Energy Policy Review

Austria 2026

INTERNATIONAL ENERGY AGENCY

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Table of contents

Executive summary **4**
Energy policy landscape **10**
Introduction 10
Energy and climate strategy 10
End-use sectors 19
Electricity 26
Fuels 35
Recommendations 38
Focus areas **43**
1. Energy system flexibility 43
Recommendations 57
2. Strengthening industrial decarbonisation and competitiveness 61
Recommendations 77
Annexes **81**

Executive summary

Austria has one of the most ambitious climate and energy targets in the world; achieving them requires actionable delivery strategies and adequate funding. The country's commitments to climate neutrality by 2040 – a full decade ahead of the European Union (EU) – and a 100% renewable share in the national annual electricity balance by 2030 are bold. These goals are underpinned by a large hydropower fleet (accounting for around 60% of electricity generation), including 5.6 gigawatts (GW) of pumped hydro storage and a nationwide smart meter roll-out. Austria has the highest share of renewable energy in electricity consumption in the European Union and is the first European country to develop a pioneering approach to integrated energy system planning. However, the gap between ambition and delivery is widening. While economy-wide greenhouse gas (GHG) emissions have fallen by 16% since 1990, emissions including land use, land-use change and forestry (LULUCF) have increased by 13%. In other words, Austria's forests are losing their ability to absorb carbon, emphasising the urgent need for strengthened mitigation efforts across sectors. Austria must revisit and realign its delivery mechanisms and available financial resources to help close the gap to reach its targets. This report provides timely advice on how Austria can achieve its policy goals with particular focus on two areas: energy system flexibility and industrial competitiveness and decarbonisation.

Energy affordability and industrial competitiveness are under pressure. Austria's industries – which contributed 22% of gross domestic product (GDP) and employed 26% of the workforce in 2024 – face challenges from high energy prices, competitive pressures and the need to decarbonise. In response to the energy crisis in 2021-2022, the government introduced tax relief, direct grants and targeted support measures for industry and households, including measures to promote energy efficiency and electrification. Many of these measures have been recently scaled back or cancelled. The Electricity Market Act (ElWG) adopted in December 2025 is overhauling electricity market design in a bid to reduce energy costs, improve system flexibility, empower consumers and protect low-income households. However, further actions are needed, including strengthening competition in the electricity market (less than 5% of consumers switch suppliers) and enhancing regulatory oversight of district heating, which accounts for around 20% of all heating demand in buildings. The new Industrial Strategy 2035 provides a clear vision and new funding support for boosting Austria's industrial productivity, attractiveness for investment and economic success. This includes providing subsidised electricity prices for energy-intensive industry, compensation for indirect CO_2 costs and investments in innovation, and support for the market uptake of new technologies. For consumers, energy communities offer a new path to improve affordability: over 11 000 were operating at the end of 2025. Further legal and regulatory improvements can unlock the significant potential of energy communities to provide system-level benefits.

Accelerating legislative and regulatory reform can create a lower cost, flexible energy system. Long delays in enacting legislation – including the ElWG and the still pending Renewable Energy Expansion Acceleration Act (EABG) – have created uncertainty and slowed progress. Swift enactment and implementation of relevant primary and secondary legislation is needed to empower consumers, unlock system flexibility and accelerate the deployment of utility-scale renewables, especially wind. The regulator E-Control and other pertinent institutions must be adequately resourced to effectively implement new legal provisions. Consolidating oversight at the federal level and updating governance structures through a new Climate Protection Law could facilitate rapid infrastructure deployment through streamlined planning, permitting and policy implementation. The Integrated Network Infrastructure Plan (ÖNIP) is a positive move towards integrated planning that takes advantage of synergies across the electricity, gas and hydrogen sectors. However, further action is needed to co-ordinate the decommissioning of gas networks, expansion of district heating and thermal storage, and alignment of hydrogen and heating strategies.

Building on Austria's successful "solar boom", wind deployment must accelerate, with a focus on system-friendly integration. In 2024, renewables accounted for 90% of Austria's electricity demand, with variable renewables accounting for 23%. Solar photovoltaic (PV) has grown rapidly, reaching 11.3% of electricity supply in 2024. Wind deployment must expand to help address seasonal demand and balance solar output, but Austria is not on track to meet its target to add around 10 terawatt hours (TWh) of yearly generation by 2030, due to permitting barriers and governance challenges. Full use of legal mechanisms to designate wind zones, transparent long-term leases on public land, co-ordinated spatial planning, streamlined permitting and proactive stakeholder engagement are needed. Making better use of data and digital technology, enabling more actors to take part in flexibility services and reforming grid connection processes will ensure renewables contribute to system stability and cost-effectiveness. This needs to be supported and accompanied by a comprehensive modelling of the energy system.

System flexibility must keep pace with rising shares of variable renewable energy (VRE) and electrification to manage supply-demand variability. Austria's ÖNIP projects electricity demand to grow by 26% by 2030 and more than 75% by 2040 from the 2024 level. To meet the increasing demand, the National Energy and Climate Plan (NECP) cites 35 TWh of new renewable generation is needed between 2020 and 2030. In this context, flexibility is key to enabling the integration of VRE, safeguarding energy security, addressing the evolving demand patterns and improving affordability. The EIWG strengthened the framework for flexibility: it removed double network fees for storage (for both drawing and releasing electricity), introduced dynamic time-of-use tariffs and local flexibility markets, and enforced obligatory measures for grid operators to consider flexibility solutions before investing in network expansion. Further expanding demand-side response measures is essential, including via incentivising smart charging for electric vehicles (EVs). Strengthening market signals and enabling revenue stacking across spot, balancing and ancillary services will unlock the full value of Austria's flexibility assets.

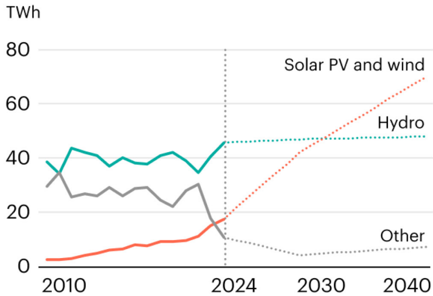
Austria's research and innovation ecosystem is a foundation for leadership in hard-to-abate sectors. Public spending on research and development (R&D) exceeded 3.3% of GDP in 2024, a record high. Public spending on energy R&D (EUR 401 million) supports innovation in hydrogen; carbon capture, utilisation and storage (CCUS); energy efficiency; and electrification, among other areas aligned with energy policy. While continued industrial electrification presents a critical source of emissions reduction and productivity dividends, the decarbonisation of many high-heat processes requires other solutions, including hydrogen and CCUS. Austria's hydrogen strategy targets 1 GW of electrolysis capacity and at least an 80% replacement of fossil-based hydrogen in industry by 2030. Lifting the ban on geological CO_2 storage (under strict conditions) and adapting carbon market mechanisms for new technologies will further support industrial transformation. Temporary, targeted energy cost support for energy-intensive sectors should be linked to clear decarbonisation outcomes and reinvestment in low-carbon technologies. Ensuring that market rules enable greater value of low-cost renewables to benefit end users will help safeguard Austria's industrial base during the transition. Co-ordinating with neighbouring countries will help avoid subsidy races.

Decarbonising Austria's building stock and transport sector is essential for achieving its climate targets. Austria has made significant progress in reducing emissions in buildings through efficiency improvements and the replacement of oil boilers with sustainable alternatives such as district heating and biomass boilers. The share of oil in building energy use dropped from 23% to 8% between 2005 and 2024. However, around 850 000 gas boilers and 450 000 oil boilers are still in operation, and the pace of replacing fossil-based heating systems is insufficient. Integrated heating and cooling plans at national, regional and municipal levels; streamlined permitting for heat pumps and district heating; and targeted incentives for landlords and tenants are needed to accelerate the transition. Austria's transport sector, responsible for 38% of energy-related emissions, has made progress in reducing emissions and expanding public transport and rail electrification. Light-duty vehicles are the second-largest final energy end use (around 160 petajoules [PJ]), highlighting the continued importance of accelerating EV deployment, yet the pace of transformation towards EVs remains challenging, particularly in rural areas. Key recommendations include enhancing EV support, addressing regional disparities in charging infrastructure and expanding incentives for freight to move from road to rail.

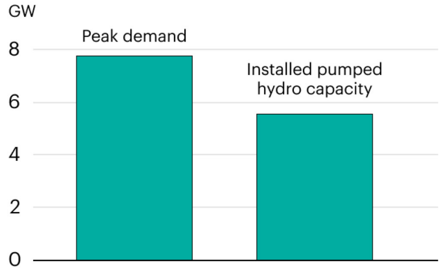
Austria's energy security landscape has dramatically shifted, demonstrating that climate action and security are mutually reinforcing. Before 2022, Austria imported 80% of its natural gas from the Russian Federation, a dependency that forced a radical shift in strategy following the Russian Federation's full-scale invasion of Ukraine. The government's swift response included increasing the Strategic Gas Reserve to 20 TWh; passing the Diversification Act; and prioritising infrastructure upgrades, such as the West Austria Gas Loop 1 pipeline for reverse flows. Austria aims to inject 5 TWh of renewable gas into the grid by 2030 and position itself as a hydrogen hub, leveraging existing pipelines for future hydrogen transport. To enable this, Austria should create bankable demand for low-emissions hydrogen and sequence infrastructure investments with the development of demand clusters and international corridors, in co-ordination with its regional partners.

By aligning action with ambition, Austria can deliver on its climate and energy goals and reinforce its leadership position. Its largely decarbonised electricity system provides a robust foundation for its energy transition. It also already acts as a "battery" for the region thanks to its pumped hydro storage capacity and strong cross-border interconnections. However, delivering on the 2040 climate-neutrality target will require a coherent set of measures across all sectors, supported by timely legislation, accelerated infrastructure development and sustained investment in clean technologies. This will require overcoming federal-regional governance friction, accelerating grid expansion and enforcing stricter measures in the lagging transport and heating sectors. By strengthening legislation and regulation in support of industrial decarbonisation and a flexible, low-carbon energy system, Austria can lead by example, bolster energy security and advance Europe's energy transition.

Austria's **power system is evolving fast**, creating new challenges

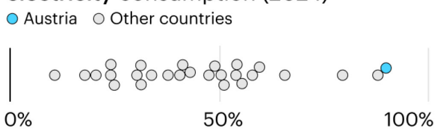


Pumped hydropower provides Austria and its neighbours with an edge to meet system flexibility needs



1st

in the European Union for **renewable electricity** consumption (2024)



Over 11 000

energy communities offer a participatory model in the energy transition, positioning Austria as a leader in this field

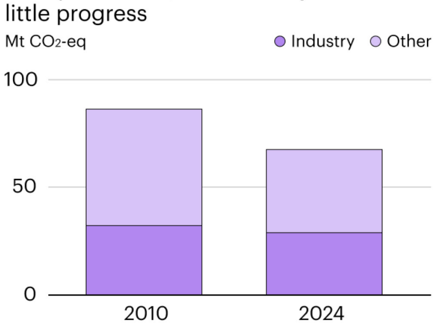
1st

European country to develop an **integrated planning** of its energy system, including electricity, gas and hydrogen

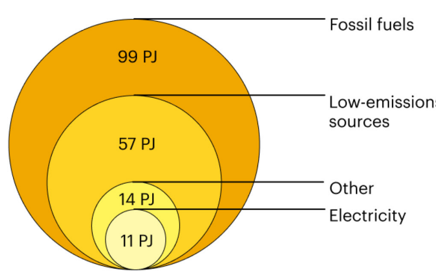
More than 80%

of **energy communities** have been created since 2024

Non-industrial **emissions dropped** by nearly one-third, but **industry** showed little progress



Fossil fuels dominate **industrial heat**. **Electrification** and **innovation** can unlock greater efficiency and emissions reductions



Sources for this infographic can be found in the annexes.

Policy recommendations for Austria

Energy policy landscape

1. Better align Austria's ambitious energy and climate targets with the delivery mechanisms and financial resources.
2. Urgently enact and implement relevant legislation to create an enabling framework and governance structure for the energy transition.
3. Foster affordable prices through a more competitive electricity market and better regulation of district heating.
4. Accelerate the phase-out of fossil heating in buildings through integrated national and municipal heating-cooling plans.

Energy system flexibility — Focus area

5. Unlock system flexibility by better valuing demand response and storage.
6. Facilitate system-friendly expansion of renewables by improving support mechanisms and participation in system services.
7. Accelerate the deployment of wind energy by designating development zones and streamlining permitting.

Strengthening industrial decarbonisation and competitiveness — Focus area

8. Safeguard industrial competitiveness through targeted energy cost support, conditional on low-carbon reinvestment.
9. Better leverage Austria's successful energy innovation ecosystem to drive market leadership of solutions for hard-to-abate industry.
10. Anchor Austria's hydrogen network expansion in low-emissions industrial demand creation, in close co-operation with regional partners.

Energy policy landscape

Introduction

Austria has ambitious targets for a net zero economy by 2040 and 100% of renewables in the national annual electricity balance by 2030. The 2040 climate-neutrality target provides the overarching framework for Austria's energy transition and informs the scale and timing of actions required in every end-use sector. Nuclear power has been legally banned since 1999, and Austria plans to phase out fossil fuels in heating by 2040 and progressively decarbonise industry. The country's abundant hydropower resources and the possibilities for further efficiency and electrification strengthen its prospects for future decarbonisation. Nevertheless, achieving these objectives will require considerable expansion of renewable energy generation and storage capacities alongside further grid deployment and regulatory reforms to incentivise increased system flexibility. Ensuring the continued competitiveness of Austrian industry during its decarbonisation process remains a vital consideration. Austria holds a leadership role in clean energy technologies and efficient, low-carbon industrial development. However, bold policy action is now needed to realise opportunities and, most crucially, allow more of the value from low-cost clean energy solutions to bring down energy prices for consumers.

Energy and climate strategy

Policy framework

Energy and climate policy responsibilities in Austria are divided between the federal government (e.g., energy taxes, emergency rules and emissions trading) and the nine federal provinces, or *Bundesländer*. Its energy and climate policy aligns with EU goals and is outlined in the National Energy and Climate Plan (NECP) for 2021-2030, which was last updated in 2024. Austria also developed the ÖNIP in 2024, making it the first European country to develop an integrated planning of its entire energy system, which includes electricity, gas, hydrogen and storage infrastructures. Austria has a strong tradition of social partnerships and stakeholder engagement in developing policy and legislation and the ÖNIP is a good example. It was developed in collaboration with the scientific community, the energy industry, environmental organisations, social partners and the federal and province-level authorities (see Policy spotlight below).

This multi-sector approach has the potential to enhance system efficiency and reduce overall energy demand and emissions. It can be further strengthened through improved co-ordination between federal and province-level planning. A new Climate Protection Law is being discussed to update the existing climate legislation from 2020 and clarify Austria's targets. The new law will also address the division of responsibilities between different authorities in alignment with the European Union's Fit-for-55 framework (which imposes a legal obligation to reduce EU emissions by at least 55% by 2030).

Policy spotlight: Integrated system planning

Austria is the first European country to present an integrated strategy for its entire energy system (ÖNIP). This approach begins by assessing future energy demand and evaluating the regional potential for energy generation. The ÖNIP emphasises the co-ordinated planning of Austria's overarching energy infrastructure for electricity and gas, accounting for the temporal and spatial distribution of supply and demand. In view of the volatile generation from wind and PV, it is anticipated that by 2030 – and even more so by 2040 – the electricity system will experience significant local fluctuations in residual loads.

To meet these evolving needs, the ÖNIP includes hybrid solutions that integrate the electricity, gas and hydrogen networks. Such coupling facilitates the integration of efficient technologies for managing residual loads and seasonal storage into long-term infrastructure development. The ÖNIP uses the assumption that while large-scale electrolysers, flexible heat pumps and extensive battery storage systems will only achieve limited adoption at the transmission grid level by 2030, their market penetration is expected to increase substantially by 2040. This integrated approach allows exploiting synergies between various energy sources, enhancing the overall resilience and sustainability of Austria's future energy system.

Following the Austrian example, the European Union is now adopting a systematic approach to screening and locating energy projects, including generation, storage, heat pumps and electrolysers, among others.

The Austrian provinces have established their own climate and energy objectives, complementing the overarching federal targets (see the Policy spotlight below). These regional objectives generally align with national government policy; however, some *Länder* have not yet integrated the latest requirements under the EU Fit-for-55 package.

The Climate and Energy Fund, which carries out programmes towards achieving Austria's climate and energy goals, commissioned a comprehensive study on renewable energy potential in Austria for 2030 and 2040. The study was led by the Austrian Institute of Technology in co-operation with other partners and completed in early 2026. It analyses the technical and economically feasible potential for PV, hydropower, wind energy, deep geothermal, bioenergy, solar thermal technologies, and ambient heat and energy demand. The study integrates the effects of climate change, public acceptance, technological diffusion and market dynamics. The results are presented across three scenarios, providing a solid foundation for strategic spatial planning, energy policy and the targeted expansion of renewables. The study highlights the importance of region-specific and technology-neutral long-term energy strategies to achieve Austria's climate-neutrality goal by 2040.

Policy spotlight: Vienna – a model climate city

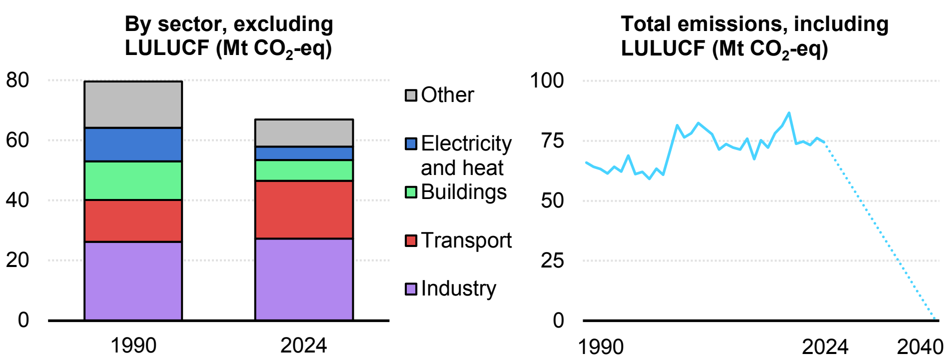
Vienna aims to become a model climate city by 2040 by transforming its building sector to be fossil fuel-free. The city is expanding district heating, especially in densely populated areas, and encouraging the switch to renewable heating solutions such as geothermal energy and heat pumps. Programmes like "Phasing Out Gas" and "100 Projects Phasing Out Gas" showcase practical approaches, particularly for multi-storey buildings not connected to district heating. Comprehensive planning, as outlined in the Vienna Heating Plan 2040, helps determine the most suitable climate-neutral heating solutions based on local conditions and infrastructure.

To further support the transition, Vienna is promoting solar power through a dedicated initiative (*Wiener Sonnenstrom-Offensive*), aiming for 800 megawatt peak (MWp) of urban PV capacity by 2030, involving both public and private stakeholders. Legal reforms provide financial incentives and streamlined processes for building renovations, energy efficiency and the shift away from fossil fuels, backed by an annual budget of around EUR 112 million.

Trends and targets

The NECP sets a target for climate neutrality by 2040. This involves reducing GHG emissions and increasing carbon storage to offset unavoidable emissions by natural or technological sinks. Despite decoupling emissions from economic growth, progress to date indicates that the pace of reduction is insufficient to meet these targets, with energy-related GHG emissions only falling by 8% and total emissions (without LULUCF) by 16% from 1990 to 2024. As Austria's forests have lost much of their carbon uptake capacity over time (due to bark beetle infestations and droughts), economy-wide emissions including LULUCF increased by 13% between 1990 and 2024.

Economy-wide greenhouse gas emissions in Austria, 1990-2024 and 2040 target



IEA. CC BY 4.0.

Notes: Mt CO_2-eq = million tonnes carbon dioxide equivalent; LULUCF = land use, land-use change and forestry. Austria's 2040 climate target is a whole-of-economy target: the NECP does not contain a LULUCF-exclusive target.

Sources: IEA analysis based on EEA (2026), EEA greenhouse gases – data viewer (accessed March 2026); EEA (2026), EEA approximated estimate for greenhouse gas emissions (accessed March 2026), Austria, Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (2024), NECP 2021-2030 (accessed November 2025).

Austria's other policy objectives include enhancing energy supply security, diversifying gas supply routes, gradually reducing the use of natural gas, increasing energy efficiency and transitioning to renewable energy sources while developing infrastructure, particularly for hydrogen. The Renewable Expansion Act aims for 100% renewable electricity in the annual national balance by 2030. The government programme for 2025-2029 includes a detailed chapter on energy policy, which has a strong focus on energy affordability, competitiveness and infrastructure development. Accelerating decarbonisation is one of the programme's stated objectives; however, social partners highlight a reduced focus on climate change in policy dialogues and decreased public funding to support decarbonisation.

Affordability

Austria's energy policy explicitly addresses energy poverty, with dedicated funding, co-ordination and tailored programmes to ensure that the energy transition is socially just and inclusive. The Austrian Coordination Office on Energy Poverty was established in 2023 under the revised Energy Efficiency Act to co-ordinate measures at the national level. It has an annual budget of EUR 1 million. With approximately 4% of the population unable to keep their homes adequately heated in 2024, Austria provides a combination of tax reliefs, direct grants, market-based instruments and targeted support for vulnerable groups to make energy more affordable.

The different measures include temporary support introduced after the energy crisis in 20221-2022, including electricity price caps and a reduction or suspension of electricity and gas fees, which expired by the end of 2024. In addition, the Klimabonus – a direct refund for CO_2 pricing – was paid to all inhabitants of Austria in 2022, 2023 and 2024, but was cancelled in 2025 due to budgetary constraints and overcompensation. Low-income households are exempt from the renewable energy support charge, which represents 3-5% of the total retail electricity tariff. In December 2025, the government announced plans to finance a EUR 500 million package to reduce energy costs by using special distributions and reserves of state-owned companies.

The ElWG – referred to as the "cheaper electricity act" – was passed by parliament in December 2025 with the required two-thirds majority after a nearly four-year long negotiation. It represents a sweeping reform of Austria's electricity market framework with the dual objective of making power more affordable and aligning the sector with EU rules and Austria's climate goals. The ElWG introduced a "social tariff" – a capped electricity price for low-income households (284 000 households, or 3% of the population). The tariff is 0.06 EUR/kilowatt hour (kWh) for the initial 2 900 kWh consumed, with additional lump sums per person for larger households. Financial responsibility for this price cap rests with electricity suppliers and include a cost-sharing scheme to distribute expenses among all Austrian electricity suppliers. The ElWG also clarifies the conditions and procedures under which suppliers may change tariffs, while strengthening consumer protection through mandated payment flexibility and the option to use prepaid meters to help manage consumption and prevent debt. It also formally establishes a "supplier of last resort" service.

Carbon pricing and taxation

Carbon pricing (discussed in Focus area 2) and energy taxation are powerful tools to encourage emissions reductions and a switch to lower carbon energy sources. For example, exemptions from electricity taxes for self-generated electricity from renewable energy sources and an income tax exemption for natural persons for feeding up to 12 500 kWh of PV electricity into the grid contributed to the Austrian solar PV boom in recent years.

Austria introduced its national emissions certificates trading system (NEHG; see Policy spotlight below) in October 2022 to cover sectors outside the EU Emissions Trading System (ETS). In 2024, the NEHG was amended to align reporting and calculation rules with the forthcoming EU ETS 2, which will extend carbon pricing to sectors that are currently not covered by the EU ETS 1. A share of the revenues generated through the ETS 2 will flow into the Social Climate Fund, which is intended to support low-income groups (particularly lower income households, disadvantaged microenterprises and transport users) that are expected to be especially affected by the introduction of the ETS 2.

Policy spotlight: National emissions trading

Austria launched its NEHG in October 2022, being one of the first EU countries to introduce carbon pricing for sectors not included in the EU ETS. The NEHG operates similarly to the existing energy taxation, placing an obligation on energy suppliers to purchase NEHG allowances when energy products they put into circulation result in more than 1 tonne of carbon dioxide (t CO_2) per year. The NEHG is expected to be replaced by the EU ETS 2 starting in 2028.

The NEHG covers energy-related emissions across the industry, buildings, agriculture, fisheries and transport sectors. Exemptions under the energy tax regime also apply to the NEHG, such as those for commercial aviation and navigation in international waters. Covered fuels include petrol, gasoil (diesel), heating oil, natural gas, liquefied gas, coal and kerosene. Fuels blended with biogenic components are assigned lower emissions factors compared to purely fossil fuels. There is no cap on available allowances, which are sold at fixed prices that have increased in recent years: from 30 EUR/t CO_2 in 2022 to 45 EUR/t CO_2 in 2024 and 55 EUR/t CO_2 from 2025 onwards. Entities must surrender allowances corresponding to their reported emissions from the previous calendar year by the end of July. There are measures to prevent double counting for installations covered by the EU ETS.

Relief provisions are available for businesses whose fossil fuel costs exceed 0.5% of the net production value, as well as for sectors exposed to carbon leakage (such as cement and fertiliser production). Energy-intensive businesses may recover up to 45% of the additional costs for fuel used for heating. For carbon leakage sectors, the refund rate ranges from 65% to 95%. At least 80% of any refund (50% until 2024) must be reinvested in climate-related measures. Additional refunds are available for fuels used in agricultural and forestry vehicles. The total budget allocated for relief grew from EUR 75 million in 2022 to EUR 250 million in 2025.

Revenues from the NEHG amounted to approximately EUR 1.06 billion in 2023 and EUR 1.32 billion in 2024 attributed to the year of emissions and were distributed to consumers via the Regional Climate Bonus. This bonus mechanism was abolished in 2025 and, as of December 2025, there are no designated plans for the use of NEHG revenues.

Energy research and development

Austria’s energy-related R&D is characterised by a strong institutional and funding framework. The Federal Ministry for Women, Science and Research is responsible for basic research; the Federal Ministry for Innovation, Mobility and Infrastructure leads applied research and innovation; and the Federal Ministry for Economy, Energy and Tourism focuses on innovation and industrial growth. The Austrian Research Promotion Agency is the central body for funding business-oriented, applied research. The Climate and Energy Fund supports energy, climate and mobility R&D, bridging innovation and market implementation. Austria Wirtschaftsservice provides loans, grants and equity while Kommunalkredit Public Consulting manages environmental investment funding. Several universities and institutes conduct energy-related research, the largest one being the Austrian Institute of Technology, which has a dedicated Center for Energy.

Public spending on energy R&D reached EUR 401.1 million in 2024, a 29% increase from the previous year, representing 0.08% of GDP. Most funding comes from federal ministries (69.3%), non-university research facilities (11.7%) and the Climate and Energy Fund (10.8%), with some contributions from universities, the federal provinces and other sources. Two-thirds of public expenditure in energy research go to thematic programmes and one-third to cross-cutting bottom-up programmes. The Austrian Research Financing Act establishes three-year funding agreements for key research-performing and funding organisations, replacing numerous individual commissions and increasing efficiency.

Energy Transitions is one of the key themes of Austria's research, technology development and innovation (RTI) framework co-ordinated by the Federal Ministry for Innovation, Mobility and Infrastructure. The theme's five main research priorities are aligned with Austria's energy policy objectives: 1) energy generation and storage technologies; 2) hydrogen, renewable gases and CCUS; 3) system design and operation of flexible, integrated energy systems; 4) digital transformation for the energy transition; and 5) efficient energy use and conversion. The Energy Research Programme (2022-2029) conducts annual calls for proposals in these five priority areas. Other RTI themes cover climate-neutral cities (including energy efficiency in buildings, retrofitting, sustainable heating and cooling), mobility transition and circular economy. The Federal Ministry for Innovation, Mobility and Infrastructure has introduced a monitoring system which allows identifying projects in thematically open programmes which contribute to transformative RTI missions, like Energy Transitions.

Skills and competencies for the energy transition

Ensuring a skilled workforce with the right competences is critical to delivering on Austria's energy and climate goals. Like other countries, Austria faces a growing gap between the available and required skilled workforce for the energy transition, particularly in technical and engineering roles, installation of renewables, building renovation, and digitalisation. The lack of a qualified workforce is considered to be one of the key challenges for maintaining the competitiveness of Austrian industry. Rapid technological change requires upskilling and reskilling existing workers, as well as new training pathways. Skills needs and shortages vary across Austria's provinces, with urban areas often better served than rural zones.

Austria's approach to this issue is comprehensive and evolving, with a focus on gender, diversity, inclusivity, innovation and local needs. Austria regularly assesses workforce skills gaps and its education and training system is constantly adapting to the changing situation. The environmental technology sector is innovative, dynamic and export-oriented. The Federal Act on Higher Vocational Education and labour market policies also supports green jobs. Austria's Just Transition: Action Plan for Training and Further Education (2023) addresses labour market challenges; however, budget cuts in the 2025 and 2026 federal budgets hinder its implementation. The Austrian Energy Agency's Reboot BUILD UP Skills Austria project is just one example of a comprehensive roadmap for training and continuing education in the building sector; similar initiatives exist for other sectors. Austria's flagship initiative klimaaktiv (see Policy spotlight below) provides training and information for energy consultants and companies. Continued investment in education, training and social dialogue will be essential to ensure a workforce capable of delivering a climate-neutral, resilient energy system by 2040.

Policy spotlight: klimaaktiv

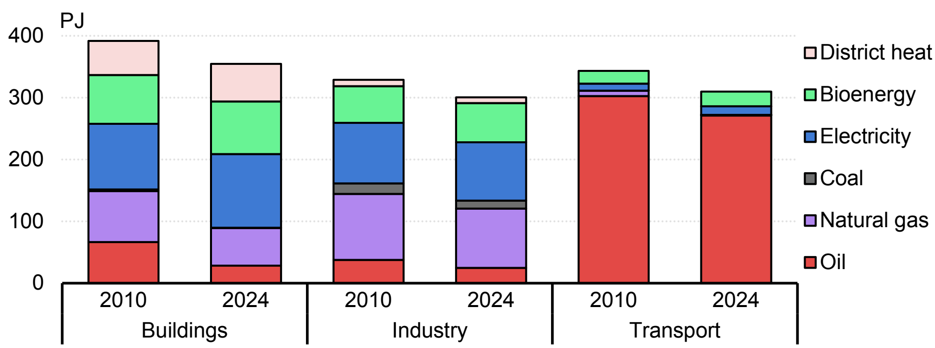
klimaaktiv is the Austrian federal government's climate protection initiative co-ordinating climate action and the mobility and energy transitions across the national and provincial levels. It is a multi-level government initiative implemented by the Federal Ministries of Agriculture, Forestry, Regions and Water Management; Economy, Energy and Tourism; and Innovation, Mobility and Infrastructure. The initiative communicates and disseminates practical guidance on climate protection, focusing on energy-saving, climate-resilient buildings; renewable energy sources; environmentally friendly mobility; and climate communication.

klimaaktiv produces resources for companies, local governments, individuals, professionals and training facilities. Manuals and guidelines describe stakeholder needs and encourage climate-friendly choices. klimaaktiv also promotes funding opportunities and outlines relevant legal frameworks. Examples include the Energy Check for Businesses, a comprehensive guide that provides 240 concrete actions and proposed solutions to reduce energy consumption and improve energy efficiency across various business sectors. The guide can help companies implement short-term measures with an immediate payback, but also identify and prepare medium- and long-term improvements for strategic planning. Another example, tailored for individuals, is a products database that lists the most energy-efficient appliances available on the Austrian market that meet klimaaktiv's top product criteria.

End-use sectors

Energy consumption in Austria is relatively evenly spread across the major end-use sectors, with buildings having a slightly higher share at just over one-third of the total, while transport and industry each consume about the same amount, each just under one-third. Overall final energy demand has declined by 9% since 2010, driven primarily by efficiency gains in the transport sector, where energy consumption was down 10% compared to 2010 levels. The share of fossil fuels in final energy consumption has dropped significantly in buildings and industry, while the transport sector, as in other countries, remains the most difficult to decarbonise. See Focus area 2 for further discussion on industrial consumption.

Total final energy consumption by sector and by fuel in Austria, 2010 and 2024

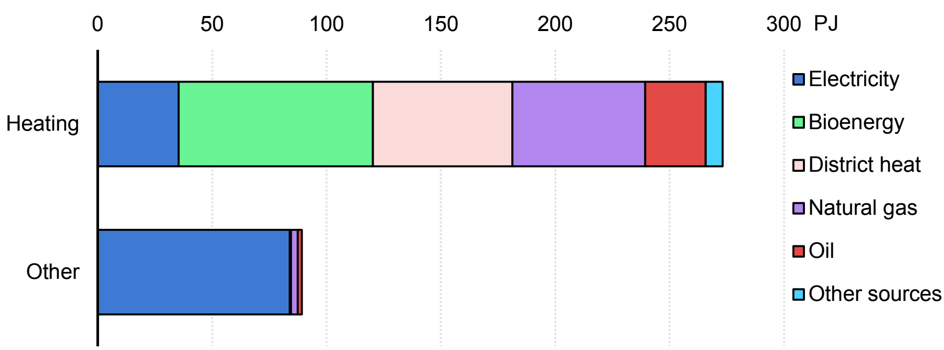


Source: IEA (2026), World Energy Balances.

Buildings

Heating, the primary demand driver in buildings, follows an ambitious path to decarbonisation. The full phase-out of fossil fuels in heating by 2040 is a critical pillar of Austria's strategy to reach climate neutrality and represents one of the most consequential structural shifts required in the residential and services sectors. Compared to other sectors, buildings have made more progress towards decarbonisation, contributing to just 23% of energy-related emissions[1] while accounting for 37% of total final energy consumption. Residential buildings make up 76% of total sector energy demand, with heating responsible for around 75% of the total. This makes space heating Austria's largest single end-use consumer of energy with around 240 PJ, followed by passenger cars with 160 PJ, and iron and steel manufacturing at just under 120 PJ.

Energy consumption in buildings for heating and other end-uses in Austria, 2024



Note: "Other sources" mainly include solar thermal.
Source: IEA (2026), Energy End-uses and Efficiency Indicators.

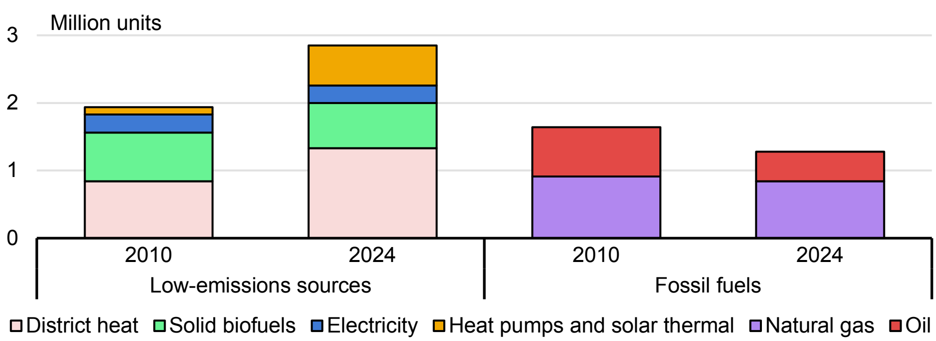
Austria has cut its direct energy-related GHG emissions from buildings by around half since 2005, largely due to the replacement of oil boilers with more sustainable technologies, including district heating and biomass-fired boilers. The share of oil in buildings dropped from 23% to 8% between 2005 and 2024. In 2020, Austria banned

[1] Direct and indirect emissions, including emissions from electricity and heat used in buildings.

the installation of oil and coal heating systems in new buildings. In February 2024, the Renewable Heat Act extended the ban to all fossil heating systems, including gas. Only a small handful of countries have taken similarly decisive steps. The Renovation Campaign provided incentives for replacing fossil boilers in existing buildings. In 2024 alone, the initiative supported more than 58 000 fossil boiler replacements in private buildings. That same year, around 850 000 gas boilers and 450 000 oil boilers remained in operation in Austria.

Low-emissions heat sources are playing an increasingly vital role in heating buildings in Austria. Austria is the only EU country that has set a legally binding target for renewable heat: 60% by 2030 and 100% by 2040. Solid biofuels (primarily wood) are the largest source in heating in Austria and there has been renewed interest in them in recent years. The number of heat pumps in operation in Austria has tripled over the last decade, reaching 530 000 in 2024. Austria is among the leading European countries for heat pump adoption per capita.

Primary heating system by energy source in Austria, 2010 and 2024



Note: 2010 and 2024 data are from a census that covers 2009/2010 and 2023/2024. Coal is excluded, as it is not visible at this scale. Primary coal-based heating systems accounted for less than 25 000 units in 2010, and none in 2024.

Source: IEA analysis based on Statistics Austria (2025), Primary heating system by predominant energy source and type of heating (accessed November 2025).

Policy spotlight: Public and social housing in Austria

Austria is internationally recognised for its robust public and social housing sector. It has the second-highest share of social housing in the OECD, with about 24% of the total dwelling stock and nearly 44% in Vienna classified as social housing. This system is managed by municipalities and limited-profit housing associations, which operate under a cost-rent principle, reinvesting surpluses into maintenance and upgrades, including energy efficiency improvements. Austria’s public housing programme is a model of social inclusion and energy efficiency, with strong governance, funding mechanisms and a focus on affordability. Its successes include a rate of renovations higher than the national average (2-3%), low reliance on fossil heating in social housing, targeted measures to address energy poverty, and clear frameworks and long-term planning, including “sinking funds” for future renovations to help avoid sudden rent increases and ensure ongoing investment in building quality. However, challenges remain in accelerating decarbonisation, securing sufficient funding, and overcoming legal and regulatory hurdles. Specific procedures for building renovations outlined in the Federal Public Procurement Act can lead to lengthy approval processes. Continued policy innovation and investment will be crucial to meet Austria’s ambitious climate and social goals.

District heating can play an important role in the energy transition but the rules should be improved. District heating systems supply over 19% of Austria’s buildings’ heating needs, particularly in urban areas such as Vienna, Graz and Linz. These networks have historically relied on fossil fuels, primarily natural gas, but the share of renewable heat has increased in recent years, especially in smaller networks, and solid biofuels now dominate Austria’s overall district heating production. More than half of district heating production comes from co-generation plants. Progress in improving district heating efficiency and switching to lower carbon fuels remains uneven across regions.

The decarbonisation of district heating is essential for meeting Austria’s climate and energy targets. While solid biofuels and waste heat recovery are expanding, natural gas still plays a large role in many district heating systems, and the integration of renewable sources such as geothermal and solar heat is limited. Furthermore, district heating systems are not yet fully leveraging sector-coupling opportunities with electricity, such as power-to-heat technologies. Smart heating and cooling networks (using digital technology) are also underdeveloped, limiting the ability to optimise load management and reduce operational costs.

Austria’s policy framework recognises the role of district heating in decarbonisation, but governance remains fragmented and there is no national district heating strategy. Provincial authorities regulate district heating networks in some cases, including tariff setting, which often follows cost-plus models. This structure provides stability but does not incentivise efficiency or renewable integration. While there is financial support for modernisation and expansion through national and EU programmes, funding is dispersed and insufficient to drive large-scale transformation. Consumer protection and transparency are major concerns. Stakeholders report that areas for improvements include high connection costs and heating bills; unclear billing and contract conditions; the complicated structure of transactions between district heating operators, building construction companies, landlords, billing companies and tenants; and the lack of a dispute settlement system. There is also no mandatory disclosure of carbon intensity or performance benchmarks for district heating operators, although operators of district heating systems with more than 250 customers or 3 gigawatt hours (GWh) of heat sales per year must publish the shares of energy sources used in their network.

Austria’s approach to improving the energy performance of buildings is anchored in a regulatory framework that addresses both new construction and the renovation of the existing stock. The guidelines developed and updated every four years by the Austrian Institute of Construction Engineering in collaboration with numerous stakeholders are a central component of building regulations in Austria. Structural engineering regulations and building codes of the federal provinces make the Austrian Institute of Construction Engineering’s guidelines legally binding.

The provinces’ building regulations set minimum requirements for the thermal quality of building envelopes, including insulation standards for walls, roofs, windows and floors, as well as maximum permissible values for overall energy demand. For new buildings, these regulations mandate high-performance envelopes and strict limits on primary energy consumption, ensuring that new construction meets nearly zero-energy building standards in line with EU directives. For existing buildings, major renovations must also comply with minimum energy performance requirements, with a focus on improving insulation and reducing heat loss. Austria’s policy framework emphasises passive measures such as enhanced building envelopes and the use of high-efficiency windows. The government programme for 2020-2024 and the NECP included the objective to scale up the annual building renovation rate to 3% from the current 1%. Public buildings must transition to renewable or district heat by the end of 2027, reinforcing the public sector’s exemplary role in the energy transition. The regulatory framework is expected to be enhanced further when Austria transposes the recasts of the Energy Performance of Buildings Directive and the Energy Efficiency Directive III into national law.

Regulatory requirements are complemented by financial incentives and advisory programmes at the federal and provincial levels. The massive scale-up of building renovations has been supported by a national Renovation Campaign (EUR 1.8 billion in 2026-2030, down from EUR 3.78 billion in 2023-2025), which complements provincial housing subsidies with federal incentives in the form of the Renovation Bonus. Until December 2024, Renovation Campaign subsidies covered up to 75% of the costs for thermal renovation and heating system replacement. The funding scheme “No more oil and gas” has been particularly important for the transition from fossil heating systems to low-carbon alternatives for several years. To ensure inclusivity, the Clean Heating for Everyone initiative supports low-income households, covering up to 100% of the costs of replacing fossil heating systems, with EUR 1 billion allocated for the period 2023-2030. Funding programmes are supplemented by free consulting on energy-saving measures to reduce consumption and costs.

Budget constraints are driving reforms of Austria’s funding programmes. The federal government reviewed the efficiency of its climate and energy funding schemes in 2025. Finding past Renovation Campaigns less cost-effective in terms of CO_2 savings per euro, it has introduced significant changes for the 2026 Renovation Campaign. Notable adjustments include a reduced maximum funding rate of 30% (down from 50-75%), simplified flat-rate subsidies, and strengthened application procedures requiring early proof of energy consultation and applicant authentication. The target groups remain unchanged, and the Campaign was launched in mid-November 2025. With an annual budget of EUR 360 million from 2026 to 2030, it aims to replace over 30 000 fossil heating systems per year and support thermal renovations while generating around 8 800 full-time jobs and EUR 1.4 billion in added value.

Other areas for improvement could include budget consolidation and increasing the effectiveness of support schemes targeting vulnerable households. The government has reallocated decarbonisation-related funding from the Federal Ministry of Finance to three line ministries. It remains to be seen whether this split will result in stronger incentives and more efficient spending. Although there is substantial funding for vulnerable consumers, most low-income families cannot access it because subsidies are provided ex post and require upfront payment, which low-income households cannot afford. Additionally, many are ineligible as they do not own their homes.

Transport

Transforming the transport sector, which remains Austria's largest source of GHG emissions, is indispensable for achieving climate neutrality by 2040. While Austria's transport emissions declined between 2010 and 2024 (-12%), transport still accounted for 31% of its total final energy consumption and 38% of total energy-related emissions (i.e. emissions caused by vehicles' combustion of fossil fuels). In Austria, fuel tourism – the cross-border purchasing of fuel due to favourable tax rates for diesel and gasoline – accounted for around 15% of energy use in transport in 2023, at 46 PJ. Fuel tourism was a persistent issue in Austria for many years, but it has started declining as Austria's fuel prices are closing the gap with neighbouring countries' prices. Road transport dominates passenger and freight transport in Austria, accounting for 82% of transport energy consumption in 2023. Nonetheless, rail remains important, carrying about 18% of passengers and 24% of freight in 2023; this is higher than in many other countries. Trucking accounts for 75% of freight, and most increases in freight traffic are by road. Austria's central European location also results in high transit volumes.

As per the EU Renewable Energy Directive, Austria is required to either achieve a share of 29% of renewable energy in transport or to reduce the emissions intensity of transport fuels by 14.5%. It must also achieve a combined sub-target for renewable hydrogen and advanced biofuels of 5.5%. Electric mobility is a key measure in the transport sector; however, current progress suggests that a swift transformation will be challenging. As of 2024, EVs accounted for 18% of new passenger car registrations, with the total stock of fully electric light-duty vehicles standing at more than 200 000, or 4% of all light-duty vehicles. The public sector has been required to set an example, mandating the procurement of only zero-emission vehicles since 2022. Expanding the EV fleet will contribute to increasing the share of renewable energy in transport, which reached 13.6% in 2023, although at present, most electricity is consumed by rail and biofuels are primarily blended with petrol and diesel.

Austria has implemented various support mechanisms to stimulate the adoption of EVs. Purchase subsidies for private individuals were available under programmes such as "E-Mobilität 2024", which ran until February 2025, ending earlier than planned due to budget constraints. Tax benefits have also played a role. However, as of April 2025, battery electric vehicles (BEVs) are no longer exempt from motor-related insurance tax while other tax benefits like the exemption from the registration tax for BEVs and tax-free non-cash remuneration for BEVs and BEV charging are still in force. Companies remain eligible for additional incentives, such as a full value-added tax deduction for BEVs up to EUR 40 000 and other favourable tax treatments.

Austria boasts a robust charging infrastructure, offering one of the best EV-to-charger ratios among its neighbouring countries. Nonetheless, regional disparities persist, and efforts are still underway to enhance private charging access. Initiatives such as the “right-to-plug” aim to improve charging options for residents in flats and multi-family dwellings, as part of the 2030 Mobility Master Plan.

In parallel with promoting EVs, Austria is working to shift private car journeys towards public transport, cycling and walking, particularly for short urban trips. The government aims to reduce the share of individual road-based transport from 71% in 2023 to 54% by 2040 while increasing the share of public transport from 26% to 40%. Substantial investment in public transport, coupled with low fares such as the Klimaticket, led to record usage levels in 2024, with 347 million rail passengers.

Austria’s long-term approach to rail infrastructure, supported by stable planning and medium-term financing, has driven ongoing maintenance, expansion and modernisation. These investments are increasing passenger and freight capacity and advancing rail electrification, with 74.2% of lines electrified by 2024. Policy measures, such as CO_2 toll surcharges for lorries on motorways, further incentivise zero-emission vehicles and encourage shifting freight from road to rail. Austria’s rail network outperforms the European average in modal share for passengers and freight. Austria has several funding programmes to stabilise and improve the share of rail. Expanding the programmes could yield further benefits.

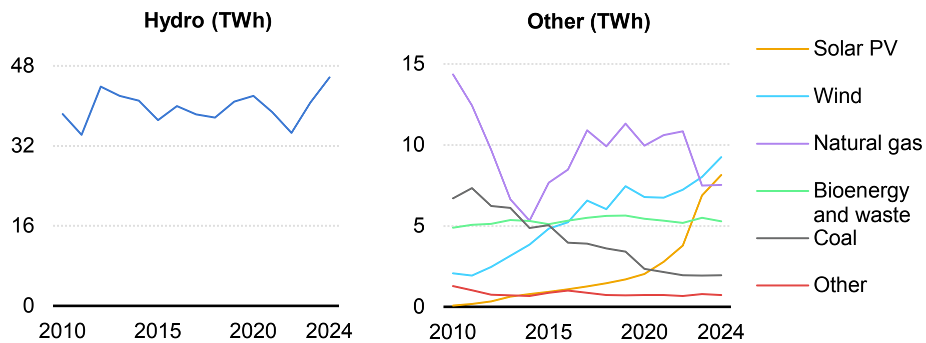
Electricity

Austria’s electricity system is dominated by hydropower, which has supplied 60% or more of its electricity for more than 60 years. In 2023, Austria’s net maximum electricity generation capacity was around 33.5 GW, including 15 GW of hydropower (with more than 3 000 run-of-river plants and 117 storage power plants). The electricity sector has evolved from gradual hydropower expansion to a rapid build-out of VRE sources – wind and solar – supported by robust policy frameworks and significant investment in grid infrastructure and storage. The last coal-fired power plant was closed in 2020 and the remaining electricity production from coal comes from industrial co-generation plants feeding into the grid.

Policy spotlight: 1 Million Roofs programme

Austria's 1 Million Roofs programme is a flagship national initiative launched in 2018 whose goal is to install solar PV panels on 1 million rooftops by 2030, targeting residential and commercial buildings. The initiative combines direct investment subsidies, streamlined permitting and public awareness campaigns to encourage widespread adoption of rooftop PV. The programme has driven rapid growth in solar capacity: by the end of 2024, Austria had reached over 9 GW of installed PV, with more than 60% of new installations in 2024 being rooftop systems.

Electricity generation by source in Austria, 2010-2024



IEA. CC BY 4.0.

Notes: Electricity generation from hydro excludes pumped hydro. Other generation is comprised of oil, geothermal and waste.
Source: IEA (2026), World Energy Balances.

Austria has strong interconnections and has one of the highest cross-border electricity flows relative to its domestic production. These interconnections are a key asset to maintain a reliable, cost-effective and secure electricity supply with a high share of renewables and more pronounced demand variations. Austria trades up to 50 TWh of electricity per year, with Germany as its principal trading partner. While Austria has mostly been a net importer of electricity for the last decade, it became a net exporter in 2023. Austria's transmission grid is mainly managed by Austrian Power Grid. The Vorarlberger Übertragungsnetz operates regionally at the intersection of Austria's, Germany's and Switzerland's transmission grids. The Tiroler Übertragungsnetz GmbH is responsible for the operation and system management of a supra-regional interconnector between Tyrol (Austria) and Italy. The distribution grids are managed by over 120 distribution system operators (DSOs). Austria operates a single nationwide bidding zone since the split from the joint Austrian-German zone in 2018.

To safeguard the security of electricity supply, Austria has extended its network reserve scheme, introduced monthly contracts and made technical changes to encourage participation from smaller resources, including demand-responsive electricity consumers.

Permitting procedures

In Austria, renewable energy projects can only be developed within designated zoning areas, defined by the provinces as part of their spatial planning. Public opposition, the lack of zoning and lengthy permitting procedures often slow down project development, especially for wind. Delays are partially due to limited resources in many permitting authorities. Public involvement often occurs at later stages, which can impact acceptance and generate resistance. A common framework that facilitates simple and comprehensible assessments for participatory decision making is paramount to overcome these obstacles. The NECP highlights the importance of energy spatial planning at both the federal and Länder levels, including the identification of acceleration areas, specifically for wind projects. In designing such zones, the Austrian provinces should consider lessons learnt from other countries. IEA work on Accelerating Renewable Energy Permitting (2025) warns that renewables acceleration areas can become a significant barrier to renewable energy deployment: in several countries, including France, Italy and Portugal, lands outside of these areas are often interpreted as no-go zones. Additionally, renewables acceleration areas are often not the most economically attractive in terms of resources for project developers.

The IEA's Accelerating Renewable Energy Permitting findings (2024) highlight a successful example of a participatory approach to spatial planning in the Austrian state of Burgenland. First, a strategic zoning process was carried out for particularly affected protected species (for wind energy, especially birds). This resulted in exclusion zones. Then the state designed suitable areas for wind power development through the involvement of three main actors: project developers, municipalities and environmental non-governmental organisations. It is a bottom-up approach, where the input for zoning comes from the developers after they have held initial consultations with municipalities and non-governmental organisations. The involvement and participation of local non-governmental organisations from the start is essential for increasing the community's trust in the process, which then simplifies the decision-making procedure for local authorities.

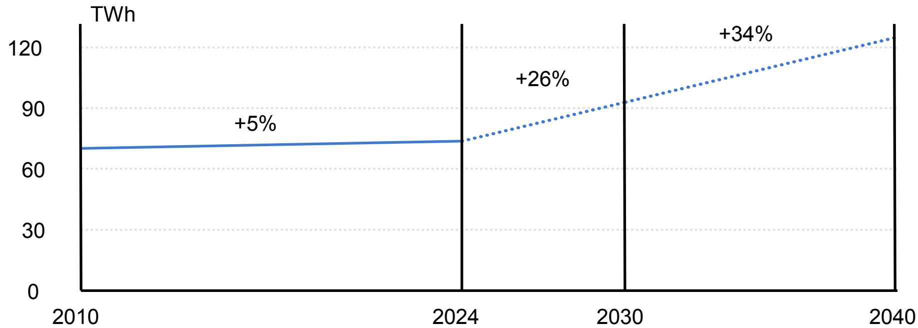
On the positive side, the permitting procedure has been streamlined and concentrated for projects that require an environmental impact assessment: one single application procedure (one-stop shop) covers all permits. To tackle the lack of zoning, a special legal provision was introduced in 2023: under certain conditions, wind energy projects can be approved even if there is no regional development programme or local zoning. By contrast, projects that do not require an environmental impact assessment must obtain five or more separate permits from different competent authorities. Building on the success of the environmental impact assessments, Austria has prepared a draft Renewable Energy Expansion Acceleration Act (EABG) to accelerate other permitting and approval procedures for renewable energy and infrastructure projects, implementing the European Union's Renewable Energy Directive (RED III). Pending formal adoption as of April 2026, it will introduce "overriding public interest" for renewables and storage; stricter deadlines for authorities; and digitalised, streamlined procedures.

As the draft legislation introduces technology-neutral renewable energy targets for provinces, some regions may prioritise solar PV to meet their regional targets. However, system-wide considerations, such as the need to balance solar generation profiles, and seasonal demand patterns may increase the value of complementary resources, including wind where available. More co-ordinated planning that takes into consideration the overall system needs could result in a more optimal generation mix.

Electricity demand

Electricity demand has only grown modestly over the past 20 years but the NECP projects it to rise to 89 TWh in 2030 and 112 TWh in 2040 in the scenario 'with existing measures' (WAM), up from 68 TWh in 2024. In ÖNIP's scenarios, gross electricity consumption rises to 90-93 TWh in 2030 and 121-125 TWh in 2040. The main driver for this growth by 2030 is expected to be transport, accounting for half of total demand growth. Electrification in industry will add around 3 TWh, whereas electricity demand in buildings is expected to decrease slightly. Electricity used for hydrogen production is expected to account for 5 TWh, one-fourth of total demand growth by 2030, and roughly 16 TWh by 2040.

Electricity demand in Austria, 2010-2024 and projections until 2040



Note: Electricity demand includes electricity used for pumped hydropower.

Source: IEA analysis based on IEA (2026), Electricity Information; Austria, Federal Ministry of Economy, Energy and Tourism (2024), Integrated Network Plan (for projections) (accessed March 2026).

Passing on renewable savings to consumers

The Austrian electricity market is expected to undergo major changes, supported by the new ElWG (see Focus area 1 for more details). The goal of achieving 100% renewables in the national annual electricity balance by 2030 sets a clear path for further development of the power sector.

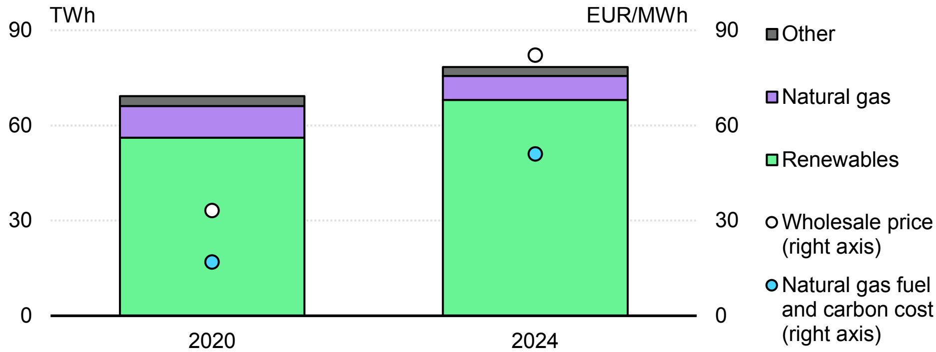
As part of the integrated European wholesale electricity market, Austria benefits from cross-border trade and a shared marketplace that allow for the efficient use of generation assets. Price signals guide operational choices, helping to dispatch the most cost-effective mix of resources while meeting system requirements. Austria's strong interconnections mean that market trends and price movements in neighbouring countries, particularly Germany, can influence local dispatch decisions and wholesale pricing. Currently, Austria's dispatchable capacity primarily comes from hydro and natural gas, whereas Germany also uses other fossil fuels such as coal. The IEA study Electricity Market Design (2025) provides a cross-regional assessment of wholesale electricity markets and their complementary policy mechanisms.

Wholesale prices in Austria surged during the 2021-2022 energy crisis and remain nearly double their pre-crisis levels, even though electricity generated from natural gas – often the marginal source – has fallen compared to pre-crisis levels. Factors behind persistently high wholesale prices include market interactions with Germany and other neighbouring countries, weak transmission capacity and carbon and fuel costs. Energy and supply costs have been responsible for the largest portion of retail electricity prices in Austria – about 73% for households, partly due to temporary caps and subsidies that reduced the share of other components, and 65% for non-residential consumers in 2024.

As renewable sources play an increasing role in electricity generation in Austria and its neighbouring countries, there is potential for downward pressure on wholesale and retail prices. Achieving the advantages of low-cost renewable electricity generation requires several enabling conditions, such as robust wholesale and retail market frameworks, healthy competitive dynamics, and opportunities for new entrants and technologies (including demand-side response and flexibility services) to participate across various market segments. The Draghi report on the future of EU competitiveness also emphasises that market rules should be adjusted so that consumers benefit more from the low cost of renewable energy. In addition, political choices are vital to ensure that gains from competitive electricity markets are fairly distributed among producers, market players and consumers.

The Price-Down Guarantee under the ElWG, which took effect in January 2026, is a new regulatory mechanism designed to ensure that reductions in wholesale electricity prices are passed on to consumers. If electricity prices fall in wholesale markets, suppliers are required to pass these reductions on to consumers within six months. E-Control is tasked with monitoring compliance and can apply penalties.

Electricity generation by source and wholesale price in Austria, 2020 and 2024



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Notes: MWh = megawatt hour. The wholesale prices for 2020 and 2024 are the yearly averages in Austria. The natural gas fuel cost corresponds to the average yearly month-ahead value. The natural gas carbon cost is calculated as the emissions from natural gas times the yearly average of the ETS price.

Sources: IEA analysis based on IEA (2025), World Energy Balances; IEA (2025), Real-Time Electricity Tracker; IEA (2025), Greenhouse Gas Emissions from Energy Data Explorer; International Carbon Action Partnership (2025), ICAP Allowance Price Explorer (accessed December 2025); ICIS (2025), LNGEdge (accessed December 2025).

Energy communities

More and more Austrian consumers see energy communities as an opportunity to reduce their energy bills. As in many other European countries, electricity retail prices in Austria are higher compared to pre-crisis levels, although they remain below the EU average. Structural challenges in Austria's electricity supplier market contribute to these high retail prices. The Federal Competition Authority and E-Control conducted an investigation related to the increase in electricity and gas prices from 2021 onwards. It concluded that the electricity market was dominated by a few suppliers linked to each other through cross-shareholdings. It also highlighted geographical market segmentation, limited competition across network areas and low switching rates. All these factors can contribute to higher retail prices.

Austria's energy market is heavily influenced by cross-shareholdings, resulting in a limited number of dominant suppliers who maintain control over their network regions. This structural interdependence decreases competition, restricts market entry for competitors, and can lead to higher prices and fewer innovative offerings for consumers. Austria has persistently low switching rates for electricity and gas suppliers, remaining well below the European average despite the introduction of comparison tools which enable consumers to easily compare retail prices and take informed decisions. Electricity switching rates hovered below 2% for years and rose to a record 4.5% in 2024, still much lower than in many other IEA countries. The ElWG aims to enhance retail competition by making it easier for customers to compare and switch suppliers. For instance, it streamlines the switching process (no fees, faster turnaround) and obliges suppliers to transparently notify consumers of price changes, empowering them to seek better offers.

Policy spotlight: Energy communities

Energy communities are a cornerstone of Austria's energy transition, leveraging local participation to accelerate distributed renewable energy deployment. In line with the European Union's Clean Energy Package, Austrian legislation defines joint generation plants, renewable energy communities and citizen energy communities as legal entities. This enables citizens, municipalities, and small and medium-sized enterprises to jointly produce, consume, store and share energy. Over 11 000 energy communities were in operation or being established in Austria by the end of 2025, including nearly 5 600 renewable energy communities supported by a dedicated annual budget of EUR 5 million, an independent co-ordination body and regional advisory services in each federal state. The Austrian experience provides useful lessons on energy communities' business models and social innovation practices. Austria could also learn from other countries' experience, including Portugal's favourable tariff regime which exempts prosumers from certain grid costs.

Despite strong policy support, the current legal and regulatory framework constrains the significant potential of energy communities to provide system-level benefits. The ElWG provides more clarity on dynamic tariffs, aggregation and flexibility services, which should encourage energy communities to seize opportunities for sector coupling such as integrating heat pumps, EV charging and battery storage solutions. As members of energy communities are better informed about energy issues, they can be active participants on the energy market, contributing to system flexibility.

Other challenges include administrative complexity and grid access procedures, which can hinder project development, particularly for small communities. Financial barriers persist, as upfront investment costs are high and access to tailored financing is limited. Another issue is that energy communities (with the previous capacity threshold of 6 megawatts [MW]) have mainly focused on solar PV and have not developed wind projects, which are needed from the system perspective. The ElWG relaxes this 6 MW cap for communal generation projects.

Market reforms to address grid costs

According to E-Control, grid fees made up nearly 50% of the final retail tariff for an average 2 900-kWh household in January 2026. On average, grid costs have increased over recent years and are expected to further increase with rising investment needs. Fees vary across regions due to topography, population density, consumption patterns, renewable grid integration needs and local levies employed by some federal states, among others.

One of the ElWG's objectives is to introduce a fair and cost-reflective distribution of network costs by applying the "user-pays" principle. Consumers currently bear 94% of total network costs, whereas only large generators (> 5 MW) pay for some components such as network losses and system services. This cost structure raised questions about the lack of incentives for generators to operate in a system-friendly manner. To address this, the ElWG introduces a grid infrastructure contribution for generators (with a capacity 20 kilowatts [kW] or more) starting in 2027. While the contribution is limited to 0.5 EUR/MWh, the government still must determine the final design of the additional network charge for generators. Austrian generators are concerned about the possible effects of this new charge on their competitiveness within the integrated European electricity system, as network charges for generators are not applied symmetrically across all neighbouring countries.

The ElWG also allows E-Control to extend the depreciation period for grid investment costs. Other proposals on the table included changing the rules for financing grid investments to reduce the internal rate of return, reducing financing costs for grid projects through a national competitiveness fund, and simplifying the construction of direct lines to reduce grid costs for industry. An important avenue for reducing costs is incentivising system-friendly and efficient use of the power grid (see Focus area 1). The European Commission's recent Grid Package envisages bringing a truly European perspective on infrastructure planning while accelerating permitting procedures and ensuring a fairer division of costs for cross-border projects.

Fuels

Oil

Oil is the largest fuel in Austria's total energy supply, accounting for 33% in 2024, down from 36% in 2010. Austria produced 5.6% of its crude oil supply in 2024 (9 thousand barrels per day [kb/d]); production began declining in 2014 and has halved over the last decade. Imports of crude oil from Kazakhstan covered 55% of Austrian demand in 2024, followed by Libya (14%) and Saudi Arabia (12%). Austria completely stopped imports of oil and oil products from the Russian Federation (hereafter, "Russia") in February 2022.

Oil imports flow into Austria via the Transalpine pipeline, entering the country from the southern border with Italy. The pipeline supplies the only refinery in the country, Schwechat, located near Vienna, with a crude oil processing capacity of 9.6 million tonnes (Mt) per year and refining output of 180 kb/d in 2024. The refining output is not enough to satisfy domestic demand and Austria needs to import additional hydrocarbon products, mainly from Germany. In addition, Austria exports hydrocarbon products such as diesel and gasoline to other neighbouring countries (Czechia, Hungary and the Slovak Republic) as well as some fuel and liquefied petroleum gas to Germany.

Total demand for oil products declined by 15 % from 2010 to 2024. Transport accounts for the largest share of demand (74% in 2024), in particular road transport. Diesel (55%) and gasoline (15%) account for the majority of demand for oil products.

Natural gas

Natural gas plays an important role in Austria's energy system, both for its major role in total energy supply (19% in 2024) and because of Austria's geographical position, which makes it a major transit country. The Austrian gas market is divided into three areas. The largest is the east market area; the much smaller Tirol and Vorarlberg market areas are not connected to the eastern market or to each other: they receive gas from Germany. The government is developing a new Gas & Hydrogen Market Act to transpose the EU gas and hydrogen package into national legislation by August 2026.

Austria is diversifying its gas supplies and adapting its infrastructure to future needs. It has six interconnection points with its neighbouring countries at the transmission level and six at the distribution level, along with a well-developed pipeline network for gas flows. Extensive underground gas storage capacity (discussed in Focus areas 1 and 2) has been a strong pillar of Austrian and European energy security. While the 2021-2022 energy crisis posed serious security concerns for short-term natural gas supply given Austria's dependency to Russian gas imports, Austria took the opportunity to further diversify its gas supplies and to reduce gas consumption by replacing it with cleaner energy sources.

Austria only produces a fraction of its gas supply, importing the rest via pipeline. The two major gas transit pipelines are the Trans Austria Gas Pipeline and the West Austria Gas Pipeline (WAG), allowing directional flows to and from Italy and to and from Germany and the Slovak Republic. In accordance with the EU decision, Austria committed to phase out Russian imports and took action with the Gas Diversification Act (2022), allocating EUR 100 million annually for three years to support companies with their diversification efforts. At the end of 2024, the transit of Russian natural gas via Ukraine was discontinued and there are no longer any imports to Austria. Austria is working to upgrade the WAG pipeline to increase capacity from west to east, with the WAG Loop 1 project. The project, planned to open by 2027, will increase the pipeline's capacity by 2.5 billion cubic metres (bcm), with an additional 30% of west-east flow capacity (at present, the German-Austrian interconnector is congested). This will increase import possibilities via this route.

The ÖNIP projects that by 2030, most of Austria's gas infrastructure will still be used for transporting natural gas to meet demand in industry and buildings. It expects the gas transmission infrastructure will be slowly repurposed for hydrogen transport, as well as to connect biomethane production plants with demand centres. Some of the underground gas storages are assumed to be fit for use for methane and hydrogen, providing seasonal flexibility (see Focus areas 1 and 2).

With the Renewable Heat Act, Austria committed to ban the installation of fossil fuel heating systems in all newly constructed buildings. The NECP states that the natural gas network shall no longer be expanded for heating purposes, except in areas where district heating is not available.

Natural gas consumption declined from 9.9 bcm in 2010 to 6.9 bcm in 2024. The largest share of natural gas demand comes from industry, at 3 bcm in 2024. Buildings' demand was 1.7 bcm in 2024, driven by space heating in residential homes. Demand of natural gas for electricity and heat generation contributed to another 1.9 bcm in 2024.

Natural gas prices have grown significantly since 2021 due to the phase-out of Russian gas, tight liquefied natural gas markets and increased storage demands across Europe. Austria does not regulate gas prices and most of the price increase since 2022 has been driven by the energy cost component. The average residential gas price was 164 EUR/MWh in 2023 and 135 EUR/MWh in 2024, almost doubling from 2021 levels. It dropped to 50 EUR/MWh by mid- to end 2025 and had further decreased by the beginning of 2026. Since Q3 2022, the levies on electricity and natural gas were reduced to relieve the burden on consumers. The temporary reduction expired at the end of 2024. Industry prices also spiked in the second half of 2022 and have gone down since 2023.

Bioenergy

Bioenergy – mainly solid biofuels from woody biomass – is the largest energy source produced domestically in Austria, at 46%, or 257 PJ, in 2024. Additional biomass potential is estimated at 50-100 PJ per year until 2030. Bioenergy accounted for 20% of total energy supply in 2024 and 18% of total final energy consumption. It is mainly used to produce renewable heat in residential buildings (85 PJ) and in district heating, which relies on bioenergy for over a half of its production. Bioenergy has represented over a quarter of residential buildings' energy use in the past decade. Demand for bioenergy in industry (64 PJ in 2024) mainly comes from the paper and pulp industry. Focus area 1 discusses the use of bioenergy as a seasonal storage solution.

Apart from solid biofuels, liquid biofuels accounted for 10% of bioenergy supply in 2024. Biofuels are mainly produced domestically and blended in transport fuels (6.6% of energy use in 2024), with biodiesel as the main fuel, followed by biogasoline.

The Renewables Expansion Act sets a target for at least 5 TWh of domestically produced "renewable gas" (biogas and biomethane) by 2030. The Renewable Gas Act envisaged a much more ambitious increase in the use of renewable gases, aiming to mandate the injection of at least 7.5 TWh of green gas into the gas grid by 2030, but failed to pass the National Council in 2024 as it did not obtain the required two-thirds majority. A revised legislative proposal is currently under preparation, envisaging a market-premium support scheme to stimulate the expansion of domestic biomethane production.

Recommendations

1 Better align Austria's ambitious energy and climate targets with the delivery mechanisms and financial resources.

Austria has set highly ambitious energy and climate goals, notably net zero emissions by 2040 and a 100% renewable share in the national annual electricity balance by 2030. However, progress to date indicates that the pace of reduction is insufficient to meet these targets. This shortfall, combined with the discontinuation of critical support programmes due to budget constraints, has created uncertainty among key stakeholders. Without a robust alignment between targets, delivery mechanisms and available financial resources, Austria risks undermining its credibility and the effectiveness of its energy transition policies.

To address these challenges, Austria must ensure that its climate and energy targets are underpinned by realistic delivery strategies and adequate funding. This requires a comprehensive reassessment of energy demand, infrastructure development, projected financial capacity and workforce capacity. Policy makers should ensure that targets and action plans are based on current data, and that each segment of the energy system – generation, infrastructure and end use – has specific, actionable measures supported by appropriate resources.

Funding mechanisms for decarbonisation should be streamlined and consolidated to maximise impact and predictability, especially for sectors requiring long-term investment. Funding is currently spread across various programmes with differing rules and timelines, creating complexity and inefficiency for beneficiaries. Combining these into fewer, larger multi-year schemes with clear objectives and harmonised criteria would reduce administrative burdens and improve predictability. Streamlined governance and financial frameworks would benefit investors, accelerate projects and make public spending more efficient. Engaging stakeholders in a transparent process and providing clear signals about future support would foster greater confidence and commitment, ultimately accelerating progress.

In practical terms, better alignment involves integrating financial planning with policy design so that the scale and timing of support match the roll-out of low-carbon technologies and nature-based solutions. Regular monitoring of key indicators such as the deployment rates of renewables and the efficiency of energy use would enable policy makers to adjust delivery mechanisms as needed. By aligning targets with real-world constraints, financial resources and delivery mechanisms, Austria can create a more predictable and effective pathway to its climate goals, benefiting both the economy and society.

2 Urgently enact and implement relevant legislation to create an enabling framework and governance structure for the energy transition.

The urgent adoption of relevant primary and secondary legislation is imperative to establish a robust enabling framework and governance structure for Austria’s energy transition. While strategic documents such as the National Energy and Climate Plan outline much-needed measures, delays in enacting legislation have created uncertainty and undermined progress towards reaching Austria’s energy and climate objectives. The recent adoption of the Electricity Market Act is a major step towards creating a flexible, consumer-friendly, lower cost electricity system. Austria should now prioritise secondary legislation to implement the Act, and the timely adoption of other pending laws, including the draft Renewable Energy Acceleration Act and the forthcoming Gas and Hydrogen Market Act. Ensuring that E-Control and other relevant institutions are sufficiently resourced is critical for the effective implementation of new legal provisions.

Timely legislative and regulatory action is essential for providing clarity to market participants, ensuring the continuity of support schemes, and signalling the government’s commitment to decarbonisation and energy security. The rapid implementation of the strategic gas reserve during the recent energy crisis demonstrates how swift, co-ordinated legislative action and consensus building can deliver tangible results.

This recommendation means prioritising the passage of key primary and secondary legislation that will unlock system flexibility, empower consumers and accelerate renewable energy development. This includes measures to streamline permitting and approval procedures, particularly for wind and other large-scale renewable projects, and to enhance competition and consumer protection in electricity and district heating markets.

To achieve the decarbonisation targets in the most cost-effective manner, it is important to have a comprehensive approach to planning to take advantage of synergies across all parts of the energy system, including electricity, heating, cooling, gas, and hydrogen and CO_2 networks and storage. Austria has developed an integrated energy infrastructure plan, marking a positive move toward a cross-sectoral approach. However, fragmented governance and divided responsibilities between federal and regional authorities have impeded progress in integrated planning and infrastructure development. By consolidating oversight at the federal level and updating governance structures through the new Climate Law, Austria can streamline permitting, harmonise policy implementation and facilitate rapid deployment of renewables and flexible resources.

3 Foster affordable prices through a more competitive electricity market and better regulation of district heating.

Fostering affordable prices in Austria's energy sector requires bold action. Austria would benefit from pursuing ongoing reforms to facilitate renewables deployment, enhance system flexibility and reduce network costs. It is also important to invigorate competition in the electricity market and strengthen regulatory oversight of the district heating sector. The electricity market is currently characterised by high concentration and dominance by incumbent utilities. This lack of effective competition curtails innovation and limits the development of new products and services for consumers. Regional tariff structures and cross-shareholding arrangements further dampen market dynamism. At the same time, while the district heating sector (which is a natural monopoly) offers the potential for efficient decarbonisation and system flexibility, it is hampered by persistent consumer complaints about transparency and pricing. Without meaningful reforms, these market characteristics risk undermining consumer trust, stifling cost reductions and impeding the broader energy transition.

For the electricity market, policy makers could introduce stricter rules to address cross-shareholding among utilities, thereby reducing potential conflicts of interest and promoting genuine competition. The Electricity Market Act provisions to encourage supplier switching, an area where current uptake remains low despite the potential for significant savings, should be implemented and enforced. Ensuring that electricity tariffs and retail offers are transparent, easily comparable and accessible across regions will empower consumers to take informed choices.

In the district heating sector, regulatory reforms should focus on improving pricing transparency and strengthening consumer protection, including clearer disclosure of tariff structures and the establishment of mechanisms for consumer feedback and dispute resolution. A transition toward performance-based regulation could reward efficiency and low-carbon investments. Other targeted regulatory interventions, including benchmarking of district heating tariffs and the publication of performance data, can also drive efficiency and accountability within the sector. The creation of more competitive and consumer-oriented electricity and heat markets should be accompanied by parallel progress in energy efficiency and targeted support measures to protect the most vulnerable consumers, such as those introduced by the Electricity Market Act.

Austria would also benefit from a framework aligning municipal district heating plans with its climate-neutrality target, which would include milestones for renewable heat shares in district heating and enhanced support for geothermal, solar heat and sustainable biomass. The government could also introduce regulatory incentives and streamlined permitting for industrial and data centre waste heat integration into district heating networks.

4 Accelerate the phase-out of fossil heating in buildings through integrated national and municipal heating-cooling plans.

Space heating is Austria's largest single energy consuming end use, making it central to achieving the decarbonisation and energy security goals. In 2024, natural gas still supplied more than 20% of space heating demand, despite consumption being around one-quarter below levels prior to Russia's invasion of Ukraine in 2022. This has made it ever more urgent to replace outdated heating systems with low-carbon alternatives, including modern heat pumps; renewable sources such as biomass, geothermal and solar heat; and district heating.

However, the current expected pace of replacement of around 30 000 gas heating systems per year falls short of the estimated 80 000 replacements required to meet Austria's ambitious climate targets. Under this accelerated transition, the economic life of gas distribution networks could be limited to less than a decade, underscoring the need for a strategic and co-ordinated approach to manage transition risks.

To address these challenges, this recommendation calls for adopting integrated heating and cooling plans at the national and municipal levels. These plans should prioritise the rapid phase-out of fossil heating systems by streamlining permitting and approval procedures for heat pump and district heating installations, particularly in dense urban areas where district heating is the most efficient and scalable. Regulatory reforms must strengthen signals against the replacement of old fossil systems with new ones in existing buildings. Energy efficiency measures should be integrated with heating system replacement, thus reducing energy demand and optimising heating performance. Furthermore, targeted interventions are needed to resolve persistent barriers such as the landlord-tenant dilemma, which currently impedes deep energy renovations and heating system upgrades in the rental sector. This could include financial incentives for landlords and mechanisms to facilitate consensus in multi-owner residential buildings. The heating plans should be co-ordinated with long-term decommissioning strategies for gas networks to avoid stranded assets and manage the transition costs effectively. Greater transparency and consumer protection can also help drive confidence and uptake in district heating.

Focus areas

1. Energy system flexibility

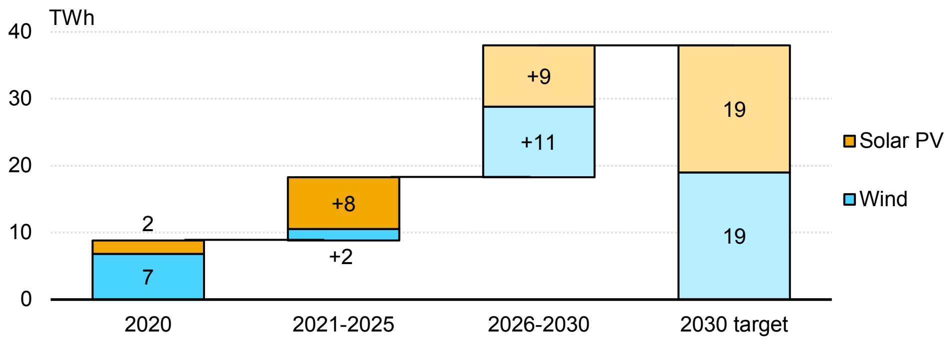
Growing flexibility needs

Scaling up system flexibility is fundamental to achieving Austria's 2040 climate-neutrality target, ensuring that an expanded renewable fleet can operate reliably and cost-effectively. Flexibility, or the ability of the energy system to reliably and cost-effectively manage the variability and uncertainty of supply and demand across all relevant timescales, is the cornerstone for the successful decarbonisation and modernisation of the Austrian energy sector. In the context of Austria's ambitious climate and energy targets, flexibility is key to enabling the integration of renewable energy sources, safeguarding energy security, addressing the evolving demand patterns and improving affordability. As Austria is transposing the EU electricity market design reform, E-Control will be obliged to conduct a flexibility assessment to support indicative national targets for non-fossil flexibility.

Integration challenges for variable renewable energy

In 2030, VRE – wind and solar – is projected to represent about 40% of Austria's total generation. To achieve the 100% renewable electricity target, the Renewables Expansion Act (2021) requires 27 TWh of new renewables by 2030, including 11 TWh of solar PV, 10 TWh of wind, 5 TWh of hydropower and 1 TWh of bioenergy (compared to 2020 levels). However, the more recent NECP (2024) estimates that 35 TWh are needed, so Austria's renewable generation is expected to increase from 67 TWh in 2024 to 91-99 TWh by 2030. In 2024, renewables accounted for 90% of Austria's electricity demand, up from 66% in 2010 and 78% in 2020. VRE rose from 3% in 2010 to 13% in 2020 and 22% in 2024, driven initially by wind and then solar PV. The concentration of distributed systems, which could represent around 86% of total solar capacity by 2030, places significant stress on distribution grids. Managing this expansion will require careful planning of grid reinforcements, advanced voltage control and flexibility measures at the local level.

Electricity generation from solar PV and wind in Austria, 2020-2025 and projection to 2030

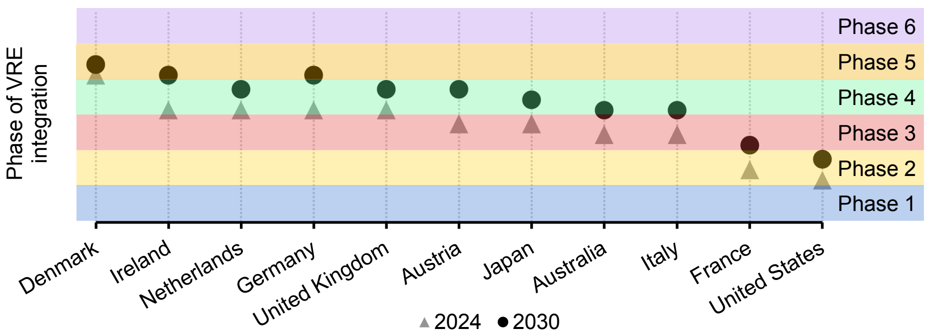


Note: Projections are based on the scenario with additional measures of the NECP.
Sources: IEA analysis based on IEA (2026), World Energy Balances; IEA (2026), Monthly Electricity Statistics (for 2025); Austria, Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (2024), NECP 2021-2030 (accessed November 2025).

While VRE sources already influence the operation of Austria's power system, including increased variability of net load, Austria does not yet have the highest levels of VRE penetration compared to other countries. This puts it in a good position to learn from other countries' experiences while tailoring solutions to its own requirements and past accomplishments.

Austria's power system is expected to enter Phase 4 of the IEA methodology for VRE integration in the coming years, where VRE will supply most of the demand during certain times. The major challenge ahead will be maintaining system stability when VRE output is high. Importantly, Austria must not only address increased renewables integration but also handle growing electricity demand, which is projected to nearly double by 2040. Ensuring affordable and reliable electricity for industry and households, achieving cost-effectiveness and preventing stranded assets are all critical for future progress. Furthermore, since grid costs and renewable energy potential vary across provinces, regional fairness may become an increasingly significant consideration.

Phases of variable renewable energy integration in select IEA countries, 2024 and projections for 2030



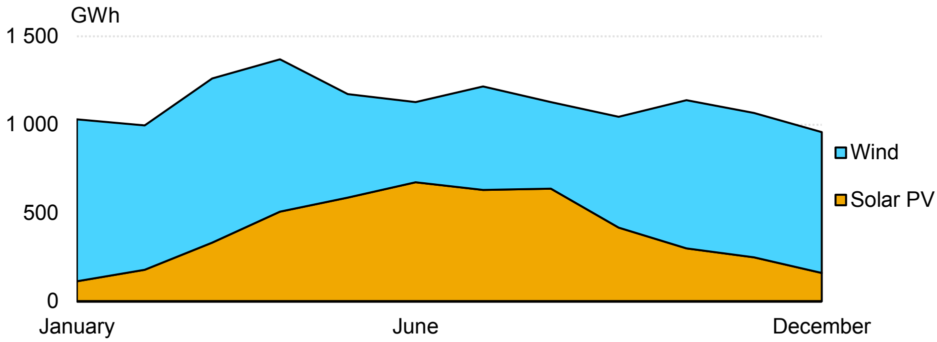
Note: VRE = variable renewable energy.
Source: Integrating Solar and Wind.

Evolving demand patterns

Flexibility is crucial for meeting the growing electricity demand in the most cost-effective way and for integrating new types of load, such as electrified heating and transport, which are expected to significantly alter demand profiles and power system operation.

As the share of VRE increases, more dispatchable capacity is needed in winter. Solar energy peaks in summer, while heating demand surges in winter. Wind is stronger in winter, but Austria’s wind energy growth trails behind solar PV. Without adequate seasonal storage, surplus summer energy is wasted and winter shortages persist. While Austrian pumped hydro storage capacity will continue to play an important role, additional long-duration and seasonal solutions are essential to ensure energy security and the efficient use of renewables.

Average monthly electricity generation of solar PV and wind in Austria, 2023-2025



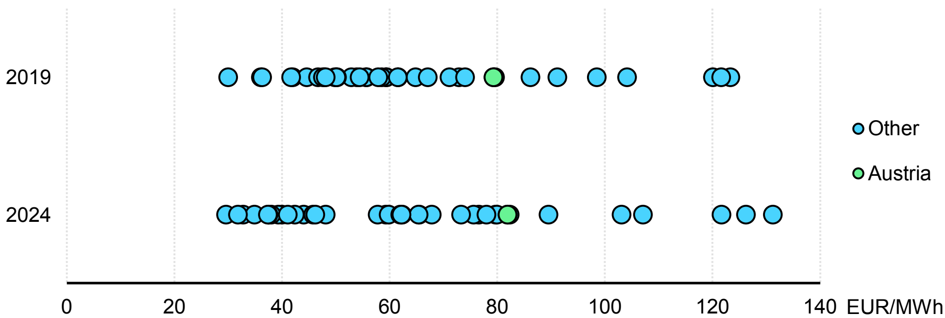
Note: Self-consumed behind-the-meter electricity generation from solar PV and wind is not included.
Source: IEA analysis based on ENTSO-E (2026), Transparency platform, collected through the IEA Real-Time Electricity Tracker (accessed March 2026).

Growing grid costs

Austria has a marked generation and demand imbalance between the east and the west of the country, creating needs for strong transmission corridors. The west hosts major pumped hydro storage sites while the east has higher potential for solar PV and is also responsible for most of the demand. The ÖNIP considers the expansion and reinforcement of the power transmission network to address these regional disparities as "no-regret" measures, as they are necessary across all future scenarios. Drawing from estimates in the Austrian Power Network Expansion Plan 2023, the ÖNIP cites about EUR 9 billion is needed for transmission grid investments until 2034. The ÖNIP also cites another assessment that estimates investment needs at EUR 44.4 billion for transmission networks and EUR 24.2 billion for distribution networks by 2040.

The regional distribution of renewable energy generation and demand centres, combined with limited transmission network capacity, has led to a rising need for redispatch measures as a congestion-management tool. Redispatch costs have risen over the last years, reaching around EUR 142 million in 2023. They are passed on to consumers through grid tariffs. The greater frequency of redispatch reflects the growing gap between economically efficient dispatch at the zonal level and the secure operation of the physical grid, especially as VRE expands. The persistence and magnitude of redispatch, both in terms of activation days and costs, may indicate underlying structural congestion and shifting power-flow patterns and highlight the need for complementary measures such as grid reinforcement, improved locational price signals and broader participation of flexible resources. In this context, the growing role of non-traditional redispatch solutions such as industrial demand response, virtual power plants and digitalised control systems, evidenced by initiatives like Industry4Redispatch, is a positive development that can help reduce reliance on conventional thermal and hydro units over time.

Grid costs in Austria and European countries, 2019 and 2024



Note: Data are unavailable for Albania, Ukraine and the United Kingdom.
Source: IEA analysis based on Eurostat (2025), Electricity prices components for household consumers (accessed November 2025).

Flexibility resources to address system needs

Austria has several advantages which will help to manage the transformation of its power system. It benefits from a strong fleet of hydropower plants for generating electricity and considerable pumped hydro storage capacity. The roll-out of smart meters is also advanced, with coverage ranging from 94.9% to 99.8% depending on the region. Additionally, Austria started reforming its electricity market design and regulation so that price signals better reflect system needs. Finally, the integrated system planning is a commendable first step for long-term infrastructure planning across sectors.

New Electricity Market Act

Austria's previous legislation already had some elements which could enable system flexibility. The ElWG significantly strengthens the framework for flexibility by mandating non-discriminatory, transparent and market-based access to flexibility services for all technologies, including storage, demand response and aggregators. These measures started to roll out in early 2026.

Non-market-based activation mechanisms for some flexibility services currently hinder effective revenue stacking for flexibility assets. A common national platform is intended to support the transparent and market-based procurement of flexibility for congestion management and non-frequency ancillary services. Austria has launched several pilot projects, such as Flex+ and Industry4Redispatch, to test the market-based procurement of congestion management and the practical use of distributed flexible assets in such services. The ElWG also supports the development of virtual power plants and distributed flexibility by recognising independent aggregators as market participants, which are allowed to offer flexibility services without requiring consent from the final customer's supplier. All these measures are commendable, and their timely and effective implementation will be key.

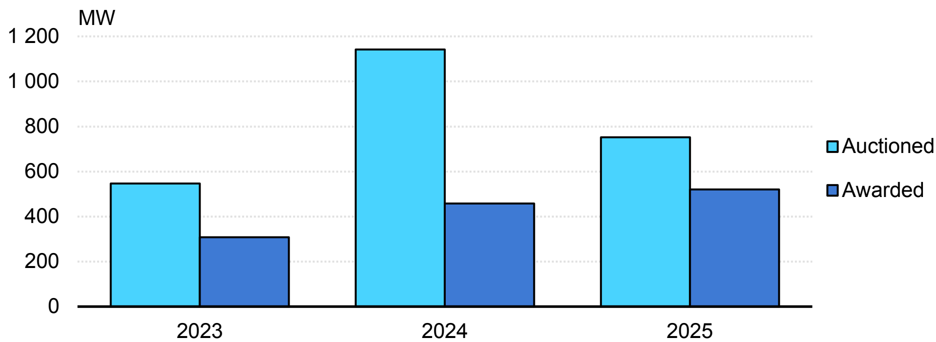
On the regulatory front, E-Control will need to define uniform product specifications and modalities for the efficient procurement of flexibility services. Separate pre-qualification requirements for system services currently add complexity in Austria. Other markets such as Germany and the United Kingdom have introduced frameworks that enable bundled pre-qualification.

System-friendly integration of variable renewable energy

An optimal combination of electricity generation sources, including VRE, can improve power system resilience. While solar PV generation is generally more predictable than wind, its midday peak and sharp changes during sunrise and sunset introduce significant ramping and flexibility needs. Wind power, although less predictable, tends to vary more gradually and does not typically cause such steep ramps. Consequently, systems with a higher share of solar often face greater operational challenges than those with similar VRE shares dominated by wind. The IEA report Integrating Solar and Wind (2024) identifies proven measures for facilitating VRE integration.

While the Renewable Energy Expansion Act sets a wind deployment target and support framework, permitting and missing zoning areas for renewables at the provincial level impede the timely development of wind projects. While solar PV is currently thriving through rooftop installations and auction volumes are increasingly fully subscribed, auctioned wind volumes are regularly undersubscribed. The December 2025 auction is the first exception: 241 MW of capacity were awarded for a 221 MW auction. As the development of wind power plants faces stronger opposition in Austria, the federal and provincial governments are encouraged to take additional measures to facilitate wind projects.

Auctioned and awarded wind capacity in Austrian auctions, 2023-2025



Source: IEA analysis based on 2025 publications from EAG, (accessed February 2026).

Support measures are evolving to strengthen system integration, but more can be done. Initial VRE support policies focused on removing risks to stimulate the rapid deployment of VRE, but policies are now evolving to better integrate VRE plants into the system. Austria provides investment grants for the installation of small-scale solar PV (including battery storage), hydro, wind and biomass plants, and a premium scheme for larger projects, which compensates for the difference between the strike price and the average market price for a set period. Upfront investment support limits the incentive for system-friendly integration of a rapidly growing solar PV fleet: existing investment grants incentivise capacity buildout, but do not steer feed-in timing and system-friendly behaviour.

Austria has introduced some measures to its support schemes to incentivise generation when it is most valuable, such as suspending support during periods of negative prices for plants receiving a market premium and limiting excess profits during times of high market prices. However, the current framework lacks strong locational incentives to better steer projects to areas that are beneficial for the system. Additionally, the design to encourage generation during periods when it is most needed could be further expanded and refined.

Mandating the installation of remote monitoring and control equipment can reduce the stress on the grid. The ElWG requires that new electricity generation plants greater than 25 kW be remotely controllable from June 2028, with smaller plants following the years after. Other provisions include peak-capping for solar PV and wind with clear curtailment limits, transparency requirements and reinforcement deadlines. On request, grid operators also have the possibility to dynamically cap generation from new wind plants starting from January 2027. Austrian renewable generators must provide day-ahead and intraday forecasts, comply with EU grid codes, and update data in real time for balancing and market operations. Overall, these measures are aligned with best practices for VRE integration, but their implementation could be accelerated. Steering the deployment of new VRE generation, possibly in combination with storage, to match with the profiles of existing and new demand, can also reduce grid costs.

Reduction of grid costs

The Electricity chapter above discussed the legal provisions that aim to introduce a fairer distribution of network costs among users. The ElWG also mandates network development planning for the transmission system operator (TSO) and DSOs, as well as an obligation to monitor and report future grid costs. The TSO's and DSOs' network development plans must account for future flexibility needs and identify suitable locations for system-friendly operation of energy facilities, including storage. The Act also requires the TSO and DSOs to examine flexibility options before a possible grid expansion and encourages the use of flexibility as an alternative to infrastructure investment, promoting cost-effective solutions.

This approach is increasingly recognised as a good practice internationally. Countries like Italy and the United Kingdom have implemented regulatory incentives which encourage non-wire alternatives to traditional grid expansion (e.g. through demand-response solutions, digitalisation and/or flexibility). For example, the United Kingdom incentivises network operators to innovate through performance-based rewards, a unified TOTEX approach for cost regulation and dedicated innovation funding mechanisms.

Within this framework, targeted local flexibility products can provide additional benefits by allowing the TSO and DSOs to address specific, location-dependent constraints in a more granular and timely manner. When well-designed, such products can reduce reliance on costly redispatches or remedial actions, increase hosting capacity for distributed energy resources and electrification, and defer or better target network reinforcement. Their effectiveness depends on careful product design, co-ordination across market players, and safeguards to ensure participation and competition.

The EIWG also mandates the development of a joint online platform, requiring the TSO and DSOs to publish real-time information on available grid capacities at substations and transformers. This transparency measure is positive, as it is expected to improve co-ordination between system operators and enhance the visibility of grid constraints for market participants and flexibility providers. The regulatory authority, E-Control, is tasked with overseeing the implementation of these provisions and ensuring that data quality and availability meet the needs of a digitalised energy system.

Renewable plants benefit from lump-sum connection fees that partly cover actual costs. The connection fees for generators and consumers do not reflect the impact of the project on the overall system. This limits price signals that could reflect grid congestion, transmission losses or regional constraints, placing the country behind EU peers like Germany, Nordic countries and the United Kingdom that increasingly use locational pricing to better reflect grid constraints and incentivise demand-side flexibility. Locational price signals are a strong driver for efficient grid use.

Temporal price signals are another efficient tool. Network charges in Austria are largely capacity-based, with limited or no time-of-use elements for most consumers. The EIWG introduces time- and load-based elements to encourage shifting consumption away from peak periods and support flexibility.

Electricity storage

Austria’s strategic and legal framework for storage is improving. The NECP, the Renewable Energy Expansion Act, the ÖNIP, the EIWG and other strategic documents acknowledge electricity storage as a key enabler for decarbonisation, resilience and energy security. According to a recent study, Austria is projected to require an additional 3.5 GW of pumped storage and 8.7 GW of battery energy storage capacity by 2040, including 2.7 GW of utility-scale and 6 GW of small-scale battery installations.

Until recently, pumped storage hydro (PSH) plants faced a peculiar situation in Austria, being embedded in the regulatory framework between suppliers and consumers. Most PSH plants faced double grid fees for the consumption and supply of electricity. Certain grid fee exemptions for the consumption of electricity came into effect in 2010 for new PSH plants for a period of 15 years. All other PSH plants pay a network usage fee (0.0036 EUR/kWh) and a capacity fee (100 EUR/kW). In addition, all feed-in sources with a capacity over 5 MW must pay a grid loss fee of 0.00304 EUR/kWh.

The EIWG suggests several positive changes for energy storage. It officially defines electricity storage aligned with EU Directive 2019/944, categorising it either as a consumer or supplier and recognising storage facilities as electricity market participants, granting rights and obligations similar to other grid users. It eliminates double fees (for feed-in and withdrawal of electricity) for all storage facilities and clarifies the permitting regimes of storage facilities. It also requires the regulatory authority to consider system-friendly operation of storage facilities as well as their location suitability when determining the cost-based grid usage fees. Storage facilities considered to be system-friendly (as defined by the regulator) may be exempted from grid usage fees for up to 20 years. The EIWG provides DSOs with the option to own and operate storage facilities, limited to narrowly defined and regulated exceptions.

The draft Renewable Expansion Acceleration Act introduces further measures for energy storage systems, including faster grid approval processes, the overriding public interest principle, and dedicated areas for grid and storage infrastructure.

Austria holds a unique position in the European power system thanks to its substantial 9 GW of pumped storage and reservoir storage capacity, including 5.6 GW of PSH capacity – one of the largest national fleets in the European Union. Around one-third of total hydro reservoir and PSH capacity directly serve the German market. These cross-border arrangements allow Austrian hydro plants to provide critical balancing, peak-shaving and reserve services for Germany, especially during periods of high renewable generation or grid stress. German utilities and grid operators contract significant volumes of Austrian storage for daily and seasonal flexibility, making Austria a key “battery” for Central Europe.

While most of Austria’s prime PSH sites have already been developed, the country is planning a new wave of capacity additions to further leverage its alpine geography. By 2040, Austria aims to add 3.5 GW of pumped hydro capacity, primarily through new construction projects in the Alps. Major investments include the EUR 600 million Ebensee project, which will deliver large-scale, flexible storage to support domestic and regional energy transitions. Other projects, such as Limberg III and Kühtai 2, are also in advanced stages of planning or construction, collectively ensuring that Austria remains a cornerstone of grid stability and renewable integration for itself and its neighbours.

Battery storage, now the fastest growing commercially available energy technology in the world, is gaining traction globally – often without the need for subsidies. Battery storage systems can be used for different use cases and stack revenue streams to make them economically viable. Policy discussion in Austria is ongoing on how to best support the deployment of batteries and flexibility assets in the market.

Unlike pumped hydro, which is geographically constrained to Austria's alpine west, utility-scale battery storage systems offer strategic locational flexibility. They can be deployed where grid support is most needed, especially in the east, where PV production dominates. Austria's first 10.3 MW/20.6 MWh utility-scale battery storage was commissioned in September 2023, marking a significant milestone.

The Climate and Energy Fund promoted large electricity and thermal storage systems with the EUR 75 million funding programme Großspeicheranlagen that ran until March 2025. In 2024, the Fund also launched a EUR 17.9 million programme for medium-scale energy storage systems, with calls for proposals for newly built and extension projects with capacity between 51 kWh and 1 MWh. It ended in November 2024 ahead of schedule as funding resources were exhausted.

Battery storage systems paired with solar PV installations represent the most rapidly expanding segment of decentralised storage in Austria, especially in the residential sector. In 2024, 60% of new rooftop solar PV installations were combined with battery storage, underscoring the mainstream uptake of integrated solutions. This growth has been driven by targeted investment subsidies for small-scale, behind-the-meter storage solutions combined with solar PV. Austria introduced a Made-in-Europe Bonus that covers up to 20% of the cost for modules and inverters and 10% for storage systems. Within three years, around 2 GWh of home battery storage systems were added in Austria, for a total of 2.2 GWh in 2024. To put this into context, the ÖNIP envisages 2.5 GWh of utility-scale battery storage by 2030 based on scenario-based planning assumptions – a figure already matched by behind-the-meter deployments. The cost of PV battery storage systems has fallen significantly, from over 1 700 EUR/kWh in 2015 to about 700 EUR/kWh in 2024.

Despite these positive developments, the use of battery storage as a flexibility source remains at an early stage. Most household battery storage systems are installed to maximise self-consumption and self-sufficiency. Austria's surplus feed-in remuneration scheme for small PV plants, which is primarily market-based (indexed to day-ahead market prices published by the power exchange), provides incentives for households to prioritise self-consumption, especially in the context of high retail electricity prices. Typically, these systems are programmed to begin charging batteries as soon as solar generation exceeds household demand, often resulting in batteries being fully charged by late morning or midday. Surplus solar output is then exported to the grid, as there is no incentive for shifting charging or discharging to align with system needs.

Leveraging flexible demand

Demand-side flexibility holds potential but is not yet leveraged in Austria. In October 2025, about 95% of Austrian households were equipped with smart metering devices, enabling quarter-hourly data collection, according to E-Control. However, despite the high uptake of smart meters, only about 6% of consumers had dynamic price contracts in 2024, while the vast majority of households (83%) had fixed-price contracts. Most household consumers prefer simplicity, which reduces their involvement in more complex flexibility schemes. Data access provisions for consumers and market participants are in place, although harmonisation of data formats and exchange protocols is still ongoing across Austria and other EU member states. A recent IEA policy brief (2025) examines the value of demand flexibility as a core component of modern electricity systems.

The ElWG introduces a flexible grid connection contract for the distribution and transmission networks, which allows DSOs/the TSO and customers to agree on conditions for controlling feed-in and withdrawal at the connection point. A customer can commit to reducing or shifting consumption during congestion or peak periods in exchange for better access terms or lower charges. The Act empowers the regulator to design time- and load-sensitive tariff components, which aim to incentivise demand-side flexibility by making peak consumption more expensive and off-peak consumption cheaper. Tariffs can include capacity-based charges and time-of-use pricing, aligned with the principles of EU Directive 2019/944.

Industrial consumers in Austria enjoy the same rights as households regarding dynamic price contracts, aggregation contracts, and streamlined switching procedures for changing suppliers or aggregators. These provisions are particularly significant for large energy users, as they enable the leveraging of load shifting and participation in flexibility markets to reduce costs. Flexible grid connection contracts, capacity-based charges, time-of-use pricing and other measures introduced by the ElWG not only aim to incentivise demand-side flexibility but also to make large consumers active participants in the energy transition. Additionally, industrial consumers can act as active customers or join energy communities, offering flexibility services such as load reduction, on-site generation or storage either directly or via aggregators, through the common flexibility platform mandated by Austrian legislation.

EVs can play an important role in flexible demand as they can provide both positive and negative flexibility to the grid, i.e. increase demand when there is surplus generation and reduce or even reverse demand via vehicle-to-grid during grid stress. Smart charging and vehicle-to-grid can help defer costly grid upgrades and reduce peak loads. With a stock of around 250 000 BEVs in 2024, there is already a cumulated battery capacity of more than 10 GWh.

The ÖNIP highlights electrolysers as an important source of flexibility, with the single largest flexible demand asset in the plan's flexibility portfolio (see Focus area 2).

Integrated energy system and sector coupling

Achieving deep decarbonisation requires a shift from siloed energy systems to integrated, multi-sectoral approaches. Sector coupling – linking electricity, heating, transport and industry, and including emerging technologies such as power-to-x – has multiple benefits. It can enhance system efficiency and increase the flexibility of the power system, therefore supporting the integration of VRE. Key enablers of an integrated energy system include electrification, hydrogen and co-ordinated infrastructure planning, supported by cross-sector investments, market reform and data interoperability. Joint gas and electricity infrastructure planning are a key feature of sectoral coupling, and Austria demonstrates potential for strong leadership in this area (see the ÖNIP policy spotlight in the Energy and climate strategy chapter).

Austria has also launched pilot projects, linking electricity with heating and transport, including district heating systems and EV infrastructure. Several Austrian cities have piloted power-to-heat systems, which use surplus renewable electricity to generate heat for district heating networks. Vienna and Salzburg have tested large-scale electric boilers and heat pumps to decarbonise heating, especially during periods of high VRE generation.

Thermal energy storage (TES) decouples heating and cooling demand from electricity generation, which is important for a system increasingly reliant on variable renewables. Nearly 780 Austrian district heating systems have thermal storage facilities, totalling 206 820 m³ and 8.4 GWh. In Austria, TES solutions include water tanks, earth basins, borehole heat exchangers and aquifers, with large earth basins and borehole fields systems already tested in research projects. The NECP envisages the expansion of thermal storage, especially in urban areas. The ScaleUp project led by Wien Energy, expected to be operational in 2029, is an example of an innovative approach to large-scale underground heat storage.

Industrial TES also offers a powerful lever for flexibility and renewable integration in manufacturing processes. By decoupling heat generation from immediate demand, TES enables plants to shift energy consumption to periods of low electricity prices or high renewable availability, reducing peak loads and supporting grid stability. This approach is particularly relevant for electrifying low-temperature heat: the IEA underscores the competitiveness of electric boilers and heat pumps when paired with storage. Large-scale TES projects, such as the recently inaugurated corn processing facility in Hungary, demonstrate how industrial sites can integrate variable renewables while maintaining operational reliability. TES should be seen as a cornerstone technology for sector coupling, enabling demand-side flexibility and accelerating the decarbonisation of industrial heat.

Seasonal storage of natural gas, hydrogen and biomethane is part of Austria's overall strategy to address the seasonal demand-supply mismatch. Long-term storage of fossil fuels has traditionally been a key element of Austria's energy security strategy. Austria's gas storage capacity has more than doubled, from 47.5 TWh in 2009 to 101 TWh in 2026. This capacity is slightly higher than the country's annual consumption of natural gas, which positions Austria as a key player for the European security of supply. There are plans to use this infrastructure for the storage of low-emissions hydrogen and biomethane. Austria also has major geological storage potential owing to depleted hydrocarbon fields and saline aquifers, which are important for carbon management and the energy transition. These could be used for storing natural gas, hydrogen, CO_2 and thermal energy. A recent study reports that Austria plans to convert 1.2 GW of gas-fired power plants to hydrogen-ready co-generation systems by 2040. Focus area 2 details Austria's hydrogen development.

The use of solid biofuels for heating contributes to cost-effective seasonal storage solutions. Households and district heating companies purchase wood in spring and summer and store it for use in winter. Due to relatively low levels of dry matter loss and limited strain on infrastructure, seasonal storage of biomass is cheaper than alternatives such as pumped hydro or hydrogen. Solid biofuels are expected to continue to play a significant role in decentralised and district heating systems. However, in scenarios with weak efficiency improvements, the pressure on solid biofuels resources increases and supply risks intensify.

Recommendations

5 Unlock system flexibility by better valuing demand response and storage.

Improving the conditions to reward flexibility is essential for ensuring a cost-effective and resilient electricity system in Austria. As the share of variable renewable energy such as wind and solar continues to rise, the system faces growing challenges from mismatches between generation and demand, particularly across seasons and during peak hours.

To address these challenges, the Electricity Market Act has introduced a significant reform of Austria's power sector. Austria should now prioritise the implementation of targeted measures that reward flexible behaviour across all consumer segments and asset types. Practical actions include the expansion of dynamic and time-of-use tariffs, leveraged by the high number of smart meters, to better reflect real-time system conditions and provide clear price signals for consumers and small flexibility providers. Local flexibility markets should be further developed to incentivise flexibility in grid-constrained areas and grid connection fees could be adjusted to encourage the deployment of storage and other flexibility assets at optimal locations. Existing flexibility markets, such as those for redispatch services, must be continuously improved to enable broader participation by large-scale and distributed assets.

In parallel, regulatory frameworks should be adapted to facilitate revenue-stacking from flexibility and electricity markets, ensuring that flexibility providers can access multiple value streams. While the ElWG introduces a common flexibility platform and clearer aggregator rights, full interoperability between TSO and DSO products and harmonised settlement systems will be essential before multi-service revenue stacking becomes widely feasible. The removal of double charging for storage facilities is a positive step. It is also important to enforce the requirement for system operators to consider non-wire alternatives in their grid planning. These steps will not only defer or avoid costly grid expansion but also enhance system stability and reduce overall costs for end users.

Finally, strengthening market signals for consumers and operators of flexibility assets will support system-friendly behaviour. E-Control's planned reform of grid tariffs, including the introduction of seasonal and local grid tariffs, is a positive development. However, additional reforms are needed to ensure that interruptible power demand tariffs and other flexibility incentives offer sufficient long-term signals to shift demand and reduce peak loads. If subsidies for home battery storage continue, they should include strict criteria that benefit the system. Austria could also incentivise smart charging for electric vehicles (EVs) and promote pilot projects and regulatory frameworks for vehicle-to-grid technologies, particularly targeting public fleets and commercial vehicles, and encourage the use of charging infrastructure at optimal times and locations. Additionally, consumer education on the benefits of participation in demand-response programmes is vital.

By fostering a regulatory environment that rewards flexibility, Austria can unlock the full value of its significant stock of potential flexibility assets – heat pumps, EVs, and residential and industrial battery storage – ultimately supporting the efficient integration of renewables and the long-term decarbonisation of its power sector.

6 Facilitate system-friendly expansion of renewables by improving support mechanisms and participation in system services.

The future deployment of solar photovoltaics and wind in Austria must be accompanied by a strong framework to efficiently integrate new generation assets into the power system. A system-friendly integration allows achieving the lowest possible system cost by reducing grid reinforcements and expansion and additional investments in dispatchable capacity. The timely implementation and expansion of provisions in Austria's Electricity Market Act for new variable renewable energy (VRE) plants – such as remote control, dynamic set-point management, dynamic feed-in management and clear curtailment protocols – are crucial steps towards system-friendly operation.

Targeted measures such as system-friendly contracts for difference, locational signals in renewable support schemes, auctions and connection agreements, hybrid auctions (e.g. solar PV + wind + battery), flexible tariffs, and peak capping can further optimise grid use. Applying the European Commission's guidance on the design of two-way contracts for difference can cost-effectively integrate renewables and guide better investment decisions. As the EU Net Zero Industry Act requires the introduction of "non-price criteria" in member states' renewable energy auctions, Austria could consider opting for energy system integration criteria. Reforming the grid connection process to prioritise strategically aligned projects will help Austria achieve a balanced, efficient and resilient renewable expansion.

Austria's solar PV growth is largely due to rooftop installations, which often receive upfront investment support but lack incentives for system-friendly integration. Current grants encourage capacity expansion without influencing feed-in timing or grid-friendly operation, potentially increasing grid strain without additional operational or locational signals. Timely implementation of complementary signals, such as time-of-use tariffs, can encourage behaviours that are beneficial to the power system.

A system-optimised strategy should incorporate technical standards that enable flexibility from new VRE plants. The Electricity Market Act represents a positive step to achieve this. Ensuring non-discriminatory market access for VRE plants across all relevant electricity markets, including spot, redispatch, ancillary services and local flexibility markets, creates additional revenue opportunities for VRE plants. Market rules should be reviewed to remove barriers such as minimum bid sizes and aggregation limits, ensuring non-discriminatory access for all flexibility providers, including independent aggregators and distributed resources.

In addition, strengthening data and digitalisation initiatives is vital to support flexibility and effective co-ordination across energy systems. Accurate, high-resolution forecasting of VRE output, net load and power flows is critical for secure operation and efficient market outcomes. This should not be left solely to market participants, as the benefits of improved forecasting accrue across the system, while individual actors cannot capture the full value of their investments. Austria should continue to enhance centralised and decentralised forecasting requirements, ensuring that all grid-connected VRE plants provide real-time data to system operators.

7 Accelerate the deployment of wind energy by designating development zones and streamlining permitting.

Austria's ambition to achieve a 100% renewable share in the national annual electricity balance by 2030 hinges on a substantial increase in wind power generation. However, wind energy remains underutilised. This underperformance is primarily attributable to siting and zoning challenges, even though lengthy and complex permitting procedures pose a major challenge to the swift deployment of new wind projects. Accelerating wind energy deployment is essential not only for meeting the 2030 target, but also for supporting Austria's broader electrification strategy, which includes the expansion of heat pumps, e-mobility and industrial loads such as hydrogen production via electrolysis. Furthermore, scaling up wind, in tandem with adequate storage solutions, is critical to addressing seasonal supply constraints and enhancing system resilience.

To realise these objectives, Austria should deploy a suite of practical measures that remove barriers and create favourable investment conditions for wind energy projects. First, all available legal mechanisms must be actively used to ensure that designated areas for wind development at regional levels are implemented without delay, as is already done by Lower Austria, Styria and Burgenland. This includes making public land within these zones rapidly accessible for wind projects through standardised, transparent, long-term lease agreements.

Second, streamlining the permitting process is vital to reduce lead times and provide certainty for investors. To build on recent improvements, Austria could consider developing a spatial energy planning framework that would encourage provincial authorities to take into account the country-level energy system needs in their planning decisions. Establishing a one-stop shop for permitting, aligned with the European Commission's Grids Package proposal, can centralise administrative procedures, simplify compliance and accelerate project approvals, thereby encouraging more rapid deployment. Finally, fostering stakeholder engagement and clarifying governance arrangements will help address local concerns and secure public support, further smoothing the path for wind energy expansion.

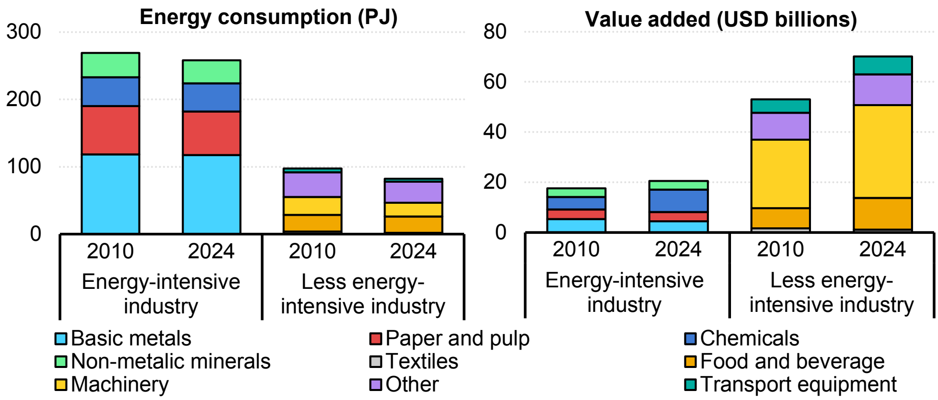
2. Strengthening industrial decarbonisation and competitiveness

Challenges and opportunities of Austrian industry

Austria has a proud history of industry, enterprise and innovation, having both shaped and adapted to past technological revolutions in the face of global competition and societal change. Today, industrial transformation is also essential for Austria to achieve climate neutrality by 2040, given the significant share of process- and energy-related emissions that must be reduced or captured. Manufacturing is particularly important for Austria and many other economies in the context of the energy transition. In Austria's case, almost 70% of industrial value added and 86% of industry's energy-related emissions come from manufacturing. This report focuses on decarbonisation pathways and competitiveness of the manufacturing sector i.e., industrial activities involving the transformation of raw materials or intermediate inputs into finished or semi-finished products.

In 2024, Austria's manufacturing sector contributed around EUR 75 billion to the economy and employed about 704 000 people – supporting approximately 15% of national GDP and 16% of the total workforce. The largest and most successful sectors in terms of industrial value added have been production of machinery, automotive components, chemicals and pharmaceutical products, and food and beverages. These sectors – most of which are less energy-intensive – have all achieved annual growth of at least 2% on average since 2010. In contrast, annual growth in energy-intensive industries has been slower (excluding pharmaceutical and chemical products), especially since the energy crisis in 2021-2022. Pharmaceutical and chemical products represent an aggregation of energy-intensive subsectors (chemicals) and less energy-intensive subsectors (pharmaceuticals) in this report, due to statistical reporting conventions. This aggregation complicates analysis and cross-sector comparisons and contributes to the stronger value-added growth observed for this group relative to other energy-intensive sectors.

Manufacturing energy consumption and value added by sector in Austria, 2010 and 2024



Note: "Basic metals" includes manufacturing and casting of ferrous metals (iron and steel) and non-ferrous metals, notably aluminium and other base metals. Value added is calculated in USD with constant 2020 price levels using Purchasing Power Parity (PPP).

Source: IEA (2026), End-use and Efficiency Indicators.

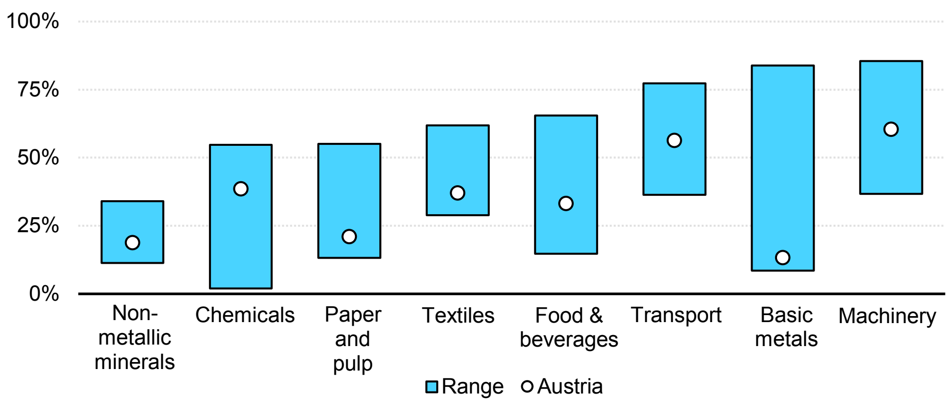
Energy-intensive sectors, particularly those reliant on natural gas, have faced sharp pressure from the price spikes and supply uncertainties following Russia's invasion of Ukraine. These businesses are characterised by significant energy demands, requiring heat at high temperatures and pressures, and tend to operate long-lived assets with high fixed costs of changing processes. This category includes iron and steel, petrochemicals, cement, non-ferrous metals, and paper and pulp. In many cases, fossil fuels are also used as material feedstocks.

Austria's less energy-intensive sectors consume about a quarter of industrial energy demand but generate more than three-quarters of value added and jobs. For these businesses, energy represents a relatively small share of total production costs. However, lower capital requirements and strong opportunities for energy efficiency and electrification mean these industries offer rich potential for cost-effective energy savings. Less energy-intensive sectors benefit from established, commercially viable technologies that are frequently manufactured within the European Union. Consequently, these sectors present accelerated and lower risk decarbonisation options, characterised by relatively straightforward deployment and demonstrable returns. In contrast, energy-intensive industries encounter more complex and uncertain decarbonisation challenges, especially in relation to feedstock technologies. This makes the transition more gradual, requires significant capital investment, and is reliant on ongoing technological innovation because it involves emerging or less mature technologies.

Industrial electrification

On the technological front, a new Age of Electrification is emerging, driven by rapidly falling costs for solar PV, batteries, electrified industrial heat and industrial mobility, and innovation at the intersection of electricity and artificial intelligence. There is also strong potential to increase electricity's share of energy in industrial processes in Austria, especially in areas such as metals manufacturing. The IEA report Renewables for Industry (2025) provides insights on electrification of low-temperature heat and steam in industry, coupled with increasing deployment of renewable electricity supply.

Rate of electrification by manufacturing sub-sector, range among IEA countries and Austria, 2023



Note: The range excludes outliers (e.g. highly electrified but very small sectors or sectors dominated by one company).
Source: IEA (2025), Energy End-uses and Efficiency Indicators.

While today Austrian companies pay higher prices and taxes for electricity than many other countries, the prospect of abundant, low-cost, low-carbon electricity offers industry potential for a step change in productivity. This comes as business models built on historical access to relatively cheap natural gas imports from Russia continue to face geopolitical and structural pressure.

To manage the transition, the EU ETS and Carbon Border Adjustment Mechanism (CBAM) are shifting incentives and strengthening links with partner countries by encouraging the manufacturing of affected products that have been produced with low-carbon, high efficiency processes. For example, Korea's industry is already subject to a compliance carbon market and new or strengthened arrangements are being introduced in countries including Australia, the People's Republic of China (hereafter "China"), India, Japan and the Republic of Türkiye.

The NECP identifies electrification as a central pillar of industrial decarbonisation, with significant potential in less energy-intensive sectors where low- and medium-temperature heat can be supplied efficiently by mature and commercially available electric technologies. While continued industrial electrification presents a critical source of emissions reduction and productivity dividends, the decarbonisation of some high-heat processes (e.g. in the iron and steel, cement and chemicals sectors) requires other solutions, including hydrogen and CCUS.

Electrification of industrial processes offers a triple benefit of improving energy efficiency at the user level, opening up deeper potential for decarbonisation via renewables and strengthening energy security. Electricity accounts for around 30% of Austria's total industrial energy use, though most of this is used for lighting, motors and auxiliary equipment rather than for heat or mobility. This share has remained largely unchanged over the past two decades. This compares with a current global average of 23%, up from 19% in 2005.

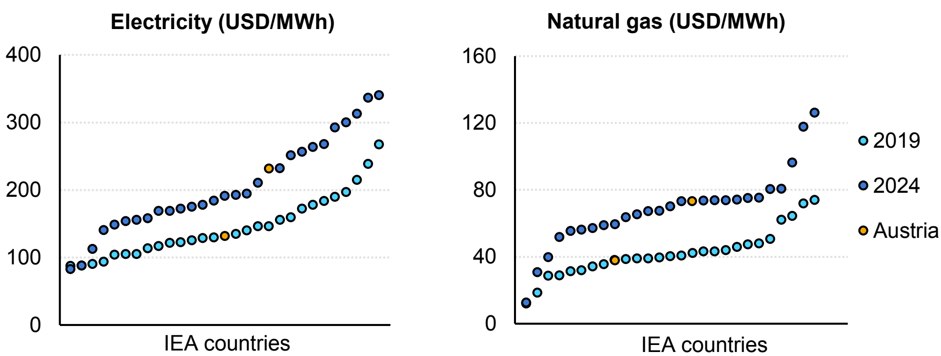
High energy costs

Today, high energy costs have intensified pressures for industrial change and decarbonisation. The most energy-intensive industries have been hit the hardest. Value added in the basic metals, paper and pulp, and non-metallic mineral sectors – which include the prominent industries of steel, paper, and cement, respectively – fell by 18% between 2019 and 2024, compared with a 12% expansion over the 2010-2019 period. The value of paper and pulp output is down roughly 14%, and metal manufacturing has declined by around 23%. Less energy-intensive industry also faces cost pressures that are passed on to consumers, driving prices up for everyday goods and contributing to broader inflationary pressures. However, less energy-intensive industry has proven much more resilient, expanding the value of its output by 3% in recent years, compared with 32% over the period 2010-2019.

Since Russia's invasion of Ukraine in 2022, Austrian industry has had to navigate a dramatic scaling back of Russian gas supply and higher associated energy costs. This has compounded broader competitiveness challenges amid high labour costs and trade pressures posed by tariffs in the United States and subsidised production in China.

Electricity costs are around two to three times those in the United States and natural gas prices are four to five times higher. The energy cost competitiveness gap with China is even wider.

Industrial retail prices in IEA countries, 2019 and 2024



Note: Countries without full data availability for 2019 and 2024 are excluded.
Source: IEA (2025), Energy Prices.

The steel industry provides an important illustration of these trends. In 2024, crude steel production was down around 4% compared to 2019. Driven by these pressures, in November 2025, Voestalpine announced plans to cut over 300 jobs across its Austrian steel manufacturing operations.

For policy makers, a central challenge is balancing short-term support for firms facing intense competitive pressure just to continue operations with the longer term market frameworks needed to ensure competitiveness in an uneven global playing field. Decisions around whether industrial processes should continue to rely on gas or shift to electrification or other low-carbon fuels are especially critical, as public support increasingly favours electricity-based solutions.

Austria's new Industrial Strategy, released in January 2026, provides a strong set of measures aimed at bringing down electricity prices and ensuring fair competition, especially with Germany, Austria's main competitor and trade partner. This includes lowering industrial electricity prices from 2027 with a fixed price of 0.05 EUR/kWh for half of the value consumed by an industrial enterprise and extending compensation for indirect EU ETS CO_2 costs until 2029 (with EUR 250 million per year set aside for both goals). In addition to these measures, the Strategy outlines a 50% reduction of the government electricity levy paid by industry for 2026 and advocates for changes to the European pricing mechanism's merit order system.

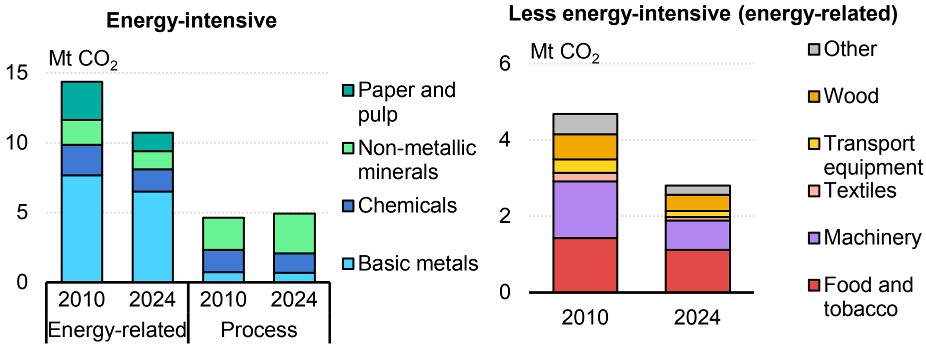
The ElWG also promotes reforms that should lower industrial electricity prices through greater self-generation and potential access to flexible time-of-use or seasonal tariffs. Dynamic pricing also offers a way for industry to profit from providing grid stability services, while other innovative instruments such as flexible grid connection contracts and peer-to-peer trading also offer opportunities for industries to manage costs while decarbonising (see Focus area 1).

Industrial transformation pathways

Process emissions

Austria is pursuing the ambitious target of decarbonising its economy by 2040. Energy-intensive industry has one of the most challenging pathways on the road to net zero emissions. Energy-related emissions from energy-intensive industry in Austria fell by a quarter (3.6 Mt CO_2) between 2010 and 2024. Those from less-intensive industry have fallen by 40%, providing just under 1.9 Mt CO_2 in emissions reduction over the same period, reflecting the higher electrification potential and lower upfront capital costs of investment.

Manufacturing emissions in Austria, 2010 and 2024



IEA. CC BY 4.0.

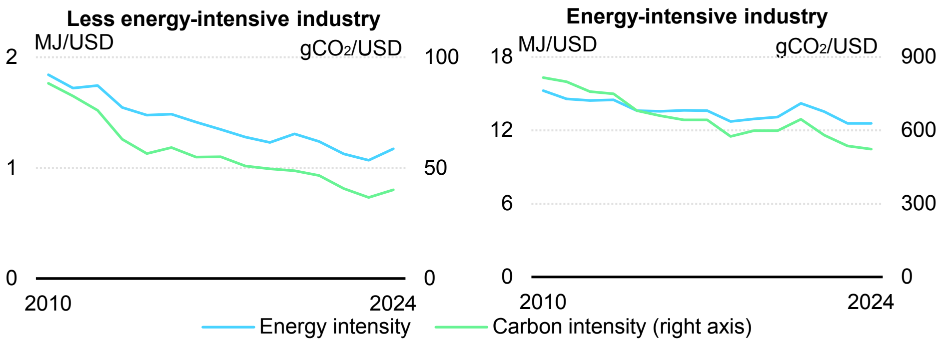
Note: Process emissions for paper and pulp are zero and so are not shown in the chart.
Sources: IEA analysis based on IEA (2026), Energy End-use and Efficiency Indicators; JRC (2025), EDGAR (accessed March 2026).

Altogether, total manufacturing CO_2 emissions from fuel combustion and industrial processes have fallen by around 20%, from around 24 Mt CO_2 in 2010 to under 19 Mt CO_2 in 2024. This occurred even as value added expanded by around 17% for energy-intensive sectors and 33% for less energy-intensive sectors over the same period. However, process-related emissions varied little between 2010 and 2024, actually increasing by 6%. They are a key gap for decarbonising Austrian industry, particularly in the cement, chemicals and primary steel production subsectors.

Efficiency gains and bioenergy

The NECP and the Federal Energy Efficiency Act define Austria's energy efficiency framework. Large enterprises with more than 249 employees or an annual turnover more than EUR 50 million are required to conduct regular energy audits or implement certified energy management systems, while small and medium-sized enterprises are encouraged to participate on a voluntary basis. The regulatory authority, E-Control, oversees compliance and annual reporting.

Energy and carbon intensity of fuel combustion in Austrian manufacturing, 2010-2024



Note: Energy and carbon intensity are calculated with constant 2020 price levels using Purchasing Power Parity (PPP).
Source: IEA (2026), Energy End-uses and Efficiency Indicators.

Metals manufacturing and paper and pulp are by far the most energy-intensive sectors; they require roughly ten times more energy to produce each unit of value added than the less energy-intensive sectors. Metals manufacturing has also become less efficient in recent years: energy consumption per unit of value added has grown over 1% on average annually since 2010. And the paper and pulp sector has only recorded moderate efficiency improvements, averaging around 0.5% a year. By contrast, less energy-intensive sectors have achieved exceptionally strong energy efficiency progress, with rates of improvement between 2% (wood products) and 4% (transport equipment) per year since 2010.

These rates of improvement should be positioned alongside the general stalling of overall industrial energy intensity progress at the global level over the same period at less than 0.5% per year. This has been driven by particularly slow rates of progress in heavy industry, a trend also evident in Austria. The industrial module of the IEA's Energy Efficiency Progress Tracker provides further details on national and global trends.

Bioenergy accounts for around 20% of total manufacturing energy use in Austria. It is mainly used in the manufacture of paper and pulp, and other wood products. Gaseous biofuels currently play only a minor role in industry as a whole, with the sector's consumption at around 1.6 PJ. However, the Transform.Industry report commissioned by the Climate and Energy Fund identifies a much larger future role for gaseous biofuels alongside electricity in Austria's industrial energy mix. To support this, a Renewable Gas Act is under discussion (see the section on Bioenergy in the Fuels chapter).

Austria's innovation ecosystem

Austria's strong research and innovation ecosystem is a major asset for industrial competitiveness and carbon neutrality. The Austrian Research Promotion Agency delivers public support through a layered funding architecture, including open thematic calls and more mission-oriented funding such as the Circular Economy and Climate Neutral Cities initiatives. The competence centres for technological excellence fund science-industry partnerships in priority areas including hydrogen, the circular economy, artificial intelligence and green mobility.

The Research, Technology and Innovation (RTI) Transformation of Industry Programme is another targeted programme aimed to bridge the gaps between research, demonstration projects and more widespread market uptake. Accompanied by the public-private New Energy For Industry (NEFI) innovation network, involving many of Austria's leading companies, it drives new technological ideas in areas including electrification (e.g. industrial heat pumps), hydrogen, the circular economy and waste-heat recovery, CCUS, and renewables integration and digital optimisation.

The Austrian Institute of Technology and partners conducted a sectoral analysis entitled "Climate Neutrality for Austria by 2040", which compares the most and least costly decarbonisation technologies and estimates investment needs across industrial sectors. The findings show that decarbonisation of Austrian industry for energy- and process-related emissions can be achieved using four broad strategies: 1) electrification using heat pumps for heating below 200°C and electric motors; 2) carbon-neutral gases, such as hydrogen from electrolysis or methane pyrolysis and bio-CH_4, including for process heat above 200°C; 3) carbon capture, particularly important for cement; and 4) circular economy measures, such as increased use of scrap in steel manufacturing. The outcomes of this study also helped shape the design of the RTI "Transformation of Industry" programme.

Austria is also highly active in international research networks, including the IEA Technology Collaboration Programmes and EU initiatives such as Horizon Europe. Austria leads the Net Zero Industry Mission workstream for Mission

Innovation and co-ordinates the Clean Energy Transition Partnership and Driving Urban Transitions. Together, these national and international efforts position Austria well to advance low-carbon industrial technologies and maintain competitiveness in the global energy transition.

Regulatory and funding frameworks

To scale up action on industrial competitiveness, in January 2026 the Austrian government adopted the new Industrial Strategy 2035. It provides a vision for Austria's industrial landscape in 2035 and responds to similar strategies being launched in other countries such as China, Germany and the United States. As part of the strategy, funding is targeted at lowering electricity prices, especially for energy-intensive industry, while at the same time encouraging transformative investments in electrification, efficiency and decarbonisation.

A broad suite of national and EU-level instruments already supports industrial transformation, but a more strategic and ambitious approach will be needed to deliver Austria's climate and competitiveness goals. The Industrial Strategy 2035 offers a major opportunity to strengthen and focus these programmes. These include investment grants, operational support, R&D funding, and relief for energy-intensive sectors exposed to global competition. However, budget uncertainty, high electricity-to-gas price ratios and lengthy grid connection timelines have clouded the outlook, highlighting the need for clearer long-term signals and more stable funding frameworks.

Austria's support framework also sits within a wider global landscape where countries are expanding efforts to safeguard their industrial base. Germany, for example, has introduced major programmes, including a cap on electricity prices for energy-intensive industries at around 0.05 EUR/kWh through 2028 and has rolled out industrial decarbonisation contracts for difference that bridge the cost gap between conventional and low-carbon production in sectors like steel and chemicals.

Select support programmes for industrial transformation

- Transformation of Industry programme (EUR 2.975 billion to 2030): Large investment grants exceeding a funding requirement of EUR 30 million for industrial decarbonisation covering efficiency and process change; competitive bidding cost per t CO_2 avoided.

- RTI Transformation of Industry programme (EUR 320 million to 2027): Funding up to EUR 4.5 million for small grants aimed at bridging the gaps between research, development, demonstration and market uptake. Leverages the New Energy for Industry network, a clean-technology investment and innovation accelerator.
- EU Innovation Fund – Industrial Heat Auction (EUR 1 billion): Fixed premium subsidy for industrial electrification and clean heat for a maximum of five years; all project sizes, extra flexibility solutions for peak hours.
- Klimaaktiv Pakt2030 (Advisory network knowledge platform): Works alongside funding programmes to support 13 companies to reduce CO_2 emissions by 50% by 2030, with expected reductions of 8.4 Mt CO_2 per year by 2030.
- Indirect emissions cost compensation (EUR 233 million): Partial refund of indirect emissions costs for energy-intensive industry exposed to international competition. Industry calls to extend the programme to 2030.
- Location Protection Act (EUR 150 million): Reduces locational disadvantages for energy-intensive industry through compensation of indirect CO_2-additional costs to purchase electricity.
- Hydrogen Promotion Act (EUR 820 million): Fixed premium for renewable hydrogen awarded through the EU Hydrogen Bank, in association with the EU Innovation Fund.
- Domestic Environmental Funding (maximum of EUR 750 million for the years 2023-2027 and EUR 150 million per year for 2028 and 2029): Numerous financial subsidies are granted. Companies receive support for energy efficiency projects and for the transition to renewable energy sources.

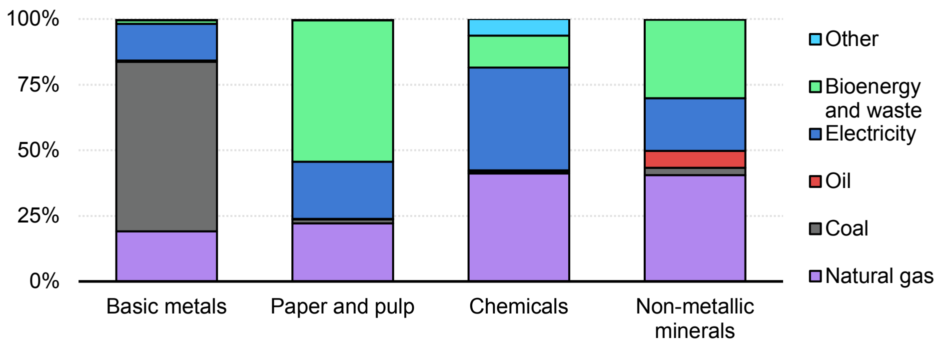
Similar electricity price support measures announced in Austria's Industrial Strategy 2035, while helpful for industrial competitiveness, are evidence of an intensifying subsidy race, with countries competing for industrial investment. In China, for example, steel subsidies (as a share of firm revenue) are estimated to be ten times higher than those in OECD countries. Co-ordination among European governments is crucial to respond to this uneven playing field of economic and decarbonisation support and ensure the most effective use of public funds.

Energy-intensive industry: Deep dive

Carbon pricing

Both the EU ETS and Austria's National Emission Certificate Trading System (see Policy spotlight in the Energy and climate strategy chapter) place a cost on CO_2 emissions, encouraging companies to reduce energy use and invest in cleaner technologies. EU directives transposed into national law further strengthen this framework. Energy-intensive industries with high dependence on fossil fuels are particularly affected. Furthermore, under RED III, Austria has an indicative target to increase the share of renewables in its industrial sector by 1.6% per year from 2021, based on a five-year average.

Energy use by fuel in select energy-intensive sectors, 2024



IEA. CC BY 4.0.

Source: IEA (2026), Energy End-use and Efficiency Indicators.

The EU ETS applies mainly to large installations. While auction revenues are not earmarked for specific uses, a large share of allowances has been distributed for free to protect European firms from competitive disadvantages compared with regions that have weaker carbon constraints. These free allocations, covering about 80% of industrial emissions in 2024, will be progressively reduced for the period 2028-2030 and largely phased out by 2035. Austria's Industrial Strategy identifies this phase-out as a headwind and highlights the key role to be played by the European Union's CBAM. By applying equivalent carbon costs to imported goods such as steel, aluminium, cement, fertilisers, hydrogen and electricity, the CBAM aims to prevent carbon leakage and create a more level playing field. As it is phased in from 2026 and free allowances under the EU ETS are phased out, carbon costs for EU producers will rise. However, since most Austrian energy-intensive exports are destined for other EU countries, the overall effect on competitiveness may be moderate, and the CBAM could even reinforce Austria's position in European markets.

While the CBAM is designed to help protect EU producers in the domestic market by ensuring that imported goods face similar carbon costs, it does not shield exports, which may become less competitive globally due to higher production costs. Downstream industries such as automotive, machinery and construction could also face higher input costs without receiving protection from the CBAM, increasing pressure on Austria's wider industrial base.

Greener iron and steel production

Metals production is the most significant industrial energy consumer in Austria. Austria has a significant history of iron and steel production, having fundamentally reshaped the global steel industry with the development of the Linz–Donawitz basic-oxygen process in the 1950s. This represented a step change in efficiency and quality and remains the dominant primary steelmaking process worldwide. Today, Austria's iron and steel production sector comprises around 50 companies, employing over 24 600 people and generating EUR 2.8 billion in value added.

Austria's leading steel producer, Voestalpine, is responsible for the majority of the country's steel emissions. With domestic operations still based in Linz and Donawitz, the company remains an important supplier of high-quality steel to Europe's construction, automotive and machinery industries. A global company, it generates about EUR 8 billion in revenues and employs nearly 50 000 people worldwide.

In one of the biggest transformations of Austrian industry, Voestalpine plans to shift four of its five blast furnaces in domestic operation to modern electric-arc "greentec" furnaces by 2035. The first phase of the plan – the replacement of two furnaces – is expected to cost EUR 1.5 billion, adding substantial electricity demand to the Austrian grid while cutting CO_2 emissions by up to 30% by 2029, or nearly 5% of Austria's national total.

As part of this, the company is also piloting hydrogen-based direct reduction technology that could enable near-zero emissions steelmaking from iron ore, a process that may potentially once again transform global steelmaking. However, this transformation is being taken in the context of surging global oversupply for steel and intense competition from subsidised production in China, which is causing other companies to delay or cancel green steel plans.

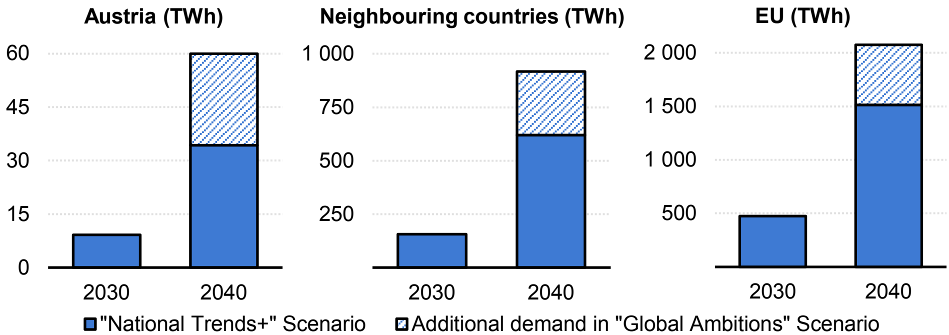
Low-emissions hydrogen

Austria currently consumes around 140 kilotonnes of hydrogen per year, mainly in ammonia production and refining, with almost all supply produced from natural gas via steam methane reforming. Renewable hydrogen accounts for less than 1% of supply, supported by around 18 MW of electrolyser capacity in 2024, with a further 10 MW commissioned in 2025.

Under Austria's Hydrogen Strategy, hydrogen demand is expected to increase significantly, reaching around 5 TWh by 2030 and up to around 48 TWh by 2040, driven primarily by industrial decarbonisation. As meeting even a fraction of this demand domestically would require massively scaling up electrolysis capacity, the government is developing a hydrogen import strategy to embed Austria's hydrogen use into the European and international hydrogen trading networks.

At the same time, the European Union's decision to permanently stop Russian gas imports by September 2027 fundamentally changes the historic role Austria's large gas storage and transit network has played as a hub for Central Europe. To help manage stranded asset risks, Austria's hydrogen strategy aims to leverage existing gas networks and expertise to make Austria a hub for the reliable transport, storage and use of hydrogen by adapting existing national and regional gas networks to priority hydrogen supply corridors. Already around 5 800 jobs are directly secured by hydrogen-related activities with up to 300 000 employees indirectly employed in companies associated with hydrogen technologies. The IEA's online Hydrogen Tracker and Global Hydrogen Review (2025) provide data on low-emissions hydrogen production worldwide.

Projected annual hydrogen demand under ENTSO-E and ENTSO-G scenarios, 2030 and 2040



Notes: The "National Trends+" scenario uses historical energy data to project an optimised generation mix that aligns with national targets and EU climate goals. The "Global Ambitions" scenario outlines an alternative decarbonisation pathway with a greater focus on centralised, large-scale clean energy supply and lower electrification in the transport sector. "Global Ambitions" projections are not available for 2030 as the scenario is intended to deviate from the National Trends+ at this point. "Neighbouring countries" excludes Lichtenstein due to the lack of available forecasting. EU = European Union.

Source: IEA analysis based on ENTSO-E and ENTSO-G (2024), Ten-Year Network Development Plans (accessed February 2026).

Austria is piloting underground hydrogen storage in depleted gas fields, with RAG Austria AG demonstrating the technical feasibility of hydrogen storage in porous formations. These facilities, representing over 6 bcm of gas capacity, could play an important role in seasonal energy balancing and energy security. However, large-scale deployment will require further investment, regulatory clarity and long-term offtake agreements to ensure viable business models for hydrogen production, transport and storage.

Austria's 2022 Hydrogen Strategy provides a framework for scaling up low-emissions hydrogen use, prioritising hard-to-abate sectors and targeting the replacement of 80% of fossil hydrogen in industry by 2030. Implementation is supported through Hydrogen Partnership Austria and a growing policy toolkit, including production premiums under the Hydrogen Production Promotion Act, forthcoming market rules under the future Gas and Hydrogen Market Act and RED III, and participation in European Hydrogen Bank auctions, with a total of EUR 820 million available until 2026.

While projects funded by the European Hydrogen Bank's hydrogen auction have been very competitive, Austria has allocated EUR 275 million to four projects under the auction-as-a-service mechanism, including OMV's 140 MW electrolyser project supplying a refinery, which started construction in September 2025. This illustrates how targeted support and credible offtake can unlock first-mover projects. However, high production costs, limited long-term contracts and electricity price exposure remain key barriers to broader uptake.

Hydrogen infrastructure planning should be phased and conditional on confirmed industrial demand. Given the concentrated nature of hydrogen demand and the limited number of early offtakers, infrastructure development should be carefully sequenced. Austria's existing gas transmission and storage system may offer options for future hydrogen transport and balancing, but repurposing should continue to be assessed on a technical and economic basis rather than assumed.

International co-operation will be critical to creating demand at scale and enabling efficient hydrogen infrastructure development. Austria is actively engaged in European and global initiatives that support this objective, including EU Projects of Common Interest, the European Hydrogen Bank, the Clean Hydrogen Mission under Mission Innovation, and the IEA Hydrogen Technology Collaboration Programme. Austria also contributes to the International Partnership for Hydrogen and Fuel Cells in the Economy and Clean Energy Ministerial Hydrogen Initiative and its International Hydrogen Trade Forum, which aim to advance common standards, certification frameworks and trade arrangements. Close co-ordination with neighbouring countries through regional fora and bilateral partnerships will be essential to align demand aggregation, infrastructure planning and timelines, ensuring that hydrogen transport and storage investments scale in step with industrial offtake and support cost-effective decarbonisation.

Carbon capture, utilisation and storage

Austria's Carbon Management Strategy (CMS) – aligned with its target of climate neutrality by 2040 – is designed to address "hard-to-abate" GHG emissions that remain after all feasible mitigation and energy efficiency measures. It covers carbon capture and storage (CCS), carbon capture and utilisation (CCU), and carbon dioxide removal via technical and natural sinks. Austria's CMS is a comprehensive, phased strategy underpinned by legal reforms, infrastructure development, research and stakeholder engagement. It identifies several challenges. First, Austria is landlocked and has prohibited geological CO_2 storage since 2011, but there is now a political consensus to lift this ban for “hard-to-abate” sectors under strict safety and environmental conditions. Second, there is no cross-border CO_2 pipeline network yet, and infrastructure development faces long planning horizons, regulatory uncertainty and high investment risk. Finally, achieving climate neutrality will require permanent storage of industrial emissions and offsetting residual emissions in non-industry sectors (e.g. agriculture, waste) through technical and natural sinks.

As regards CCS and CCU, the CMS foresees lifting the ban on geological CO_2 storage and fully implementing the EU CCS Directive into national law. Domestic hydrocarbon fields are the most readily available storage option (150-250 Mt capacity), with saline aquifers offering larger but less-explored potential. CO_2 transport infrastructure (pipelines) is a priority, with a feasibility study underway. CCU is promoted for both permanent (e.g. building materials) and non-permanent (e.g. synthetic fuels) applications, with a focus on climate relevance and life-cycle assessment.

In the cement sector, CCUS technologies are critical for achieving substantial emissions reductions, given that process emissions from clinker calcination account for two-thirds of emissions. Ideally, carbon storage needs to be close to the cement plant to avoid additional infrastructure costs. Developments are also underway, including in Sweden and the United Kingdom, to use electricity and/or hydrogen, perhaps in combination with biomass, to provide the high-temperature heat required by cement kilns. However, these alternative heating methods are currently at the early prototype stage and would not avoid the need for CCUS, if the process emissions are to be addressed. The IEA CCUS database covers CO_2 capture, transport, storage and utilisation projects worldwide.

Recommendations

8 Safeguard industrial competitiveness through targeted energy cost support, conditional on low-carbon reinvestment.

Austria’s energy-intensive industries have faced a major economic shock from the surge in energy costs following Russia’s invasion of Ukraine and the phase-out of Russian gas imports. Overall value added in these industries is now around 7% lower than 2019 levels, with the most energy-intensive sectors hit the hardest. While the government has provided substantial support through temporary relief measures and funding for industrial transformation away from fossil fuels, structural change takes time and the outlook remains challenging. The new Industrial Strategy extends the current indirect EU Emissions Trading System cost compensation until 2029 and provides a special electricity price for energy-intensive industry of 0.05 EUR/kWh until 2028 based on the German approach. This responds to an emerging industrial energy subsidy race between countries as higher tariffs intersect with higher carbon prices and the European Union’s Carbon Border Adjustment Mechanism.

To support the fiscal and environmental sustainability of these measures, the government should continue to ensure that public assistance to industry is targeted; timebound; and reinvested in efficiency, electrification and other low-carbon transition pathways. As public resources are limited, government support should be carefully targeted, taking into account the beneficiaries’ economic importance, employment value and strategic relevance for supply-chain security. This includes prioritising sectors where intervention can deliver the greatest climate impact, competitiveness benefits and long-term value for public money.

In addition to lower electricity prices, the government could consider complementary structural measures, such as targeted grid-cost exemptions, co-ordinating with neighbouring countries to avoid subsidy races and setting market rules that allow more of the value of low-cost renewables to reach end users. Predictable, time-limited support linked to clear decarbonisation outcomes can safeguard Austria’s industrial base, drive innovation, and deliver climate and economic benefits while helping prevent further deindustrialisation.

9 Better leverage Austria’s successful energy innovation ecosystem to drive market leadership of solutions for hard-to-abate industry.

Austria has an impressive track record of successful technological innovation in energy-intensive industry which has transformed production processes worldwide. Today, with its strong funding support for research and development and many transformative innovations at advanced stages of development, Austria is well-positioned not only to achieve its own ambitious decarbonisation goals but to help reshape the global industrial technology landscape.

To better leverage its innovation ecosystem and accelerate the deployment of innovative industrial decarbonisation solutions, the government of Austria should establish clear, sector-specific regulation that provides planning and investment certainty. The new Industrial Strategy's plan to lift the ban on carbon capture and storage and encourage the utilisation of captured CO_2 as a raw material offers new important potential pathways for hard-to-abate energy-intensive industries.

Finally, any public support should be embedded in a clear transition pathway, with defined milestones and exit strategies to ensure that subsidies support market creation and learning-by-doing rather than becoming a long-term burden on public finances. Well-designed public-private partnerships and time-limited transformation funds can help scale Austrian-led technologies from hydrogen-based steelmaking to carbon capture, utilisation and storage in cement while maintaining fiscal discipline. By aligning strategic prioritisation, regulation and innovation support, Austria can achieve industrial climate neutrality while strengthening its global competitiveness in clean industrial technologies.

10 Anchor Austria's hydrogen network expansion in low-emissions industrial demand creation, in close co-operation with regional partners.

Building demand for low-emissions hydrogen in hard-to-abate industries such as steel, chemicals and refining is key to Austria's ambitious national climate goals. It also supports energy diversification in the context of the permanent ban on imports of Russian gas while creating opportunities to repurpose parts of Austria's existing gas infrastructure that has historically served as a hub for Central Europe. International experience suggests that hydrogen infrastructure best advances at scale once long-term offtake is secured.

A near-term priority is the timely transposition and operationalisation of RED III targets relevant to industry and transport. This should be accompanied by a transparent 2026-2030 trajectory with interim milestones, compliance mechanisms and verification rules. Given the current cost gap between low-emissions hydrogen and fossil alternatives, Austria should anchor early offtake with contracting and derisking instruments, such as carbon contracts for difference, fixed premiums or targeted industrial decarbonisation grants drawing on national and EU funding sources.

Hydrogen infrastructure planning should proceed in parallel, but be phased and conditional on confirmed demand. Development of a Hydrogen Start Network should focus on clearly identified industrial clusters such as Linz, Styria and the Vienna region, while maintaining flexibility on the timing, scale and extent of network expansion. Cross-border connections, including potential links to southern corridors, should be advanced in close co-ordination with Austria’s neighbouring countries, including through the Pentalateral Energy Forum, and aligned with common standards and timelines, scaling up only as regional demand materialises.

Annexes

Acknowledgements

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Abbreviations and acronyms

BEV	battery electric vehicle
CBAM	Carbon Border Adjustment Mechanism
CCS	carbon capture and storage
CCU	carbon capture and utilisation
CCUS	carbon capture, utilisation and storage
CMS	Carbon Management Strategy
DSO	distribution system operator
EABG	Renewable Energy Expansion Acceleration Act
ElWG	Electricity Market Act
ETS	Emissions Trading System
EU	European Union
EUR	euro
EV	electric vehicle
GDP	gross domestic product
GHG	greenhouse gas
IEA	International Energy Agency

NECP	National Energy and Climate Plan
NEFI	New Energy for Industry
NEHG	Austria's National Emissions Trading System
ÖNIP	Integrated Energy Infrastructure Plan
PSH	pumped storage hydro
PV	photovoltaics
R&D	research and development
RED III	Renewable Energy Directive III
RTI	Research, Technology and Innovation (programme)
TES	thermal energy storage
TSO	transmission system operator
VRE	variable renewable energy
WAG	West Austria Gas Pipeline

Units of measurement

bcm	billions of cubic metres
GW	gigawatt
GWh	gigawatt hour
kb/d	thousand barrels per day
kW	kilowatt
kWh	kilowatt hour
Mt	million tonnes
Mt CO_2-eq	million tonnes carbon dioxide equivalent
MW	megawatt
MWh	megawatt hour
PJ	petajoule
T CO_2	tonne carbon dioxide
TWh	terawatt hour

See the IEA glossary for a further explanation of many of the terms used in this report.

Infographic sources

Electricity supply: IEA analysis based on IEA (2026), Electricity Information; Austria, Federal Ministry of Economy, Energy and Tourism (2024), Integrated Network Plan (accessed March 2026).

Pumped hydro: IEA analysis based on E-Control (2025), Power plant generation statistics in Austria (accessed February 2026); IEA analysis based on ENTSO-E (2026), Transparency platform, collected through the IEA Real-Time Electricity Tracker (accessed February 2026).

Renewable electricity: IEA analysis based on Eurostat (2026), Use of renewables for electricity (accessed January 2026).

Energy communities: IEA analysis based on data from Austria, Federal Ministry of Economy, Energy and Tourism, 2026.

Industry and other emissions: IEA analysis based on EEA (2026), EEA greenhouse gases – data viewer (accessed March 2026); EEA (2026), EEA approximated estimate for greenhouse gas emissions (accessed March 2026).

Industrial heat: IEA analysis based on Statistics Austria (2026), Energy efficiency analysis (accessed March 2026).

Infographic notes

Electricity supply: "Other" includes trade and pumped hydropower and is calculated based on historical electricity demand (including electricity used for pumped hydropower) and demand projections from the ÖNIP transition scenario.

Pumped hydropower: Peak demand refers to the hourly peak demand in 2025.

Industry and other emissions: To estimate 2024 industrial emissions, 2023 ratios are used. The 2023 ratio is calculated as the value of petroleum refining and manufacture of solid fuels within energy industries. LULUCF is excluded from the analysis.

Industrial heat: Space and water heating in industry are excluded. Low-emissions sources include bioenergy and district heat.

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Energy Policy Review

Government action plays a pivotal role in ensuring secure and sustainable energy transitions. Energy policy is critical not just for the energy sector but also for meeting environmental, economic and social goals. Governments need to respond to their country's specific needs, adapt to regional contexts and help address global challenges. In this context, the International Energy Agency (IEA) conducts Energy Policy Reviews to support governments in developing more impactful energy and climate policies.

This *Energy Policy Review* was prepared in partnership between the Government of Austria and the IEA. It draws on the IEA's extensive knowledge and the inputs of expert peers from IEA Member countries to assess Austria's most pressing energy sector challenges and provide recommendations on how to address them, backed by international best practices. The report also highlights areas where Austria's leadership can serve as an example in promoting secure and clean energy transitions. It also promotes the exchange of best practices among countries to foster learning, build consensus and strengthen political will for a sustainable and affordable energy future.