EUROPEAN
COMMISSION

Brussels, 24.5.2023
SWD(2023) 620 final

COMMISSION STAFF WORKING DOCUMENT

2023 Country Report - Austria

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

on the 2023 National Reform Programme of Austria and delivering a Council opinion on the 2023 Stability Programme of Austria

{COM(2023) 620 final}

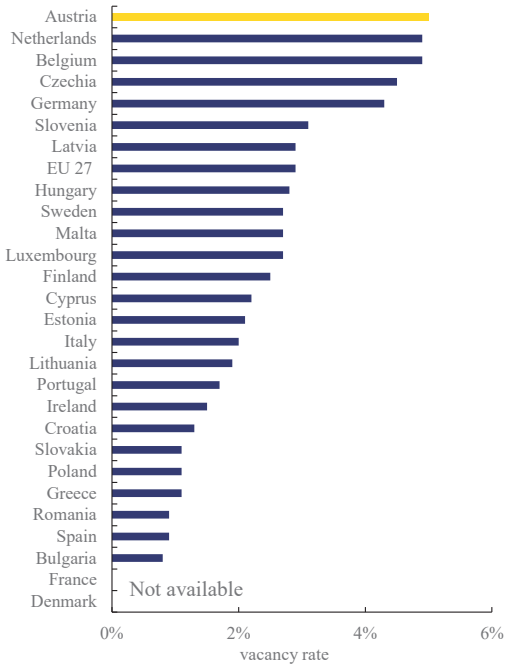
European Commission

Austria

2023 Country Report

Austria's economy is resilient but faces some challenges

Graph 1.1: **Vacancy rate across EU Member States, Q3-2022**



(1) Vacancies in industry, construction and services (except activities of households as employers and extra-territorial organisations and bodies)
Source: Eurostat

The Austrian economy has recovered strongly from the COVID-19 pandemic but is now facing headwinds. In 2022, it grew by 5.0%, partly due to the recovery of the tourism sector, which had suffered substantially during the COVID-19 pandemic. However, Russia's war of aggression against Ukraine and the subsequent increase in energy prices suppressed growth in the second half of 2022. In particular, the fall in real wages due to inflation has led to reduced household spending. Looking ahead, growth is set to benefit from increasing real disposable income (i.e. disposable income adjusted for inflation) as energy prices moderate, wages increase, and government support for businesses and households begins to kick in. Overall, the economy is expected to grow 0.4% in 2023 and 1.6% in 2024.

Russia's war of aggression against Ukraine and subsequent spikes in energy prices fuelled inflation in 2022. In early 2023, consumer prices had increased by 11.5% compared to a year ago, which was about 1.5pps above the EU average. Looking forward, consumer prices are expected to remain high, as higher energy prices have now been passed through to core inflation (the change in the cost of goods and services that does not include the more volatile food and energy sectors). Moreover, wage agreements in recent months have resulted in wage increases that are slightly above the inflation rate ([1]). However, a number of measures to cushion the economic and social impact of high energy prices on consumers and businesses have recently been adopted (see Box 1 for a general overview and Box 2 for a detailed analysis of the electricity 'price brake').

The jobs market improved steadily in 2021 and 2022, but the shortage of workers remains a pressing issue. Unemployment is expected to remain at its current low level of around 5%, although regional differences in different parts of Austria are significant. At the same time, shortages of workers have become more acute for both skilled workers (such as IT workers or specialists in renewable power installation) and less skilled workers (such as workers in Austria's large tourism sector). Austria

([1]) Additionally, profit margins also increased considerably in some sectors in 2022, leading to further upward pressure on prices. However, in 2023 increasing unit labour costs are expected to lead to the reverse effect.

Box 1: **Energy support measures in Austria**

- Austria adopted various support measures to cushion the impact of energy-price inflation on households and businesses. For 2023, the total budgetary costs of these measures are projected in the Commission 2023 spring forecast to amount to 1.8% of GDP ([2]). Most measures do not preserve the price signal (i.e. they do not ensure that energy is sufficiently expensive to encourage consumers and companies to use less of it), although most of them are not significantly targeted at low-income Austrians.
- Notable measures include: (i) the climate bonus; (ii) a lump-sum transfer in 2022 of EUR 500 to every adult (EUR 250 for children); (iii) increased rent support for vulnerable households; and (iv) a payable inflation-tax allowance for people with a gross monthly income of less than EUR 1 800. Companies of all sizes are also being supported by a refund of part of their energy costs above a certain threshold. From December 2022 to June 2024, Austria has introduced an electricity 'price brake'. The scheme compensates households for the difference between the contract price of electricity and EUR 0.10 per kWh (but the compensation does not cover any increases in the contract price to prices greater than EUR 0.30 per kWh) for a quantity of up to 2 900 kWh per year. The price signal is thereby somewhat impaired (i.e. the scheme means that consumers are shielded from some price increases and are therefore not always encouraged to use less electricity). However, this impairment of the price signal is slightly mitigated because: (i) the full market price has to be paid for any electricity consumption above 2 900 kWh per year; and (ii) the VAT consumers pay will continue to be based on the actual contract price, and not the reduced, subsidised price. Furthermore, vulnerable households can receive support for grid costs, while all households and companies received a subsidy for the increase in grid costs in 2023.
- Austria applies the EU solidarity tax on the windfall profits of fossil-fuel companies that benefit from the energy-price spike in application of Council Regulation (EU) 2022/1854 ([3]), at a rate of 40% on these extraordinary profits for the second half of the 2022 fiscal year and all of the 2023 fiscal year.
- In 2022, Austria implemented various measures to increase the security of its energy supply. These measures include energy-saving campaigns to reduce overall energy consumption and demand-reduction 'auctions' open to industrial and large-scale consumers to reach the country's binding target to reduce gross electricity consumption by 5% on average per hour. Austria also introduced EUR 118 million in investment support for wind and solar PV installations to accelerate the deployment of renewables. On gas storage, Austria has introduced a 20TWh strategic gas reserve to be released in the event of emergency. Austria also provided a credit line to Wien Energie, an Austrian energy supplier, which was in financial trouble.

currently has the highest job vacancy rate in the EU (see Graph 1.1).

In the past few years, there has been an increasing degree of mismatch in the Austrian labour market. There are currently many open vacancies for which there are not

([2]) For 2022, the total budgetary costs of these measures amounted to 1.5% of GDP. Some of the measures outlined in this box were already in place in 2022.

([3]) i.e. the application of a mandatory, temporary solidarity tax at a rate of at least 33% on the extraordinary and unexpected profits of businesses active in: (i) the extraction of crude petroleum, natural gas and coal; and (ii) the refinery sector. The solidarity tax is calculated on taxable profits (as determined under national tax rules in the fiscal year starting in 2022 and/or in 2023) which are above a 20% increase on the average yearly taxable profits in 2018-2021.

enough skilled workers to fill while the available number of workers also differs significantly between Austria's regions. This trend further accelerated during the pandemic and is preventing Austria from achieving its full economic potential. At the same time, the employment potential of several disadvantaged groups in Austrian society remains underused. These disadvantaged groups include: (i) older workers; (ii) people with low levels of qualifications; (iii) people with a migrant background; and (iv) underrepresented groups, such as women. Addressing this long-standing challenge is important if Austria is to implement the European Pillar of Social Rights and achieve its national employment-rate target by 2030 (see Annex 14).

Productivity growth in Austria is below the EU average. Austria's economy is driven by small and medium-sized enterprises (SMEs), mainly operating in low-to-medium-tech sectors. However, the country is missing out on the productivity gains that typically follow in countries with a stronger role for high-tech sectors, which typically spend more money on research and development (R&D). Furthermore, in those Austrian industries with high levels of investment in R&D, this does not consistently translate into more innovation. Better access to risk capital for Austrian start-ups could strengthen the birth of new innovative companies in Austria. Low competition in business services affects the business environment in the country, leading to an overall decline in business dynamism. Regulatory restrictiveness, particularly for certain professional services, also remains high. (See Annex 12 on the single market and industry and Annex 11 on innovation.)

The housing market is overheated but is now showing signs of cooling down. The persistent upward trend in residential property prices over the past few years continued in 2022, but in the fourth quarter of 2022 the rate of price growth finally began to slow down, as interest rates rose, lending standards tightened, and real incomes (i.e. incomes adjusted for inflation) fell. Construction activity has also slowed. This slowdown is partially due to an oversupply of new houses completed, which in 2022 stood at 30 000 houses (according to figures from Austria's central bank). Overall, the risk to financial stability posed by the housing market appears limited, partly thanks to the relatively low levels of household indebtedness and the low exposure of Austrians to variable interest rates. (See Annex 23 on the financial sector and Annex 5 on financial globalisation capacities.)

The financial sector is robust, but exposure to Russia remains a concern. Austrian banks are well capitalised, and the share of non-performing loans decreased further in 2022. Although the exposure of Austrian companies to Russia has substantially decreased over the last year, the subsidiary of a major Austrian bank remains active in the country. However, there are no signs that this could seriously affect the stability of the financial sector in Austria. (See Annex 23 on the financial sector.)

Austria remains dependent on Russian gas but has taken some measures to speed up the green transition in 2022. Before the Russian aggression against Ukraine, Austria imported 80% of its gas from Russia. Although gas imports from Russia in general decreased in 2022, the share of gas imports from Russia remains high (at around 57%). Therefore, diversifying energy supplies remains a priority for the upcoming winters. Although some key green-transition projects are included in the Austrian recovery and resilience plan (RRP), a EUR 4.5 billion investment and reform plan, Austria's ongoing efforts are not at present sufficient to ensure energy security in case of further geopolitical disruptions. Several issues are holding back Austria's plans for energy security. These issues include shortages of workers and lengthy permitting procedures for renewable energy projects. However, Austria has recently taken some steps in the right direction (see 'Further Priorities Ahead' section and Annex 12) to address these challenges. On energy efficiency, there has been progress. However, the delay of important legislation and the sluggish pace at which homes are being renovated mean that Austria has to do more to reach its energy-efficiency targets. These targets include reducing primary energy

consumption from 31.5 million tonnes of oil equivalent in 2020 to 30.8 million tonnes in 2030. Speeding up the green transition is also expected to help Austria to reach its ambitious goals to reduce emissions of greenhouse gases in sectors outside the EU Emissions

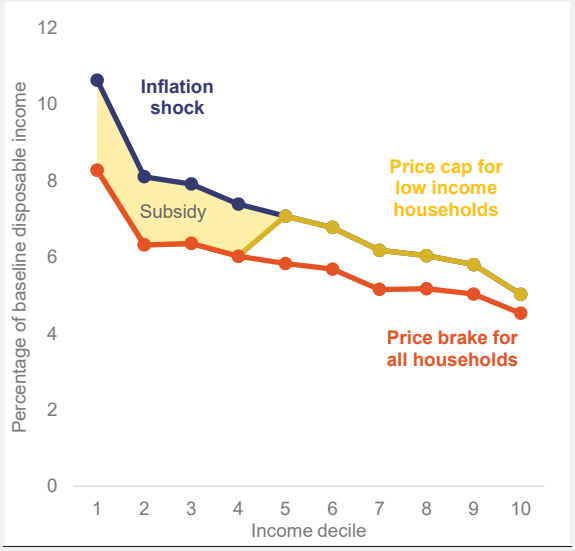
Trading System by 36% by 2030 compared with 2005 and reaching climate neutrality by 2040, respectively, both of which the country

Box 2:

The distributional impact of the Austrian electricity 'price brake'

In October 2022, the Austrian parliament adopted **a price-based electricity support model** for households called the electricity 'price brake' (*Strompreisbremse*) **(see Box 1)**. **The price brake subsidises electricity consumption for all households.** The European Commission's Joint Research Centre (JRC) has estimated the direct impact of the electricity price brake on households. The JRC's analysis uses 2022 as its baseline year, and simulates the recent inflationary shock based on the increase in consumer prices as forecasted in the Commission's 2023 Winter Interim Forecast. The JRC then simulated: (i) the original price cap (as described above); and (ii) a more targeted price cap for low-income households.

Graph 1.2: **Additional burden on household expenditure (as a percentage of baseline disposable income) by income deciles (price cap to poorest two quintiles)**



Source: European Commission's Joint Research Centre, calculations based on the EUROMOD model, version I5.0+ and its Indirect Tax Tool extension (ITTv4).

In general, the impact of inflation, which in 2022 was strongly driven by high energy prices, is much more pronounced for low-income households, which typically spend proportionally more of their income on energy compared with high-income households.

In their simulation, the JRC found that the **electricity price brake helped to offset the increase in expenditures caused by high inflation for all households.** The price cap helped the poorest households the most, although its effect was not enough to reverse the regressive nature of the inflationary shock discussed in the paragraph above. **Targeting the price cap towards low-income households would lead to less regressive outcomes, but at the cost of making middle-income groups among the main losers**, making the implementation of such a policy difficult from a political-economy perspective.

Overall, there are two clear **advantages of a more targeted electricity price brake**. First, these measures would only focus on income groups that are **much more exposed to inflation** and less able to cope with the increase in prices on their own. Second, the **negative impact on public finances would be lower** using a more targeted approach. The budgetary estimates indicate that the current version of the electricity price brake will cost about EUR 2.7 bn, and that targeting the electricity price brake towards low-income households would reduce the cost by 59%. **Furthermore, price caps in general may harm competition, as energy companies are less incentivised to lower their prices to attract new customers, thus making the case for a more targeted approach. Consumers might also be less incentivised to reduce their consumption by such schemes, and this might be a significant problem for energy-saving efforts.**

is currently not on track to meet.

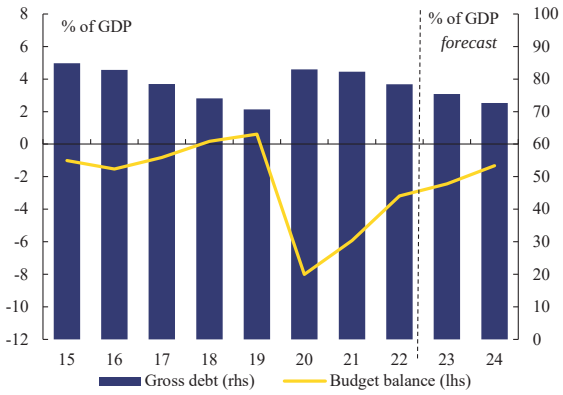
Austria scores well on the United Nations Sustainable Development Goals (SDGs). Despite lagging behind its ambitious target of climate neutrality by 2040, Austria performs well – or is improving – on most SDG indicators related to environmental sustainability (SDGs 2, 6, 9, 11, 12, 13, 14). However, it is moving away from the target on life on land (SDG 15). In particular, emissions in the transport sector remain high. On fairness, Austria performs generally well on SDG 1 (no poverty) due to its well-functioning safety net and support policies, and on SDG 3 (good health and well- being). However, it still needs to catch up on the SDGs for quality education (SDG 4) and partnerships for the goals (SDG 17). Austria also performs very well on SDG indicators related to macroeconomic and institutional stability, including its investment share of GDP (see Annex 1).

Government support measures stabilised the economy during challenging times

Strong government support protected the economy during the energy and COVID-19 crises. Austria has provided far-reaching support to households, businesses, and public services since 2020. Income-support measures, grant schemes, and a large-scale short-time work scheme provided a strong safety net to households and companies. Following Russia's aggression against Ukraine and the subsequent energy crisis, the Austrian government once again adopted large-scale support measures, aiming to stabilise real incomes in times of high inflation. The Austrian RRP delivers further support measures, and is also geared towards supporting the economic recovery in line with the green and digital transitions.

Public finances are under strain from the economic fallout of Russia's aggression against Ukraine and the cost of further necessary support measures. After reaching its all-time high of 8.3% of GDP in 2020, the deficit decreased to 3.2% of GDP in 2022. Improvements in public finances were largely driven by the strong economic recovery following the relaxation of COVID-19 lockdown measures in 2021 and the sharp rise in revenues from income-based and value added taxes. Despite continued government support measures aimed at cushioning households and businesses from inflation and high energy prices (see Box 1 for a general overview), including the electricity 'price brake' (see Box 2 for a detailed analysis), some improvements in the deficit are expected. Austria's debt-to-GDP ratio is set to improve in the years ahead, but this outcome remains dependent on both energy-price developments and economic growth.

Graph 1.3: **General government budget balance and gross debt**



Source: European Commission Spring Forecast 2023

Although fiscal-sustainability risks are limited, ageing-related costs will be a burden on public finances. Large cohorts of the population are now reaching retirement age, and life-expectancy is also increasing. These developments will increase the burden on public finances, even after taking into account migration and any possible increase in the share of women and older people in employment. Austria's old-age-related costs as a percentage of GDP are expected to be the third highest in the EU by 2030 (see the chapter on key further challenges). This is particularly relevant for the pension and long-term-care systems, both of which should be further adapted to address adequacy and fiscal-sustainability risks. At the same time,

the investments needed to meet emission targets or stepped-up purchases of CO_2 certificates may result in additional pressure on public finances in the long-term.

The RRP has contributed to the country's reform agenda, but further reforms are needed. As the first batch of reforms and investments under the RRP have now been successfully completed, the Commission has started to disburse funds following the first payment request by Austria. The projects in the plan address a wide range of reforms, such as the green and digital transitions (including the eco-social tax reform (see Annex 19) as a flagship project), business dynamism, and sustainable and inclusive growth. However, there remain areas where structural reforms could help to increase efficiency and create much needed budgetary space. The national fiscal-governance framework plays an important role in providing public goods and boosting progress towards climate goals. At the same time, the framework lacks transparency, for example in the area of environmentally harmful subsidies. In addition, taxing and spending responsibilities are not aligned across levels of government, hampering efficient government spending. In the sphere of taxation, the successful adoption of two relevant reforms ([4]) recently proved that Austria is capable of successfully implementing large reforms within a short period of time. And there still remains scope to reduce environmentally harmful subsidies and further improve the tax mix. For example, relatively growth-friendly taxes, such as environmental taxes or taxes on property and tobacco remain underused. On labour taxation, Austria's persistently high and above-EU-average tax 'wedge' (the taxation of earnings from work) including the high non-wage labour costs paid by employers, remains an issue ([5]).

([4]) Recent tax reforms include the eco-social tax reform, introducing a CO_2 price, and the abolition of 'tax bracket creep' (see tax-Annex).

([5]) The recent abolishment of the tax-bracket creep prevents further growth in Austria's already high tax wedge and cushions the effects of inflation on workers (see Annex 19 and 'Further priorities ahead' section).

THE RECOVERY AND RESILIENCE PLAN IS UNDERWAY

Austria's RRP aims to: (i) address the key challenges related to the green and digital transitions; and (ii) strengthen economic and social resilience. It includes reforms and investments in crucial areas like education, skills, healthcare, the business environment, and research and innovation. It consists of 27 reforms and 32 investments that are supported by EUR 3.751 billion in grants, representing 0.93 % of GDP (see Annex 3 for more details).

The implementation of Austria's recovery and resilience plan is well underway. Austria submitted one payment request, corresponding to 44 milestones and targets in the plan and resulting in an overall disbursement of EUR 700 million on 20 April 2023. Beyond the first payment request, the implementation of the plan is on track. Austria is expected to submit a request to modify a few measures due to objective circumstances, such as price increases and supply chain shortages. The preparation of a new REPowerEU chapter is also underway and the authorities are working closely with the Commission services to submit it shortly. The swift inclusion of the new REPowerEU chapter in the recovery and resilience plan will allow additional reforms and investments to be financed in support of Austria's strategic objectives in the field of energy and the green transition.

The following, more detailed review of measures being implemented under the RRP in no way implies formal Commission approval or rejection of any payment requests.

The Commission has started to disburse funds following the implementation of a number of reforms and investments set out in the Austrian RRP ([6]). By April 2023, the Commission had disbursed EUR 1.15 billion in funds to Austria, including EUR 450 million of pre-financing. Austria submitted its first payment request in December 2022. The Commission disbursed EUR 700 million on 20 April 2023, based on the satisfactory fulfilment of 44 milestones and targets in the Austrian RRP. These investments and reforms are in several areas, notably the green and digital transitions.

Reforms and investments related to the green transition are well underway. As part of the first set of milestones already fulfilled, Austria adopted several key reforms. These include: (i) the renewable-energy expansion law that lays down new framework conditions for supporting electricity generation from renewable sources; and (ii) the first steps of the eco-social tax reform, which introduces national carbon pricing. The government also introduced a 'climate ticket' that incentivises the use of public transport and adopted a new mobility masterplan to reduce CO_2 emissions in the transport sector. In addition, Austria achieved its target of implementing 6 360 projects to support the replacement of fossil-fuel heaters in residential buildings with renewable technologies. Moreover, the authorities successfully achieved several crucial milestones related to: (i) the construction of new railways; (ii) the procurement of zero-emission utility vehicles; (iii) investment in the decarbonisation of industry; and (iv) the ecological transformation of businesses. In the sphere of hydrogen, the government selected national projects supporting the development of hydrogen infrastructure. Lastly, Austria amended its

([6]) The Austrian RRP is a plan for EUR 4.5 billion in investment, a significant part of which will be supporting the green and digital transition. It is currently supported by EUR 3.46 billion in funds from the Recovery and Resilience Facility (RRF), the EU's instrument for recovery from the COVID-19 pandemic. The RRP also contains plans for major reforms.

Box 3:

Key deliverables under the RRP in 2023-2024

- Completion of renovation projects to help insulate the homes of low-income households
- Construction of new railways and electrification of regional railways
- Entry into force of the implementing regulation to increase the collection rates for plastic beverage packaging
- Companies in the retail sector have purchased at least 5 000 new 'reverse vending machines' (i.e. machines that enable consumers to return empty beverage bottles and cans and receive a deposit back in return) or updated existing ones
- At least 200 000 electrical or electronical devices have been repaired or renewed as part of the repair bonus
- Provision of digital devices for the first grade of lower secondary school has been completed
- Digital investment in companies and completion of the KMU digital projects
- Completion of the funding projects to digitalise the public administration
- Setting up the technical connections for the 'once only' principle (i.e. the principle that users of an online service – especially a government service – should only be asked to enter the same information once)
- At least 94 000 people have benefited from reskilling and upskilling measures
- At least 50 projects related to primary healthcare will be funded
- The national roll-out of early aid for socially disadvantaged pregnant women
- Construction has begun on Austria's new Institute for Precision Medicine

Waste Management Act to increase the collection rates for beverage packaging.

Several reform and investment measures related to the digital transition have been implemented. As part of investment in citizen-centred, service-oriented e-government services, the Austrian government set up a Digitalisation Fund to finance digitalisation projects at the federal government level. Authorities have also amended the Business Service Portal Act and thus reduced bureaucracy for business operators and the public. In addition, the government successfully began implementing projects to support both digital infrastructure and research into quantum technologies. The country also relaunched a new investment scheme to help digitalise small and medium-sized enterprises. National projects supporting the development of innovative microelectronics and connectivity technologies were selected. Lastly, Austria achieved its target of delivering digital devices to all pupils in the 5th and 6th grade at lower secondary level in the 2021/2022 school year and is supposed to deliver more digital devices to the first grade of lower secondary school until the end of 2024.

Austria has reached several milestones in the areas of skills, education, social policy, and labour-market policy. The government has set up a one-stop shop to provide targeted support for the long-term unemployed, facilitating their return into the jobs market. The Unemployment Insurance Act was amended, to provide for an education bonus scheme, which further increases incentives for the unemployed to participate in training. Having launched the scheme, authorities achieved their target of disbursing the education bonus to a first group of 40 000 recipients. Two initiatives were also adopted to improve access to health services for the population, in particular in rural areas: (i) the creation of a network of community nurses; and (ii) the launch of a new funding framework for new primary healthcare units. These measures are set to strengthen the sustainability and resilience of the healthcare system. To improve financial literacy among

the population, Austria has also drawn up and published a national financial-literacy strategy.

Several milestones and targets related to smart, sustainable, and inclusive growth have also been implemented. Austria published its fourth report on building culture, as well as two feasibility studies on the renovation of two art museums: the Volkskundemuseum (ethnographic museum) and the Prater Ateliers (studios for sculptors). In addition, the Austrian government adopted funding guidelines for its investment fund for climate-friendly cultural businesses. To support businesses' equity position, a reform measure has entered into force. It consists of converting government-guaranteed loans, which were used to bridge liquidity bottlenecks during the COVID-19 crisis, into equity or equity-like instruments. Furthermore, the government has adopted an amendment to the occasional transport act, abolishing the binding tariff for ride-sharing services ordered via mobile phones. Additionally, the government has issued a decree that exempts recharging points for electric motor vehicles and photovoltaic systems in commercial installations from a requirement to be authorised before they are installed.

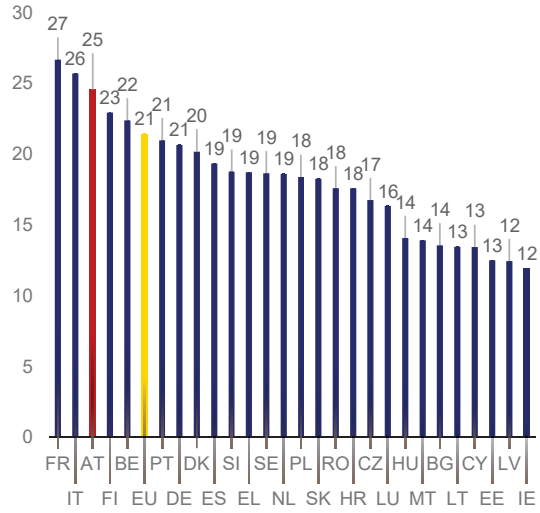
FURTHER PRIORITIES AHEAD

Beyond the challenges addressed by the RRP, Austria faces additional challenges not sufficiently covered in the plan. These concern fiscal sustainability, labour shortages, energy security and the green transition. Addressing these challenges will help the country further improve relevant SDG indicators, notably SDG 9 (industry, innovation and infrastructure), SDG 12 (responsible consumption and production) and SDG 13 (climate action) (see Annex 1).

Ensuring the sustainability of public finances in a time of change

Government spending has helped to stabilise the economy, but Austria still faces challenges such as demographic change and systemic inefficiencies. Key fiscal indicators are expected to continue to improve, and concerns over government finances are likely to be contained in the coming years. However, the public finances will continue to be affected by demographic change, systemic inefficiencies, increased debt related to the COVID-19 pandemic, and Russia's aggression against Ukraine. On ageing, it is currently estimated that Austria will have the third highest old-age related costs in the European Union as a percentage of GDP by 2030 (see Graph 3.1) ([7]). This demographic trend of an older population will mean that spending on pensions, healthcare and long-term care will put pressure on public expenditure, making further reforms indispensable, including reforms of the way tax is raised and spent by both Austria's central federal government and its regions. Both the costs of additional investments in the green transition and higher debt-servicing costs will add to this burden.

Graph 3.1: **Old-age related costs as a percentage of GDP by 2030**



Source: AWG-report 2021

Federalism in Austria's government finances currently relies on complex intergovernmental transfers between federal and regional levels and provides limited incentives for efficient public spending. A lack of tax autonomy makes the budgets of the *Länder* (Austria's federal states) and municipalities dependent on a complex system directed from Vienna. In 2021, almost half of all tax revenues were transferred to different subnational levels, using a variety of allocation mechanisms ([8]). Simultaneously, many vital tasks, such as healthcare, childcare or investment in public transport, depend in part on expenditures by the *Länder* and municipalities. Demographic change and the green transition will put increasing cost pressures on these services. The current system blurs the link between the

([7]) The *2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070)* presents projections showing the economic and budgetary impact of an ageing population over the long-term.

([8]) See Mitterer & Pichler (2023).

tax burden and government expenditure and is therefore prone to inefficiencies and a lack of transparency. To improve the quality of public spending, it will be crucial to better align these responsibilities, while strengthening transparency and coordination. In particular, facilitating regional tax autonomy by reforming the property tax system ([9]) would improve both federalism in government finances and the overall tax system. Ongoing negotiations between the central government and the *Länder* should be used as a platform to make progress in this area ([10]).

Long-term care is expected to put pressure on both fiscal sustainability and the labour market. It is estimated that the cost of government spending on long-term care alone will increase by 0.5 percentage points of GDP by 2030 ([11]). At the same time, shortages of workers in the sector, partly due to low wages, add an additional concern over the system's future sustainability. The recently adopted package to reform the long-term care system both increases wages/transfers to people caring for older persons and addresses worker shortages in the sector. However, it will also push up public spending on long-term care. A 2021 report by a dedicated task force on long-term care proposed measures that could be taken to improve the adequacy of care while safeguarding the financial sustainability of the system ([12]). The measures proposed include setting up a coordinated overall mechanism to control the system with a clear assignment of responsibilities across levels of government.

There are some concerns about the sustainability of government spending on the healthcare system. The healthcare system proved resilient during the COVID-19 pandemic. However, health care spending is projected to increase significantly until 2070. Prevention measures and outpatient primary healthcare remain underused, while many healthcare services are still provided by hospitals, which is a costly way to provide care. The RRP will help to strengthen primary healthcare, in particular by supporting new and existing primary healthcare centres in local areas.

As many people reach retirement age, government spending on pensions will increase. The pension system provides adequate pensions overall. However, the working-age population is projected to decrease in the future, and the numbers of older people will rise rapidly. This means that the worker-to-pensioner ratio is expected to drop from 3 workers per pensioner in 2023 to 2 workers per pensioner by 2040 ([13]). This will in turn translate into pension expenditures by the government that are projected to increase by 2 percentage points of GDP from 2019 until the mid-2030s stabilising thereafter ([14]). Although some relevant measures to address these costs are included in the RRP, it will be crucial to take additional measures to alleviate pressure on government spending from the ageing population. This includes further encouraging and incentivising unemployed and underemployed older workers to find work and remain in work longer, while taking general measures to further raise the effective retirement age (see sub-chapter on the labour market).

There is scope to shift the tax burden away from labour to more growth-friendly and inclusive taxes. Tax on workers' salaries was estimated to account for about one third of gross tax revenues in 2022 ([15]). At the same time, Austria's tax wedge is the third highest in the EU due to high social-security contributions and high

([9]) Revenues from recurrent property taxes are particularly low in Austria, at 0.2% of GDP compared to an EU average of 1.6% (2015). This is mainly due to the outdated tax base. At the same time, these revenues are an important revenue stream for municipalities. See European Commission (2018) for more details.

([10]) This was good practice in the past. Both the Fiscal Relations Compact (see BMF (2017)) and the current government agreement (see BKA (2020) page 6) set out relevant reform priorities.

([11]) See Budgetdienst (2023).

([12]) See Sozialministerium (2021).

([13]) See Statistics Austria (2022).

([14]) See Budgetdienst (2023).

([15]) See OeNB (2023).

personal income taxes ([16]). High non-wage labour costs (a tax paid by employers for every worker they employ) increase the costs of labour for employers and reduce the net incomes of employees. Therefore, non-wage labour costs are a drag on job creation and on participation in the jobs market, especially for low-wage workers and for couples where one adult is earning less than the other adult (these taxes disincentivise the adult earning less from remaining in work). However, other sources of revenue, such as environmental or property taxes, remain underutilised ([17]). Environmentally harmful subsidies are substantial and hamper the green transition (See Annex 6). Austria's recent eco-social tax reform provides major tax relief to households and businesses and lays the foundation for pricing CO_2 emissions ([18]). Furthermore, the automatic indexation of personal income tax to inflation is a notable reform that strongly reduces the increase in the personal income tax burden faced by taxpayers through 'bracket creep' (see Annex on taxation) ([19]).

([16]) The tax wedge is the ratio of personal income tax and employer and employee social-security contributions (SSCs) less family benefits divided by total labour costs. In Austria, social contributions account for most of the tax wedge. In 2022, the tax wedge of a 'secondary earner' (in a two-earner household without children, the 'secondary earner' is the lower-earning member of the household with the average wage) stood at 47.3% compared to an EU average of 39.7%. See EU tax and benefits indicator database (https://europa.eu/economy_finance/db_indicators/tab).

([17]) See European Commission (2019).

([18]) The newly introduced CO_2 price is applied to non-ETS sectors. It is budget-neutral, as revenues are disbursed via lump-sum transfers.

([19]) 'Tax-bracket creep' or 'fiscal drag' is the phenomenon whereby the marginal tax rate increases due to nominal wage growth as earners move into higher tax brackets. At the same time, purchasing power grows more slowly, stagnates, or drops due to inflation.

Tapping into underused labour market potential to ease shortages of workers

The jobs market is in a robust state, but widespread shortages of workers are preventing Austria from achieving its economic potential. The unemployment rate has now fallen back to its pre-COVID-19 levels, although regional differences are significant ([20]). At the same time, Austria currently has the highest job-vacancy rate in the EU, almost double the EU average (see Graph 1.1). Increasing shortages of workers are starting to hamper growth momentum. After the COVID-19 crisis, mismatches on both skill (the skill of available workers does not match the skill needed for an open job position) and regional level (the skill needed for an open job position is not available in the region in which the job is based) intensified. There are now shortages of workers in several sectors (such as manufacturing, tourism, health and long-term care) and shortage of workers with in-demand skills (such as IT workers, doctors and engineers).

Skills shortages hamper the green transition. In 2022, shortages of workers were reported in Austria for 17 occupations that required specific skills or knowledge for the green transition, including civil-engineering technicians, roofers, and mechanical engineers ([21]). The job-vacancy rate has increased across key sectors, such as

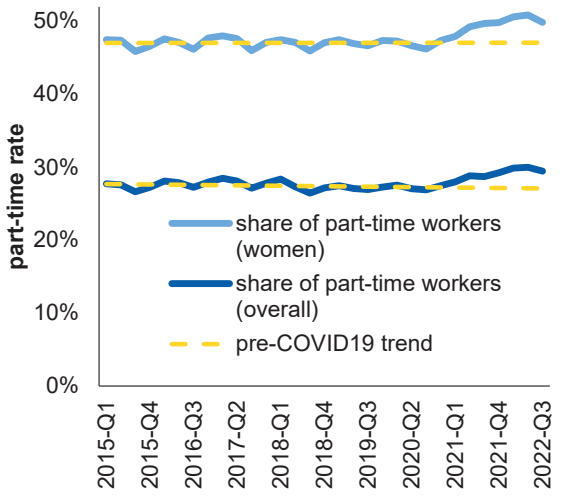
([20]) See Eurostat data on the unemployment rate - quarterly data, seasonally adjusted (TIPSUN30).

([21]) Data on shortages are based on the European Labour Authority (2023), *EURES Report on labour shortages and surpluses 2022*. National authorities report through a questionnaire, based on administrative data and other country-specific sources as submitted by the EURES national coordination offices (definitions of shortages differ, thus data are not comparable across countries and cover a wide variety of sectors). Skills and knowledge requirements are based on the ESCO (European Skills Competences and Occupations) taxonomy of skills for the green transition (for occupations at ISCO 4-digit level of which there are 436 in total). Examples are identified based on their ESCO 'greenness' score and relevant sectors.

construction (from 1.8% in 2015 to 6.1% in 2021) and manufacturing (from 1.2% in 2015 to 3.0% in 2021), with both sectors standing above the 2021 EU average of 3.6% and 1.9%, respectively ([22]). In 2022, labour shortages were reported as a factor constraining production in industry (for 21.4% of firms) and construction (for 35.1% of firms) ([23]) (see Annex 8).

The COVID-19 crisis has disrupted labour market patterns. Austria has traditionally been heavily reliant on commuters from neighbouring countries to the east. Despite a decrease in the number of these commuting workers during the first lockdown phase of the pandemic in 2020, this flow of workers has now returned to pre-COVID-19 levels. However, the general increase in labour-market participation by older and low-skilled workers has slowed significantly in the past 3 years. Additionally, work intensity (the number of people in work who are working full time) has decreased for both men and women in Austria (see Graph 3.2.). It is striking that around 28% of part-time workers actively decide against full-time work, while 32% of workers (most of whom were women) indicated care responsibilities as the main reason for their refusal to move to full-time work. Improving job satisfaction will be key in tackling this shift towards reduced working hours (according to a recent survey by the Austrian Chamber of Labour, job satisfaction is currently at an all-time low). In some sectors, such as long-term care, comparatively low salaries, long hours, and existing shortages create a spiral of dissatisfaction among workers resulting in even more shortages of workers. Furthermore, making better use of tax incentives to increase the average number of hours worked by people could help to reduce part-time employment. Since shortages are also related to regional mismatches (job vacancies are often in places where there are no workers available), regional mobility could be improved, for example through financial benefits for people to move to jobs outside of their region. Another way to overcome shortages of workers in the jobs market is by attracting skilled worker from abroad. This could be achieved by further expanding Austria's scheme for skilled labour migration, the 'Red-White-Red Card', which currently remains underused. A reform of the scheme, which was adopted in 2022, has yet to take effect.

Graph 3.2: **Part-time work in Austria**



Source: Eurostat

Encouraging more women into full-time employment could help ease shortages of workers. In 2021, the rate of women in work or available to work in Austria stood slightly above the EU average. However, the share of part-time employment among women is the second highest in the EU and substantially above the EU average ([24]). In light of a shrinking work force and shortages of workers, there is considerable potential to increase the participation of women in the jobs market. The limited supply of affordable, high-quality childcare and all-day schools makes it difficult for parents, in particular mothers, to work full-time, especially in regions outside Vienna. Despite government efforts to increase the supply of early childhood education and care and all-day schools, Austria remains well below the EU's recently updated country-specific Barcelona target of having 31.9% of all children under the age of 3 in early childhood education and care (see Annex 14

([22]) Eurostat (JVS_A_RATE_R2).

([23]) European Business and Consumer Survey.

([24]) See Eurostat data on Activity rates by sex (TEPSR_WC130).

and 15). Although the Austrian RRP allocates around EUR 28 million to expanding childcare facilities, a recent study puts the costs of a full nationwide expansion of childcare facilities at EUR 1.6 billion ([25]). Further extending the supply of high-quality childcare and schooling (especially in rural areas, where opening hours are typically limited) could help to enable more women to move into a full-time job. Bringing more women into full-time work could also help close Austria's persistently high gender pay gap, as well the resulting high gender pension gap.

To unlock the potential of disadvantaged groups, life-long quality education will be key. Around 45% of the long-term unemployed in Austria have completed no more than lower secondary school (see Annex 14). In 2021, the employment rate of second-generation migrants was significantly lower than that of first-generation migrants and natives ([26]). Additionally, the unemployment rate of people with a migration background is substantially higher than it is for natives. This is particularly problematic given that educational and economic outcomes in Austria are heavily inherited. To break this link, it is necessary to make available: (i) more high-quality early childhood education; (ii) all-day schooling; (iii) strengthened teacher training; and (iv) better digital infrastructure. This could be complemented by better individual mentoring in schools with a high percentage of disadvantaged students. To integrate recent migrants (that is, non-EU born residents living in Austria for less than 5 years) authorities should focus on making German-language courses more accessible. To tackle these challenges and to reach the 2030 national target on participation in adult learning, it will be necessary to provide sufficient life-long learning opportunities. To help more people into work, Austria's apprenticeship system could be used more effectively and made more attractive.

([25]) See Eco Austria, Kosten des flächendeckenden Ausbaus der Kinderbetreuung in Österreich, Kurzanalyse, November 2021.

([26]) See Eurostat data on activity rates by sex, age, migration status, citizenship and educational attainment level (LFSA_ARGANEDM).

The long-term trend of increasing numbers of older workers has slowed down significantly. Due to an ageing population, the number of people of working age in Austria (that is, between the ages of 20 and 65) is expected to fall by almost 268 000 ([27]) by 2040, reducing the supply of potential workers. Additionally, the rate of older workers (i.e. workers aged 55-64 years) either working or available for work is 5.6 percentage points below the EU average ([28]). To keep the ageing population in the workforce longer, it is becoming more and more important to adapt employees' tasks to their work-life cycle and to the needs of ageing workers. In addition, the decision by workers to retire early also depends on the incentives set by the government. Further efforts to increase Austria's comparatively low effective retirement age are therefore of special importance. Currently, the effective retirement age is 61.6 for men and 59.7 ([29]) for women, with the legal retirement age at 65 for men and progressively increasing to 65 for women until 2033 ([30]). Reducing some of the high costs on employing workers – in particular older workers – could create incentives for older workers to stay in the workforce longer.

Reducing dependency on Russian fossil fuels by speeding up the green transition

Austria is not on track to meet its ambitious target of climate neutrality by 2040. In addition, reductions in greenhouse-gas emissions so far are not on a trajectory compatible with binding targets to reduce greenhouse-gas emissions in sectors outside the EU Emissions Trading System by 48% by 2030 (see Annex 6). Russia's war of

([27]) Eurostat (2023); EUROPO 203 – Population projections at national level

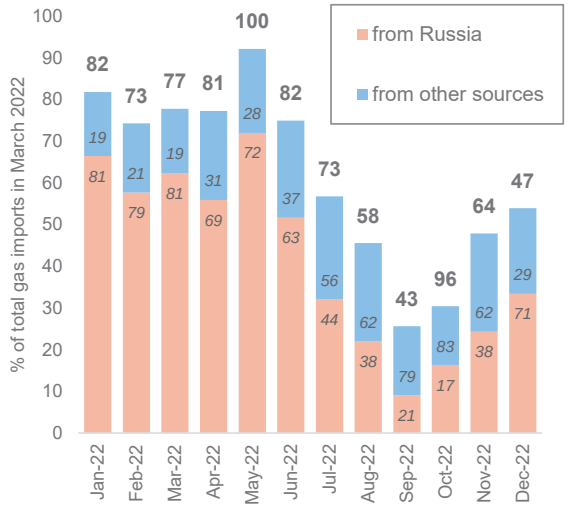
([28]) See Eurostat data on Activity rates by age (TEPSR_WC160).

([29]) This number includes pensioners that receive "*Rehabilitationsgeld*", a rehabilitation allowance

([30]) Source: Dachverband der Sozialversicherungsträger.

aggression in Ukraine and the energy crisis that followed in 2022 have revealed a number of weaknesses in Austria's energy-security system. Fixing these weaknesses represents a unique opportunity to accelerate the green transition and reduce emissions.

Graph 3.3: **Gas imports from Russia vs. other sources**



Source: E-Control Austria, ENTSO-G

The energy crisis has highlighted the need to diversify energy supplies and reduce dependency on Russian gas. Despite some progress in diversification last year, Austria still imported 57% ([31]) of its gas from Russia in 2022, compared with 80% in 2021, while overall gas imports also decreased (see Figure 3.3). Because Austria overshot its gas-storage obligations last winter, gas supplies to households and companies were not at risk. As part of its diversification efforts, the government set financial incentives for companies to import non-Russian gas and created a strategic gas reserve of 20 terawatt hours (TWh) in 2022. However, significant energy-security challenges persist. For example, increased gas flows from Norway and overseas (by booking capacity via Italy and Germany) may not be enough to end dependence on Russian gas. A clear path for progressively phasing out Russian gas over the next few years has yet to be outlined.

([31]) Source: AT Climate Ministry based on data by the regulator E-Control (tbc).

There remains scope to diversify energy supplies. One of the ways energy supplies could be diversified is by evaluating the scope for interconnectors with neighbouring countries, especially for additional flexibility, reverse flow capacity, and securing capacity for liquified natural gas (LNG) transmission in neighbouring countries. In addition, it will be critically important for Austria to support the production and transmission of renewable gases, such as hydrogen, especially for sectors and regions vulnerable to supply disruptions. Furthermore, additional sources of renewable energy, such as geo-thermal energy, could be further explored.

Households and companies remain heavily reliant on fossil fuels. Austria has managed to reduce its natural-gas consumption by almost a fifth since mid-2022 thanks to subdued demand and the government's plan to reduce gas demand. However, gas still remains a major energy source for households and companies (see Graph 3.3). Gas also accounts for more than 23% of Austria's energy consumption and is mostly used for power (32% of total gas consumption), heating (21% of total gas consumption) and industry (40% of total gas consumption) (see Annex 7). Investment in electrifying industry will help to reduce reliance on fossil fuels. Targeted investments in the electrification of industry (chemicals, foods, paper, textile, machinery) where equipment is commercially available (such as boilers and heat pumps) could be accelerated. At the same time, the use of renewable gas to decarbonise industrial processes that rely on high-temperature heat is key to help reduce gas demand and protect businesses from price volatility. While energy prices have decreased, uncertainty remains regarding next winter, which requires continued efforts to structurally reduce gas demand. Furthermore, Austria remains below the EU average in the efficiency of its material use. Improving resource efficiency in general, and secondary raw-material use in industry in particular, will help to reduce the country's overall resource dependency, in particular for fossil-fuel-based raw materials (See Annex 9).

The length of permitting procedures remains a stumbling block for Austria's green transition, but initial steps to address this problem have been taken. Energy-intensive industries in the country benefited from cheap and reliable gas imports in the past. However, competitiveness gains in the future will come from speeding up the green transition. The 2021 Renewable Energy Expansion Act, which is a reform included in the RRP, has strengthened the framework for increasing the share of renewable energy in electricity consumption. The Act adds 27 TWh of annual electricity-generation capacity, contributing to Austria's efforts to ensure 100% renewable electricity consumption by 2030 (from 81% in 2021). There remains scope to further exploit the potential of wind power (which currently accounts for only 10% of Austria's electricity mix). However, investment in renewable energy continues to be hampered by complex spatial-planning and permitting procedures. The permitting process for wind energy infrastructure currently takes around 5 years on average, which is well above the 2 years objective included in the EU's Renewable Energy Directive ([32]). These lengthy procedures are partly due to staffing problems and the complex division of powers between the federal and regional governments (including the lack of sectoral spatial zoning). A step towards speeding up these procedures has been taken through the adoption of a more streamlined law on environmental impact assessments. Renewables expansion would also benefit from putting in place dedicated acceleration areas for renewables (notably for wind) with particularly short and simple permitting procedures, in line with the Commission's Fit for 55 package. To accelerate the transition to net-zero and ensure the transition is fair, there are two essential policy levers: (i) upskilling and reskilling workers for the green transition, including those workers most affected by it; and (ii) promoting inclusive jobs markets (see Annex 8). There is also a need to reduce barriers to competition in professional services, as regulatory restrictiveness in Austria remains high and above the EU average for many regulated professions, such as civil engineers which are important for the green transition (see also Annex 12 on Industry and Single Market). According to the Commission's assessment of restrictiveness in selected professional services, these access barriers and restrictive rules include specific shareholding requirements, extensive reserved activities and interdisciplinary restrictions.

To accommodate the planned expansion of renewable-power generation, investment in network infrastructure needs to be stepped up. The estimated investment needs in this area are EUR 18 billion (3.8% of GDP) to make the network fit for 100% renewable electricity by 2030 ([33]). Additional efforts are needed to: (i) accelerate the planning, permitting and implementation of projects to upgrade and expand grid infrastructure; and (ii) streamline the grid-connection process to avoid the grid becoming a bottleneck for the energy transition.

Energy-efficiency savings in the building sector and in industry are key to further reduce reliance on fossil fuels. Although Austria's current energy-efficiency targets for 2030 fall short of the country's energy efficiency objectives under the EU's ambitious 'Fit for 55' ([34]) plan, a new Energy Efficiency Law proposed by the government should address this issue. If adopted, the law foresees a binding reduction in final energy consumption by 18% by 2030, and introduce other vital measures, such as compulsory energy audits for some companies. As the second-largest energy consumer in the country, Austrian industry reduced its energy intensity by only 1.6% in 2022, in line with a 1.2% reduction seen in the overall economy. To support energy efficiency, the Austrian

([32]) EMBER study 'Ready, Set, Go: Europe's Race for Wind and Solar' (July 2022).

([33]) Austrian Energy Agency (2020): Von der Coronakrise zur klimaneutralen Stromzukunft, Wirtschaftsimpulse durch Investitionen in die Elektrizitätswirtschaft.

([34]) Fit for 55 refers to the EU's target of reducing net greenhouse gas emissions by at least 55% by 2030. The proposed package aims to bring EU legislation in line with the 2030 goal. One of its goals is also to ts main goal is to reduce final energy consumption at EU level by 11.7% in 2030.

government included a number of incentives for companies to improve energy efficiency in its various energy-support schemes in 2022. Currently, there are around 1.78 million oil and gas heating systems still in operation in the country ([35]). The long-term renovation strategy of 2020 aims to decarbonise 80% of the existing building stock by 2050. Various national energy-efficiency measures and investments under the RRP support the renovation of buildings, thermal insulation, and the replacement of fossil-fuel heating systems. Yet the current slow pace at which buildings are thermically renovated will need to be levelled up. The proposed Renewable Heating Law is a key reform under the RRP that is expected to speed up energy savings and the decarbonisation of the building sector, and its timely implementation will be decisive for Austria's energy efficiency ambitions. Better coordination of the existing support measures at federal and regional levels would facilitate the implementation of Austria's renovation goals.

There remains further scope to reduce emissions by promoting sustainable mobility. Before 2020, emission reductions in the energy and industrial sectors were offset by increases in the final energy consumption of buildings and the transport sector, both of which have significant potential to reduce emissions (see Annex 6). Austria serves as a major transit country for transalpine road freight. Reducing transport-related emissions, while also tackling transport poverty (see Annex 8), will be particularly crucial for the transition to carbon neutrality. Although investment in sustainable mobility already makes the largest contribution to the climate target in the RRP, further development of mobility solutions and alternatives to car use is still warranted (for example local buses, car sharing, and promoting cycling and walking). This includes solutions aiming at connecting the 'last mile' to public transport networks, especially in remote and rural areas.

([35]) Impact assessment of the proposal for a law on renewable heating (Erneuerbare-Wärme-Gesetz, 2022).

KEY FINDINGS

The Austrian recovery and resilience plan includes measures to address a series of structural challenges through:

- the introduction of a price path for CO_2 emissions in non-ETS sectors and related compensation measures in autumn 2022;
- ongoing investments in sustainable mobility, renewable energy, and the phase-out of oil and gas heating;
- ongoing investments in broadband infrastructure that reaches half of Austria's households, the digitalisation of companies, and the further digitalisation of public administration;
- ongoing investments in digital equipment for pupils, high-quality early childhood care, and measures to compensate for gaps in learning caused by the pandemic;
- ongoing investing in upskilling and reskilling measures and setting up a one-stop shop to support the long-term unemployed in 2022.
- Austria should continue the steady implementation of its recovery and resilience plan and swiftly finalise the REPowerEU chapter with a view to rapidly starting its implementation.

Beyond the reforms and investments in the RRP, Austria would benefit from:

- ensuring the fiscal sustainability and adequacy of its healthcare and long-term care systems;
- reducing the complexity of the fiscal framework to make public spending more efficient;
- improving the tax mix with a view to increasing efficiency and fairness;
- boosting the labour market participation of women, notably by enhancing childcare facilities;
- bringing more low-skilled people, older workers and people with a migrant background into employment;
- increasing the level of basic skills for disadvantaged people, particularly those with a migrant background; and promoting skills needed for the green transition;
- reducing its dependence on imports of fossil fuels, and in particular of Russian gas, by diversifying towards non-Russian energy supplies;
- accelerating the deployment of renewable energy, in particular by further streamlining permitting procedures (especially for wind power generation and grid infrastructure), and by investing in the required grid upgrades and storage; and exploiting the potential of renewable gases;
- accelerating the phase-out of fossil fuels for heating buildings, and increasing energy efficiency in the industrial and building sectors by supporting investment in energy-efficiency measures, and demand-side management;
- reducing emissions, notably in the transport sector.

ANNEXES

LIST OF ANNEXES

LIST OF TABLES

LIST OF GRAPHS

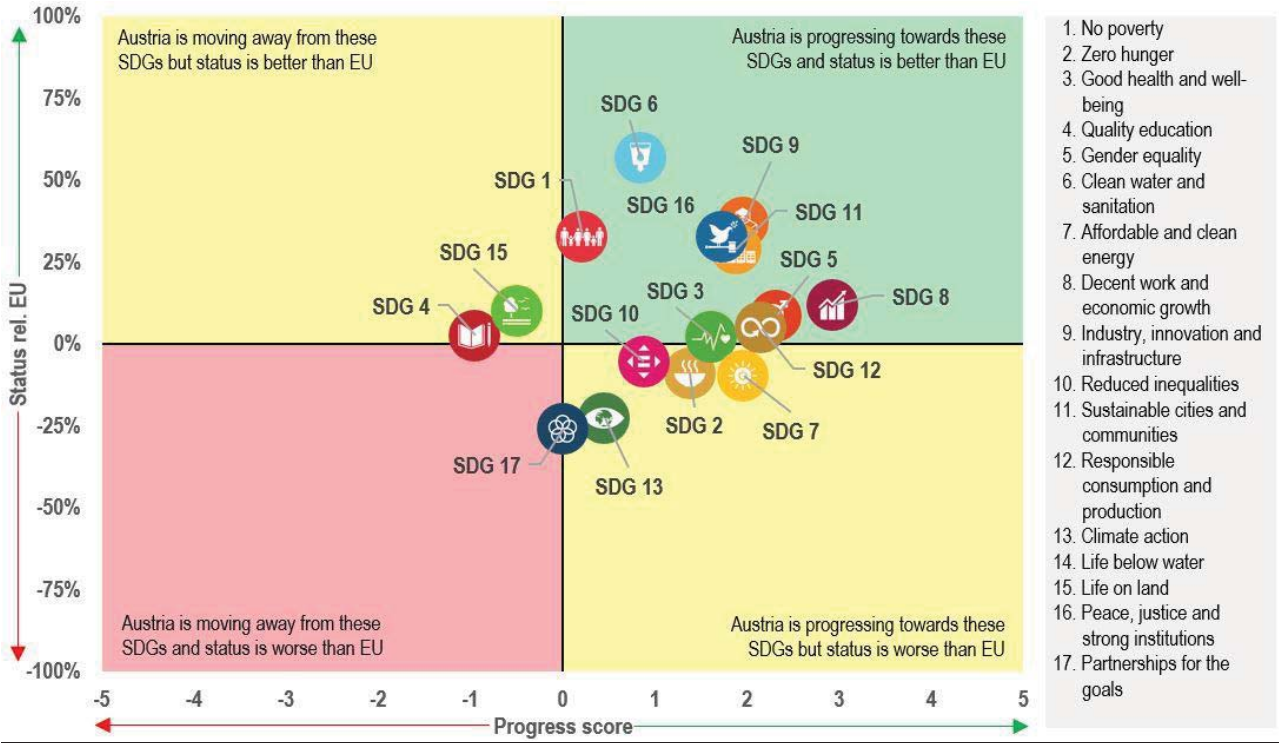
ANNEX 1: SUSTAINABLE DEVELOPMENT GOALS

This annex assesses Austria's progress on the Sustainable Development Goals (SDGs) along the four dimensions of competitive sustainability. 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 an EU context.

Austria performs well or is improving on most SDG indicators related to *environmental sustainability* (SDGs 2, 6, 9, 11, 12, 13, 14), but it is moving away from SDG 15 (Life on land). Historically, Austria has performed very well on the share of renewable energy in its gross final energy consumption. It was also able to further increase this share from 33.4% in 2016 to 36.4% in 2021, well above the European average (21.8% in 2021). Various measures in the recovery and resilience plan (RRP) aim to further contribute to general greenhouse gas emission savings and are likely to positively affect Austria's environmental sustainability. These measures include the eco-social tax reform and the investment in renewables, energy efficiency, zero-emission mobility and biodiversity. On SDG 15 (Life on Land), Austria is still moving away from the goal due to, in particular, continuing soil sealing (with the index increasing from 103.3 in 2015 to 106.7 in 2018). The biodiversity strategy Austria published since then as well as the Biodiversity Fund enacted as part of the Austrian RRP will help address this lag).

While Austria generally performs well or is improving on SDG indicators related to *fairness* (SDGs 1, 2, 3, 5, 8, 10) , it still needs

Graph A1.1: **Progress towards the SDGs in Austria in the last 5 years**



For detailed datasets on the various SDGs, see the annual Eurostat report 'Sustainable development in the European Union'; for details on extensive country-specific data on the short-term progress of Member States: Key findings - Sustainable development indicators - Eurostat (europa.eu). The status of each SDG in a country is the aggregation of all the indicators for the specific goal compared to the EU average. 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 5 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 early April 2023, except for the EU Labour Force Survey (LFS) indicators released on 27 April 2023. Data mainly refer to 2016-2021 or 2017-2022.

to catch up on those for *Quality education* (SDG 4) and *Partnerships for the Goals* (SDG 17). Austria performs well on the healthy life years at birth indicator (SDG 3; 58.7 years in 2020 compared to 58 years in 2015; EU average was 64 years in 2020) and on the percentage of the population aged 16 and above with good or very good self-perceived health (72.3% in 2021 compared to the EU average of 69.5%). In addition, Austria has improved on several fairness-related indicators such as the in-work at-risk-of-poverty rate (SDG 1; 7.5% in 2021 compared to 8.3% in 2016), the long-term unemployment rate (SDG 8; 2% in 2021 compared to 2.4% in 2016; EU average of 2.8%). On SDG 4 (Quality education), Austria increased the participation rate in early childhood education and care (for 3-to-5-year-olds) to 89.7% in 2020 and has steadily increased its share of adults with a tertiary qualification from 40.3% in 2017 to 43.1% in 2022. However, there is still room for improvement in ensuring equal opportunities in education, particularly for disadvantaged young people, and also in increasing gender equality and social inclusion. This has been acknowledged by several measures in the Austrian RRP targeted at: (i) access to education, training and upskilling; and (ii) assistance to socially disadvantaged women. Regarding *Partnerships for the Goals* (SDG 17), Austria showed limited progress, and notably moved away from the improved EU average on official development assistance.

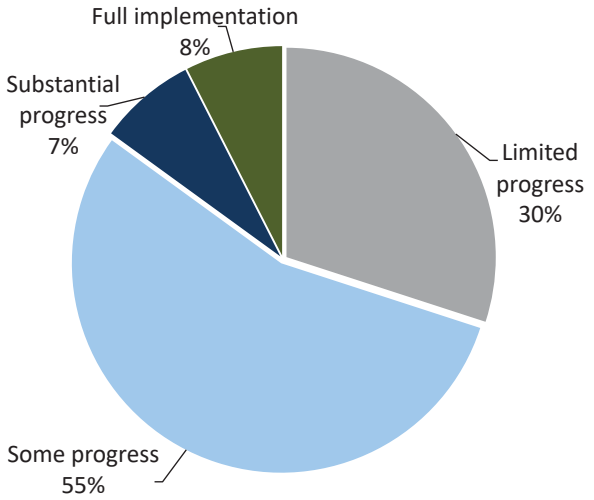
Austria performs well or very well on most SDG indicators related to *productivity* (SDGs 8 and 9). Compared to the EU average (54%), Austria performs relatively well in digital skills with 63% of adults having at least basic digital skills in 2021. Austria also performs well on SDG 8 (Decent work and economic growth) and SDG 9 (Industry, innovation, and infrastructure). With 3.2% of GDP allocated to R&D in 2021, Austria has one of the highest levels of R&D spending in the EU. The share of R&D personnel in the active population rose from 1.7% in 2016 to 1.93% in 2021 (EU: 1.5% in 2021). Austria's RRP contains several measures to address bottlenecks in digitalisation and make significant investments in strategic research and innovation. This should ensure further progress on these SDGs.

Overall, Austria performs well on indicators related to *macroeconomic stability* (SDGs 8 and 16). Austria performs well on SDG 8 and notably increased its investment share of GDP from 23.1% in 2016 to 26.5% in 2021 (EU: 23.2% in 2021). In addition, Austria achieves high scores on indicators measuring peace, justice, and strong institutions (SDG 16), showing a stable and predictable environment for doing business. The RRP includes several targeted measures aimed at improving the sustainability of the pension system and the quality of public spending and is therefore expected to also contribute to some extent to Austria's long-term macroeconomic stability.

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

The Commission has assessed the 2019-2022 country-specific recommendations (CSRs) ([36]) addressed to Austria as part of the European Semester. These recommendations concern a wide range of policy areas that are related to 11 of the 17 Sustainable Development Goals (see Annexes 1 and 3). The assessment considers the policy action taken by Austria to date ([37]) and the commitments in its recovery and resilience plan (RRP) ([38]). At this stage of RRP implementation, 70% of the CSRs focusing on structural issues from 2019-2022 have recorded at least 'some progress', while 30% recorded 'limited progress' (see Graph A2.1). As the RRP is implemented further, considerable progress in addressing structural CSRs is expected in the years to come.

Graph A2.1: **Austria's progress on the 2019-2022 CSRs (2023 European Semester)**



Source: European Commission

([36]) 2022 CSRs: EUR-Lex - 32022H0901(20) - EN - EUR-Lex (europa.eu)

2021 CSRs: EUR-Lex - 32021H0729(20) - EN - EUR-Lex (europa.eu)
2020 CSRs: EUR-Lex - 32020H0826(20) - EN - EUR-Lex (europa.eu)
2019 CSRs: EUR-Lex - 32019H0905(20) - EN - EUR-Lex (europa.eu)

([37]) Including policy action reported in the national reform programme and in Recovery and Resilience Facility (RRF) reporting (twice a year reporting on progress in implementing milestones and targets and resulting from the payment requests assessment).

([38]) Member States were asked to effectively address all or a significant subset of the relevant country-specific recommendations issued by the Council in 2019 and 2020 in their RRPs. The CSR assessment presented here considers the degree of implementation of the measures included in the RRP and of those carried out outside of the RRP at the time of assessment. Measures laid down in the Annex of the adopted Council Implementing Decision on approving the assessment of the RRP, which are not yet adopted or implemented but considered credibly announced, in line with the CSR assessment methodology, warrant 'limited progress'. Once implemented, these measures can lead to 'some/substantial progress or full implementation', depending on their relevance.

Table A2.1: **Summary table on 2019-2022 CSRs**

Austria	Assessment in May 2023*	RRP coverage of CSRs until 2026**	Relevant SDGs
2019 CSR 1	**Limited progress**		
Ensure the sustainability of the health,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023.	SDG 3
long-term care,	Limited progress	Relevant RRP measures being implemented as of 2021.	SDG 3
and pension systems, including by adjusting the statutory retirement age in view of expected gains in life expectancy.	Limited progress	Relevant RRP measures being implemented as of 2020 and planned as of 2022.	SDG 8
Simplify and rationalise fiscal relations and responsibilities across layers of government and align financing and spending responsibilities.	Limited progress	Relevant RRP measures planned as of 2022.	SDG 8, 16
2019 CSR 2	**Limited progress**		
Shift taxes away from labour to sources less detrimental to inclusive and sustainable growth.	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 10, 12
Support full-time employment among women, including by improving childcare services,	Limited progress	Relevant RRP measures planned as of 2023.	SDG 4, 5, 8, 10
and boost labour market outcomes for the low skilled in continued cooperation with the social partners.	Limited progress	Relevant RRP measures planned as of 2020.	SDG 8, 10
Raise the levels of basic skills for disadvantaged groups, including people with a migrant background.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2025.	SDG 4, 8, 10
2019 CSR 3	**Some progress**		
Focus investment-related economic policy on research and development, innovation,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2024.	SDG 9, 10, 11
digitalisation,	Some progress	Relevant RRP measures planned as of 2021 and 2022.	SDG 9, 10, 11
and sustainability, taking into account regional disparities.	Some progress	Relevant RRP measures being implemented as of 2020 and 2021 and planned as of 2022, 2023 and 2024.	SDG 1, 7, 8, 9, 10, 11, 13
Support productivity growth by stimulating digitalisation of businesses and company growth	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022.	SDG 8, 9
and by reducing regulatory barriers in the service sector.	Limited progress	Relevant RRP measures being implemented as of 2021.	SDG 9
2020 CSR 1	**Some progress**		
Take all necessary measures, in line with the general escape clause of the Stability and Growth Pact, to effectively address the COVID-19 pandemic, sustain the economy and support the ensuing recovery. When economic conditions allow, pursue fiscal policies aimed at achieving prudent medium-term fiscal positions and ensuring debt sustainability, while enhancing investment.	Not relevant anymore	Not applicable	SDG 8, 16
Improve the resilience of the health system by strengthening public health and primary care.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023.	SDG 3
2020 CSR 2	**Some progress**		
Ensure equal opportunities in education	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2025.	SDG 4, 8, 10
and increased digital learning.	Some progress	Relevant RRP measures being implemented as of 2020 and 2021.	SDG 4
2020 CSR 3	**Some progress**		
Ensure an effective implementation of liquidity and support measures, in particular for small and medium-sized enterprises,	Substantial progress	Not applicable	SDG 8, 9
and reduce administrative and regulatory burden.	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 9
Front-load mature public investment projects	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 16
and promote private investment to foster the economic recovery.	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 9
Focus investment on the green and digital transition, in particular on basic and applied research, as well as innovation,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2024.	SDG 9
sustainable transport,	Some progress	Relevant RRP measures being implemented as of 2020 and 2021 and planned as of 2022.	SDG 11
clean and efficient production and use of energy.	Some progress	Relevant RRP measures planned as of 2021 and 2022.	SDG 7, 9, 13
2020 CSR 4	**Some progress**		
Make the tax mix more efficient and more supportive to inclusive and sustainable growth.	Some progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 10, 12

(Continued on the next page)

Table (continued)

2021 CSR 1	**Substantial progress**		
In 2022, maintain a supportive fiscal stance, including the impulse provided by the Recovery and Resilience Facility, and preserve nationally financed investment. Keep the growth of nationally financed current expenditure under control.	Full Implementation	Not applicable	SDG 8, 16
When economic conditions allow, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring fiscal sustainability in the medium term.	Full Implementation	Not applicable	SDG 8, 16
At the same time, enhance investment to boost growth potential. Pay particular attention to the composition of public finances, on both the revenue and expenditure sides of the budget, and to the quality of budgetary measures in order to ensure a sustainable and inclusive recovery. Prioritise sustainable and growth-enhancing investment, in particular investment supporting the green and digital transition.	Limited progress	Not applicable	SDG 8, 16
Give priority to fiscal structural reforms that will help provide financing for public policy priorities and contribute to the long-term sustainability of public finances, including, where relevant, by strengthening the coverage, adequacy and sustainability of health and social protection systems for all.	Limited progress	Not applicable	SDG 8, 16
2022 CSR 1	**Some progress**		
In 2023, ensure that the growth of nationally-financed primary current expenditure is in line with an overall neutral policy stance, taking into account continued temporary and targeted support to households and firms most vulnerable to energy price hikes and to people fleeing Ukraine. Stand ready to adjust current spending to the evolving situation.	Substantial progress	Not applicable	SDG 8, 16
Expand public investment for the green and digital transitions, and for energy security taking into account the REPowerEU initiative, including by making use of the Recovery and Resilience Facility and other Union funds.	Substantial progress	Not applicable	SDG 8, 16
For the period beyond 2023, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions.	Full Implementation	Not applicable	SDG 8, 16
Ensure the adequacy and fiscal sustainability of the long-term care system.	Some Progress	Relevant RRP measures being implemented as of 2021.	SDG 3
Simplify and rationalise fiscal relations and responsibilities across layers of government and align financing and spending responsibilities.	Limited Progress	Relevant RRP measures planned as of 2022.	SDG 8, 16
Improve the tax mix to support inclusive and sustainable growth.	Some Progress	Relevant RRP measures being implemented as of 2021.	SDG 8, 10, 12
2022 CSR 2			
Proceed with the implementation of its recovery and resilience plan, in line with the milestones and targets included in the Council Implementing Decision of 13 July 2021.	RRP implementation is monitored by assessing RRP payment requests and analysing reports published twice a year on the achievement of the milestones and targets. These are to be reflected in the country reports.		
Swiftly finalise the negotiations with the Commission of the 2021-2027 cohesion policy programming documents with a view to starting their implementation.	Progress on the cohesion policy programming documents is monitored under the EU cohesion policy.		
2022 CSR 3	**Limited Progress**		
Boost labour market participation of women, including by enhancing quality childcare services,	Limited Progress	Relevant RRP measures planned as of 2023.	SDG 4, 5, 8, 10
and improve labour market outcomes for disadvantaged groups.	Limited Progress	Relevant RRP measures being implemented as of 2020 and planned as of 2025.	SDG 8, 10
2022 CSR 4	**Some Progress**		
Reduce overall reliance on fossil fuels, and diversify imports of fossil fuels,	Some Progress	Relevant RRP measures being implemented as of 2020 and planned as of 2022.	SDG 7, 9, 13
by accelerating the deployment of renewable energy and of the necessary infrastructure, in particular by simplifying planning and further streamlining permitting procedures,	Some Progress	Relevant RRP measures being implemented as of 2020 and planned as of 2022.	SDG 7, 8, 9, 13
and enhancing energy efficiency, in particular in the industry and building sectors	Some Progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022.	SDG 7
and diversifying energy supplies, as well as increasing flexibility and reverse-flow capacity of interconnections.	Some Progress	Relevant RRP measures being implemented as of 2021.	SDG 7, 9, 13

Note:

* See footnote ([38]).

** RRP measures included in this table contribute to the implementation of CSRs. Nevertheless, additional measures outside the RRP are necesary to fully implement CSRs and address their underlying challenges. Measures indicated as 'being implemented' are only those included in the RRF payment requests assessed by the European Commission.

Source: European Commission.

The Recovery and Resilience Facility (RRF) is the centrepiece of the EU's efforts to help it recover from the COVID-19 pandemic, speed up the twin transition and strengthen resilience against future shocks. The RRF also contributes to implementation of the SDGs and helps to address the Country Specific Recommendations (see Annex 4). Austria submitted its current recovery and resilience plan (RRP) on 30 April 2021. The Commission's positive assessment on 21 June 2021 and Council's approval on 13 July 2021 paved the way for disbursing EUR 3.46 billion in grants under the RRF over the 2021-2026 period.

Table A3.1:**Key elements of the Austria's RRP**

	Initial RRP
Scope	Initial plan
CID adoption date	13 July 2021
Total allocation	EUR 3.46 billion in grants (0.87% of 2021 GDP)
Investments and reforms	32 investments and 27 reforms
Total number of milestones and targets	171

Source: European Commission

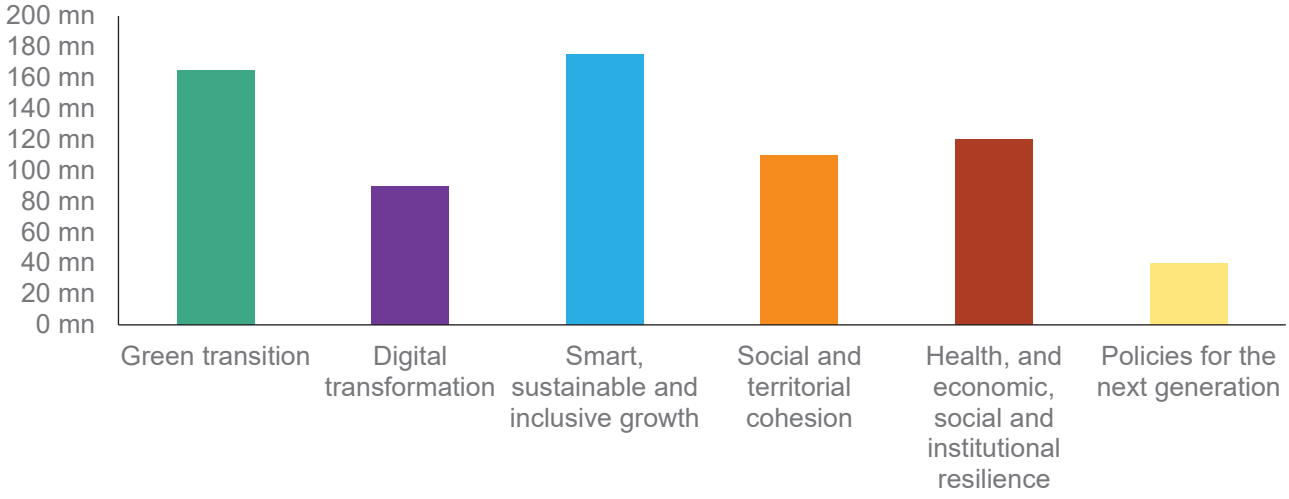
Since the entry into force of the RRF Regulation and the assessment of the national recovery and resilience plans, geopolitical and economic developments have caused major disruptions across the EU. In order to effectively address these disruptions, the (adjusted) RRF Regulation allows Member States to amend their recovery and resilience plan for a variety of reasons. In line with article 11(2) of the RRF, the maximum financial contribution for Austria was moreover updated on 30 June 2022 to an amount of EUR 3.75 billion in grants. Austria has not submitted its request for RRP amendment by the time of publication of this report.

EUR 1.15 billion has so far been disbursed to Austria under the RRF. The Commission disbursed EUR 450 million to Austria in pre-financing in 28 September 2021, equivalent to 13% of the initial financial allocation. Austria's first payment request was positively assessed by the Commission, taking into account the opinion of the Economic and Financial Committee, leading to EUR 700 million being disbursed in financial support (net of pre-financing) on 20 April 2023. The related 44 milestones cover reforms in sustainable mobility, energy efficiency, decarbonisation, connectivity, skills, education, social protection, labour market, taxation and public administration.

Austria's progress in implementing its plan is published in the Recovery and Resilience Scoreboard ([39]). The Scoreboard also gives an overview of the progress made in implementing the RRF as a whole, in a transparent manner. The graphs below show the current state of play of the milestones and targets to be reached by Austria and subsequently assessed as satisfactorily fulfilled by the Commission.

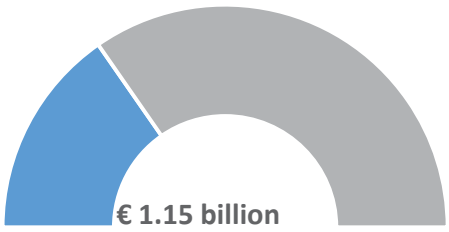
([39]) https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

Graph A3.1: **Disbursements per pillar**



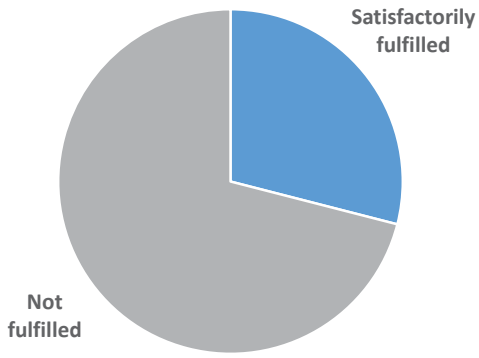
Note: Each disbursement reflects progress in the implementation of the RRF, across the six policy pillars. This graph displays how disbursements under the RRF (excluding pre-financing) relate to the pillars. The amounts were calculated by linking the milestones and targets covered by a given disbursement to the pillar tagging (primary and secondary) of their respective measures.
Source: RRF Scoreboard https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

Graph A3.2: **Total grants disbursed under the RRF**



Note: This graph displays the amount of grants disbursed so far under the RRF. Grants are non-repayable financial contributions. The total amount of grants given to each Member State is determined by an allocation key and the total estimated cost of the respective RRP.
Source: RRF Scoreboard https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

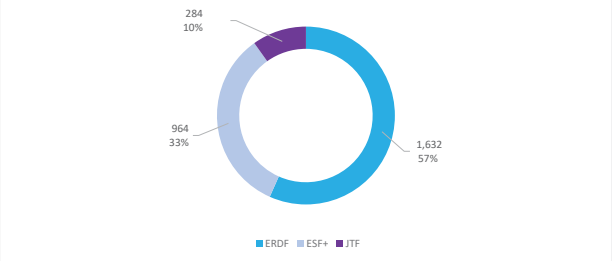
Graph A3.3: **Fulfilment status of milestones and targets**



This graph displays the share of satisfactorily fulfilled milestones and targets. A milestone or target is satisfactorily fulfilled once a Member State has provided evidence to the Commission that it has reached the milestone or target and the Commission has assessed it positively in an implementing decision.
Source: RRF Scoreboard https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

The EU budget of over EUR 1.2 trillion for 2021-2027 is geared towards implementing the EU's main priorities. Cohesion policy investment amounts to EUR 392 billion across the EU and represents almost a third of the overall EU budget, including around EUR 48 billion invested in line with REPowerEU objectives.

Graph A4.1: **Cohesion policy funds 2021-2027 in Austria: budget by fund**

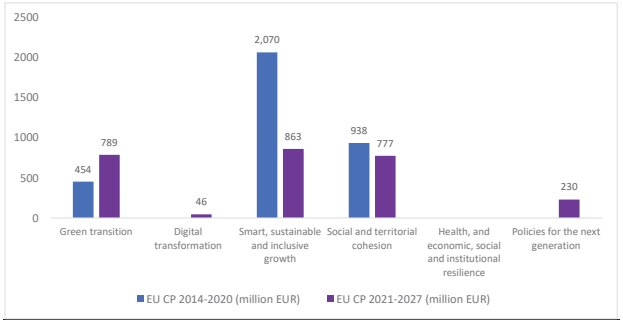


(1) million EUR in current prices, % of total; (total amount including EU and national co-financing)
Source: European Commission, Cohesion Open Data

In 2021-2027, in Austria, cohesion policy funds ([40]) **will invest EUR 789 million in the green transition and EUR 46 million in the digital transformation as part of the country's total allocation of EUR 2.9 billion.** In particular, the European Regional Development Fund (ERDF) supports targeted investments in innovation and research, which will bring businesses to the next level of high-tech production, boosting productivity and resource efficiency. The ERDF is expected to support approximately 1 770 firms and create more than 1 600 jobs. More than a quarter of the ERDF funds are dedicated to increasing energy efficiency, mainly in businesses, but also in communal infrastructure. ERDF support will contribute to Austria's ambitious objective to become climate neutral already in 2040, while maintaining industrial competitiveness and boosting innovation. In the areas most affected by the transition to a carbon neutral economy, the JTF will support alternative sustainable economic activities and foster job creation, strengthen the regional start-up ecosystem and further research and innovation projects to enable this transition. It will also promote the up- and reskilling of workers, helping Austria build the foundations for a just transition. Under the European Social Fund Plus (ESF+), Austria allocates EUR 128 million to reducing early school leaving and promoting vocational education and training, and almost EUR 115 million to combating poverty and promoting inclusion.

Of the investments mentioned above, EUR 459 million will be invested in line with REPowerEU objectives. This is on top of the EUR 78 million dedicated to REPowerEU under the 2014-2020 budget**.** In both periods, investment will focus improving energy efficiency.

Graph A4.2: **Synergies between Cohesion policy funds and RRF six pillars in Austria**



(1) million EUR in current prices (total amount, including EU and national co-financing)
Source: European Commission

In 2014-2020, cohesion policy funds made EUR 1.3 billion available to Austria ([41]), with an absorption of 84% ([42]). Including national financing, the total investment amounts to EUR 3.6 billion - around 0.1% of GDP for 2014-2020.

Austria continues to benefit from cohesion policy flexibility to support economic recovery, step up convergence and provide vital support to regions following the COVID-19 pandemic. The Recovery Assistance for Cohesion and the Territories of Europe instrument (REACT-EU) ([43]) under NextGenerationEU provides EUR 278 million on top of the 2014-2020 cohesion policy allocation for Austria. REACT-EU

([40]) European Regional Development Fund (ERDF), European Social Fund+ (ESF+), Just Transition Fund (JTF), excluding Interreg programmes. The total amount includes national and EU contributions. Data source: Cohesion Open Data.

([41]) Cohesion policy funds include the ERDF, ESF and the Youth Employment Initiative (YEI). ETC programmes are excluded here. Total amount includes national and EU contributions According to the 'N+3 rule', the funds committed for 2014-2020 must be spent by 2023. REACT-EU is included in all figures. Data source: Cohesion Open Data.

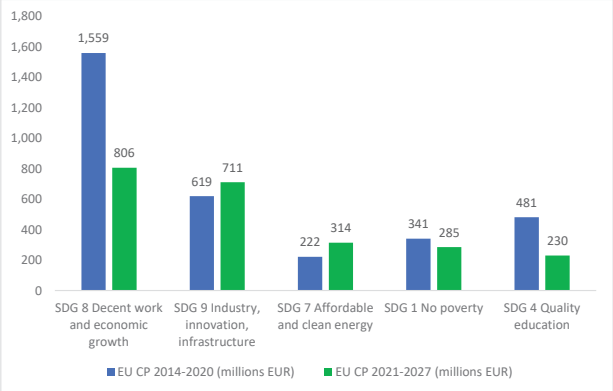
([42]) 2014-2020 Cohesion policy EU payments by MS is updated daily on Cohesion Open Data.

([43]) REACT-EU allocation on Cohesion Open Data.

funds are being used to make green, digital and sustainable investments for the future. In particular, these funds support SMEs, research and development, energy efficiency and renewable energies. They aim to secure more than 5 000 jobs in Austria and support around 1 400 Austrian firms. To tackle educational deficits caused by COVID-19, several projects were launched through additional budgetary resources of REACT-EU under the ESF, e.g. on combating school failure, IT projects, video interpreting, basic training, retaking of final school examinations. With SAFE (Supporting Affordable Energy), the 2014-2020 cohesion policy funds may also be mobilised by Austria to support vulnerable households, jobs and companies particularly affected by high energy prices.

In both 2014-2020 and 2021-2027, cohesion policy funds have contributed substantially to the Sustainable Development Goals (SDGs). These funds support 7 of the 17 SDGs, notably SDG 8 'Decent work and economic growth' and SDG 9 'Industry, innovation, infrastructure' ([44]).

Graph A4.3: **Cohesion policy funds contribution to the SDGs in 2014-2020 and 2021-2027 in Austria**



(1) 5 largest contributions to SDGs in million (EUR) current prices
Source: European Commission

Other EU funds make significant resources available for Austria. The common agricultural policy (CAP) made EUR 11.1 billion available in 2014-2022 and will continue to support Austria with EUR 6.1 billion in 2023-2027. The two CAP Funds (European Agricultural Guarantee Fund and European Agricultural Fund for Rural Development), contribute to the European Green Deal while ensuring long-term food security. They promote social, environmental and economic sustainability and innovation in agriculture and rural areas, in coordination with other EU funds. The European Maritime, Fisheries and Aquaculture Fund makes EUR 6.7 million available to Austria in 2021-2027.

Austria also benefits from other EU programmes, notably the Connecting Europe Facility, which under CEF 2 (2021-2027) has so far allocated EU funding of EUR 97.55 million to eight specific projects on strategic transport networks. Similarly, Horizon Europe has so far allocated nearly EUR 364 million to Austrian R&I on top of the EUR 2 billion earmarked under the previous programme (Horizon 2020). The Public Sector Loan Facility set up under the Just Transition Mechanism makes EUR 10.3 million of grant support from the Commission available for projects located in Austria for 2021-2027, which will be combined with loans from the European Investment Bank to support investments by public sector entities in just transition regions.

The Technical Support Instrument (TSI) supports Austria in designing and implementing growth-enhancing reforms, including those set out in its recovery and resilience plan (RRP). Austria has received significant support since 2018. Examples ([45]) include for developing a raw material accounting model, which should help secure the country's supply of raw materials, and for implementing the European Child Guarantee by improving staff working conditions for better quality early childhood education and care.

([44]) Other EU funds contribute to the implementation of the SDGs, in 2014-2022 this includes both the European Agricultural Fund for Rural Development (EARDF) and the European Maritime and Fisheries Fund (EMFF).

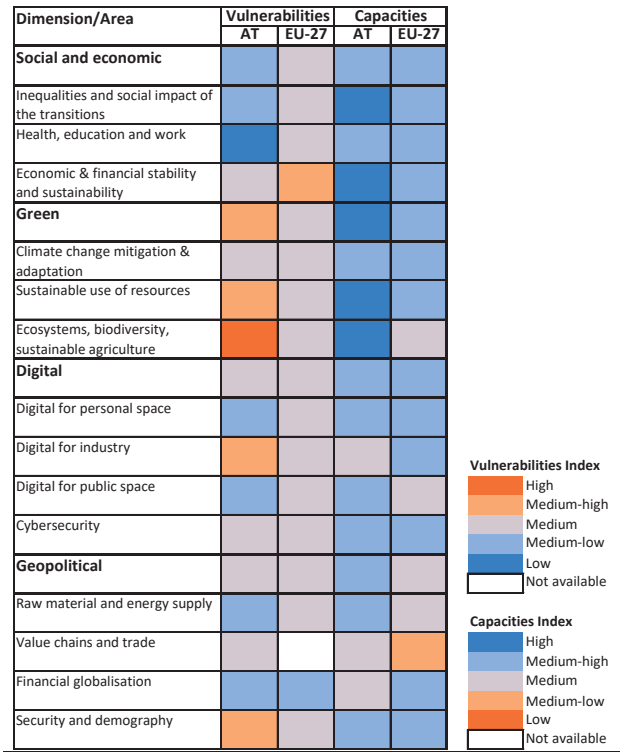
([45]) Country factsheets on reform support are available here.

This Annex illustrates Austria's relative resilience capacities and vulnerabilities using the Commission's resilience dashboards (RDB) ([46]). Comprising a set of 124 quantitative indicators, the RDB provide broad indications of Member States' ability to make progress across four interrelated dimensions: social and economic, green, digital, and geopolitical. The indicators show vulnerabilities ([47]) and capacities ([48]) that can become increasingly relevant, both to navigate ongoing transitions and to cope with potential future shocks. To this end, the RDB help to identify areas that need further efforts to build stronger and more resilient economies and societies. They are summarised in Table A5.1 as synthetic resilience indices, which illustrate the overall relative situation for each of the four dimensions and their underlying areas for Austria and the EU-27 ([49]).

According to the set of resilience indicators under the RDB, Austria generally displays a similar level of vulnerabilities compared to the EU average. Austria shows medium-high vulnerabilities in the green dimension, medium vulnerabilities in the digital and geopolitical dimensions, and medium-low vulnerabilities in the social and economic dimension of the RDB. It has higher vulnerabilities than the EU average in the areas 'sustainable use of resources', 'ecosystems, biodiversity and sustainable agriculture' as well as 'security and demography' and 'digital for industry'. Austria has relatively low vulnerabilities in relation to 'inequalities and the social impact of the transitions' ([50]), 'health, education and work' and the digitalisation of the personal and public space.

Compared to the EU average, Austria shows an overall higher level of capacities across all RDB indicators. It has medium-high capacities in the social and economic, the digital and the geopolitical dimensions and high capacities in the green dimension. Austria shows stronger capacities than the EU average in the areas 'inequalities and social impact of the transitions' ([51]), 'economic and financial stability and sustainability', 'sustainable use of resources', 'ecosystems, biodiversity and sustainable agriculture', 'digital for public space', 'raw material and energy supply' as well as 'value chains and trade'. There is room for improving capacities compared to the EU in 'financial globalisation' and the digitalisation of the industry.

Table A5.1: **Resilience indices summarising the situation across RDB dimensions and areas**



(1) Data are for 2021, and EU-27 refers to the value for the EU as a whole. Data underlying EU-27 vulnerabilities in the area 'value chains and trade' are not available as they comprise partner concentration measures that are not comparable with Member States' level values.
Source: JRC Resilience Dashboards - European Commission

([46]) For details see https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2020-strategic-foresight-report/resilience-dashboards_en; see also 2020 Strategic Foresight Report (COM(2020) 493).

([47]) Vulnerabilities describe features that can exacerbate the negative impact of crises and transitions, or obstacles that may hinder the achievement of long-term strategic goals.

([48]) Capacities refer to enablers or abilities to cope with crises and structural changes and to manage the transitions.

([49]) This Annex is linked to Annex 1 on SDGs, Annex 6 on the green deal, Annex 8 on the fair transition to climate neutrality, Annex 9 on resource productivity, efficiency and circularity, Annex 10 on the digital transition and Annex 14 on the European pillar of social rights.

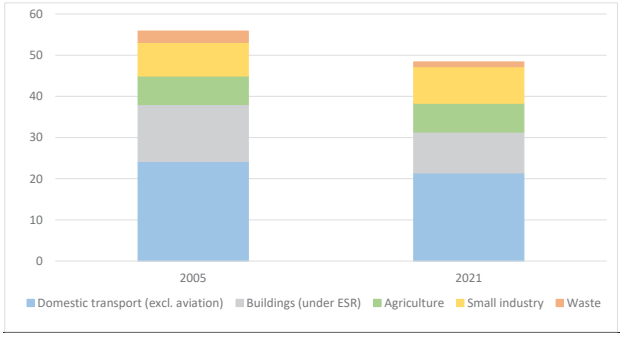
([50]) This is due to its low regional dispersion on household income, and lower than average AROPE and income quintile share ratio s80/s20.

([51]) Austria exhibits above average capacities in all indicators within this area.

Austria's green transition requires continued action on several aspects including promoting renewable energy and energy efficiency, and curbing transport emissions. Implementation of the European Green Deal is underway in Austria; this Annex provides a snapshot of the key areas involved ([52]).

Austria has not yet defined all the climate policy measures it needs to reach its 2030 climate target for the effort sharing sectors ([53]). Data for 2021 on greenhouse gas emissions in these sectors are expected to show the country generated slightly less than its annual emission allocations ([54]). Current policies in Austria are projected to reduce these emissions by 17% relative to 2005 levels in 2030, and additional measures were tabled to reduce emissions by 27%. This is not a sufficient reduction to reach the effort sharing target even before the target was raised in line with the EU's 55% objective, let alone the new target to reduce by 48% ([55]). In its recovery and resilience plan (RRP), Austria has allocated 58.7 % of its Recovery and Resilience Facility grants to key reforms and investments to attain climate objectives ([56]).

Graph A6.1: **Thematic – greenhouse gas emissions from the effort sharing sectors in Mt CO2eq, 2005-2021**



Source: European Environmental Agency.

Austria has potential to boost the capacity of its land use sector to achieve net carbon removals. Austria's forests achieve a major share of net carbon removals through land use. For 2030, Austria's land use, land-use change, and forestry (LULUCF) target implies net removals of 5 650 kt CO_2eq (see Table A6.5) ([57]). In 2018 Austria's land use sector has shifted from net removals to net emissions, but the trend has been reversed in 2019 with net removals being achieved since 2020.

In 2021, the share of renewables in Austria's energy mix remained stable, second to fossil fuels such as oil. The share of renewables (including biofuels) in Austria's energy mix was 34% of total energy consumption in 2021, second to fossil fuels such as oil (35%), followed by natural gas (23%) and solid fossil fuels like coal (8%). The country's energy production had been coal-free since 2020. Austria's national energy and climate plan (NECP) sets a 46-50% target of renewable sources in gross final energy consumption by 2030, which was considered as adequate. Austria will need to increase its renewable energy target in the updated NECP, to

([52]) The overview in this Annex is complemented by the information provided in Annex 7 on energy security and affordability, Annex 8 on the fair transition to climate neutrality and environmental sustainability, Annex 9 on resource productivity, efficiency and circularity, Annex 11 on innovation, and Annex 19 on taxation.

([53]) Member States' greenhouse gas emission targets for 2030 ('effort sharing targets') were increased by Regulation (EU) 2023/857 (the Effort Sharing Regulation) amending Regulation (EU) 2018/842, aligning the action in the concerned sectors with the objective to reach EU-level, economy-wide greenhouse gas emission reductions of at least 55% relative to 1990 levels. The Regulation sets national targets for sectors outside the current EU Emissions Trading System, notably: buildings (heating and cooling), road transport, agriculture, waste, and small industry. Emissions covered by the EU ETS and the Effort Sharing Regulation are complemented by net removals in the land use sector, regulated by Regulation (EU) 2018/841 (the Land Use, Land Use Change and Forestry (LULUCF) Regulation) amended by Regulation (EU) 2023/839.

([54]) Austria's annual emission allocations for 2021 were some 48.7 Mt CO_2eq, and its approximated 2021 emissions were at 48.4 Mt (see European Commission, *Accelerating the transition to climate neutrality for Europe's security and prosperity: EU Climate Action Progress Report 2022*, SWD(2022)343).

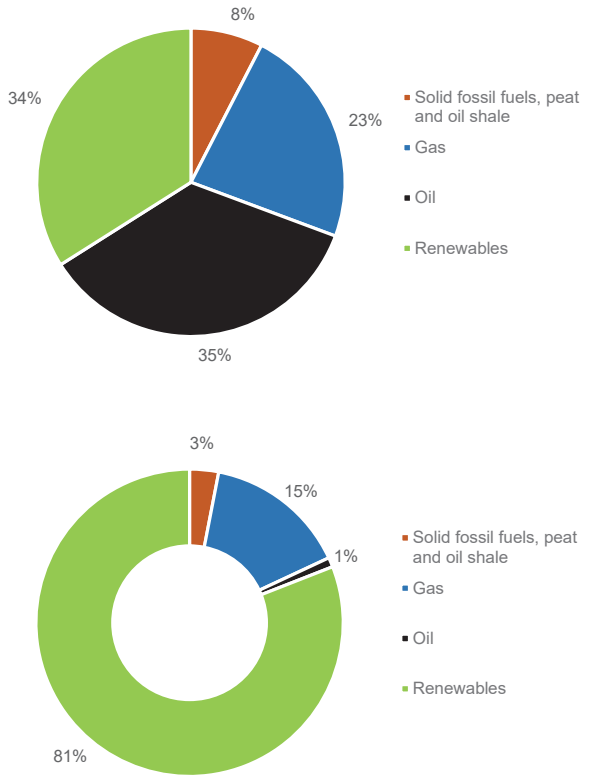
([55]) See the information on the distance to the 2030 climate policy target in Table A6.1. Existing and additional measures as of 15 March 2021.

([56]) For example, investments in railways (new and electrification), green investments in enterprises, incl. zero emission mobility, emission-free buses, replacement of oil and gas heating, research in hydrogen, and emission-reducing investments in installations under the EU Emissions Trading System.

([57]) This value is indicative and will be updated in 2025 (as mandated by Regulation (EU) 2023/839).

reflect the more ambitious EU climate and energy targets in the Fit for 55 Package and in the REPowerEU Plan.

Graph A6.2: **Energy mix (top) and electricity mix (bottom), 2021**



The energy mix is based on gross inland consumption, and excludes heat and electricity. The share of renewables includes biofuels and non-renewable waste.
Source: Eurostat.

Austria is a leader in terms of the renewables' share of the electricity mix, but still needs to streamline and speed up permitting procedures. 81% of Austria's electricity mix is composed by renewables, mainly from hydropower (60%), followed by wind (10%). Despite a recent increase in solar photovoltaic installations, Austria still needs significant investments in renewables to reach its objective of 100% renewable electricity consumption by 2030. To ensure the effective deployment of renewables, including those investments envisaged in the recovery and resilience plan, Austria should tackle administrative and procedural bottlenecks that result in long permitting procedures.

Austria's energy efficiency targets for 2030 were assessed as of low ambition and will need to be strengthened to reflect the higher EU targets and the REPowerEU Plan. NECP targets for primary and final energy consumption (PEC and FEC) were considered of low ambition, respectively in the 2020 Commission assessment. Based on the energy consumption trajectory for 2018-2021, Austria is expected to be on track to meet its 2030 target for PEC and for FEC, as these were notified in its NECP ([58]). As for the energy savings obligation under Article 7 of the Energy Efficiency Directive, Austria has substantially overachieved the required cumulative end-use energy savings for the period 2014-2020 by more than double (i.e. 198%). Austria's recovery and resilience plan fosters energy efficiency measures in residential buildings, such as thermal renovation and energy efficiency of residential buildings, while also addressing energy poverty. Austria hopes to improve energy efficiency by a new energy efficiency law currently before parliament.

Greenhouse gas emissions from road transport have been increasing since 2012 (although they declined steeply during the COVID-19 pandemic). Austria must set up further incentives to shift transport to rail. It performs above the EU average in electrifying road transport and in the share of kilometres of electrified railway. The market for zero-emission road vehicles is also growing rapidly. Austria's RRP contains investments and reforms on sustainable mobility: for example, it introduced the National Emission Trading Scheme (NEHG), which among others targets emissions from transport. Still, more is needed to sizeably reduce greenhouse gas emissions in the sector.

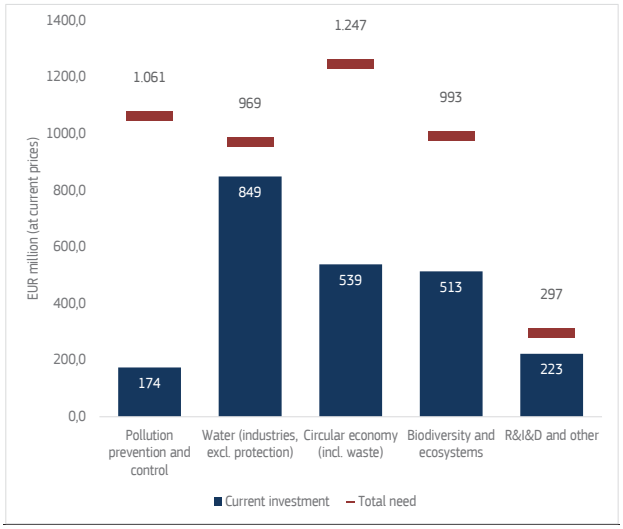
Austria would benefit from investing more in environmental protection to reach targets and objectives ([59]). Between 2014 and 2020, environmental investment needs were estimated to be at least EUR 4.6 billion while investment

([58]) After the conclusion of the negotiations for a recast EED, including REPowerEU, the ambition of both the EU and national targets as well as of the national measures for energy efficiency to meet these targets is expected to increase.

([59]) Environmental objectives include pollution prevention and control, water management and industries, circular economy and waste, biodiversity and ecosystems (European Commission, 2022, Environmental Implementation Review, country report Austria)

stood at about EUR 2.3 billion, leaving a gap of at least 2.3 billion, per year (see Graph A6.3) ([60]). 29% of Austria's territory consists of protected areas, but sufficient resources are yet to be dedicated to their protection and management, including forests with one third of the protected forests being in an advanced state of decay or overaged ([61]). Despite improvements in conservation and restoration, the status of many habitats and species continues to deteriorate. Austria has set up a dedicated biodiversity fund, with EUR 50 million from its RRP. The investment needed to implement the EU biodiversity strategy in Austria is estimated at EUR 990 million until 2030 ([62]).

Graph A6.3: **Thematic – environmental investment needs and current investment, p.a 2014-2020**



Source: European Commission.

Climate change is increasingly affecting Austria. Associated damages and losses are projected to rise from about EUR 2 billion per year at present to at least EUR 3-6 billion in 2030 and EUR 6-12 billion by 2050 ([63]). More frequent and extreme weather events like heatwaves, droughts or floods require substantial additional action on adaption in sectors such as human health, infrastructure, construction, transport, forestry, agriculture, (hydro)energy, and tourism. Building on recent progress, there remains a significant need for further action and mainstreaming on adaptation. Austria's RRP includes one measure to cool urban centres by means of operational thermal renovation and façade greening. Austria is subject to medium-high flood and wildfire risks, with a non-negligible insurance protection gap, which calls for monitoring.

Austria provides fossil fuel and other environmentally harmful subsidies that could be considered for reform, while ensuring food and energy security and mitigating social effects. Fossil fuel subsidies in Austria amounted to EUR 305 million in 2020. Environmentally harmful subsidies have been identified, via an initial assessment, in the agriculture, forestry and fishing, electricity, gas, steam and air conditioning, transportation and storage, manufacturing and construction sectors. Examples of such subsidies include company car tax benefits, the reduced VAT rate for fertilisers and pesticides or the refund scheme for energy-intensive industry under conditions ([64]). A recent study by WIFO, a research institute, puts the amount of subsidies harmful to the climate at EUR 4.1 to 5.7 billion a year, with 60% in the transport sector ([65]). The study had been commissioned by the ministry of climate and was discussed in the parliament.

Austria has the potential to rely more on environmental taxes to encourage sustainability. Energy and transport taxation contribute 57% and 41% respectively to Austria's revenue from environmental taxation, while pollution or resource taxes (2%) are negligible. The

([60]) When also accounting for needs estimated at EU level only (e.g., water protection, higher circularity, biodiversity strategy).

([61]) Klimafitness der Wälder muss gezielt gefördert werden - Rechnungshof Österreich.

([62]) European Commission, 2022, Biodiversity financing and tracking.

([63]) Zweiter Fortschrittsbericht zur österreichischen Strategie zur Anpassung an den Klimawandel, 2021.

([64]) Fossil fuel figures in EUR of 2021 from the 2022 State of the Energy Union report. Initial assessment of environmentally harmful subsidies done by the Commission in the 2022 toolbox for reforming environmentally harmful subsidies in Europe, using OECD definitions, and based on the following datasets: OECD Agriculture Policy Monitoring and Evaluations; OECD Policy Instruments for the Environment (PINE) Database; OECD Statistical Database for Fossil Fuels Support; IMF country-level energy subsidy estimates. Annex 4 of the toolbox contains detailed examples of subsidies on the candidates for reform.

([65]) Wirtschaftsforschungsinstitut 2022: Analyse klimaproduktiver Subventionen in Österreich.

new circular economy strategy ([66]) envisages assessing ways to encourage the use of fewer resources and decrease Austria's very high consumption footprint via taxation. Even after enacting the eco-social tax reform, these rates could be further increased, to further encourage environmentally friendly behaviour.

([66]) Bundesministerium für Klimaschutz: Österreich auf dem Weg zu einer nachhaltigen und zirkulären Gesellschaft. Die österreichische Kreislaufwirtschaftsstrategie, 2022.

Table A6.1:**Indicators tracking progress on the European Green Deal from a macroeconomic perspective**

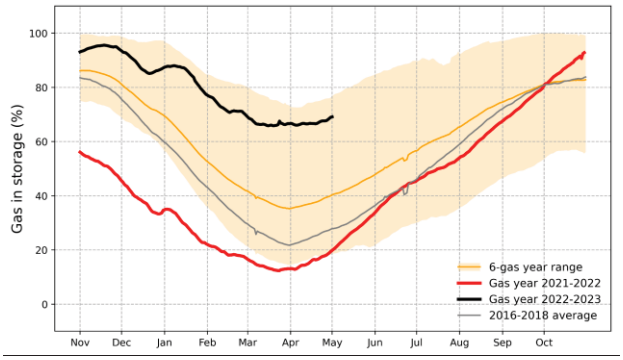
									'Fit for 55'		
									2030	Distance	
			2005	2017	2018	2019	2020	2021	target/value	WEM	WAM
Progress to policy targets	Greenhouse gas emission reductions in effort sharing sectors [1]	$MTCO_2$ eq; %; pp	56,8	-9%	-11%	-12%	-18%	-	-48%	-31	-21
	Net carbon removals from LULUCF [2]	kt CO_2eq	-18.418	-3.249	4.921	2.132	-5.222	-10.402	-5650	n/a	n/a
									National contribution to 2030 EU target		
			2005	2017	2018	2019	2020	2021			
	Share of energy from renewable sources in gross final consumption of energy [3]	%	24%	33%	34%	34%	37%	36%	46-50%		
	Energy efficiency: primary energy consumption [3]	Mtoe	32,7	32,8	31,8	32,3	29,8	31,6	28.7-30.8		
	Energy efficiency: final energy consumption [3]	Mtoe	27,9	28,5	27,9	28,3	26,1	27,8	24.0-25.6		
			Austria						EU		
			2016	2017	2018	2019	2020	2021	2019	2020	2021
Fiscal and financial indicators	Environmental taxes (% of GDP)	% of GDP	2,3	2,4	2,3	2,3	2,1	2,2	2,4	2,2	2,2
	Environmental taxes (% of total taxation) [4]	% of taxation	5,6	5,7	5,4	5,4	5,0	5,0	5,9	5,6	5,5
	Government expenditure on environmental protection	% of total exp.	0,8	0,7	0,8	0,8	0,7	0,8	1,7	1,6	1,6
	Investment in environmental protection [5]	% of GDP	0,2	0,3	0,4	0,4	-	-	0,4	0,4	-
	Fossil fuel subsidies [6]	EUR2021bn	0,4	0,3	0,3	0,3	0,3	-	53,0	50,0	-
	Climate protection gap [7]	score 1-4					2,0	1,6			1,5
Climate	Net greenhouse gas emissions	1990 = 100	101,0	106,0	102,0	104,0	94,0	99,0	76,0	69,0	72,0
	Greenhouse gas emission intensity of the economy	kg/EUR'10	0,23	0,23	0,22	0,22	0,21	-	0,31	0,30	0,26
	Energy intensity of the economy	kgoe/EUR'10	0,11	0,11	0,10	0,10	0,10	-	0,11	0,11	-
Energy	Final energy consumption (FEC)	2015=100	102,1	103,7	101,2	103,0	95,0	101,1	102,9	94,6	-
	FEC in residential building sector	2015=100	104,2	104,9	98,5	100,7	105,0	115,6	101,3	101,3	106,8
	FEC in services building sector	2015=100	97,8	106,4	104,1	106,4	98,0	104,7	100,1	94,4	100,7
Pollution	Smog-precursor emission intensity (to GDP) [8]	tonne/EUR'10	0,47	0,47	0,45	0,46	0,43	-	0,93	0,86	-
	Years of life lost due to air pollution by PM2.5	per 100.000 inh.	496,0	496,9	591,3	429,4	343,6	-	581,6	544,5	-
	Years of life lost due to air pollution by NO_2	per 100.000 inh.	168,3	162,9	145,2	121,3	88,0	-	309,6	218,8	-
	Nitrates in ground water	mg NO_3/litre	22,8	22,5	21,9	21,8	21,1	-	21,0	20,8	-
Biodiversity	Land protected areas	% of total	27,7	28,1	-	28,1	28,8	29,2	26,2	26,4	26,4
	Marine protected areas	% of total	-	-	-	-	-	-	10,7	-	12,1
	Organic farming	% of total utilised agricultural area	21,3	23,4	24,1	25,3	25,7	-	8,5	9,1	-
			2017	2018	2019	2020	2021	2022	2020	2021	2022
Mobility	Share of zero-emission vehicles [9]	% in new registrations	1,5	2,0	2,8	6,4	13,9	14,9	5,4	8,9	10,7
	Number of AC/DC recharging points (AFIR categorisation)		-	-	-	9549	17083	21566	188626	330028	432518
	Share of electrified railways	%	71,8	71,9	72,1	n/a	n/a	72,5	56,6	n/a	56,6
	Hours of congestion per commuting driver per year		27,2	27,2	27,2	27,2	n/a	n/a	28,7	n/a	n/a

Sources: (1) Historical and projected emissions, as well as Member States' climate policy targets and 2005 base year emissions under the Effort Sharing Decision (for 2020) are measured in global warming potential (GWP) values from the 4th Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC). Member States' climate policy targets and 2005 base year emissions under the Effort Sharing Regulation (for 2030) are in GWP values from the 5th Assessment Report (AR5). The table above shows the base year emissions 2005 under the Effort Sharing Decision, using AR4 GWP values. Emissions for 2017-2021 are expressed in percentage change from 2005 base year emissions, with AR4 GWP values. 2021 data are preliminary. The table shows the 2030 target under Regulation (EU) 2023/857 that aligns it with the EU's 55% objective, in percentage change from 2005 base year emissions (AR5 GWP). Distance to target is the gap between Member States' 2030 target (with AR5 GWP values) and projected emissions with existing measures (WEM) and with additional measures (WAM) (with AR4 GWP values), in percentage change from the 2005 base year emissions. Due to the difference in global warming potential values, the distance to target is only illustrative. The measures included reflect the state of play as of 15 March 2021.
(2) Net removals are expressed in negative figures, net emissions in positive figures. Reported data are from the 2023 greenhouse gas inventory submission. 2030 value of net greenhouse gas removals as in Regulation (EU) 2023/839 amending Regulation (EU) 2018/841 (LULUCF Regulation) – Annex IIa, kilotons of CO2 equivalent, based on 2020 submissions.
(3) Renewable energy and energy efficiency targets and national contributions are in line with the methodology established under Regulation (EU) 2018/1999 (Governance Regulation).
(4) Percentage of total revenue from taxes and social contributions (excluding imputed social contributions). Revenue from the EU Emissions Trading System is included in environmental tax revenue.
(5) Expenditure on gross fixed capital formation for the production of environmental protection services (abatement and prevention of pollution) covering government, industry, and specialised providers.
(6) European Commission, Study on energy subsidies and other government interventions in the European Union, 2022 edition.
(7) The climate protection gap refers to the share of non-insured economic losses caused by climate-related disasters. This indicator is based on modelling of the current risk from floods, wildfires and windstorms as well as earthquakes, and an estimation of the current insurance penetration rate. The indicator does not provide information on the split between the private/public costs of climate-related disasters. A score of 0 means no protection gap, while a score of 4 corresponds to a very high gap (EIOPA, 2022).
(8) Sulphur oxides (SO2 equivalent), ammonia, particulates < 10 µm, nitrogen oxides in total economy (divided by GDP).
(9) Battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV).

Before Russia invaded Ukraine, Austria's exposure to Russian gas was very high (roughly 80% in 2020, well above the EU average of 44% ([67]). Austria still imports gas from Russia and its dependency throughout 2022 fluctuated substantially ([68]) based on factors such as availability from other non-Russian sources, consumption of neighbouring countries, etc. Austria is also highly dependent on imported fossil fuels (69% in 2021), making its economy particularly sensitive to global price developments, requiring it to step up efforts on the energy transition. This Annex ([69]) sets out actions carried out by Austria to achieve the REPowerEU objectives, including through the implementation of its recovery and resilience plan, in order to improve energy security and affordability while accelerating the clean energy transition, and contributing to enhancing the EU's competitiveness in the clean energy sector ([70]).

Austria biggest challenge lies ahead, next winter 2023/24, as it still depends significantly on Russian gas. Austria fulfilled its gas storage obligations last winter reaching 93.07% by 1 November 2022 (more than 10 percentage points above its legal obligation) and ended the heating season with a filling storage at 66.61% by 15 April 2023 ([71]). Austria operates 9 underground storage facilities ([72]) with a total capacity of around 8.4 billion cubic metres (bcm), covering all domestic demand. Gas initially flowed from east to west, from Russia through Slovakia and to Italy, Hungary and Germany. Some of those initial flows have reversed, with gas now flowing from Germany and Italy. Austria produces gas domestically, covering around 10% of its annual domestic demand, but with no real potential to increase this in the short term.

Graph A7.1: **Underground storage levels in Austria**



Source: JRC calculation based on AGSI+ Transparency Platform, 2022 (Last update 2 March 2023)

Unlike in its overall energy mix where renewables come second (34%) to oil and oil products (35%), Austria is leading in renewable electricity, with 81% of its electricity mix consisting of renewables in 2021, before natural gas with 15%. The challenge lies in the diversification away from hydropower, which has limited potential to expand. 60% of Austria's electricity mix is based on hydropower, followed by wind and biomass playing a minor role in comparison (10% and 5% respectively). Electricity production has been almost coal-free since 2020, with a marginal 0.2% in 2021.

Austria is implementing energy efficiency measures, including demand response, to reduce further its reliance on gas. Austria expects to improve in energy efficiency by a new energy efficiency law currently before parliament. The law includes public financial support of an annual budget of EUR 190 million until 2030 and a federal government´s savings obligation that corresponds to an annual renovation rate of 3%. It aims to reduce final energy consumption by 18%

([67]) Eurostat (2020), share of Russian imports over total imports of natural gas. For the EU-27 average, the total imports are based on extra-EU-27.

([68]) https://energie.gv.at/

([69]) It is complemented by Annex 6 as the European Green Deal focuses on the clean energy transition, by Annex 8 on the actions taken to mitigate energy poverty and protect the most vulnerable ones, by Annex 9 as the transition to a circular economy will unlock significant energy and resource savings, further strengthening energy security and affordability, and by Annex 12 on industry and single market complementing ongoing efforts under the European Green Deal and REPowerEU.

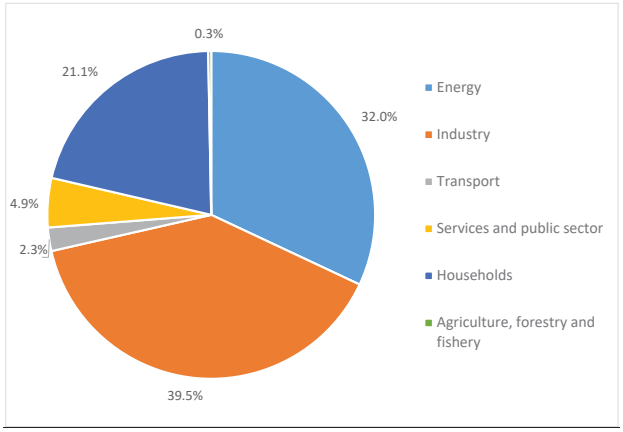
([70]) In line with the Green Deal Industrial Plan COM(2023) 62 final, and the proposed Net-Zero Industry Act COM(2023) 161 final

([71]) Regulation of the European Parliament and of the Council amending Regulations (EU) 2017/1938 and (EC) No 715/2009 with regard to gas storage and Implementing Regulation (EU) 2022/2301 of 23 November 2022 setting the filling trajectory with intermediary targets for 2023 for each Member State with underground gas storage facilities on its territory and directly interconnected to its market area

([72]) Austria's underground storage facilities are managed by 5 operators: Astora (UGS Haidach), OMV Gas Storage (Tallesbrunn & Schönkirchen/Reyersdorf), RAG Energy Storage (Puchkirchen/Haag, Aigelsbrunn, Haidach 5, 7Fields-RAG, Haidach) and Uniper Energy Storage (UGS 7 Fields).

by 2030 and exceed its EU target. In the meantime, Austria implemented energy efficiency measures to contribute to energy security and were targeted mainly to households, industry, and the public sector. The first two ones are among the biggest gas consumers in Austria in 2021 (Graph A7.1 and Graph A7.2 per industry). The prescribed measures were diverse in nature and went from gas savings campaigns, setting binding goals for the public sector, introducing incentives for households, companies, municipalities and associations, and supporting fuel switching for industry as well as diversification of natural gas purchases and energy efficiency improvement measures. Over the period August 2022 – March 2023, 19% of gas consumption has been saved in Austria compared to the previous 5-years average, following the adoption of Council Regulation (EU) 2022/1369 on gas demand reduction.

Graph A7.2: **Share of gas consumption per sector, 2021**

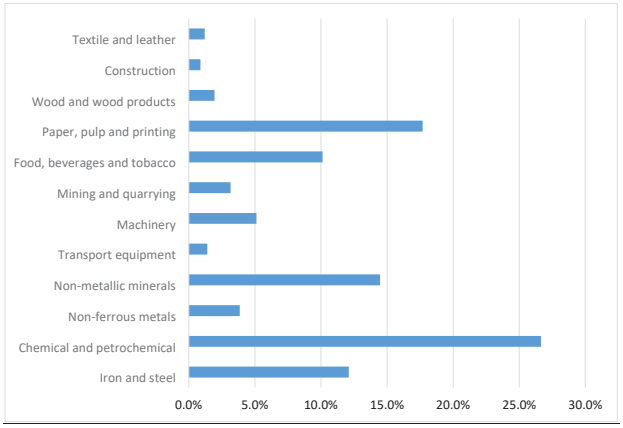


Source: Eurostat

Without further grid infrastructure expansion to accommodate a higher share of renewable electricity, and improved interconnection for cross-border electricity flows, Austria would not manage to generate 100% of its electricity from renewable energy sources in 2030. It needs to consider increasing investment in transmission and distribution grids and storage (large storage batteries and hydropower). This could be supported by timely implementation of the following internal interconnection Projects of Common Interest (PCI): i) between St Peter and Tauern; ii) between Westtirol and Zell-Ziller, and the PCI cross-border project between St Peter in Austria and Isar in Germany. The latter started the construction beginning of March 2023 and the commissioning is planned for 2027.

For gas, to reduce structurally its dependency on Russia, Austria could reflect on further investments in the interconnection capacity with Italy and Germany, to allow higher bidirectional flows while avoiding these gas infrastructure projects becoming stranded assets.

Graph A7.3: **Gas consumption per industrial sector, 2021 (% of total industry gas consumption)**



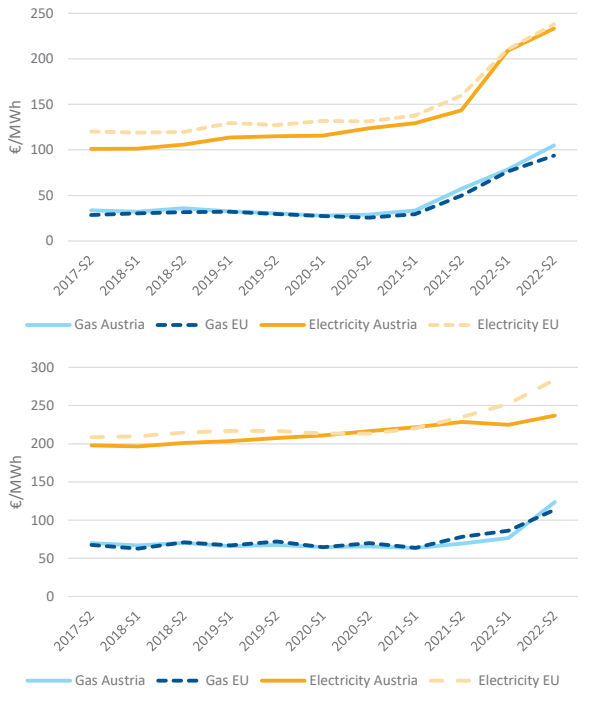
Source: Eurostat

In 2022, the Austrian federal government presented three major relief packages amounting to over EUR 30 billion. Austria has taken ambitious measures to protect households, small and medium-sized enterprises and industries against increasing energy prices (see Annex 8). These include electricity price subsidies for household customers and subsidies for low-income households. In 2022, Austria implemented measures such as lump sum payments for low-income households, others supporting solar PV, wind and storage deployment, and a 90% cut in natural gas and electricity tariffs until June 2023. It introduced a EUR 1.1 billion scheme to support companies facing higher energy costs in the context of Russia's invasion of Ukraine ([73]). In January 2023 ([74]), under the State aid temporary crisis framework, the European Commission approved for the first time a EUR 100 million measure to reduce peak electricity consumption.

([73]) https://ec.europa.eu/commission/presscorner/detail/en/IP_22_6994

([74]) https://ec.europa.eu/commission/presscorner/detail/en/ip_23_127

Graph A7.4: **Austria´s retail energy prices for industry (top) and households (bottom)**



(1) For industry: the band consumption is ID for electricity and I4 for gas
(2) For households, the band consumption is DC for electricity and D2 for gas
Source: Eurostat

Austria has high ambitions to transform its energy system, aiming to generate 100% of its electricity from renewable sources by 2030. More effective policy implementation, including overcoming lengthy permitting procedures, could accelerate the decarbonisation of the economy. Austria's deployment of renewable energy reached a total of 23.4 GW in 2022, increasing by 6%, compared to 2021 ([75]). Solar PV has seen a sharp increase in its annual capacity additions, almost 30% increase, from 2.8 GW in 2021 to 3.5 GW in 2022 ([76]). The timely implementation of the investments and reforms in the Austrian recovery and resilience plan will contribute significantly to the deployment of renewables in heating and cooling, transport and industry, and buildings. The impact of the Renewable Energy Expansion Act, which entered into force in January 2022, and the recently announced package for an accelerated expansion of renewables to speed up and streamline administrative procedures (see Annex 12) for major energy transition projects, have yet to be seen.

Austria is in a strong position on hydropower, heat pumps, redox flow batteries and biofuels. In the years 2015-2019, pumped hydropower capacity additions in the EU were mainly developed in Portugal, Austria, Italy and France. Between 2020 and 2021, the European countries with the highest added hydropower capacity were Norway (+396 MW) and Austria (+150 MW). With a share of total electricity generation of 60%, Austria is leading in the EU (also in terms of turnover, with EUR 2.85 billion in 2018) and is ranked second with 11.9% of global exports (i.e. EUR 70 million net trade) in the hydropower sector in 2020 ([77]) (only second to China with 18.6%). It is in the top four EU countries filing patents for pumped hydropower storage. It also hosts over 10% of all EU-based hydropower companies. It ranks relatively high (eighth) in the EU, with a total of 8 heat pump manufacturing sites. With CellCube, it is in the global top three redox flow battery producers, together with Japan (Sumitomo Electric Industries Ltd.) and the US (UniEnergy Technologies). It ranks seventh in EU in biofuel production capacity.

In Austria, labour shortages in clean energy relevant manufacturing industry are below the EU average ([78]). In total the EU has 1.24 million jobs in the renewable energies sector in 2022 ([79]) which in relation to total working population in the EU ([80])means an average of 0,67% of all jobs are in the RES sector while in 2021 Austria had a total of 31.000 ([81]) people working in the renewable energy sector, which represents 0,8% of all jobs ([82]). It is in the EU top

([75]) IRENA, Renewable capacity statistics 2023

([76]) IRENA, Renewable capacity statistics 2023

([77]) https://www.irena.org/Publications/2022/Sep/Renewable-Energy-and-Jobs-Annual-Review-2022 Fig 8, p.23:

([78]) JRC data

([79]) https://www.irena.org/Publications/2022/Sep/Renewable-Energy-and-Jobs-Annual-Review-2022

([80]) 189 Million in 2021: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Employment_-_annual_statistics#:~:text=In%202021%2C%20the%20share%20of,in%20the%20remaining%208%20countries.

([81]) https://www.irena.org/Data/View-data-by-topic/Benefits/Renewable-Energy-Employment-by-Country

([82]) There are 8 932 664 people living in Austria (as of 2021), and 3 770 600 people were employed: https://eures.ec.europa.eu/living-and-working/labour-market-information/labour-market-information-

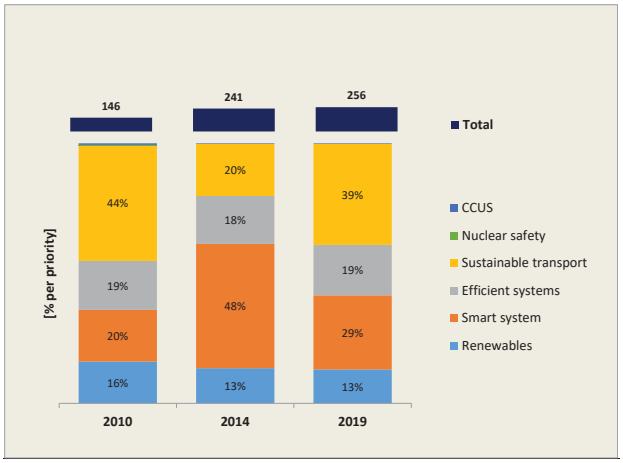
10 for jobs in clean energy value chains, with over 40% of renewable energy jobs in manufacturing in this sector.

The number of identified innovators is rather limited for hydropower, but Austria ranks fifth on global scale (after US, Japan, France and China). ([83]) Despite the positive trends observed in e.g. private /VC investments the relatively small domestic market can make it difficult for clean tech and innovation companies to achieve economies of scale.

Public investment in research and innovation (R&I) in Energy Union priorities ([84]) decreased from 0.049% in 2014 to 0.039% in 2020 (share of GDP). Over a similar period (2014-2019), private R&I investment in Energy Union priorities increased from 0.245% to 0.321%. The number of patent families in Energy Union priorities also increased, from 17.4 per million inhabitants in 2014 to 28.9 per million inhabitants in 2019. Venture capital investments in climate tech start-ups and scale-ups are, at EUR 7.5 million, very low compared to overall venture capital investments in Austria, which were EUR 1,175.1 million in 2021.

Regarding market surveillance activities, Austria is carrying out a very low number of checks on products covered by ecodesign and energy labelling. This may imply serious concerns as to compliance levels of the concerned products and therefore missed energy and CO_2 savings ([85]).

Graph A7.5: **Patent families in Energy Union R&I priorities**



Source: JRC SETIS (2022)

austria_en#:~:text=In%202022%2C%20due%20to%20the,in%202022%20compared%20to%202021

([83]) JRC compiled data

([84]) Renewables, smart system, efficient systems, sustainable transport, CCUS and nuclear safety, COM(2015) 80 final ('Energy Union Package').

([85]) The internet-supported information and communication system for the pan-European market surveillance

Table A7.1:**Key energy indicators**

		AUSTRIA				EU			
		2018	2019	2020	2021	2018	2019	2020	2021
ENERGY DEPENDENCE	**Import Dependency [%]**	64%	72%	58%	52%	58%	61%	57%	56%
	of Solid fossil fuels	98%	97%	98%	100%	44%	44%	36%	37%
	of Oil and petroleum products	94%	96%	97%	90%	95%	97%	97%	92%
	of Natural Gas	88%	123%	73%	51%	83%	90%	84%	83%
	Dependency from Russian Fossil Fuels [%]								
	of Hard Coal	7%	11%	13%	13%	40%	44%	49%	47%
	of Crude Oil	3%	3%	10%	7%	30%	27%	26%	25%
	of Natural Gas	n.a.	n.a.	64%	64%	40%	40%	38%	41%

		2015	2016	2017	2018	2019	2020	2021	2022
ELECTRICITY	**Gross Electricity Production (GWh)**	65,299	68,308	71,324	68,618	74,234	72,556	70,752	-
	Combustible Fuels	18,916	18,953	21,296	19,900	20,865	18,368	18,678	-
	Nuclear	0	0	0	0	0	0	0	-
	Hydro	40,592	43,008	42,175	41,219	44,204	45,344	42,540	-
	Wind	4,840	5,235	6,572	6,030	7,450	6,792	6,740	-
	Solar	937	1,096	1,269	1,455	1,702	2,043	2,783	-
	Geothermal	0	0	0	0	0	0	0	-
	Other Sources	15	15	13	13	13	10	12	-
	Net Imports of Electricity (GWh)	10,062	7,159	6,546	8,947	3,129	2,196	7,543	-
	As a % of electricity available for final consumption	16%	11%	10%	14%	5%	3%	11%	-
	Electricity Interconnection (%)	-	-	15.30%	42.41%	38.1%	37.6%	31.5%	31.3%

		2015	2016	2017	2018	2019	2020	2021	2022
DIVERSIFICATION OF GAS SUPPLIES	**Gas Consumption (in bcm)**	8.3	8.7	9.5	9.1	9.2	8.8	9.4	9.1
	Gas Imports - by type (in bcm)	6.1	7.5	8.5	7.8	11.4	6.5	4.8	-
	Gas imports - pipeline	6.1	7.5	8.5	7.8	11.4	6.5	4.8	-
	Gas imports - LNG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
	Gas Imports - by main source supplier (in bcm) (1)				n.a.				

		2019	2020	2021	2022
	LNG Terminals				
	Number of LNG Terminals (2)				
	LNG Storage capacity (m3 LNG)				
	Underground Storage				
	Number of storage facilities	9	9	9	9
	Operational Storage Capacity (bcm)	9.6	9.8	9.8	9.8

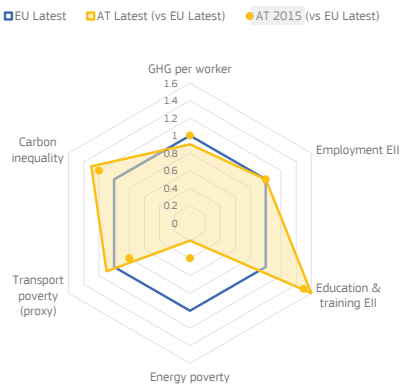
		2019	2020	2021	2022
CLEAN ENERGY	**VC investments in climate tech start-ups and scale-ups (EUR Mln) (3)**	0.0	0.0	7.5	n.a.
	as a % of total VC investments in Austria	0.0%	0.0%	0.6%	n.a.
	Research & Innovation spending in Energy Union R&i priorites (2)				
	Public R&I (EUR mln)	154.9	158.7	224.0	n.a.
	Public R&I (% GDP)	0.039%	0.041%	0.055%	n.a.
	Private R&I (EUR mln)	1280.9	n.a.	n.a.	n.a.
	Private R&I (% GDP)	0.32%	n.a.	n.a.	n.a.

(1) The ranking of the main supliers is based on the latest available figures (for 2021)
(2) FSRU included
(3) Venture Capital investments include Venture Capital deals (all stages) and Private Equity Growth/Expansion deals (for companies that have previously been part of the portfolio of a VC investment firm).

Source: Eurostat, Gas Infrastructure Europe (Storage and LNG Transparency Platform), JRC SETIS (2022), JRC elaboration based on PitchBook data (06/2022)

This Annex monitors Austria's progress in ensuring a fair transition towards climate neutrality and environmental sustainability, notably for workers and households in vulnerable situations. To ensure a fair green transition in line with the Council Recommendation ([86]), upskilling and reskilling measures will promote smooth labour market transitions and the implementation of REPowerEU, notably through Austria's '*Just Transition – Aktionsplan Aus- und Weiterbildung*' published in January 2023. Labour shortages in Austria's construction sector are high relative to other EU Member States. Austria's recovery and resilience plan (RRP) outlines crucial reforms and investments for a fair green transition ([87]), such as significant investments in e-mobility, charging infrastructure and rail infrastructure, complementing the territorial just transition plans and actions supported by the European Social Fund Plus (ESF+).

Graph A8.1: **Fair transition challenges in Austria**



Source: Eurostat, EMPL-JRC GD-AMEDI/AMEDI+ projects and World Inequality Database (see Table A8.1).

Employment in Austria's industries most affected by the transition remains stable, but labour shortages may create bottlenecks. The greenhouse gas (GHG) emissions intensity of Austria's workforce fell from 13.2 to 12.5 tonnes per worker between 2015 and 2021 and is below the EU average of 13.7 tonnes (see Graph A8.1 and Table A8.1). Employment in Austria's energy-intensive industries (EII) represented an almost stable share of 2.8% of total employment in 2021 (in 2020: 2.9% vs 3.1% in the EU). Among the sectors with the highest GHG emissions are the paper and print industry, chemical and pharmaceutical production, and the metal industry ([88]). Employment in mining and quarrying has decreased by 3.3% since 2015 (to around 6 000 workers). In the regions covered by the Just Transition Fund (JTF), more than 71 000 employees work in these affected sectors. Total jobs in the environmental goods and services sector grew by 15.8% (to 183 500) in 2015-2019 (EU: +8.3%), reaching 4% of total employment, above the EU average of 2.2% (see Annex 9 for circular jobs specifically). However, the job vacancy rate in construction, a key sector for the green transition, was among the highest in the EU (6.4% vs 4.0% in EU) in 2022. Shortages are also recorded in manufacturing, IT and engineering. The main reasons include skills mismatches and people lacking qualifications or holding ones no longer in demand. In the context of its 'Masterplan "green jobs"', Austria introduced a green job platform to help match labour demand and supply in the green sector.

Upskilling and reskilling are relatively prevalent in Austria's most affected sectors, but participation has slightly decreased. Skills are key for smooth labour market transitions and preserving jobs in transforming sectors. In energy-intensive industries, workers' participation in education and training increased from 15.7% in 2015 to 16.2% in 2022 and remains above the EU average (10.4%). In Austria, 35% of citizens believe they do not have the necessary skills to contribute to the green transition (EU: 38%) ([89]). Specific investments under the RRP and the JTF provide training to help reskill workers in affected industries. In addition, 3.9% of ESF+ funding contributes to green skills and jobs. For instance, the 'CORA' project, co-financed by the ESF, provides computer training for women to improve the skills needed for green related jobs and to meet the demands of the labour market.

Energy poverty indicators stood well below EU averages, but low-income groups were particularly affected even before 2022. The

([86]) Council Recommendation of 16 June 2022 on ensuring a fair transition towards climate neutrality (2022/C 243/04) covers employment, skills, tax-benefit and social protection systems, essential services and housing.

([87]) See 2022 Country Report (Annex 6).

([88]) See 2022 Territorialer Plan für einen gerechten Übergang Österreich 2021–2027.

([89]) Special Eurobarometer 527. Fairness perceptions of the green transition (May – June 2022).

Table A8.1:**Key indicators for a fair transition in Austria**

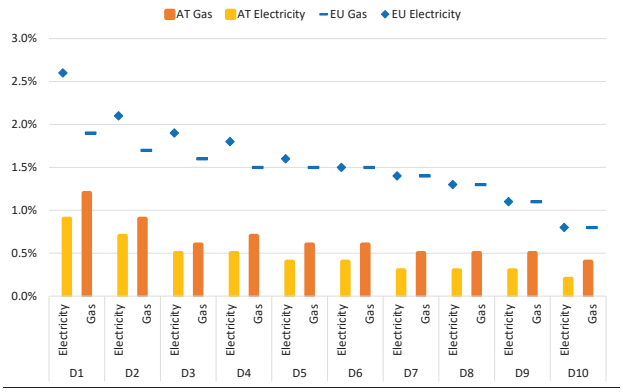
Indicator	Description	AT 2015	AT Latest	EU Latest
GHG per worker	Greenhouse gas emissions per worker - CO2 equivalent tonnes	13.2	12.5 (2021)	13.7 (2021)
Employment EII	Employment share in energy-intensive industries, including mining and quarrying (NACE B), chemicals (C20), minerals (C23), metals (C24), automotive (C29) - %	2.9	2.9 (2020)	3 (2020)
Education & training EII	Adult participation in education and training (last 4 weeks) in energy-intensive industries - %	15.7	16.2 (2022)	10.4 (2022)
Energy poverty	Share of the total population living in a household unable to keep its home adequately warm - %	2.6	1.7 (2021)	6.9 (2021)
Transport poverty (proxy)	Estimated share of the AROP population that spends over 6% of expenditure on fuels for personal transport - %	30.5	40.8 (2023)	37.1 (2023)
Carbon inequality	Average emissions per capita of top 10% of emitters vs bottom 50% of emitters	6.3	6.3 (2020)	5 (2020)

Source: Eurostat (env_ac_ainah_r2, nama_10_a64_e, ilc_mdes01), EU Labour Force Survey (break in time series in 2021), EMPL-JRC GD-AMEDI/AMEDI+ projects and World Inequality Database (WID).

share of the population unable to keep their homes adequately warm fell from 2.6% in 2015 to 1.7% in 2021 ([90]). In particular, 4.6% of the population at risk of poverty were affected in 2021 (EU: 16.4% in 2021), and 1.5% of lower middle-income households (in deciles 4-5) in 2021 (EU: 8.2% in 2021). Before the energy price hikes, an estimated 14.8% of the total population and 41.4% of the (expenditure-based) at-risk-of-poverty (AROP) population had residential expenditure budget shares on electricity, gas and other fuels ([91]) above 10% of their household budget (still below the estimated EU average of 26.9% and 48.2%, respectively). Despite the small percentages reported, Austria addresses energy poverty by applying a leverage factor in the energy efficiency obligation scheme under the federal energy efficiency law. Savings achieved in low-income households are leveraged with a factor of 1.5, which renders this segment more interesting for the obligated energy supplier ([92]).

The increased energy prices in 2021-2023 negatively affected households' budgets, in particular for low-income groups. As a result of energy price changes during the August 2021 to January 2023 period relative to the 18 months prior (cf. Annex 7), in the absence of policy support and behavioural responses, the share of individuals living in households which spend more than 10% of their budget on residential energy would have increased by 11.3 percentage points (pps) for the whole population and by 14.6 pps among the (expenditure-based) AROP population, slightly less than the EU-level increases (16.4 pps and 19.1 pps, respectively) ([93]). The expenditure shares on residential energy of low and lower-middle income groups would have increased the most, for both gas and electricity, as shown in Graph A8.2. Among the (expenditure-based) AROP population, the share of individuals living in households with budget shares for private transport fuels ([94]) above 6% would have increased more than the EU average (10.4 pps vs 5.3 pps), reaching 40.8% in January 2023 (EU: 37.9%) due to the increase in transport fuel prices. Introduced under the RRP, the Renewable Heating Law will create the framework conditions for replacing outdated fossil-fuelled heating systems with renewable energy or district heating.

Graph A8.2: **Distributional impacts of energy prices due to rising energy expenditure (2021-2023)**



Mean change of energy expenditure as a percentage (%) of total expenditure per income decile (D) due to observed price changes (August 2021 – January 2023 relative to the 18 months prior), excl. policy support and behavioural responses. ***Source:*** EMPL-JRC GD-AMEDI/AMEDI+ projects, based on Household Budget Survey 2015 and Eurostat inflation data for CP0451 and CP0452.

Access to public transport displays an urban-rural divide, while carbon footprints differ significantly. Citizens perceive public transport to

([90]) Energy poverty is a multi-dimensional concept. The indicator used focuses on an outcome of energy poverty. Further indicators are available at the Energy Poverty Advisory Hub.

([91]) Products defined according to the European Classification of Individual Consumption according to Purpose (ECOICOP): CP045.

([92]) Reported in the national long term renovation strategy.

([93]) EMPL-JRC GD-AMEDI/AMEDI+ ; see details in the related technical brief.

([94]) ECOICOP: CP0722.

be relatively available (59% vs 55% in the EU), affordable (68% vs 54% in the EU) and of good quality (72% vs 60% in the EU). As regards these perceptions, rural areas in Austria perform worse than urban areas, yet still better when compared to rural areas in the EU overall ([95]). The average carbon footprint of the top 10% of emitters among the population in Austria is about 6.3 times that of the bottom 50% (see Graph A8.1) - the third highest 'carbon inequality' in the EU (EU average: 5.0 times). In Austria, the average levels of air pollution in 2020 stood below the EU average (9.9 vs 11.2 µg/m PM2.5), with 53% of the population living in regions exposed to critical levels of air pollution ([96]), leading to significant health impacts, in particular on vulnerable groups, and 3 181 premature deaths annually ([97]).

([95]) EU (rural): 46%, 48%, 56% respectively. Special Eurobarometer 527.

([96]) Double the recommendations in the WHO Air Quality Guidelines (annual exposure of 5µg/m3)

([97]) EEA- Air Quality Health Risk Assessment

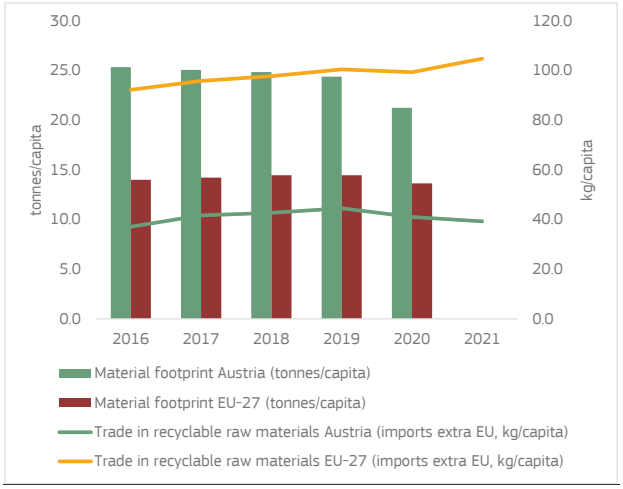
The circular economy transition is key to delivering on the EU's climate and environmental goals and provides large socio-economic benefits. It spurs job growth, innovation and competitiveness and fosters resilience and resource security. The circularity transition of industry, the built environment and agri-food can generate significant environmental improvements (see Annex 6), as they rank among the most resource-intensive systems.

The pace of Austria's circular economy transition needs to increase to meet the EU's circular economy goals. The EU's 2020 circular economy action plan (CEAP) ([98]) aims at doubling the circular material use rate between 2020 and 2030. Austria's circular (secondary) material use rate rose to 12.3% in 2021, thus moving above the EU average of 11.7%, but still trailing EU leaders. Austria's objective as set out in its new circular economy strategy is to raise its circular material use rate to 18% by 2030, which falls short of the CEAP objective. The CEAP also aims to significantly decrease the EU's material footprint. Austria's material footprint of 21.3 tonnes per capita was significantly higher than the EU average of 13.7 tonnes per capita in 2020. The labour market benefits of the circular transition are mixed, with growth in most years but also considerable decline in 2018.

Austria recently adopted new policies and laws to address circular economy challenges, which now need to be implemented to bring down Austria's high material footprint. Generally, the circular economy has been given a more prominent role in the current government's programme: it is mentioned as a key topic for a new location strategy supporting business development in rural areas, as well as a cross-sectoral climate protection and circular economy strategy focusing on the energy and emissions-intensive sectors (steel, chemicals, cement). After broad consultation, the government adopted a comprehensive circular economy strategy in December 2022 which covers the whole circle and all concerned sectors. It includes clear governance and regular reporting. Its vision is to transform Austria's economy and society into a climate-neutral and sustainable circular economy by 2050, setting the target of reducing its material footprint (raw material consumption) to seven tonnes per capita per year by 2050.

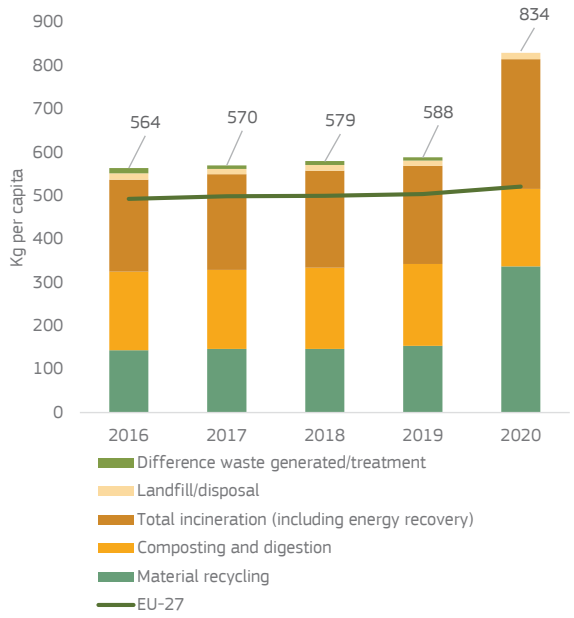
([98]) European Commission, 2020, A new Circular Economy Action Plan (europa.eu)

Graph A9.1: **Trend in material use**



Source: Eurostat

Graph A9.2: **Treatment of municipal waste**



Source: Eurostat

Austria is among the top performers in the EU in waste management, but municipal waste keeps growing. In 2020 Austria recycled 62.3 % of its municipal waste, which represents the second-highest recycling rate in Europe and is well above the EU 2020 municipal waste recycling target (50%). Austria is also assessed to be on track for meeting the EU's recycling targets for municipal and packaging waste for 2025. Austria's

Table A9.1: **Overall and systemic indicators on circularity**

AREA	2016	2017	2018	2019	2020	2021	EU-27	Latest year EU-27
Overall state of the circular economy								
Material footprint (tonnes/capita)	25.4	25.1	24.9	24.4	21.3	-	13.7	2020
YoY growth in persons employed in the circular economy (%)[1]	-0.7	1.3	-4.6	0.7	-	-	2.9	2019
Water exploitation index plus (WEI+) (%)	1.7	1.9	1.9	0.1	-	-	3.6	2019
Industry								
Resource productivity (purchasing power standard (PPS) per kilogram)	1.9	2.0	2.0	2.1	2.0	2.1	2.3	2021
Circular material use rate (%)[2]	11.2	11.4	11.1	11.5	10.8	12.3	11.7	2021
Recycling rate (% of municipal waste)	57.6	57.8	57.7	58.2	62.3	-	49.6	2021
Built environment								
Recovery rate from construction and demolition waste (%)[3]	88.0	-	90.0	-	91.0	-	89.0	2020
Soil sealing index (base year = 2006)[4]	103.3	-	106.7	-	-	-	108.3	2018
Agri-food								
Food waste (kg per capita)[5]	-	-	-	-	136.0	-	131.0	2020
Composting and digestion (kg per capita)	181.0	182.0	187.0	189.0	179.0	-	100.0	2021

(1) Persons employed in the circular economy only tracks direct jobs in selected sub-sectors of NACE codes E, C, G and S; (2) the circular material use rate measures the share of material recovered and fed back into the economy in overall material use, including composting and digestion; (3) the recovery rate of construction and demolition waste includes waste which is prepared for reuse, recycled or subject to material recovery, including through backfilling operations; (4) soil sealing: 2016 column refers to 2015 data; (5) food waste includes primary production, processing and manufacturing, retail and distribution, restaurants and food services, and households.

Source: Eurostat, European Environment Agency

recycling rate for plastic packaging stood at 31% in 2019 and is well below the EU's 2025 target of 55%. The rate is likely to grow in view of new regulatory measures to improve separate collection and subsequent sorting, and thanks to funding from the recovery and resilience plan.

The industrial system needs to become more circular. Austria remains below the EU average as regards efficiency of using materials, with a resource productivity of 2.1 purchasing power standard per kilogramme vs 2.3 for the EU. This rate has only slightly improved over the last 5 years, indicating significant potential to boost repair, remanufacturing, and the use of secondary raw materials.

The built environment system continues to exacerbate the depletion of resources, and the continuously high level of soil sealing contributes to loss of agricultural land and biodiversity. The recovery rate of construction and demolition waste has increased since 2016 and is now above the EU average (91% vs 89% in 2020). But soil sealing continues to be among Austria's biggest environmental pressures given its topography. Surface sealing grew significantly faster than the Austrian population in 2001–2019. In 2021 daily land-take was 11.5 ha/day; Austria loses 0.5% of its agricultural land every year and has one of the highest per capita numbers in Europe of road kilometres and supermarket surface ([99]). A new national soil strategy with the headline target of limiting net land use to 2.5 ha/day by 2030 is under development, but its final adoption is delayed. Meeting the target will require reinforced governance at supra-regional level and rigorous follow-up and implementation.

The agri-food system has yet to design out food waste. With 136 kg per capita, food waste is above the EU average of 131 kg. Austria's waste prevention programme has not been sufficiently effective at lowering food loss and waste at the primary production level and the early stages of the supply chain. Still, Austria's composting and anaerobic digestion per head is well above the EU average in 2020, at 179 kg per head vs 100 kg.

There remains a financing gap in the circular economy, including waste management. Additional investments will be required to address growing needs. The financing gap was estimated at EUR 708 million per year between 2014 and 2020 when investment needs were estimated to be at least EUR 1.2 billion per year (see Annex 6).

([99]) Umweltbundesamt, 2020

Digital transformation is key to ensuring a resilient and competitive economy. In line with the Digital Decade Policy Programme, and in particular with the targets in that Programme for digital transformation by 2030, this Annex describes Austria's performance on digital skills, digital infrastructure/connectivity and the digitalisation of businesses and public services. Where relevant, it makes reference to progress on implementing the Recovery and Resilience Plan (RRP). Austria allocates 53% of its total RRP budget to digital (EUR 1.8 billion) ([100]).

The Digital Decade Policy Programme sets out a pathway for Europe's successful digital transformation by 2030. The Programme provides a framework for assessing the EU's and Member States' digital transformation, notably via the Digital Economy and Society Index (DESI). It also provides a way for the EU and its Member States to work together, including via multi-country projects, to accelerate progress towards the Digital Decade digital targets and general objectives ([101]). More generally, several aspects of digital transformation are particularly relevant in the current context. In 2023, the European Year of Skills, building the appropriate skillset to make full use of the opportunities that digital transformation offers is a priority. A digitally skilled population increases the development and adoption of digital technologies and leads to productivity gains ([102]). Digital technologies, infrastructure and tools all play a role in the fundamental transformation needed to adapt the energy system to the current structural challenges ([103]).

The lack of information and communication technology (ICT) specialists is a key challenge for Austria in the area of digital skills. The country scores well above the EU average in the percentage of the population with at least basic digital skills, and the percentage of ICT specialists matches the EU average. Nevertheless, the lack of ICT specialists is a key challenge: the share of enterprises reporting hard-to-fill vacancies for jobs requiring ICT specialist skills is well above the EU average (67.9% compared to 62.8%) ([104]).

Austria has a mixed performance on digital infrastructure/connectivity. The country scores above the EU average in overall 5G coverage (92% versus the EU average of 81%) and performs particularly well on 5G coverage in the 3.4-3.8 GHz spectrum band, which is essential for enabling advanced applications requiring large spectrum bandwidth (74% compared to EU average of 41%). However, it still ranks substantially below the EU average in the percentage of households with access to fixed very high capacity network (VHCN) including fibre to the premises (55% versus 73% in the EU). Recent significant improvements were the result of the one-off effect of upgrading already existing networks, mostly in urban areas. However, Austria has ambitious measures in place to improve connectivity with a focus on rural areas via national funding and the RRP.

Austria's performance on the digitalisation of businesses is mixed. The percentage of SMEs with at least a basic level of digital intensity is close to the EU average. Moreover, one key challenge is that Austrian companies are not yet making full use of all the digital technologies that are available. For example, the use of artificial intelligence among Austrian companies is slightly above the EU average, but the use of cloud services and big data is well below the EU average. Several RRP measures to improve the take-up of digital technologies in Austrian enterprises have been launched, e.g. to provide advisory services and investment for concrete digitalisation projects.

Austria performs around the EU average on the digitalisation of public services for citizens and businesses. The country has traditionally been a frontrunner in e-government services, with a relatively high number of e-

([100]) The share of financial allocations that contribute to digital objectives has been calculated using Annex VII of the RRF Regulation.

([101]) The Digital Decade targets as measured by DESI indicators and complementary data sources are integrated to the extent currently available and/or considered particularly relevant in the MS-specific context.

([102]) See for example OECD (2019): OECD Economic Outlook, Digitalisation and productivity: A story of complementarities, OECD Economic Outlook, Volume 2019 Issue 1 | OECD iLibrary (oecd-ilibrary.org).

([103]) The need and possible actions for a digitalisation of the energy system are laid out in the Communication 'Digitalisation the energy system – EU action plan' (COM(2022)552.

([104]) Source: Eurostat – European Union Survey on ICT Usage and eCommerce in Enterprises.

government users, 78% of internet users compared to 74% on EU average. On the supply side, it scores slightly above the EU average in providing digital public services for citizens and slightly below in providing digital public services to businesses. Austria has introduced the 'once only' principle to the Business Service Portal Act. The country has also published its Digitalisation Fund Act with the objective of accelerating the digitalisation of the Austrian federal administration. The electronic identification 'ID Austria' scheme is fully operational since April 2023. Every Austrian citizen receives a digital ID automatically with their application for a passport. 'ID Austria' will provide further solutions (e.g. digital registration certificate) including private sector offers and is rolling out the digital driving licence. As a notified scheme under the eIDAS (electronic identification, authentication and trust services) Regulation, 'ID Austria' provides also the underlying basis for the good performance on access to electronic health records records (score of 88 compared to EU average score of 71).

Table A10.1:**Key Digital Decade targets monitored by DESI indicators**

	Austria			EU	Digital Decade target by 2030 (EU)
	DESI 2021	DESI 2022	DESI 2023	DESI 2023	
Digital skills					
At least basic digital skills	**NA**	**63%**	**63%**	**54%**	**80%**
% individuals		2021	2021	2021	2030
ICT specialists ([1])	**4.5%**	**4.5%**	**4.5%**	**4.5%**	**20 million**
% individuals in employment aged 15-74	2020	2021	2021	2021	2030
Digital infrastructure/connectivity					
Fixed Very High Capacity Network (VHCN) coverage	**39%**	**45%**	**55%**	**73%**	**100%**
% households	2020	2021	2022	2022	2030
Fibre to the Premises (FTTP) coverage ([2])	**21%**	**27%**	**37%**	**56%**	**-**
% households	2020	2021	2022	2022	2030
Overall 5G coverage	**50%**	**77%**	**92%**	**81%**	**100%**
% populated areas	2020	2021	2022	2022	2030
5G coverage on the 3.4-3.8 GHz spectrum band	**NA**	**NA**	**74%**	**41%**	**-**
% populated areas			2022	2022	2030
Digitalisation of businesses					
SMEs with at least a basic level of digital intensity	**NA**	**NA**	**67%**	**69%**	**90%**
% SMEs			2022	2022	2030
Big data ([3])	**9%**	**9%**	**9%**	**14%**	**75%**
% enterprises	2020	2020	2020	2020	2030
Cloud ([3])	**NA**	**29%**	**29%**	**34%**	**75%**
% enterprises		2021	2021	2021	2030
Artificial Intelligence ([3])	**NA**	**9%**	**9%**	**8%**	**75%**
% enterprises		2021	2021	2021	2030
Digitalisation of public services					
Digital public services for citizens	**NA**	**76**	**78**	**77**	**100**
Score (0 to 100)		2021	2022	2022	2030
Digital public services for businesses	**NA**	**81**	**83**	**84**	**100**
Score (0 to 100)		2021	2022	2022	2030
Access to e-health records	**NA**	**NA**	**88**	**71**	**100**
Score (0 to 100)			2023	2023	2030

(1) The 20 million target represents about 10% of total employment.
(2) The Fibre to the Premises coverage indicator is included separately as its evaluation will also be monitored separately and taken into consideration when interpreting VHCN coverage data in the Digital Decade.
(3) At least 75 % of Union enterprises have taken up one or more of the following, in line with their business operations: (i) cloud computing services; (ii) big data; (iii) artificial intelligence.

Source: Digital Economy and Society Index

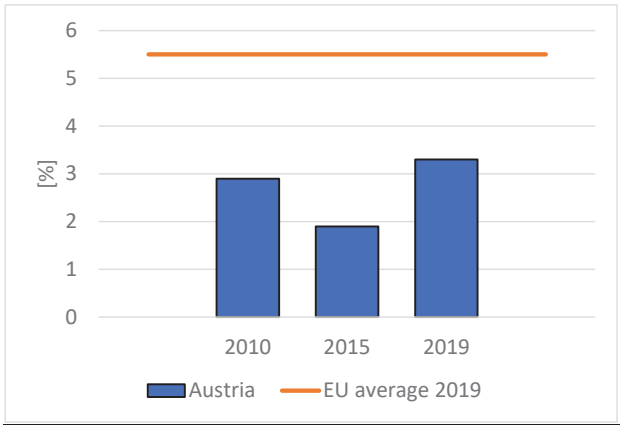
This Annex provides a general overview of the performance of Austria's research and innovation system, which is essential for delivering the green and digital transitions.

According to the 2022 edition of the European Innovation Scoreboard, Austria is a 'strong innovator' but its performance lead over the EU average is becoming smaller ([105]). While Austria's performance is above the EU average (118.3% of the EU performance), it is increasing at a lower rate than the EU's.

Austria's R&D intensity ([106]) has continuously increased over the last decade and ranked third in the EU in 2021 (at 3.19%). This positive dynamic is seen in both public R&D intensity (0.95% in 2021 against 0.85% in 2010) and business R&D intensity (2.22% in 2021 against 1.87% in 2010). Austria is also among the OECD economies that provide the highest percentage of GDP in total government support for business R&D, 0.29% in 2019**.** R&D tax incentives accounted for 70% of total government support for business enterprise expenditure on R&D in Austria ([107]). Investing in R&D is an important lever for the government to try to position the country as an innovation leader.

However, this does not translate into a high number of technology and knowledge-intensive start-ups. This has been identified as one of the greatest weaknesses in the Austrian research and innovation system ([108]) and has an impact on the business dynamism: only 3.3% of Austrians were employed in fast-growing enterprises in the top 50% most innovative sectors in 2019 against an EU average of 5.5% (see graph A11.1). Austria faces the challenge of transforming more R&D results into market-relevant products ([109]). The research, technology and innovation (RTI) strategy for 2030, a key reform in the Austrian recovery and resilience plan (RRP), includes objectives for the optimisation of the start-up process under its Objective 2: focus on effectiveness and excellence.

Graph A11.1: **Employment in fast-growing enterprises in the top 50% most innovative sectors**



Source: Eurostat, OECD, DG JRC, Science-Metrix (Scopus database and EPO's Patent Statistical Database) Invest Europe

The low supply of private risk capital is hindering business dynamism. In Austria, limitations on access to risk-finance (e.g., venture capital) are still apparent and have always been considered to be a particular weakness of the Austrian innovation system ([110]). In its report from 2022, the Council for Research and Technology Development calls for an improvement of the financial framework conditions for research & innovation activities, which includes the availability of risk capital ([111]). Strengthening the domestic venture capital market is important for Austria's start-up dynamism and has the potential to increase the number of start-ups and high-growth enterprises. One goal of the 'RTI Strategy 2030', part of the Austrian RRP, is to increase venture capital investment from 0.02% of GDP to 0.1%.

([105]) 2022 European Innovation Scoreboard, Country profile: Austria https://ec.europa.eu/assets/rtd/eis/2022/ec_rtd_eis-country-profile-at.pdf The EIS provides a comparative analysis of innovation performance in EU countries, including the relative strengths and weaknesses of their national innovation systems (also compared to the EU average).

([106]) defined as gross domestic expenditure on R&D as a percentage of GDP

([107]) rd-tax-stats-austria.pdf (oecd.org)

([108]) Taetigkeitsbericht-2021.pdf (rat-fte.at)

([109]) Austrian Research and Technology Report 2022_bf (3).pdf

([110]) 4. Austria | Financing SMEs and Entrepreneurs 2022: An OECD Scoreboard | OECD iLibrary (oecd-ilibrary.org)

([111]) Bericht zur wissenschaftlichen und technologischen Leistungsfähigkeit Österreichs 2022 (rfte.at)

Table A11.1:**Key innovation indicators**

Austria	2010	2015	2019	2020	2021	EU average (1)
Key indicators						
R&D intensity (GERD as % of GDP)	2.73	3.05	3.13	3.2	*3.19*	2.26
Public expenditure on R&D as % of GDP	0.85	0.86	0.91	0.96	0.95	0.76
Business enterprise expenditure on R&D (BERD) as % of GDP	1.87	2.18	2.2	2.23	2.22	1.49
Quality of the R&I system						
Scientific publications of the country within the top 10% most cited publications worldwide as % of total publications of the country	10.9	11	10.7	:	:	9.8
Patent Cooperation Treaty patent applications per billion GDP (in PPS)	5.3	5	4.5	:	:	3.3
Academia-business cooperation						
Public-private scientific co-publications as % of total publications	12.7	13.2	15.1	14.6	14.8	7.1
Public expenditure on R&D financed by business enterprise (national) as % of GDP	:	0.046	0.0055	:	:	0.054
Human capital and skills availability						
New graduates in science & engineering per thousand pop. aged 25-34	15.5	18.3	18.9	19.4	:	16
Public support for business enterprise expenditure on R&D (BERD)						
Total public sector support for BERD as % of GDP	:	0.288	0.293	:	:	0.194
R&D tax incentives: foregone revenues as % of GDP	0.111	0.146	0.191	:	:	0.1
Green innovation						
Share of environment-related patents in total patent applications filed under Patent Cooperation Treaty (%)	17.4	13.7	15.2	:	:	13.3
Finance for innovation and economic renewal						
Venture capital (market statistics) as % of GDP	0.02	0.023	0.024	0.023	0.076	0.074
Employment in fast-growing enterprises in 50% most innovative sectors	2.9	1.9	3.3	:	:	5.5

(1) EU average for the latest available year or the year with the highest number of country data

Source: Eurostat, OECD, DG JRC, Science-Metrix (Scopus database & EPO's Patent Statistical database), Invest Europe

The Austrian economy is highly integrated into global supply chains, particularly with Germany and Central European countries. Having suffered during the coronavirus pandemic, industrial production recovered strongly in 2021 and 2022. However, as global disruptions in the supply of intermediate goods became more frequent, delivery times for plant and equipment lengthened. In addition, investment activity, which had grown rapidly until early 2022 thanks to robust industrial production and the Austrian government's investment premium (a measure included in the Austrian Recovery and Resilience Plan), shrank in real terms in the second half of the year. Russia's invasion of Ukraine has sharply increased uncertainty and has already started to weigh on the recovery, due to rising energy and commodity prices and negative confidence effects.

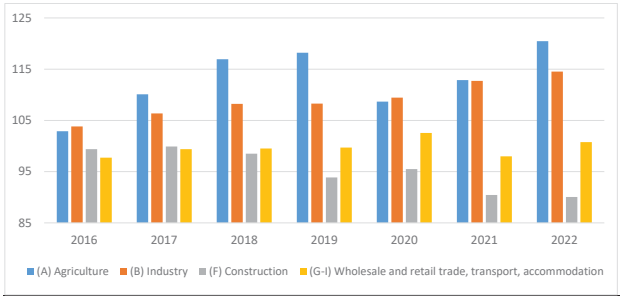
Supply shortages have worsened in sectors where Russia and Ukraine played a crucial role in world trade, such as gas and oil, but also fertilisers, metals and wheat. This has strong implications for global production chains, including some important sectors of Austrian industry, such as the automotive and renewable energy industry. Austria could play an important role in securing some raw materials, as the country ranks sixth worldwide in the production of magnesite, a critical raw material with strategic industrial applications in the automotive, aerospace and packaging sectors (Austria has 2.53% of total world production). Austria is also among the main producers of tungsten ore and talc.

Productivity in Austria remained stable in the last decade, with a labour productivity increase of just 1.2% in 2022 compared to its level in 2015. Productivity in industry increased by 1.5% in 2022, slightly above the EU average (see table A12.1). Manufacturing accounts for 21.6% of total value added and 15.8% of total employment and it is broadly diversified and sectorally balanced.

The share of Russian gas has fallen to around 60% of total imports (excluding transits) throughout 2022, from 80% before the war, due to higher inflows from other countries and reduced supplies from Russia (see Annex 7 on Energy). Austrian industry consumes about 40% of the natural gas and uncertainties related to the price of gas could harm the chemicals, fertiliser, pharmaceuticals and plastics industries. Securing an adequate gas supply ahead of the 2023/24 winter will therefore remain a challenge for the economy and might undermine business confidence, particularly in the industrial sector.

By sector, productivity in construction (which contributes 7% to GDP, a high value by European standards) declined by 8.8% in the last 5 years and market services decreased by around 3% (see graph A12.1). It is worth noting the declining trend in tourism, a key ecosystem that accounted for 4.1% of GDP in 2021, down from 7.6% in 2019, mainly due to the COVID-19 lockdown during the winter months.

Graph A12.1: **Real labour productivity per hour at industry level (EU=100)**



Source: Eurostat

Austrian firms remain more concerned about staff availability and production costs than about access to finance. Despite tighter financing conditions, firms were not particularly concerned about their access to finance and reported no changes in banks' willingness to lend (the growth rate in bank loans to companies amounted to 12.1% annually in August 2022).

On the other hand, in 2022 labour shortages were cited as the main reason for limited production by 21% of companies in the industrial sector (only 7% in 2020), 35% in the construction sector and almost 37% in the services sector. SMEs also rely on bank funding: according to SAFE, the proportion of Austrian SMEs applying for bank loans was above the EU average, and 86% of them received at least 75% of the amount requested (EU average 77%). Only 4% of SMEs did not apply because of a possible rejection, the lowest rate in the EU.

However, limitations on access to risk capital, particularly on venture capital finance, are affecting innovative SMEs and start-ups. The market is still underdeveloped and very volatile, a particular weakness in the innovation sector (see Annex 11 on Innovation).

Since late 2021, insolvency numbers have returned to pre-pandemic levels: in 2020 and 2021, the number of insolvencies was about 40% lower than in 2019, mainly due to government support programmes, according to the Austrian Central Bank. In this sense, late payments, combined with tightening credit conditions as interest rates go up, could be a potential threat to the survival of Austrian firms. The payment gap slightly increased to 14 days for public sector and B2B transactions ([112]). On SMEs, so far only 32% experienced problems due to late payments in the last six months (only 5% regularly), while 67% shows no record of that, one of the highest rates in the EU (see table A12.1).

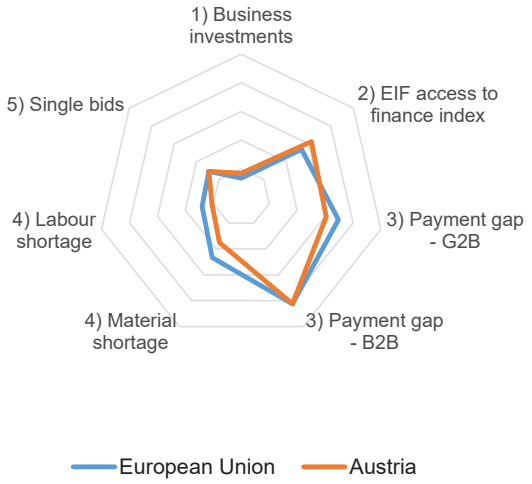
Austria is well integrated into the Single Market and barriers to investment are relatively modest overall. In 2021, more than half of Austria's goods exports went to the euro area. However, a high administrative burden remains a pressing concern for Austria's business environment.

The federal states have far-reaching competences in many areas (building, law, spatial planning, etc.) which usually lead to different procedures and unnecessarily complex requirements. This is the case for renewables permitting: an ongoing SMET (Single Market Enforcement Taskforce) project aims to remove several process-related barriers to renewable energy permitting, particularly the lack of staff or technical capacity, but also extensive requirements and delays in administrative processes.

Also, regulatory restrictiveness in Austria is higher than the EU average for many regulated professions, especially for lawyers, architects and civil engineers. These access barriers and restrictive rules include, amongst other, extensive reserved activities and interdisciplinary restrictions. The Austrian Recovery and Resilience Plan does not include measures related to regulated professions ([113]). Additionally, the public procurement market lacks competitiveness. The percentage of single bids has increased in the last two years (from 22% in 2020 to 29% in 2022, see table A12.1). Austria remains among the most restrictive Member States in retail operations ([114])

Overall Austria performs above the EU average in digital public services, significantly exceeding the EU average on the number of e-government users. However, it scores slightly below EU average in digital public services for businesses. Furthermore, the capacity of the Austrian public administration to apply EU rules on the Single Market could be improved by increasing staffing in national SOLVIT centres, which provide solutions related to problems with applying EU rights.

Graph A12.2: **Business environment and productivity drivers**



Source: 1) % of GDP, 2021 Eurostat;
2) composite indicator, 2021 European Investment Fund access to finance index;
3) average payment delay in number of days, 2022 Intrum;
4) % of firms in manufacturing facing constraints, 2022 European Commission business consumer survey;
5) proportion of contracts awarded with a single bidder, 2022 Single Market Scoreboard.

([112])2022 European Payment Report, Intrum

([113])OECD, "Assessment of the links between the European National Recovery and Resilience Plans and the OECD Product Market Regulation Indicators", 2022

([114])European Commission, Retail Restrictiveness Indicator (2022 update), forthcoming

Table A12.1:**Industry and Single Market**

	POLICY AREA	INDICATOR NAME	2018	2019	2020	2021	2022	EU27 average (*)
HEADLINE INDICATORS	Economic Structure	Net private investment, level of private capital stock, net of depreciation, % GDP [1]	5.6	6	4.6	6	5.5	**3.7**
		Net public investment, level of public capital stock, net of depreciation, % GDP [1]	0.5	0.6	0.6	0.8	0.6	**0.4**
		Real labour productivity per person in industry (% yoy)[2]	1.3	-0.6	-3.7	7.4	1.5	**1.4**
	Cost competitive-ness	Nominal unit labour cost in industry (% yoy)[2]	2.1	3.1	3.7	-4.5	4.4	**2.9**
RESILIENCE	Shortages	Material shortage (industry), firms facing constraints, % [3]	15	9	5	28	35	**47**
		Labour shortage using survey data (industry), firms facing constraints, % [3]	17	16	7	15	21	**28**
		Vacancy rate (business economy)[4]	3.5	3.7	3	4.3	5.7	**3.1**
	Strategic dependencies	Concentration in selected raw materials, Import concentration index based on a basket of critical raw materials [5]	0.22	0.2	0.17	0.17	0.2	**0.18**
		Installed renewables electricity capacity, % of total electricity produced [6]	78.1	80.6	80.9	82	n.a.	**50.9**
SINGLE MARKET	Single Market integration	EU trade integration, % [7]	38.0	37.8	35.1	38.6	42.5	**45.8**
	Restrictions	EEA Services Trade Restrictiveness Index [8]	0.06	0.06	0.06	0.06	0.06	**0.05**
	Public procurement	Single bids, % of total contractors [9]	16	24	22	25	29	**29**
BUSINESS ENVIRONMENT - SMEs	Investment obstacles	Impact of regulation on long-term investment, % of firms reporting business regulation as major obstacle [10]	37	35.8	29.2	35.4	34.4	**29.6**
	Business demography	Bankruptcies, Index (2015=100)[11]	n.a.	n.a.	n.a.	n.a.	n.a.	**73.6**
		Business registrations, Index (2015=100) [11]	n.a.	n.a.	n.a.	n.a.	n.a.	**121**
	Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment [12]	1	1	14	12	14	**13**
		Payment gap - public sector, difference in days between offered and actual payment [12]	6	18	13	11	14	**15**
		Share of SMEs experiencing late payments in past 6 months, % [13]	n.a.	38.2	30.4	30.4	32.3	**43**
	Access to finance	EIF Access to finance index - Loan, Composite: SME external financing over last 6 months, index values between 0 and 1 [14]	0.81	0.73	0.72	0.73	n.a.	**0.46**
		EIF Access to finance index - Equity, Composite: VC/GDP, IPO/GDP, SMEs using equity, index values between 0 and 1 [14]	0.08	0.15	0.08	0.12	n.a.	**0.23**

(1) last available year

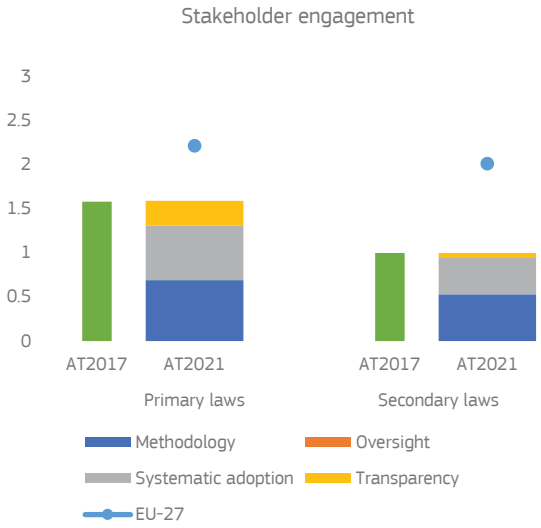
Source: (1) AMECO, (2) Eurostat, (3) ECFIN BCS, (4) Eurostat, (5) COMEXT and Commission calculations, (6) Eurostat, (7) Eurostat, (8) OECD, (9) Single Market Scoreboard, (10) EIB survey, (11) Eurostat: (12) Intrum, (13) SAFE Survey, (14) EIF SME Access to Finance Index.

This Annex outlines the performance of Austria's public administration, which is essential for providing services and carrying out reforms. After the COVID-19 crisis, government effectiveness in Austria remained above the EU average ([115]), despite challenges in the alignment of policymaking and policy implementation across different levels of government. The government continues to pursue its reform objectives, set out in the responsible for Austria 2020-2024 programme, focusing on transparency, simplification of decision-making structures, a new fiscal equalisation scheme, a modern and transparent funding system, sustainable public procurement, electoral law reform, and an up-to-date law on political parties.

Austria's regulatory system is generally well-developed. Austria's overall evidence-based policy making indicator is above the EU average (Table A13.1). Government decisions and *ex ante* and *ex post* evaluations of primary legislation are publicly available. Regulatory impact assessments have been carried out since 2013 but are only obligatory for government bills (approximately 30% of all laws). Stakeholder engagement, however, is below the EU average (Graph A13.1). This is due to, among other things, the lack of interactive platforms, or the absence of public responses from policymakers to comments received during consultation ([116]). Recent reforms are aimed at improving public consultations by allowing input to all legislative proposals throughout the entire legislative process. However, the limited number of public consultation comments received by July 2022 on non-COVID-19 related laws ([117]) may indicate a need for awareness-raising, in addition to providing platforms and tools.

Austria has advanced in the digitalisation of its public administration and the delivery of digital services. In 2021, 79% of internet users in Austria used the internet for interacting with public authorities versus 65% on average in the EU. Austria's digital transition constitutes one of the main pillars of its recovery and resilience plan (RRP). The planned reforms and investments are expected to accelerate the digital transformation of the federal administration, reduce administrative procedures for companies and individuals. The implementation of the 'once-only' principle is expected to simplify administrative requirements and encourage investment, in particular for SMEs.

Graph A13.1: **Indicators of regulatory policy and governance: stakeholder engagement**



Source: Indicators of Regulatory Policy and Governance Surveys 2017 and 2021 (http://oe.cd/ireg)

Participation in adult learning is above the EU average, and gender parity is still lagging behind. The indicators show an older workforce than the EU-27 average in the NACE O sector (i.e., public administration, defence, and social security) (Table A13.1), due to restrictive recruitment policies ([118]). The share of public employees with higher education in the same sector, and gender parity in senior management positions, both remain below the EU average. The adoption of the new amendment to the public service law in 2022 is expected to help reverse some of these trends, by encouraging young people to apply for jobs in the public sector and by offering administrative trainees with a university a significantly higher starting salary. Part-time employees will now also receive equal pay for additional work which is expected to benefit the large group of part-time female employees.

([115])Worldwide Governance Indicators, 2021.

([116])European Commission, DG REFORM, Public administration and governance: Austria, Publications Office of the EU, 2023 (forthcoming).

([117])Austrian Parliament (https://www.parlament.gv.at/index.shtml).

([118])European Commission, DG REFORM, Public administration and governance: Austria, Publications Office of the EU, 2023 (forthcoming).

Table A13.1:**Public administration indicators**

AT	Indicator ([1])	2017	2018	2019	2020	2021	2022	EU-27([2])
E-government and open government data								
1	Share of individuals who used the internet within the last year to interact with public authorities (%)	70.1	75.3	78.8	80.9	78.5	n/a	64.8
2	E-government benchmark overall score ([3])	n/a	n/a	n/a	84.1	76.3	77.8	72.9
3	Open data and portal maturity index	n/a	0.6	0.7	0.9	0.9	0.8	0.8
Educational attainment level, adult learning, gender parity and ageing								
4	Share of public administration employees with tertiary education (levels 5-8, %)	32.8	36.9	38.1	38.0	38.9 (b)	41.2	52.0
5	Participation rate of public administration employees in adult learning (%)	18.8	17.8	18.3	13.1	17.8 (b)	20.3	16.9
6	Gender parity in senior civil service positions ([4])	25.4	24.6	20.6	22.0	19.0	16.4	11.0
7	Ratio of 25-49 to 50-64 year olds in NACE sector O	1.4	1.3	1.3	1.4	1.4 (b)	1.5	1.5
Public financial management								
8	Medium term budgetary framework index	0.6	0.6	0.6	0.7	0.7	n/a	0.7
9	Strength of fiscal rules index	1.3	1.3	1.3	1.3	1.3	n/a	1.5
Evidence-based policy making								
10	Regulatory governance	1.89	n/a	n/a	n/a	1.86	n/a	1.7

([1]) High values denote a good performance, except for indicator # 6. ([2]) 2022 value. If not available, the 2021 value is shown. ([3]) Measures the user centricity (including for cross-border services) and transparency of digital public services as well as the existence of key enablers for the provision of those services. ([4]) Defined as the absolute value of the difference between the percentage of men and women in senior civil service positions.
Flags: (b) break in time series; (d) definition differs; (u) low reliability.
Source: ICT use survey, Eurostat (# 1); E-government benchmark report (# 2); Open data maturity report (# 3); Labour Force Survey, Eurostat (# 4, 5, 7), European Institute for Gender Equality (# 6); Fiscal Governance Database (# 8, 9); OECD Indicators of Regulatory Policy and Governance (# 10).

The justice system performs efficiently overall. The time it takes to hand down a decision in litigious civil and commercial cases remains very fast (135 days on average in first instance in 2021). Austria has continued to make improvements in administrative cases, with a very high clearance rate (125.2% in 2021) and a notable reduction in the time taken to hand down a decision, though this remains high overall (312 days on average in 2021 compared to 388 in 2020). The overall quality of the justice system is good. The level of digitalisation is very advanced. Digital tools are widely used in courts and prosecution services, including an electronic case management system, technology for distance communication and a secure remote working environment for judges and staff, electronic case allocation, and the use of artificial intelligence in core activities. As regards judicial independence, no systemic deficiencies have been reported ([119]).

([119])For a more detailed analysis of the performance of the justice system in Austria, see the 2023 EU Justice Scoreboard (forthcoming) and the country chapter for Austria in the 2023 Rule of Law Report (forthcoming).

ANNEX 14: EMPLOYMENT, SKILLS AND SOCIAL POLICY CHALLENGES IN LIGHT OF THE EUROPEAN PILLAR OF SOCIAL RIGHTS

The European Pillar of Social Rights is the compass for upward convergence towards better working and living conditions in the EU. This Annex provides an overview of Austria's progress in implementing the Pillar's 20 principles and EU headline and national targets for 2030 on employment, skills and poverty reduction.

Table A14.1: **Social Scoreboard for Austria**

Policy area	Headline indicator	
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24, 2022)	8.4
	Share of individuals who have basic or above basic overall digital skills (% of population aged 16-74, 2021)	63.33
	Youth NEET rate (% of population aged 15-29, 2022)	9.1
	Gender employment gap (percentage points, 2022)	7.8
	Income quintile ratio (S80/S20, 2021)	4.08
Dynamic labour markets and fair working conditions	Employment rate (% of population aged 20-64, 2022)	77.3
	Unemployment rate (% of active population aged 15-74, 2022)	4.8
	Long term unemployment (% of active population aged 15-74, 2022)	1.2
	GDHI per capita growth (2008=100, 2021)	97.95
Social protection and inclusion	At risk of poverty or social exclusion rate (% of total population, 2021)	17.3
	At risk of poverty or social exclusion rate for children (% of population aged 0-17, 2021)	22.8
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2021)	44.11
	Disability employment gap (percentage points, 2021)	26.3
	Housing cost overburden (% of total population, 2021)	6.1
	Children aged less than 3 years in formal childcare (% of population under 3-years-old, 2021)	28.5
	Self-reported unmet need for medical care (% of population 16+, 2021)	0.3

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

Update of 27 April 2023. Members States are classified on the Social Scoreboard according to a statistical methodology agreed with the EMCO and SPC Committees. It looks jointly at levels and changes of the indicators in comparison with the respective EU averages and classifies Member States in seven categories. For methodological details, please consult the Joint Employment Report 2023. Due to changes in the definition of the individuals' level of digital skills in 2021, exceptionally only levels are used in the assessment of this indicator; NEET: neither in employment nor in education and training; GDHI: gross disposable household income.
Source: Eurostat.

The Austrian labour market's performance improved on the back of a strong economic recovery and remained robust in the first half of 2022. The unemployment rate slightly rose in Q4-2022 to 5.0% after having decreased in the first half of 2022. It remains well below the EU average of 6.1%. Making significant progress towards the national employment rate target of 79.9% by 2030, the employment rate increased from 2021 by 1.7 percentage points (pps) to 77.3% in 2022. In addition, the Commission forecasts a robust development of the labour market in 2023 and 2024 ([120]). Increases in Austrian wages were not enough to compensate for the high inflation. Between Q3-2021 and Q3-2022, the nominal wage per employee grew by 4.3%, significantly trailing inflation and leading to a 5.1% decrease in real wages. This adds to a critical situation for the growth of gross domestic household income, which in 2022 was still lagging behind the 2008 level.

Women's labour market potential is not fully leveraged. The employment rate of women stood at 73.4% in 2022, well below the rate for men (81.2%). With 51%, Austria recorded one of the highest female part-time employment rates in the EU (2022). The limited supply of affordable and high-quality childcare remains a major restraint. 28.5% of children aged less than 3 years were in early childhood education and care (ECEC) in 2021, well below the EU's 33% Barcelona target ([121]). Around EUR 28 million from the Recovery and Resilience Facility is allocated to support expanding childcare facilities; however, there is scope for additional national measures. Increasing the availability of high-quality childcare may contribute to tackling the high share of women working part-time, the high gender pay gap and the resulting high gender pension gap. Other challenges are the relatively low remuneration of women in part-time work and the unequal division of childcare duties between parents.

Labour shortages are slowing economic growth ([122]). Austria's economy is increasingly experiencing shortages of labour ([123]), particularly in construction, manufacturing, tourism, the healthcare sector, ICT, and engineering. The job

([120]) ECFIN, Autumn 2022 Economic Forecast.

([121]) On 8 December 2022, the Council adopted a recommendation on early childhood education and care, which follows on the Barcelona target, increasing the target to 45% for Austria.

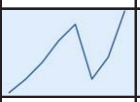
([122]) The number of open vacancies increased in 2022, showing considerable regional differences.

([123]) Around 272 000 in November 2022.

vacancy rate increased by 0.6 pps y-o-y to 4.6% in Q4-2022 and is one of the highest in the EU, significantly exceeding the EU average (2.8%). These shortages might dampen economic growth in some sectors and regions. In addition, skills shortages driven by a lack of technical skills, a regionally high demand of skilled workers, and demographic change put more pressure on the labour market.

Improved labour market participation of low-skilled people, older workers and those with a migrant background would reduce labour shortages. Around 45% of the long-term unemployed in Austria have only completed lower-secondary school (*Pflichtschule*) ([124]). Despite substantially improving from 46.3% in 2015 to 56.4% in 2022, the employment rate of older workers (aged 55-64) remains below the EU average of 62.3%. In addition, the participation of persons with disabilities in the open labour market has deteriorated, with Austria's disability employment gap increasing by 4.6 pps in 2021 to 25.1 pps, exceeding the EU average of 23.1 pps.

Table A14.2: **Situation of Austria on 2030 employment, skills and poverty reduction targets**

Indicators	Latest data	Trend (2015-2022)	National target by 2030	EU target by 2030
Employment (%)	77.3 (2022)		80	78
Adult learning[1] (%)	55.3 (2016)		62	60
Poverty reduction[2] (thousands)	+85 (2021)		-204	-15 000

(1) Adult Education Survey, adults in learning in the past 12 months.
(2) Number of persons at risk of poverty or social exclusion (AROPE), reference year 2019.
Source: Eurostat, DG EMPL.

Low qualifications and language barriers hinder the labour market participation of people with a migrant background. In 2014, 16.6% of Austrians with a migrant background had no knowledge or only a little knowledge of German. And in 2021, 23.6% of people with a migrant background aged 25-64 only had a lower-secondary school education. ([125]) The participation of 15-19-year-olds not born in Austria in education in 2020 was at 61.2%, well below nationals (80.7%). ([126]) Improving the availability of high-quality ECEC, all-day schools, improved teacher training and increased funding are key for better integration. Additionally, participation of pupils with a migrant background in regular classes and improved access to German language courses facilitates their integration in society. Moreover, there is scope for additional measures to better integrate the increasing numbers of people fleeing Ukraine into the Austrian labour market ([127]).

Most Austrians have basic digital skills. At 8.4%, the early school leaving rate increased only slightly and remained broadly stable in 2022. Around 75% of all students opted for vocational programmes in 2021 and 63% of Austrians had at least basic digital skills, well above the EU average of 54%. 15.8% of Austrian adults had participated in training over the past 4 weeks in 2022, significantly above the EU average of 11.9%. Austria has set a 2030 national target of 62% of adults in training annually, which already stood at 55.3% in 2016. However, an ageing population, which essentially reduces the labour supply, and the skills increasingly needed for the digital and green transitions highlight the need for further efforts. EU cohesion policy funds support up- and reskilling to address labour shortages and skills gaps and help match the needs of the labour market.

Social development has been affected by recent crises, but the effects have been cushioned by a strong social system. The number of people at risk of poverty or social exclusion increased to 17.3% in 2021 from 16.7% in 2020, a 7-year high, yet still below the EU average. Severe material and social deprivation continue to decrease (1.8% in 2021), but more people are at risk of falling into poverty (14.7%). Non-EU born (32.8%) and single-parent households (45.5%) are particularly at risk of poverty or social exclusion. In general, children continued to be at a higher risk of poverty and social exclusion in 2021 (22.8%), especially children of foreign-born parents (39.4%). The impact of social transfers (excluding pensions) on reducing poverty continues to be high (41.96%).

([124]) AMS, November 2022.

([125]) See Migration & Integration – Statistisches Jahrbuch 2022.

([126]) See Migration & Integration – Statistisches Jahrbuch 2021.

([127]) See Wie sich AMS-Chef Kopf die niedrige Arbeitslosenquote erklärt | kurier.at.

The housing overburden rate increased in 2022 to 7.4% (from 6.1% in 2021) with high energy prices being an increasing burden on households (see Annex 8). Although Austria is on the right track, there is scope for further social policy action to achieve the country's 2030 poverty reduction target of 204 000 fewer people at risk of poverty or social exclusion.

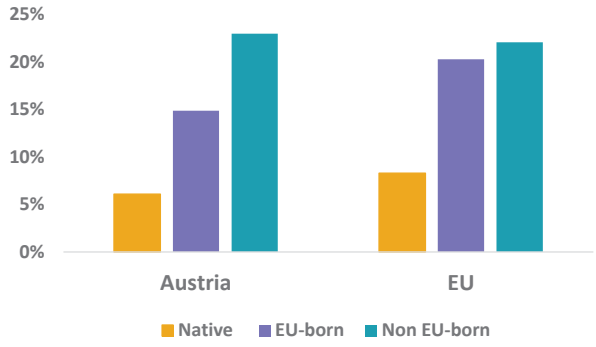
This Annex outlines the main challenges for Austria's education and training system in light of the EU-level targets and other contextual indicators under the European Education Area strategic framework, based on the 2022 Education and Training Monitor.

Teacher shortages in compulsory schools and in early childhood education and care (ECEC) are partially increasing. The teacher population is ageing, with 43% of all teachers in Austria being above 50 years old (EU: 39.2%). Teacher shortages are already pronounced in certain subjects and regions. In addition, it is increasingly difficult to recruit and train sufficient staff for ECEC. The government is taking measures to improve the attractiveness of the teaching profession ([128]), to improve working conditions ([129]), and to facilitate the training and integration of lateral entrants ([130]) into the education sector.

Participation in ECEC is below the EU average. Participation between the age of 3 and the age of compulsory schooling remains consistently just below 90% (EU: 93%) and well below the EU -level target for 2030 (96%). In May 2022, the federal government concluded a five-year agreement with the federal states (Länder), including a 40% increase of the annual federal budget contribution (EUR 200 million) by 40%, matched by an annual contribution of EUR 63 million from the regions. Key objectives are to continue compulsory participation of 5-year-olds in ECEC, to extend the offer of ECEC places, to promote early language learning and to increase the share of places for under-3-year-olds. While the agreement offers opportunities for quality improvement, like reducing child-staff ratios (albeit with a time limit), it still falls short of establishing a comprehensive quality framework. Access to quality ECEC has been the subject of country -specific recommendations in the past. The national recovery and resilience plan earmarks EUR 28 million to expand ECEC places for children below the age of 3 by 5% until by the end of 2023.

Educational outcomes continue to be significantly determined by the socio-economic and/or migrant background. The rate of early leavers from education and training (ELET) remained at 8.4% in 2022, below the EU average and already reaching the EU-level target. However, despite an overall positive trend, the rate for foreign-born pupils (19.2%) is about three times higher than the rate of native-born (6.1%). Education outcomes remain greatly influenced by socio-economic and educational family background. The OECD identifies significant performance gaps between 15-year-olds who attend the more vocationally oriented "Mittelschule" compared with those attending the more academically oriented "Gymnasium" ([131]).

Graph A15.1: **Early leavers from education and training (age 18-24) by country of birth, 2022 (%)**



Source: Eurostat

Austria is promoting digital education. Currently, 75% of 16–-19-year-olds have at least basic digital skills (6 pps above the EU average). The 8-point plan on digitalisation aims to improve digital hardware and connectivity in schools, the digital skills of teachers, and the quality of digital learning content, including through with improved access to it. A key initiative, financed through the Recovery and Resilience Facility, is to equip all pupils in fifth grade with a digital device (laptop or tablet, at the school's choice) to create equal conditions for digital learning in schools. During the pandemic, Austria invested, in particular in massive online learning courses (MOOC, to improve IT competences skills of teachers. Before the pandemic, Austrian teachers showed the least self-confidence in their IT skills compared to with

([128])e.g. biggest promotion campaign in last decades, "Great Job".

([129])Salary for young teachers has been increased even so life time earning somewhat reduced.

([130])Possibilities for lateral entry

([131])OECD (2020) Innovating teachers' professional learning through digital technologies, OECD Education Working Paper No 237.

Table A15.1:**EU-level targets and other contextual indicators under the European Education Area strategic framework**

				2015		2022	
Indicator			**Target**	**Austria**	**EU27**	**Austria**	**EU27**
[1]**Participation in early childhood education (age 3+)**			**96%**	**88.1%**	**91.9%**	**89.7%** [2020]	**93.0%** [2020]
[2]**Low achieving 15-year-olds in:**		**Reading**	**< 15%**	**22.5%**	**20.0%**	**23.6%** [2018]	**22.5%** [2018]
		Mathematics	**< 15%**	**21.8%**	**22.3%**	**21.1%** [2018]	**22.9%** [2018]
		Science	**< 15%**	**20.8%**	**21.1%**	**21.9%** [2018]	**22.3%** [2018]
Early leavers from education and training (age 18-24)	[3]**Total**		**< 9 %**	**7.3%**	**11.0%**	**8.4%**	**9.6%**
	[3] *By gender*	*Men*		7.8%	12.5%	9.5%	11.1%
		Women		6.8%	9.4%	7.4%	8.0%
	[4] *By degree of urbanisation*	*Cities*		9.7%	9.6%	11.9%	8.6%
		Rural areas		4.2%	12.2%	5.3%	10.0%
	[5] *By country of birth*	*Native*		5.5%	10.0%	6.1%	8.3%
		EU-born		12.1% [u]	20.7%	14.9%	20.3%
		Non EU-born		24.3%	23.4%	23.0%	22.1%
[6]**Equity indicator (percentage points)**				:	:	**19.2** [2018]	**19.3** [2018]
[7]**Exposure of VET graduates to work based learning**	**Total**		**≥ 60% (2025)**	:	:	**89.8%**	**60.1%**
Tertiary educational attainment (age 25-34)	[8]**Total**		**45%**	**38.6%**	**36.5%**	**43.1%**	**42.0%**
	[8] *By gender*	*Men*		35.8%	31.2%	38.7%	36.5%
		Women		41.5%	41.8%	47.6%	47.6%
	[9] *By degree of urbanisation*	*Cities*		48.5%	46.2%	53.3%	52.2%
		Rural areas		31.6%	26.9%	35.1%	30.2%
	[10] *By country of birth*	*Native*		40.4%	37.7%	43.1%	43.0%
		EU-born		41.4%	32.7%	49.8%	39.5%
		Non EU-born		28.1%	27.0%	37.4%	35.7%
[11]**Share of school teachers (ISCED 1-3) who are 50 years or over**				43.3%	38.3%	42.6% [2020]	39.2% [2020]

Source: (1,3,4,5,7,8,9,10,11) = Eurostat; 2 = OECD (PISA); 6 = European Commission (Joint Research Centre). Notes: Data is not yet available for the remaining EU-level targets under the European Education Area strategic framework, covering underachievement in digital skills and participation of adults in learning. The equity indicator shows the gap in the share of underachievement in reading, mathematics and science (combined) among 15-year-olds between the lowest and highest quarters of socio-economic status.

other teachers in the EU ([132]). Investing in their skills strengthens a more integrated continued professional development.

Tertiary education attainment and participation in science, technology, engineering and mathematics (STEM) education are high, but gender gaps persist. In 2022, tertiary education attainment stood at 43.1%. (0.7 pps more than in 2021), also above the EU average (42%), but below the EU-level target (45%). In 2020, 30.6% of Austrian graduates had a degree in STEM subjects. With this, Austria had one of the highest EU shares of STEM graduates among all graduates in the EU, (5.7pps above the EU average). However, despite efforts, Austria could not yet significantly increase female participation in STEM. In 2020, the share of female STEM graduates among all graduates stood at the EU average (8.1%). However, in view of the high STEM participation of men, this points to a significant gender gap: among the Austrian STEM graduates, women constitute only 26.3% of all STEM graduates, 6.2 pps below the EU average.

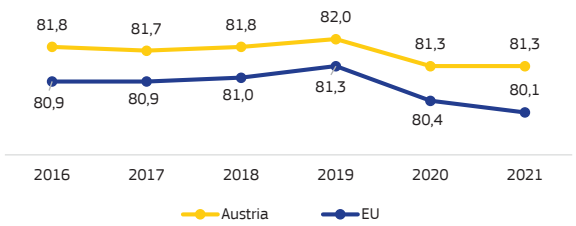
Overall, Austria has a very good vocational education and training system, and similarly for the adult learning system, but skills shortages and inequalities do exist (see Annex 14).

([132])OECD (2019) TALIS 2018

A healthy population and an effective, accessible and resilient health system are prerequisites for a sustainable economy and society. This Annex provides a snapshot of population health and the health system in Austria.

In 2021, life expectancy in Austria was 81.3 years, above the EU average of 80.1 years. There was no change in life expectancy between 2020 and 2021 despite a further increase in the number of COVID-19 deaths in 2021 ([133]). In general, treatable and preventable mortality rates are lower than the EU average. In 2020, the leading causes of death were diseases of the circulatory systems followed by cancer and COVID-19. However, cancer mortality rates are lower than the EU average.

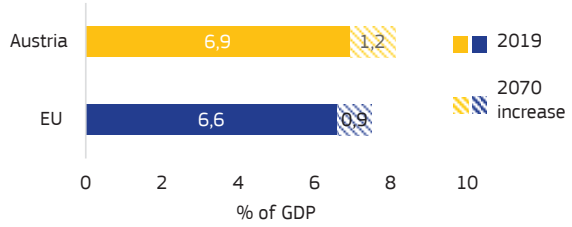
Graph A16.1: **Life expectancy at birth, years**



Source: Eurostat

Health spending relative to GDP in Austria was above the EU average in 2020. With EUR 4 095, health spending per capita in Austria was among the highest in the EU and well above the EU average of EUR 3 269. The biggest part of healthcare spending was directed towards inpatient care. With 31.9%, Austria was well above the EU average of 26.4%. This is partly reflected in a high number of hospital beds compared to the EU average. Spending on outpatient care was 26.1%, above the EU average of 22.6%. With 16.2%, spending on medical goods was below the EU average of 18.2%. The public share of health expenditure was 76.5%, a slight increase compared to the years before, but still below the EU average of 81.2%. This points to an elevated cost-sharing rate for households when accessing healthcare. That said, self-reported unmet needs for medical examination in Austria are among the lowest in the EU (see Annex 14). Overall, public spending on health is projected to increase by 1.2 percentage points (pps) of GDP by 2070 (compared to 0.9 pps for the EU overall), raising long-term fiscal sustainability concerns.

Graph A16.2: **Projected increase in public expenditure on healthcare over 2019-2070**



AWG reference scenario
Source: European Commission / EPC (2021)

The share of spending on disease prevention in Austria has increased considerably. It went up from 2.1% (2019) to 3.6% (2020), which is above the EU average of 3.4% (2020). In absolute terms, spending on prevention in Austria increased by 78% between 2019 and 2020 (compared to a 26% increase for the EU overall). Across the EU, this increase was primarily driven by spending on disease detection, surveillance, control and response programmes as part of the public health response to COVID-19. Between 2019 and 2020, a remarkable proportional increase in reported spending was noted in Austria for epidemiological surveillance and risk and disease control programmes. A further aspect that is relevant to public health is the consumption of antimicrobials for systemic use in the community (expressed as daily defined doses per 1 000 inhabitants per day). For Austria (2021), it was half of the EU average, pointing to a prudent use of these medicines in the health system.

In Austria, there are more doctors and nurses than in the EU on average. The number of doctors per 1 000 population remained relatively constant at 5.5 in 2021 (EU average: 3.9 in 2020). The number of nurses per 1 000 population was 10.5 (2020), compared to an EU average of 8.3 (2020). Regarding the age profile of nursing professionals, it has to be noted that in 2016, 24% were over the age of 55. This raises some concerns in terms of the sustainability of current nursing workforce levels.

([133])Based on data provided directly by Member States to ECDC under the European Surveillance System (data current as of 13 April 2023).

Table A16.1:**Key health indicators**

	2017	2018	2019	2020	2021	EU average (latest year)
Treatable mortality per 100 000 population (mortality avoidable through optimal quality healthcare)	76.2	75.2	73.2	70.4	NA	91.7 (2020)
Cancer mortality per 100 000 population	234.3	234.0	229.6	230.5	NA	242.2 (2020)
Current expenditure on health, % GDP	10.4	10.3	10.5	11.5	NA	10.9 (2020)
Public share of health expenditure, % of current health expenditure	74.0	74.7	75.1	76.5	NA	81.2 (2020)
Spending on prevention, % of current health expenditure	2.1	2.1	2.1	3.6	NA	3.4 (2020)
Acute care beds per 100 000 population	549	539	531	513	NA	387.4 (2019)
Doctors per 1 000 population *	5.2	5.2	5.3	5.3	5.5	3.9 (2020)
Nurses per 1 000 population *	6.9	6.9	10.4	10.5	NA	8.3 (2020)
Consumption of antibacterials for systemic use in the community, daily defined dose per 1 000 inhabitants per day (total consumption in CY and CZ) **	11.9	10.4	9.8	7.1	7.2	14.5 (2021)

Note: The EU average is weighted for all indicators, except for (*) and (**), for which the EU simple average is used. The simple average for (*) uses data for 2020 or most recent year if former not available. Doctors' density data refer to practising doctors in all countries except EL, PT (licensed to practice) and SK (professionally active). Nurses' density data refer to practising nurses in all countries except FR, PT, SK (professionally active) and EL (nurses working in hospitals only).
Source: Eurostat; except: ** ECDC

Through its recovery and resilience plan (RRP), Austria plans to invest EUR 254 million (7.3% of the RRP's total value) in healthcare. The largest health investment under the RRP aims to expand multi-professional primary healthcare units across the territory. In addition, the RRP comprises investments in the implementation of community nursing, the national roll-out of 'early aid' for socially disadvantaged pregnant women, their young children and families and the development of an electronic child pass platform.

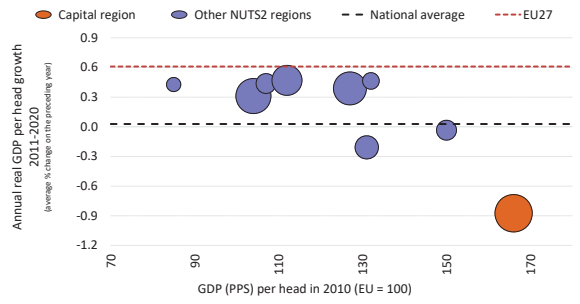
To supplement these investments, the RRP contains a reform to strengthen primary healthcare. The overall objective of the measure is to promote the attractiveness of working conditions for general practitioners and other health and social professions in primary health care.

This Annex showcases the economic and social regional dynamics in Austria, providing an update on the economic, social and territorial cohesion in and among the Austrian regions compared with the rest of the EU and the main regional economic recovery challenges.

Regional disparities in GDP per capita have steadily decreased ([134]) **over the past decade and are among the smallest in the EU.** However, some gaps persist between individual regions. In 2020, GDP per capita (in purchasing power standard (PPS)) in the regions of Salzburg and Wien corresponded to 143-144% of the EU average but was only 87% in Wien's neighbouring region Burgenland, which is the least developed region in Austria ([135]).

Real GDP per capita growth stagnated nationwide in 2011-2020 and was lower than the EU average (0.6%) in all regions. Annual growth was negative in Wien (-0.9%) and was modest in the other regions (ranging from -0.2% to 0.4%) (see Graph A17.1).

Graph A17.1: **GDP per capita (2010) and GDP growth (2011-2020) in Austria**

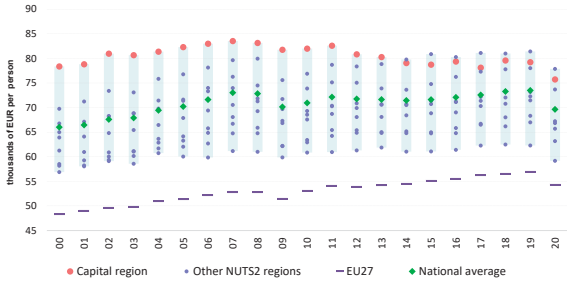


Source: EUROSTAT, DG REGIO elaboration
Note: Bubble sizes correspond to population size

Disparities in labour productivity have decreased internally since 2010. Labour productivity ([136]) was 114% of the EU average in purchasing power standard terms in 2020. It ranged from 125% in Vorarlberg to 99% in Burgenland.

Labour productivity is stagnating or decreasing in most regions. A substantial decline in 2020 resulted in negative annual growth. Annual labour productivity only grew in Kärnten (by 0.4%) and Vorarlberg (by 0.1%) in 2011-2020 and declined by 0.2% in Austria as a whole. Labour productivity stagnated or declined in all other regions, particularly in Wien (-0.8%) (see Graph A17.2). The overall labour productivity in Austria was 112 in 2021 (compared to EU average = 100).

Graph A17.2: **Evolution of labour productivity in Austria**



Source: Eurostat, DG REGIO elaboration
Unit: real GVA (gross value added) in millions of EUR (2015 prices) by employment in thousands of persons.

All regions rank above the EU average in terms of competitiveness ([137])**.** There are no significant differences in regional innovation performance. All regions at NUTS 1 level are classified as strong innovators ([138]).

Disparities in investment between the Austrian regions are minor. The Austrian investment rate (gross fixed capital formation as a share of GDP) reached 25% in 2019, ranging from 23% in Vorarlberg to 26% in Salzburg and Niederösterreich.

R&D expenditure is increasing at the national level, but regional disparities remain high. Expenditure on R&D was very high in Steiermark in 2019 (5.1% of GDP) – substantially higher than in Wien (3.7%) and Oberösterreich (3.5%) – and lowest in Burgenland (0.9%). At national level, R&D investment has increased continuously, driven by

([134])2020 marked a slight downward convergence in GDP per capita and labour productivity.

([135])The terms 'less/least developed' and 'more/most developed' are by reference to other regions in the same country. They should not be confused with the classification for fund eligibility criteria.

([136])Labour productivity is measured as gross value added (GVA) per person employed.

([137])2022 regional competitiveness index.

([138])Based on the score in the European innovation scoreboard, EU regions fall into four performance groups: innovation leaders, strong innovators, moderate innovators and emerging innovators.

Table A17.1:**Selected indicators at regional level - Austria**

NUTS 2 Region	GDP per head (PPS)	GDP per head growth	Population growth	Unemployment rate	R&D expenditure	Employment in high-technology sectors	Regional Competitiveness Index (RCI)	Quality of Government Index
	EU27=100, 2021	Avg % change on preceding year, 2011-2020	Total % change, 2011-2020	% of active population, 2021	% of GDP, 2019	% of total employment, 2020	EU27=100, 2022	Range 0-100, 2021
European Union	100	1.0	2.0	7.0	2.0	5.0	100.0	49.0
Österreich	123	0.0	6.4	6.2	3.1	4.1	113.8	-
Burgenland	87	0.4	3.9	5.1	0.9	2.4	106.4	69.8
Niederösterreich	104	0.3	4.9	5.1	1.8	2.9	118.9	73.9
Wien	143	-0.9	12.1	12.1	3.7	7.2		64.7
Kärnten	109	0.4	1.0	5.6	3.2	4.6	105.9	68.7
Steiermark	112	0.5	3.3	4.3	5.1	3.8	109.6	72.1
Oberösterreich	126	0.4	5.9	3.7	3.5	3.4	113.6	70.0
Salzburg	144	0.0	6.0	4.6	1.7	2.8	110.9	71.4
Tirol	123	-0.2	7.2	4.8	2.8	3.6	110.1	70.9
Vorarlberg	140	0.5	7.8	4.1	1.8	2.1	110.6	72.5

Source: EUROSTAT, EDGAR Database

both the public and private sectors. R&D investment in Austria has exceeded 3% of GDP since 2014, reaching 3.22% of GDP in 2021 (see Annex 11 on Innovation), but is still below the national target of 3.76% of GDP for 2020. The high-technology labour market, a sector in which R&D is crucial, is particularly subject to regional disparities. High technology employment reached 7.2% in Wien in 2020 but was only 2.1% in Vorarlberg, an ageing region.

Austria is experiencing regionally divergent demographic changes. Austria's national population increased by 6.4% in 2011-2020. There were significant increases of more than 10% in large agglomerations (the NUTS 3 regions of Wien and Graz), but some sub-regions of Kärnten, Steiermark and Tirol registered a demographic decline (ranging from -3.2% to -5.2%). This reflects rural-urban shifts within Austria, which result in the population rising in urban areas and expanding conurbations.

Austria's population grew primarily due to the impact of positive net migration (+6.3% in 2011-2020). The increases in net migration were significant in the large agglomeration NUTS 3 regions of Wien, Wiener Umland/Nordteil, Wiener Umland/Südteil and Nordburgenland (more than 10%). Only some subregions of Tirol and Kärnten and Steiermark registered negative net migration.

Population ageing may become a challenge. The population aged over 65 increased by 15% in 2011-2020. Over 19% of the population was aged over 65 in 2020, which was one of the lowest proportions in the EU. The working-age population increased by 6.1% in 2011-2020, but the share of young people under 20 stagnated (-0.5%). There is no specific geographical pattern in population ageing. Increases in the older population were lower than 10% in the NUTS 3 regions of Wien, and the sub-regions of Steiermark and Niederösterreich. Increases were higher than 20% in Vorarlberg, Salzburg and Tirol.

The COVID-19 pandemic led to an economic decline in Austria (-7.2%) and the labour market has not yet fully recovered. GDP per capita dropped in all regions in 2020. The pandemic's impact was particularly acute in touristic regions, such as Salzburg (-8.4%) and Tirol (-10.6%). Unemployment was still high in 2021 and well above the 2019 level but remained below the EU average. Excluding Wien, where unemployment at 12% is twice as high as the country average, the disparities in the unemployment rate remained small.

Austria has a large banking sector, with banks being the main financial intermediaries. The banking sector is predominantly domestically owned (87.4% of total banking-sector assets), but two large banks (Unicredit Austria and BAWAG) are majority foreign owned. Austria has several large credit institutions, two of the largest of which (Erste Group Bank and Raiffeisen Bank International) have a significant footprint in central, eastern and south-eastern Europe. Banking-sector concentration has increased slightly since 2019, with the share of total assets held by the five largest banks amounting to 38.7% at the end of 2021 (Table A18.1). The use of capital-market funding by companies has remained subdued, as the market-funding ratio stood slightly below 32.2% in 2022, below its 2021 level and markedly below the EU average of 50%. After a weak performance in 2020, sustainable financing has expanded steadily. It more than tripled in 2022 compared to 2021, with the volume of green-bond issuance reaching EUR 6.3 bn in 2022. To support the development of the green-bond market and the funding of environmentally friendly projects, the Austrian government launched its first green-bond issuance (for EUR 4 bn) in May 2022. In addition to longer-term green bonds, the Austrian government is also the EU's first government to include short-term instruments (i.e. treasury bills and commercial paper) in its green-debt programme.

Austrian banks have weathered well the challenges posed by the COVID-19 pandemic and the slowdown in economic growth. The system-wide solvency ratio stood at 18.8% in the third quarter of 2022, lower than at the end of 2021 (Table A18.1), as a large bank took a capital hit from its exposure to Russia. Although the capitalisation of Austrian banks has gradually improved in recent years, the largest banks still have lower capital buffers than their euro-area peers. Asset quality has improved for both corporates and households, with the non-performing-loan ratio declining to 1.6% in the third quarter of 2022 (below the EU average). Banking-sector profitability remained resilient and further improved in 2022, with return on equity standing at 7.3% in Q3-2022 (above the EU average of 6.1%). Due to efforts made by banks to reduce costs and rationalise their branch network, the cost-to-income-ratio declined to 52.1% in Q3-2022 (down from 59.3% at the end of 2021), below the EU average of 60.6%. Banks have a comfortable liquidity position and liquidity-coverage ratios markedly above the regulatory minima. In recent years, banks have benefited from an increase in deposits, in particular retail deposits, and from abundant central bank liquidity, which stood at 6.4% of total liabilities in Q3-2022. Mainly due to the strong deposit franchise of banks, the loan-to-deposit ratio has been on a declining path since 2019 and stood at 89.3% in Q3-2022, albeit still above the EU average of 88.6%.

Although banking-sector resilience has been safeguarded, several vulnerabilities require closer monitoring. The energy-intensive sectors are being affected by the increase in energy prices, energy bottlenecks, and supply-chain bottlenecks. This in turn is putting strain on the debt-servicing capacity of more vulnerable corporate borrowers and may impact the asset quality of banks. Meanwhile, indebted households are also faced with higher debt-service payments and the erosion of their disposable income. Although the share of loans with variable interest rates has decreased steadily in recent years, roughly 50% of new loans have variable interest rates. In addition, more than a third of mortgage loans to households are still granted with variable interest rates. The exposure of the Austrian banking sector to Russia also warrants close oversight. According to the European Banking Authority dashboard (Q1-2022), the exposure of Austrian banks to Russian counterparts amounted to EUR 14.98 bn or 19.9% of total EU exposure towards Russian counterparts by end-March 2022. This exposure, which is concentrated in one credit institution, has been manageable from a capital perspective, but further second-round effects and reputational risks cannot be excluded.

Due to favourable macroeconomic conditions, lending to households and corporates expanded further in 2022. Lending to corporates accelerated in the first half of 2022, with increased credit demand due to: (i) increased financing needs for working capital and inventories; and (ii) expectations about the tightening of monetary policy in the future. Lending to households also grew in 2022, supported by stable growth in mortgage lending and more robust growth in consumer lending compared to 2021. Meanwhile, the normalisation

Table A18.1: **Financial soundness indicators**

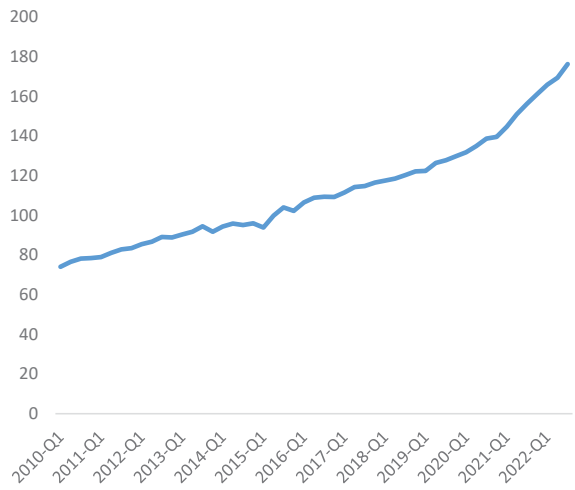
	2017	2018	2019	2020	2021	2022	EU	Median
Total assets of the banking sector (% of GDP)	219.5	217.9	219.6	252.9	246.2	225.2	276.8	207.9
Share (total assets) of the five largest banks (%)	36.1	36.0	36.0	38.5	38.7	-	-	68.7
Share (total assets) of domestic credit institutions (%)[1]	76.3	77.4	82.4	83.0	85.9	87.4	-	60.2
NFC credit growth (year-on-year % change)	6.9	9.3	7.0	5.0	8.5	7.7	-	9.1
HH credit growth (year-on-year % change)	3.0	3.6	4.3	4.5	5.9	3.7	-	5.4
Financial soundness indicators:[1]								
- non-performing loans (% of total loans)	3.5	2.6	2.2	2.0	1.8	1.6	1.8	1.8
- capital adequacy ratio (%)	18.9	18.6	18.7	19.5	19.3	18.8	18.6	19.8
- return on equity (%)[2]	8.7	8.6	7.8	4.1	6.4	7.3	6.1	6.6
Cost-to-income ratio (%)[1]	65.5	63.8	63.1	60.8	59.3	52.1	60.6	51.8
Loan-to-deposit ratio (%)[1]	97.8	98.8	100.9	90.4	88.6	89.3	88.6	78.0
Central bank liquidity as % of liabilities	3.1	3.0	2.5	8.3	10.3	6.4	-	2.9
Private sector debt (% of GDP)	122.3	122.9	121.5	130.4	129.7	-	-	120.7
Long-term interest rate spread versus Bund (basis points)	26.5	29.1	31.6	28.5	28.6	57.0	-	93.3
Market funding ratio (%)	35.0	33.8	32.5	34.2	32.2	-	50.8	40.0
Green bonds issued to all bonds (%)	0.4	0.4	0.9	1.1	1.4	2.4	3.9	2.3

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

(1) Last data: Q3 2022.
(2) Data is annualized.
Source: ECB, Eurostat, S&P Global Capital IQ Pro.

of monetary policy also led to an increase in the cost of lending to household and companies, in particular in the second half of 2022. The interest rate for new mortgage loans increased to 2.95% in November 2022, 1.75 percentage points higher than at the end of 2021, and the highest level since 2011.

Graph A18.1: **Housing prices**



(1) The data are expressed as quarterly index (2015=100)
Source: Eurostat.

The real-estate market in Austria has been buoyant since the mid-2000s, but recent developments point to a slowdown in the growth rate of house prices. Since mid-2020, house prices increased for eight successive quarters by more than 10% year-on-year. After increasing by 13.1% year-on-year in Q2-2022, growth in house prices moderated in Q3-2022, but were still up by more than 10% year-on-year. In recent years, Austria has introduced: (i) non-binding macro-prudential measures to mitigate vulnerabilities stemming from real-estate exposures; and (ii) enhanced real-estate reporting requirements for banks. However, these measures have brought only limited results in terms of achieving sustainable real estate lending. Following the European Systemic Risk Board's 2021 recommendation on the Austrian real-estate sector, banking supervisors introduced binding borrower-based measures to mitigate the risks associated with real-estate financing. The adopted measures, applying to new mortgage loans from 1 July 2022, include upper limits for loan-to-value ratios (90%), debt-service-to-income ratios (40%), and loan maturities (35 years). These limits are subject to exemptions that provide credit institutions with sufficient operational flexibility. Meanwhile, private-sector debt as a percentage of GDP declined to 129.7% at the end of 2021 (down from 130.4% in 2020) but remained markedly above the 2019 level (Table A18.1).

This Annex provides an indicator-based overview of Austria's tax system. It includes information on the tax structure (the types of tax that Austria derives most of its revenue from), the tax burden on workers, and the progressivity and redistributive effect of the tax system. It also provides information on tax collection and compliance.

Austria's tax revenues are high in relation to GDP, with the highest contribution coming from labour taxation while growth-friendly tax bases appear to be underused. Despite a series of tax reforms (in 2005, 2010, 2015 and two in 2022), Austria remains a high-tax country with a tax-to-GDP ratio above the EU average. As indicated in Table A19.1, labour tax revenues as a percentage of GDP were among the highest in the EU in 2021. Revenues from consumption taxes and environmental taxes as a percentage of GDP were very close to the EU aggregate. Revenues from capital taxes and property taxes were below the EU aggregate. Recurrent taxes on property as a percentage of GDP in Austria were among the lowest in the EU, also because the cadastral values serving as their tax base are largely outdated. Moreover, Austria has no inheritance or gift taxes.

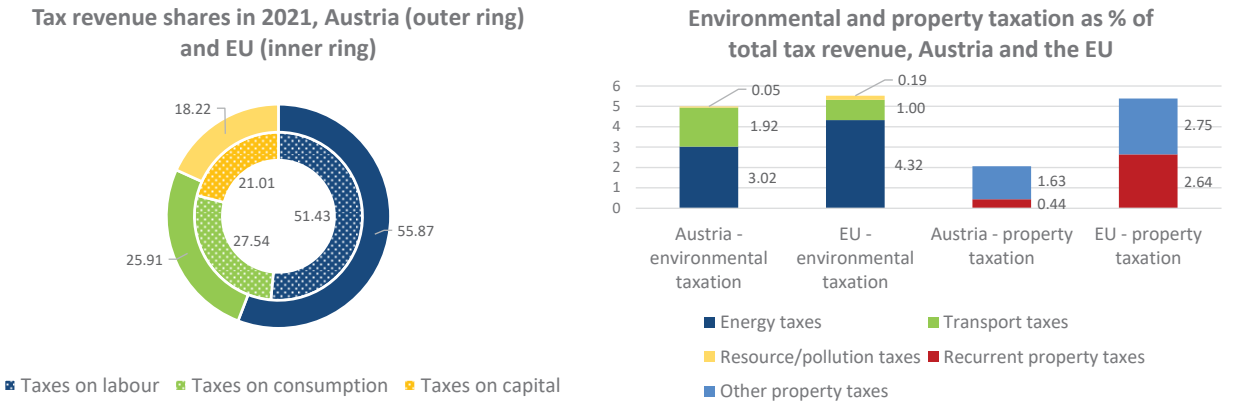
Austria has recently introduced several reforms to the tax system. The eco-social tax reform, which was adopted in February 2022, provides significant tax relief to households and businesses. With the introduction of a price path for CO_2 emissions in sectors currently not covered by the European Emissions Trading System, the eco-social tax reform also represents an important project from the Recovery and Resilience Plan (RRP). Furthermore, Austria abolished bracket creep in personal income tax by indexing tax brackets with two thirds of inflation as of 2023. The remaining third has to be used for further discretionary relief measures to be adopted by the ministerial council each year. Under a no-policy change assumption, this measure reduces the tax wedge. As one of the reform measures as part of its RRP Austria also reduced its lowest personal income tax (PIT) rate from 25% to 20% and extended the application of the top PIT rate of 55% until 2025 for income above EUR 1 million. Further reducing the labour tax burden beyond the adjustment to inflation (especially for low-income earners) and making greater use of growth-friendly taxes (e.g. recurrent property taxes and inheritance and gift taxes) would have the potential to boost economic growth and to make the tax system fairer.

Table A19.1:**Taxation indicators**

		Austria					EU-27				
		2010	2019	2020	2021	2022	2010	2019	2020	2021	2022
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	41.1	42.7	42.1	43.3		37.9	39.9	40.0	40.6	
	Labour taxes (as % of GDP)	23.1	23.7	24.2	24.2		20.0	20.7	21.3	20.9	
	Consumption taxes (as % of GDP)	11.6	11.4	11.0	11.2		10.8	11.1	10.7	11.2	
	Capital taxes (as % of GDP)	6.4	7.6	6.9	7.9		7.1	8.1	8.0	8.5	
	Total property taxes (as % of GDP)	0.7	0.8	0.9	0.9		1.9	2.2	2.2	2.2	
	Recurrent taxes on immovable property (as % of GDP)	0.2	0.2	0.2	0.2		1.1	1.2	1.2	1.1	
	Environmental taxes as % of GDP	2.3	2.3	2.1	2.2		2.4	2.4	2.2	2.2	
Progressivity & fairness	Tax wedge at 50% of average wage (Single person) (*)	38.4	38.6	36.8	37.2	34.0	33.9	32.3	31.9	32.1	31.7
	Tax wedge at 100% of average wage (Single person) (*)	48.2	47.9	47.5	47.8	46.8	41.0	40.1	39.9	39.7	39.7
	Corporate income tax - effective average tax rates (1) (*)		24.0	23.5	23.5			19.5	19.4	19.1	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	10.3	9.7	9.7	10.1		8.6	7.7	8.1	7.8	
Tax administration & compliance	Outstanding tax arrears: total year-end tax debt (including debt considered not collectable) / total revenue (in %) (*)		7.5	10.3				31.6	40.7		
	VAT Gap (% of VAT total tax liability, VTTL)		7.7	8.6				11.0	9.1		

(1) Forward-looking effective tax rate (OECD).
(2) A higher value indicates a stronger redistributive impact of taxation.
(*) EU-27 simple average
For more data on tax revenues as well as the methodology applied, see European Commission, Directorate-General for Taxation and Customs Union, *Taxation trends in the European Union: data for the EU Member States, Iceland, Norway and United Kingdom: 2021 edition*, Publications Office of the European Union, 2021, https://data.europa.eu/doi/10.2778/843047 and the *Data on Taxation* webpage, https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en.
For more details on the VAT gap, see European Commission, Directorate-General for Taxation and Customs Union, *VAT gap in the EU: report 2022*, Publications Office of the European Union, 2022, https://data.europa.eu/doi/10.2778/109823.
Source: European Commission, OECD.

Graph A19.1: **Tax revenues from different tax types as % of total taxation**

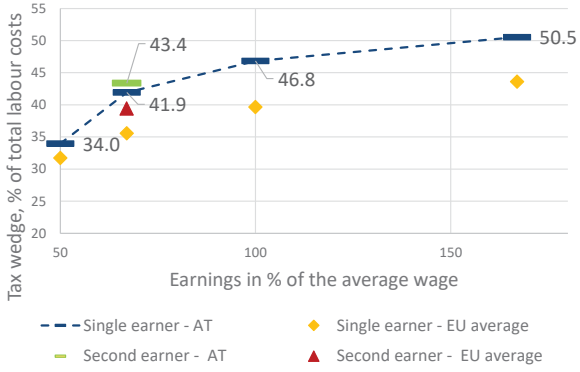


Note: Values for EU are GDP-weighted EU averages (EU aggregates)
Source: European Commission

Austria's tax-benefit system helps reduce income inequality, but the labour tax burden is relatively high at various wage levels. In 2022, the labour tax wedge was substantially higher than the EU average at various income levels, i.e. for single persons at the average wage (100%) as well as at 50%, 67% and 167% of the average wage (see Graph A19.2). Second earners at a wage level of 67% of the average wage, whose spouses earns the average wage ([139]), are subject to a tax wedge that is higher than the EU average, although they are only taxed slightly more heavily than single persons at the same wage level. Overall, the tax-benefit system effectively addresses income inequality. In 2021, the tax benefit system helped reduce income inequality, as measured by the GINI coefficient, by more than the EU average.

Austria performs relatively well on tax compliance and tax administration, including on digitalisation. Austria is doing moderately well in digitalising its tax administration, which can help reduce tax arrears and compliance costs. Outstanding tax arrears increased by 2.8 percentage points (pps) to 10.3% of total revenue in 2020, compared to 2019. The EU Annual report on taxation 2022 highlights the fact that Austria improved assistance to taxpayers by setting up an online portal for submitting tax-related requests (e.g. for tax deferrals or refunds) and developed digital tax forms and certificates. The VAT gap (the gap between revenues actually collected and the theoretical tax liability) slightly increased in Austria to 8.6% in 2020, which was contrary to the EU trend but still below the EU-wide VAT gap of 9.1%. Moreover, the average forward-looking effective corporate income tax rates were considerably higher than the EU average in 2021.

Graph A19.2: **Tax wedge for single and second earners as a % of total labour costs, 2022**



Note: Second earner tax wedge assumes first earner at 100% of the average wage and no children.
Source: European Commission

([139])For the methodology of the tax wedge for second earners see OECD (2016) "Taxing Wages 2014-2015" (https://www.oecd-ilibrary.org/sites/tax_wages-2016-4-en/index.html?itemId=/content/component/tax_wages-2016-4-en)

Table A20.1:**Key economic and financial indicators**

	2004-07	2008-12	2013-19	2020	2021	2022	forecast 2023	forecast 2024
Real GDP (y-o-y)	3.0	0.6	1.4	-6.5	4.6	5.0	0.4	1.6
Potential growth (y-o-y)	2.1	1.0	1.1	1.0	1.3	1.4	1.4	1.4
Private consumption (y-o-y)	1.9	0.9	0.8	-8.0	3.6	4.1	1.4	2.1
Public consumption (y-o-y)	2.1	1.2	1.1	-0.5	7.8	2.9	-0.4	0.3
Gross fixed capital formation (y-o-y)	1.7	-0.2	3.0	-5.3	8.7	-0.9	0.0	1.1
Exports of goods and services (y-o-y)	7.6	1.2	3.4	-10.7	9.6	11.1	1.5	2.5
Imports of goods and services (y-o-y)	6.2	1.3	3.4	-9.2	13.7	5.7	2.0	2.3
Contribution to GDP growth:								
Domestic demand (y-o-y)	1.9	0.7	1.3	-5.6	5.6	2.5	0.6	1.4
Inventories (y-o-y)	0.4	-0.1	-0.1	0.1	0.7	-0.3	0.0	0.0
Net exports (y-o-y)	0.9	0.0	0.1	-1.1	-1.7	3.0	-0.2	0.2
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	0.3	0.0	0.3	0.2	0.3	0.4	0.5	0.5
Capital accumulation (y-o-y)	0.7	0.5	0.6	0.5	0.6	0.6	0.5	0.5
Total factor productivity (y-o-y)	1.2	0.5	0.2	0.3	0.3	0.4	0.4	0.4
Output gap	0.2	-0.3	0.1	-5.4	-2.4	1.1	0.0	0.2
Unemployment rate	5.7	5.1	5.7	6.0	6.2	4.8	4.9	5.0
GDP deflator (y-o-y)	2.1	1.7	1.8	2.6	1.9	5.0	7.2	4.2
Harmonised index of consumer prices (HICP, y-o-y)	2.0	2.3	1.6	1.4	2.8	8.6	7.1	3.8
HICP excluding energy and unprocessed food (y-o-y)	1.6	2.0	1.9	2.0	2.1	5.7	7.4	5.0
Nominal compensation per employee (y-o-y)	2.5	2.2	2.3	1.8	2.8	4.6	8.3	6.6
Labour productivity (real, hours worked, y-o-y)	2.4	0.6	0.6	2.5	-0.2	2.0	-0.4	-0.8
Unit labour costs (ULC, whole economy, y-o-y)	0.9	2.5	1.9	7.1	0.3	2.2	8.5	5.9
Real unit labour costs (y-o-y)	-1.2	0.8	0.2	4.4	-1.7	-2.6	1.3	1.7
Real effective exchange rate (ULC, y-o-y)	-0.4	0.4	0.5	3.0	-0.1	-1.5	2.3	2.1
Real effective exchange rate (HICP, y-o-y)	0.1	-0.4	0.7	1.6	0.2	-1.4	.	.
Net savings rate of households (net saving as percentage of net disposable income)	11.2	10.0	7.5	13.3	12.0	.	.	.
Private credit flow, consolidated (% of GDP)	5.9	2.2	3.0	4.4	7.4	.	.	.
Private sector debt, consolidated (% of GDP)	124.1	129.7	123.7	130.4	129.7	.	.	.
of which household debt, consolidated (% of GDP)	50.9	53.1	50.5	53.2	52.1	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	73.2	76.6	73.2	77.2	77.6	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (1)	.	3.4	3.9	1.8	1.6	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	0.0	1.9	0.5	5.2	2.4	2.2	1.8	0.3
Corporations, gross operating surplus (% of GDP)	26.9	25.3	24.2	25.0	25.7	24.8	25.2	23.0
Households, net lending (+) or net borrowing (-) (% of GDP)	5.2	4.0	2.4	5.6	4.0	1.2	1.3	2.2
Deflated house price index (y-o-y)	0.7	2.9	3.5	6.1	9.9	3.8	.	.
Residential investment (% of GDP)	4.4	4.3	4.4	5.0	5.3	5.2	.	.
Current account balance (% of GDP), balance of payments	2.9	2.6	1.9	3.0	0.4	0.7	0.7	1.2
Trade balance (% of GDP), balance of payments	3.8	3.2	3.3	3.0	0.5	1.4	.	.
Terms of trade of goods and services (y-o-y)	-0.7	-0.7	0.2	0.8	-1.3	-3.5	1.8	0.7
Capital account balance (% of GDP)	-0.1	-0.1	-0.2	-0.1	0.0	0.1	.	.
Net international investment position (% of GDP)	-12.8	-5.1	5.1	11.5	14.7	14.6	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (2)	-9.8	-11.3	-7.8	-4.6	-4.2	-4.6	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (2)	175.9	193.7	160.3	158.2	155.7	144.0	.	.
Export performance vs. advanced countries (% change over 5 years)	13.5	-3.5	-4.8	5.9	1.7	.	.	.
Export market share, goods and services (y-o-y)	-0.5	-4.8	0.6	0.5	-3.8	7.0	-1.1	-1.2
Net FDI flows (% of GDP)	1.4	2.8	0.7	2.8	1.8	-0.2	.	.
General government balance (% of GDP)	-2.8	-3.2	-1.0	-8.0	-5.8	-3.2	-2.4	-1.3
Structural budget balance (% of GDP)	.	.	-0.8	-4.9	-4.4	-3.8	-2.5	-1.5
General government gross debt (% of GDP)	66.5	79.1	79.5	82.9	82.3	78.4	75.4	72.7

(1) Domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
(2) Net international investment position (NIIP) excluding direct investment and portfolio equity shares.
Source: Eurostat and ECB as of 2 May 2023, where available; European Commission for forecast figures (Spring forecast 2023).

This Annex assesses fiscal sustainability risks for Austria over the short, medium and long term. It follows the same multi-dimensional approach as the European Commission's 2022 Debt Sustainability Monitor, updated based on the Commission 2023 spring forecast.

1 - Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks (Table A21.2) ([140]). Gross financing needs are expected to decline over the short term (2023-2024), reaching around 15% of GDP by 2024, also below the recent peak in 2020 (Table 1 in this annex). Financial markets' perceptions of sovereign risk are positive, as confirmed by the ratings of the main agencies.

2 - Medium-term risks to fiscal sustainability are low overall.

The DSA for Austria shows that, under the baseline, the government debt ratio is projected to decline over the 2020s before increasing again slightly, though remaining above 60% of GDP in 2033 (at 69% of GDP) (Table 1) ([141]) ([142]). The assumed structural primary balance (a small deficit of 0.2% of GDP) contributes to these developments. It appears plausible compared with past fiscal performance, indicating that the country has ample room for corrective action if needed. At the same time, the baseline projection benefits up to 2033 from a still favourable (although declining) snowball effect, notably thanks to the impact of Next Generation EU, with real GDP growth at around 1.2% over 2025-2033. Government gross financing needs are expected to remain relatively limited over the projection period, remaining at around 14% of GDP until 2033, broadly unchanged compared with the level forecast for 2024.

The baseline projection is stress-tested against four alternative scenarios to assess the impact of changes in key assumptions (Graph 1). For Austria, reverting to a historical fiscal position under the 'historical structural primary balance (SPB)' scenario would lower the debt level. If the SPB gradually converged its historical 15-year average (a surplus of 0.2% of GDP), the projected debt-to-GDP ratio would be about 2 pps. lower than in the baseline by 2033. The 'lower structural primary balance' scenario (with the SPB level permanently 1.3 pps. lower than in the baseline) would lead to a significantly higher government debt-to-GDP ratio (+13 pps. of GDP by 2033) compared with the baseline. A permanent worsening of the macro-financial conditions, as reflected under the 'adverse interest-growth rate differential' scenario (with a differential 1 pp. higher than the baseline) would also result in a persistently higher government debt-to-GDP ratio, by around 6 pps. of GDP by 2033, as compared with the baseline. A temporary worsening of financial conditions, as reflected in the 'financial stress' scenario (with a temporary increase of interest rates by 1 pp.), would only marginally increase the debt ratio (+0.6 pp. of GDP by 2033) compared with the baseline.

Additionally, stochastic debt projections indicate low risk (Graph 2) ([143]). These projections point to a 16% probability of the debt ratio in 2027 being greater than in 2022, entailing low risk given the initial moderate level of debt However, some uncertainty (as measured by the difference between the 10th and 90th debt

([140]) The S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of macro-financial and fiscal variables that have proven to perform well in the past in detecting situations of upcoming fiscal stress.

([141]) The assumptions underlying the Commission's 'no-fiscal-policy-change' baseline notably comprise: (i) a structural primary deficit, before ageing costs, of 0.2% of GDP as of 2024; (ii) inflation converging linearly towards the 10-year forward inflation-linked swap rate 10 years ahead (which refers to the 10-year inflation expectations 10 years from now); (iii) the nominal short- and long-term interest rates on new and rolled over debt converging linearly from current values to market-based forward nominal rates by T+10 (as for all Member States); (iv) real GDP growth rates from the Commission 2023 spring forecast until 2024, followed by EPC/OGWG 'T+10 methodology' projections between T+3 and T+10, i.e. for 2025-2033 (on average 1.2%); (v) ageing costs in line with the 2021 Ageing Report (European Commission, Institutional Paper 148, May 2021). For information on the methodology, see the 2022 Debt Sustainability Monitor (European Commission, Institutional Paper 199, April 2023).

([142]) Table 1 shows the baseline debt projection and its breakdown into the primary balance, the snowball effect (the combined impact of interest payments and nominal GDP growth on the debt dynamics) and the stock-flow adjustment.

([143]) These projections show the impact on debt of 2000 different shocks affecting the government's primary balance, economic growth, interest rates and exchange rates. The cone covers 80% of all simulated debt paths, therefore excluding tail events

distribution percentiles) surrounds the baseline debt projection.

3 - Long-term risks to fiscal sustainability are medium overall ([144]).

The S2 sustainability gap indicator (at 2.9 pps. of GDP) points to medium risk, suggesting that Austria would need to significantly improve its structural primary balance to ensure debt stabilisation over the long term. This result is mainly underpinned by the projected increase in ageing-related costs (contribution of 2.4 pps. of GDP), while the initial budgetary position contributes 0.5 pp. of GDP (Table 2). Developments in ageing costs over the long term are primarily driven by the projected increase in long-term care and health care expenditure (joint contribution of 2.5 pps. of GDP). Hence, while a number of investments and reforms in the RRP contribute to supporting the efficiency of the Austrian health and long-term care systems, additional measures may be required to further improve its fiscal sustainability. Pension expenditure is not projected to increase over the long term, although it is expected to increase until the mid-2030s.

The S1 indicator also highlights some debt vulnerabilities, confirming the assessment of overall long-term risks as medium. Indeed, the S1 sustainability gap indicator signals that a consolidation effort of 2.1 pps. of GDP would be needed to reduce debt to 60% of GDP by 2070. This result is mainly driven by the projected increase in ageing costs, while the small contribution from Austria's initial debt level is partially offset by its favourable initial budgetary position (Table 2).

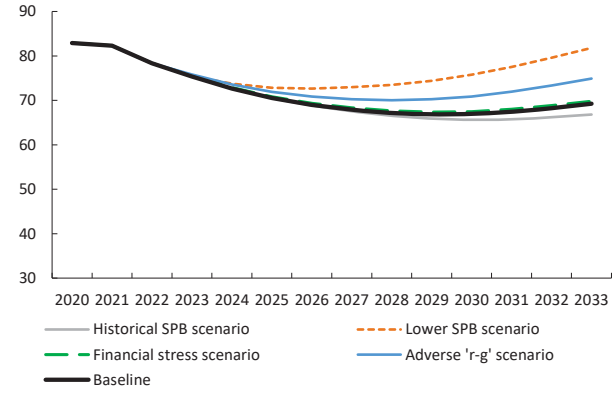
Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the recent increase in interest rates and the fact that around 60% of the debt is held by non-residents. In addition, some contingent liability risks stem from the private sector, including via the possible materialisation of state guarantees. On the other hand, risk-mitigating factors include the lengthening of debt maturity in recent years and the currency denomination of debt. In addition, the structural reforms under the NGEU/RRF, if fully implemented, could have a further positive impact on GDP growth in the coming years, and therefore help to mitigate debt sustainability risks.

([144]) The S2 fiscal sustainability indicator measures the permanent SPB adjustment in 2024 that would be required to stabilise public debt over the long term. It is complemented by the S1 indicator, which measures the fiscal gap in 2024 to bring the debt-to-GDP ratio to 60% in the long term. For both the S1 and S2 indicators, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6 pps. of GDP, 'medium risk' if it lies between 2 pps. and 6 pps. of GDP, and 'low risk' if the effort is negative or below 2 pps. of GDP. The overall long-term risk classification brings together the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 when it signals a higher risk than S2. See the 2022 Debt Sustainability Monitor for further details.

Table A21.1: **Debt sustainability analysis – Austria**

Table 1. Baseline debt projections	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Gross debt ratio (% of GDP)	**82.9**	**82.3**	**78.4**	**75.4**	**72.7**	**70.5**	**69.0**	**67.9**	**67.2**	**66.9**	**67.0**	**67.5**	**68.3**	**69.2**
Changes in the ratio	12.3	-0.6	-4.0	-3.0	-2.7	-2.1	-1.5	-1.1	-0.7	-0.3	0.1	0.5	0.8	1.0
of which														
Primary deficit	6.6	4.7	2.2	1.3	0.1	0.3	0.5	0.7	0.9	1.1	1.2	1.4	1.6	1.7
Snowball effect	4.3	-4.0	-6.7	-4.4	-2.9	-2.4	-2.0	-1.8	-1.6	-1.4	-1.1	-0.9	-0.8	-0.8
Stock-flow adjustments	1.3	-1.3	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross financing needs (% of GDP)	18.6	16.4	17.5	16.0	14.4	14.0	13.8	13.6	13.5	13.5	13.6	13.7	13.9	14.2

Graph 1. Deterministic debt projections



Graph 2. Stochastic debt projections 2023-2027

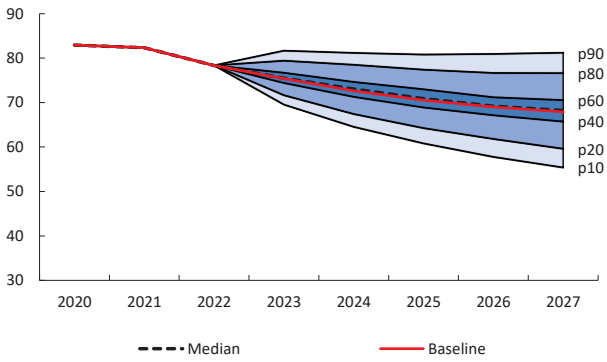


Table 2. Breakdown of the S1 and S2 sustainability gap indicators

		S1	**S2**
Overall index (pps. of GDP)		**2.1**	**2.9**
of which			
Initial budgetary position		-0.1	0.5
Debt requirement		0.3	
Ageing costs		2.0	2.4
of which	*Pensions*	0.3	-0.1
	Health care	0.7	1.0
	Long-term care	1.0	1.5
	Others	0.0	0.0

Source: Commission services.

Table A21.2: **Heat map of fiscal sustainability risks – Austria**

Short term	**Medium term - Debt sustainability analysis (DSA)**								**Long term**		
			Deterministic scenarios								
Overall (S0)	**Overall**		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	**Stochastic projections**	**S2**	**S1**	**Overall** (S1 + S2)
LOW	**LOW**	Overall	**LOW**	**LOW**	**MEDIUM**	**LOW**	**LOW**	**LOW**	**MEDIUM**	**MEDIUM**	**MEDIUM**
		Debt level (2033), % GDP	69.2	66.8	81.8	74.9	69.8				
		Debt peak year	2022	2022	2033	2022	2022				
		Fiscal consolidation space	88%	80%	96%	88%	88%				
		Probability of debt ratio exceeding in 2027 its 2022 level						16%			
		Difference between 90th and 10th percentiles (pps. GDP)						25.8			

(1) *Debt level* in 2033. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The *debt peak year* indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) *Fiscal consolidtation space* measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) *Probability of debt ratio exceeding in 2027 its 2022 level*. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the *difference between the 90th and 10th percentiles* measures uncertainty, based on the debt distribution under 2000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

Source: Commission services.