Leipzig, Schleswig-Holstein are closer to the EU average. Among the transition regions, western Trier and eastern Chemnitz had the lowest real GDP growth between 2014 and 2023. Koblenz and Trier in the west had the lowest real GDP per head growth in the same period. The new western transition regions Münster and Koblenz show low real productivity growth per hour worked compared to all other German transition regions.
More developed regions (population 61.63 million)	With GDP per head at or above 120% of the EU average, the more developed regions are Stuttgart, Karlsruhe, Tübingen, Oberbayern, Oberpfalz, Mittelfranken, Berlin, Bremen, Hamburg, Darmstadt, Braunschweig, Köln. These heavily industrialised regions are growth centres for the German economy. However, as some of these regions have strong automotive sectors, competitive pressure is increasing (from Chinese competition, energy prices, green transformation) and there is a worrying trend of these more developed regions falling behind.
Specific territories	Access to basic services varies considerably between rural and urban areas. People living in rural areas with a low population density face longer travel times to healthcare services. Demographic change will most likely affect the availability of healthcare staff in the future. In most rural areas, children's access to primary school is worse than the EU average. Rural households and businesses suffer from poor broadband connectivity. The transition away from lignite mining and lignite-based energy production (and, to a lesser extent, the processing of fossil fuels), has triggered socio-economic challenges and investment needs specific to just transition territories. Germany's coastal areas show marked differences in the importance of the blue economy as an economic driver: Mecklenburg-Vorpommern relies heavily on tourism and fisheries, increasing its vulnerability to environmental pressures and declining Baltic fisheries stocks, while Schleswig-Holstein hosts a diversified sector, including aquaculture and maritime SMEs. Niedersachsen leads in absolute terms with ports, maritime transport and offshore energy, and Hamburg is a major port and logistics hub, generating spillover effects across coastal regions.

Source: European Commission based on Eurostat data; categories of regions based on Map 18.1

In moderate innovator regions ⁽⁵²¹⁾ R&D performance has largely stagnated: in Münster, Kassel, Trier, Niederbayern and Mecklenburg-Vorpommern, the regional innovation index values show a decline over the last three years, whereas Saarland, Sachsen-Anhalt, Chemnitz scored minimal advances. Although

regional smart specialisation strategies ⁽⁵²²⁾ and national frameworks (e.g. High-Tech Agenda) (see Annex 4) provide good strategic frameworks, they often fail to address structural improvements of

⁽⁵²¹⁾Classification of European Commission, 2025, Regional Innovation Scoreboard.

⁽⁵²²⁾Smart specialisation strategies are strategic, territorially based frameworks for innovation and industrial policy that help Member States and regions identify and leverage their unique comparative advantages to address structural challenges, foster economic transformation and enhance competitiveness.

the R&D ecosystems. Even where there are strong public research institutions, the translation of research results into economic growth is limited⁽⁵²³⁾. This is often due to: (i) insufficient commercialisation of research results; (ii) limited funding for technology transfer; (iii) a lack of international talent and staff; and (iv) a lack of curricula addressing entrepreneurship education for young people⁽⁵²⁴⁾ (see Annex 4 and country-specific recommendation on commercialisation). Furthermore, moderate innovators mainly support generic productive investments in SMEs, and they do not systematically use their smart specialisation strategies as a guiding framework for these investments. SMEs in these regions also struggle to integrate into strategic value chains with higher added value⁽⁵²⁵⁾.

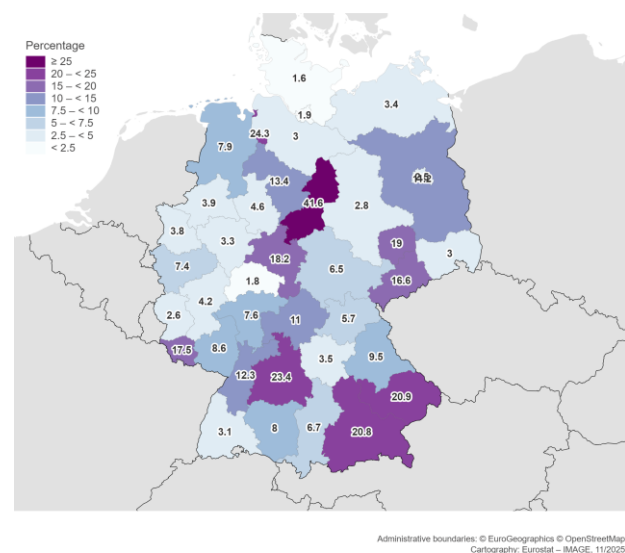
Start-up activity is uneven across the country. In 2025, the highest numbers of newly established start-ups were in Bayern (785), Nordrhein-Westfalen (658) and Berlin (619) (see Annex 4). By contrast, very few start-ups were created in Sachsen-Anhalt (33), Thüringen (27), Mecklenburg-Vorpommern (17) in the east and in western Saarland (22) and Bremen (19)⁽⁵²⁶⁾. One major reason for these differences is private capital financing, which is focused on established industrial hubs. Additionally, the process of starting a business is not yet sufficiently digitalised. Firms outside these hubs perceive higher risks and face more limited access to both equity and debt funding, further exacerbating capital bottlenecks in eastern and structurally weaker regions⁽⁵²⁷⁾ (see Annex 6).

Strong competition from non-EU countries and decarbonisation are major challenges for the high-value industrial hubs, which are located mostly in western and southern regions. The highest shares of employment in energy-intensive industries are in Rheinessen-

Pfalz, Düsseldorf, Sachsen-Anhalt, Köln and Arnberg⁽⁵²⁸⁾. These regions are therefore particularly exposed to high energy costs and pressure from global competition (see Annex 5). The automotive industry, a major pillar of the German economy with its dense supplier networks⁽⁵²⁹⁾, accounts for a significant share of manufacturing employment in Oberbayern, Niederbayern, Stuttgart, Bremen and Braunschweig. It accounts for 16-19% in Chemnitz, Saarland, Kassel and Leipzig (Map A19.3). This industry is exposed to competitive pressure from China, high transition costs to electric mobility and falling profits (see Annex 5). Considering these challenges, there is more scope for accelerating the shift to electric vehicle and battery production.

Map A18.2: **Automotive sector: share in total employment in industry, 2023 (%)**

Automotive sector: share in employment in industry, 2023 (%)



Source: Eurostat

Greenhouse gas emissions per capita in 2024 remain very high in the just transition regions⁽⁵³⁰⁾, in particular in Sachsen-Anhalt

⁽⁵²³⁾Bundesministerium für Bildung und Forschung, 2024, Bundesbericht Forschung und Innovation, [bundesbericht-forschung-innovation.de](https://www.bundesbericht-forschung-innovation.de).

⁽⁵²⁴⁾Deutsche Industrie- und Handelskammer, 2025, DIHK-Report Unternehmensnachfolge 2025, [dihk.de](https://www.dihk.de).

⁽⁵²⁵⁾European Commission, 2022, Regional Competitiveness Index.

⁽⁵²⁶⁾Start-up Verband, 2025, Next Generation Startup-Neugründungen in Deutschland, [startupverband.de](https://www.startupverband.de).

⁽⁵²⁷⁾EIB, 2024, Investment Report 2023–24: Transforming for competitiveness, data.europa.eu.

⁽⁵²⁸⁾Employment share of energy-intensive industries (C17, C20, C23, C24) of total employment in industry. Source: DG REGIO estimations and calculations based on Eurostat and JRC (ARDECO) data, 2023.

⁽⁵²⁹⁾Germany accounts for around one third of all automotive employment in the EU and almost 60% of total EU wages in the sector. Source: DG REGIO estimations and calculations based on Eurostat and JRC (ARDECO) data, 2023.

⁽⁵³⁰⁾Just transition regions at NUTS 2 level, as first outlined in Germany's territorial just transition plans.

and Brandenburg. Emissions in these two regions reached levels of around 16-18 tCO₂eq, and the other six just transition regions (Düsseldorf, Köln, Münster, Chemnitz, Leipzig and Dresden) also scored significantly above the EU average. Additionally, green employment⁽⁵³¹⁾ in all the just transition regions is below the EU average (15%), except Düsseldorf and Köln. Despite the challenges facing these regions, they have opportunities to diversify their economies and benefit from spillovers from stronger growth centres⁽⁵³²⁾.

There is significant room for further developing renewable energy generation, especially in the south, and to make buildings more energy efficient, particularly in the western and northern parts of the country.

Renewable energy generation is concentrated in northern and eastern regions for wind (Schleswig-Holstein, Brandenburg, Sachsen-Anhalt) and in southern regions for solar PV (Oberbayern, Niederbayern, Tübingen). This distribution is not aligned with the south's energy needs and impacts hydrogen production, with the largest planned green hydrogen projects being in the northern regions of Niedersachsen, Hamburg, and Nordrhein-Westfalen⁽⁵³³⁾ (see Annex 8). Despite improvements, energy efficiency in buildings could be further incentivised, especially in the northern and western regions (see Annex 9) where more than 50% fall into or below energy class E⁽⁵³⁴⁾.

Germany is increasingly vulnerable to the impacts of climate change, with the economic impact varying across regions (see Annex 10). Water resilience (see Annex 10) and air quality (see Annex 8) show regional differences. Water pollution is particularly challenging, with over-fertilisation in the Baltic Sea and North Sea. Furthermore, groundwater use

varies considerably among regions, with northern and southern regions extracting the largest volumes of groundwater⁽⁵³⁵⁾. This is of concern as over two thirds of drinking water needs are met by groundwater. The impact of climate change on groundwater is projected to be greater by the end of the century, particularly in the north and the east⁽⁵³⁶⁾. Germany's blue economy could benefit from a shift to stricter nutrient control, ecosystem-based management, and climate-robust water and groundwater governance, especially in the North Sea and Baltic Sea basins.

Eastern regions are particularly affected by demographic decline and an ageing population.

On demographic trends, most eastern regions (Chemnitz, Sachsen-Anhalt, Thüringen, Mecklenburg-Vorpommern, Brandenburg and Dresden) rank among the 20% weakest regions in the EU. Natural population growth has only been positive in Berlin and Hamburg. The working-age population (20-64) has also been shrinking rapidly, by 1.2-1.6% annually (2015-2024) in Mecklenburg-Vorpommern, Thüringen, Sachsen-Anhalt and Chemnitz. With young people (0-20 years) accounting for only around 17% of the population, these areas face mounting pressure to maintain their workforce, which is a major bottleneck to their growth potential and economic performance in the long term. In several eastern regions, one quarter to one third of residents are aged 65 or older: Mecklenburg-Vorpommern and Brandenburg have seen the largest increases in the group (by around 2 percentage points in 2024) (see Annex 15).

School accessibility is limited in many rural areas.

Long commuting times require provision of complex bus systems. Limited access can hinder children from attending upper secondary school, affecting their future education and career prospects⁽⁵³⁷⁾. The share of children with a primary school within a 15-minute walk is below the EU average (34%) in rural areas of all regions

⁽⁵³¹⁾Representing jobs contributing to environmental sustainability; Regional Competitive Environmental Sustainability indicator, publications.jrc.ec.europa.eu.

⁽⁵³²⁾Rodríguez-Pose & Bartalucci, 2024, The green transition and its potential territorial discontents, doi.org.

⁽⁵³³⁾Institute of Energy Economics at the University of Cologne, 2026, ewi.uni-koeln.de; Leibniz-Institut für Länderkunde, 2024, nationalatlas.de.

⁽⁵³⁴⁾Analysis of housing offers and energy efficiency classes A to H (EPBD 2024); CBRE Germany, 2025, CBRE Analyse zeigt: Der aktuelle Wohnungsbestand in Deutschland entspricht im Durchschnitt der Energieeffizienzklasse D, assetphysics.com.

⁽⁵³⁵⁾Lütkemeier, R., Kuhn, D., 2025, Grundwasserstress in Deutschland.

⁽⁵³⁶⁾OECD, 2023, Environmental Performance Reviews: Germany 2023, oecd.org.

⁽⁵³⁷⁾Mean car journey time in minutes was highest in low population areas and lowest in cities in 2016, measuring the accessibility of various educational facilities (including the nearest primary schools, lower secondary school and upper secondary school); Equivalence report, 2024, bundeswirtschaftsministerium.de.

Table A18.2: Key regional indicators (at NUTS 1 level) for Germany

	GDP per head (PPS, index)	Growth in natural population	Real GDP per head growth	Productivity: GDP (PPS) per hour worked (index)	Population aged 25-34 with high educational attainment	R&D expenditure	R&D expenditure in business enterprise sector (BERD)	GVA in industry	ICT patent applications to the EPO - avg 3 years
	EU27=100	Average annual change per 1000 residents	Average annual % change	EU27=100	% of population aged 25-34	% of GDP	% of GDP	% of total GVA	Number-count
	2024	2015-2024	2014-2024	2023	2025	2023	2023	2023	avg. 2020-2022
EU	100	-1.7	1.4	100	44.8	2.24	1.51	19.3	93
Germany	116	-2.7	0.6	124	40.9	3.13	2.16	24.5	344
Baden-Württemberg	131	-0.8	0.4	136	44.4	5.63	4.86	34.2	601
Bayern	135	-1.2	0.6	136	46.1	3.37	2.60	27.5	1126
Berlin	127	0.4	1.9	122	55.3	3.04	1.12	9.0	146
Brandenburg	86	-6.1	0.7	110	31.8	1.49	0.30	22.4	23
Bremen	132	-1.9	-0.4	123	39.9	2.80	0.85	24.1	8.5
Hamburg	196	0.9	0.7	151	48.7	2.62	1.68	13.9	22
Hessen	132	-1.7	0.3	133	40.7	2.98	2.20	18.5	203
Mecklenburg-Vorpommern	88	-6.6	1.6	103	29.4	1.37	0.18	17.8	0.6
Niedersachsen	107	-3.3	0.7	120	37.4	2.72	1.87	26.3	108
Nordrhein-Westfalen	109	-2.7	0.2	120	37.4	2.26	1.33	22.0	242
Rheinland-Pfalz	100	-3.1	0.3	122	37.4	3.53	2.95	26.5	64
Saarland	95	-6.0	-0.7	112	29.6	1.62	0.49	28.3	5.6
Sachsen	90	-6.1	0.9	102	39.9	2.25	0.65	23.8	66
Sachsen-Anhalt	83	-8.3	1.0	104	28.9	1.45	0.32	26.6	15
Schleswig-Holstein	97	-4.2	1.0	112	32.4	1.53	0.63	20.2	21
Thüringen	83	-6.8	0.6	99	35.6	2.58	1.12	27.6	32

Dark green – the indicator is at least 120% of the EU average.

Light green – the indicator is at least 100% but less than 120% of the EU average.

Yellow – the indicator is at least 90% but less than 100% of the EU average.

Light red – the indicator is at least 75% but less than 90% of the EU average.

Dark red – the indicator is less than 75% of the EU average.

This colour scale applies to 'positive' indicators, where higher values are favourable. For 'negative' indicators, where higher values are unfavourable, the colours are reversed.

Source: Eurostat and JRC

except Freiburg, Karlsruhe, Stuttgart, Tübingen, Münster, Bremen and Rheinhessen-Pfalz. In rural parts of some eastern and western regions, it is even less than 25%. This is a major obstacle to attracting and keeping young people in these areas and to the right to stay.

Digital connectivity is problematic, including in several rural areas. The coverage of very high-capacity networks (VHCN) in rural areas is below the EU average (see Annex 5). Fixed network speeds in Germany reach 140 Mb/s in cities (EU 206 Mb/s), 125 Mb/s in towns and suburbs (EU 156 Mb/s), and only 100 Mb/s in rural areas (EU 145 Mb/s). A similar pattern is observed for mobile networks, where rural areas continue to experience significantly slower speeds than the EU average⁽⁵³⁸⁾. The digital transformation of

businesses varies across regions and between cities and rural regions⁽⁵³⁹⁾. Eastern regions (Berlin, Brandenburg, Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt and Thüringen) lag behind in using digital products and adopting digital processes whilst northern areas (Bremen, Hamburg, Niedersachsen and Schleswig-Holstein) struggle with digital business models. Barriers include a lack of digital skills, limited awareness of digital transformation benefits, underdeveloped support ecosystems and insufficient data management skills⁽⁵⁴⁰⁾.

⁽⁵³⁹⁾BMWK, 2024, Digitalisierung der Wirtschaft in Deutschland, iwkoeln.de.

⁽⁵⁴⁰⁾Eger, T., Scheufen, M., 2024, Data Sharing in Deutschland, wirtschaftsdienst.eu.

⁽⁵³⁸⁾Rural Observatory, observatory.rural-vision.europa.eu.

Housing affordability, reflected in the price-to-income ratio⁽⁵⁴¹⁾, is a particular challenge in southern regions. Similarly, house purchase capacity⁽⁵⁴²⁾ in parts of Oberbayern is less than 35%. Here strong labour markets are colliding with limited affordable housing supply⁽⁵⁴³⁾, which could negatively affect these region's competitiveness and attractiveness, exacerbating their industrial transformation challenges. Furthermore, the housing cost overburden rate⁽⁵⁴⁴⁾ in 2024 was highest in Weser-Ems, Schleswig-Holstein and Rheinhessen-Pfalz⁽⁵⁴⁵⁾. By contrast, this rate was at 8% or less in not only eastern Chemnitz and Mecklenburg-Vorpommern but also southern Oberfranken (Map A18A19.3). This is partly due to stagnant markets and vacant buildings resulting from population decline, for example in rural parts of eastern Thüringen and western Saarland⁽⁵⁴⁶⁾, and complex permitting procedures for construction negatively impacting housing availability (see Annex 16). These issues underscore the need to implement the 'construction accelerator' (Bau-Turbo) effectively at regional and municipal levels.

There are widening disparities in administrative capacity between larger cities and economically stronger regions on one side and economically weaker eastern regions on the other. Challenges include: (i) human resource shortages; (ii) gaps in digital and technical capabilities; (iii) performance management; (iv) public procurement; and (v) outdated administrative processes. There are already more than 100 000 unfilled positions in municipalities due to a lack of qualified applicants,

⁽⁵⁴¹⁾The indicator measures, at NUTS 3 level, the ratio between the (average) housing price for 100 square metres and the (average) income (GDP) per capita.

⁽⁵⁴²⁾The indicator measures square metres that can be purchased via mortgage using a third of disposable income.

⁽⁵⁴³⁾Sides, L., 2025, 'What is driving European cities' housing affordability challenge?', oxfordeconomics.com.

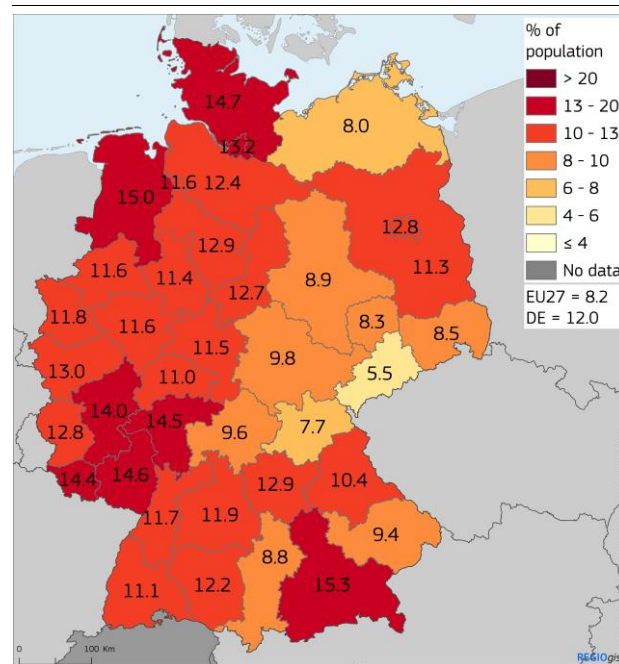
⁽⁵⁴⁴⁾The housing cost overburden rate is the percentage of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40% of disposable income ('net' of housing allowances).

⁽⁵⁴⁵⁾These NUTS 2 regions rank among the lowest quintile in the EU, where more than 12% of the population spent over 40% of their disposable income on housing.

⁽⁵⁴⁶⁾SPD-Fraktion Saarland, 2022, Aktionsprogramm für mehr bezahlbaren Wohnraum im Saarland, spd-fraktion-saar.de; vtw, 2025, Daten und Fakten der Wohnungswirtschaft in Thüringen 2025, vtw.de.

and without further digitalisation, this number is estimated to grow to 230 000 by 2030. This will be exacerbated by the expected retirement of almost one third of current local government employees (500 000 people out of around 1.65 million) by 2030⁽⁵⁴⁷⁾.

Map A18.3: **Housing cost overburden (% of population), 2024**



Source: Eurostat. The overburden rate should be read together with the tenure structure (homeowner, tenants), that may differ across country and regions.

Administrative quality varies across regions.

Larger cities and economically strong regions have more robust administrations. By contrast, economically weaker eastern regions often have the lowest capacity. In these regions, increasing inter-municipal cooperation, including sharing services, experts and staff, is becoming necessary⁽⁵⁴⁸⁾. Demographic constraints in eastern and rural western regions may result in further staff shortages and unmet recruitment needs.

The limited capacity of smaller municipalities exacerbates the urban-rural divide in attracting economic activity. Bureaucratic obstacles, long permitting processes and inadequate digitalisation (see Annexes 5 and 7) hinder the development of the regional business

⁽⁵⁴⁷⁾DStGB, 2025, Demografie: Schleichenden Blackout der öffentlichen Verwaltung abwenden, dstgb.de.

⁽⁵⁴⁸⁾DStGB, 2025, Demografie: Schleichenden Blackout der öffentlichen Verwaltung abwenden, dstgb.de.

environment. There are clear urban-rural discrepancies. Larger cities, such as München and Hamburg, use sophisticated zoning tools while smaller rural municipalities face capacity limitations and outdated planning methods⁽⁵⁴⁹⁾. Certain Metropolitan Regions (*Metropolregionen*) have institutionalised cooperation in spatial governance⁽⁵⁵⁰⁾. The efficiency of regional and municipal authorities in managing industrial, environmental and spatial planning licences varies considerably, whilst public support services for companies (e.g. digital one-stop-shops, e-permitting systems) are often inefficient⁽⁵⁵¹⁾.

The transfer of responsibilities to local authorities lacks a corresponding increase in funding. This hinders public investments, creating an infrastructure backlog, and limits competitiveness. Municipalities perform many tasks delegated by federal or regional laws, for example, administering social benefits, managing schools and childcare or enforcing building regulations on behalf of higher levels. In recent years, local governments have often complained about receiving new or expanded duties without a corresponding increase in financial resources. This is further exacerbated by a lack of coordination and targeting of existing funding streams, such as tax-sharing, fiscal equalisation between the Länder (*Länderfinanzausgleich*) and federal grants for e.g. transport, housing, education⁽⁵⁵²⁾. Municipalities could partly compensate for new duties by pooling resources and adopting online service bundles developed in other municipalities under the Online Access act.

⁽⁵⁴⁹⁾Hoyler, M., Freytag, T., & Mager, C., Advantageous, 2006, Fragmentation? Reimagining Metropolitan Governance and Spatial Planning in Rhine-Main, [jstor.org](https://www.jstor.org); Jehling, M., & Hecht, R., 2022, Do land policies make a difference? A data-driven approach to trace effects on urban form in France and Germany, [researchgate.net](https://www.researchgate.net).

⁽⁵⁵⁰⁾OECD, 2024, Coordinating spatial planning and investment across state and local boundaries in the Hamburg Metropolitan Region, [oecd.org](https://www.oecd.org); Yan, S., & Growe, A., 2022, Regional Planning, Land-Use Management, and Governance in German Metropolitan Regions—The Case of Rhine–Neckar, doi.org.

⁽⁵⁵¹⁾Nationaler Normenkontrollrat, 2025, Bündelung im Föderalstaat. Zeitgemäße Aufgabenorganisation für eine leistungsfähige und resiliente Verwaltung, [normenkontrollrat.bund.de](https://www.normenkontrollrat.bund.de).

⁽⁵⁵²⁾Grundke, R., & Sunel, E., (no date), Germany: Fostering regional development in times of structural change – ECOSCOPE, [oecd.org](https://www.oecd.org); OECD, 2025, Economic Surveys: Germany 2025, [oecd.org](https://www.oecd.org).

This Transport Annex presents the state of play, and the challenges Germany faces with the implementation of the trans-European transport network (TEN-T), the European railway traffic management system (ERTMS) and the roll-out of Sustainable Aviation Fuels (SAF).

Five European transport corridors cross Germany (Rhine – Danube, Scandinavian – Mediterranean, North Sea – Baltic, North Sea – Rhine-Mediterranean). The German TEN-T rail network is 15 117 km long (9 367 of which are on the core network). The TEN-T road network is 11 580 km long (6 452 of which on the core network). Germany has 4 173 km of TEN-T inland waterways, 24 TEN-T airports (including 11 core airports), 108 TEN-T ports (including 23 core ports) and 78 urban nodes ⁽⁵⁵³⁾.

Germany's rail network faces significant modernisation challenges. Given its central location in the European transport network, these pose a challenge for the whole European transport system.

The ERTMS is essential to digitalising the railways and to modernising and harmonising railway operations across Europe. The ERTMS ensures the safety of rail networks by providing a unified signalling system that significantly reduces the risk of accidents. It also provides interoperability between national rail systems, improving cross-border train movements. It is important to strengthen relationships with neighbouring countries to create a level playing field for railway undertakings operating across borders. Finally, the ERTMS enhances network capacity and operational efficiency, increasing the competitiveness of the rail sector.

ERTMS was operational on only 3% of the total TEN-T rail network in Germany by the end 2024 ⁽⁵⁵⁴⁾ and only on specific and disperse line sections. To meet its national plan's ERTMS roll-out target by 2035, Germany aims to deploy the ERTMS on a further 6 103 km.

⁽⁵⁵³⁾TENtec Information System, according to Reg. 2024/1679.

⁽⁵⁵⁴⁾Based on ERTMS – Third work plan of the European coordinator Matthias Ruete.

However, a plan for the decommissioning of the legacy signalling systems is lacking. Due to its size and location, Germany could be a game changer in terms of ERTMS deployment in Europe.

Infrastructure bottlenecks in heavily used German corridor sections are causing capacity restrictions, particularly in the hinterland of Hamburg, between Berlin and the Rhine/Ruhr area as well as on the lines towards Frankfurt am Main. Furthermore, capacity bottlenecks are occurring in the surroundings of major urban nodes.

In northern Germany, the priority sections complete the European transport corridors between Scandinavia and the Mediterranean as well as between the North Sea and the Baltic Sea. The railway lines between Hamburg/Bremen and Hannover face significant capacity constraints, hampering rail freight transports towards the North Sea ports. Also, in view of the expected additional passenger and freight volumes, especially in the Hamburg area, following the opening of the Fehmarn Belt fixed link to Denmark and Sweden. Furthermore, the line between Berlin and Hannover and towards the Netherlands and Belgium faces capacity constraints, impeding faster passenger services and an increased number and length of freight trains.

In central and southern Germany, the line between Erfurt/Fulda and Frankfurt am Main is where three European transport corridors meet. It is experiencing a major lack in capacity and relatively low line speeds hampering north-south and east-west connectivity. South of Frankfurt, the line from Karlsruhe to Basel is essential for transports between the North Sea and Italian ports via Switzerland but lacks capacity.

The modernisation of Germany's railway infrastructure faces significant challenges. Renovation prices have risen rapidly as the demand for construction works exceeds the capacity of the construction industry, including shortages of skilled workers. Digitalisation has been delayed due to funding gaps, outdated infrastructure and staff shortages. Railway projects tend to face timing challenges as the

Table A19.1: **ERTMS deployment in Germany.**

ERTMS in Germany				
TEN-T rail network	ERTMS (trackside) in operation			Min. estimated cost of additional deployment until 2035
	year	length	% of total TEN-T	
15 116 km	end 2024	445 km	3 %	EUR 1465 billion
	by 2035	6 548 km	43 %	

Source: Based on ERTMS – Third work plan of the European Coordinator Matthias Ruete.

planning and permitting process is often lengthy slowing down the construction works.

As yet there is no joint German-Danish model on how to efficiently operate railway traffic on the Fehmarnbelt cross-border section, covering traffic management, maintenance and operations in line with the

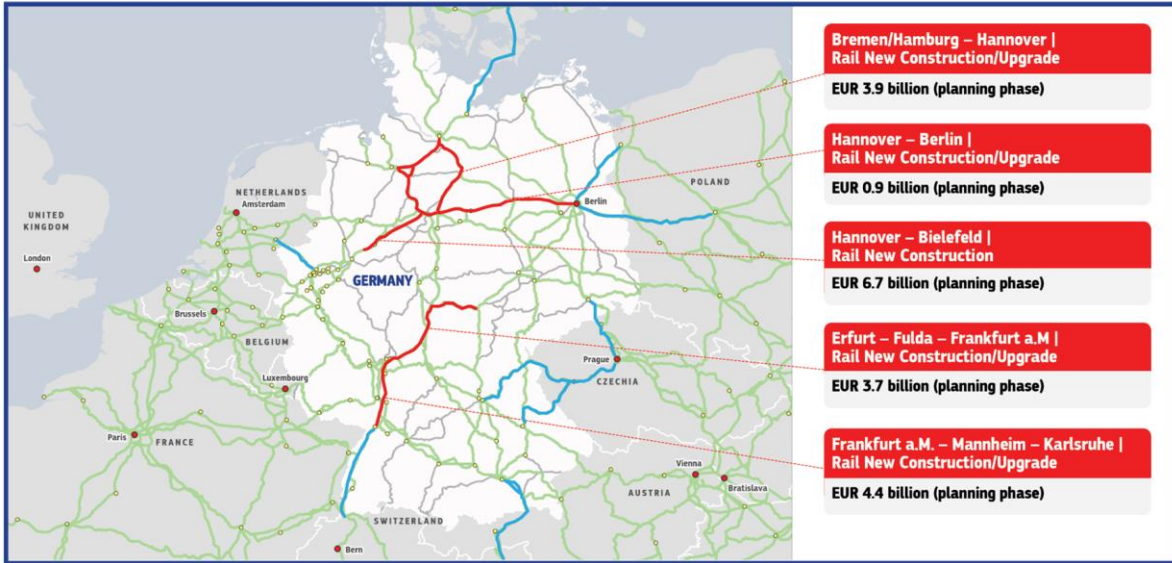
rules of the single European railway area.

Harmonising technical and operational rules with the minimisation of national rules in line with the EU directives on rail interoperability and safety remains critical to ensure seamless cross-border rail transport.

Germany has a strong industrial base to produce sustainable aviation fuels (SAF), with over 15 projects currently in development to produce hydrogen-based aviation fuels (eSAF). It is home to the only eSAF pilot plant in the EU that has reached Final Investment Decision, but the remaining ones are not commercialised, and most projects are only pilot or demonstration facilities⁽⁵⁵⁵⁾. As an active member of the eSAF Early Movers Coalition, mobilising national funding for a double-sided auction mechanism in 2026-2028 is required for the deployment of those eSAF projects.

⁽⁵⁵⁵⁾[ReFuelEU Aviation Annual Technical Report 2025 -- 2024 in review.](#)

TEN-T Cross-Border & National Priority Sections - Country Sheet



Legend

- Cross-border sections according to Commission CEF proposal
- National priority sections
- European Transport Corridors rail network
- Remaining TEN-T rail network in Germany
- Capitals ● Urban Nodes



European Transport Corridors

— RHINE - DANUBE	— BALTIC SEA - ADRIATIC SEA
— NORTH SEA - BALTIC	— ATLANTIC
— SCANDINAVIAN - MEDITERRANEAN	

