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**COMMISSION STAFF WORKING DOCUMENT**

**Country Factsheet Austria**

*Accompanying the document*

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN  
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE, THE COMMITTEE OF THE REGIONS AND THE EUROPEAN  
INVESTMENT BANK**

**State of the Energy Union**

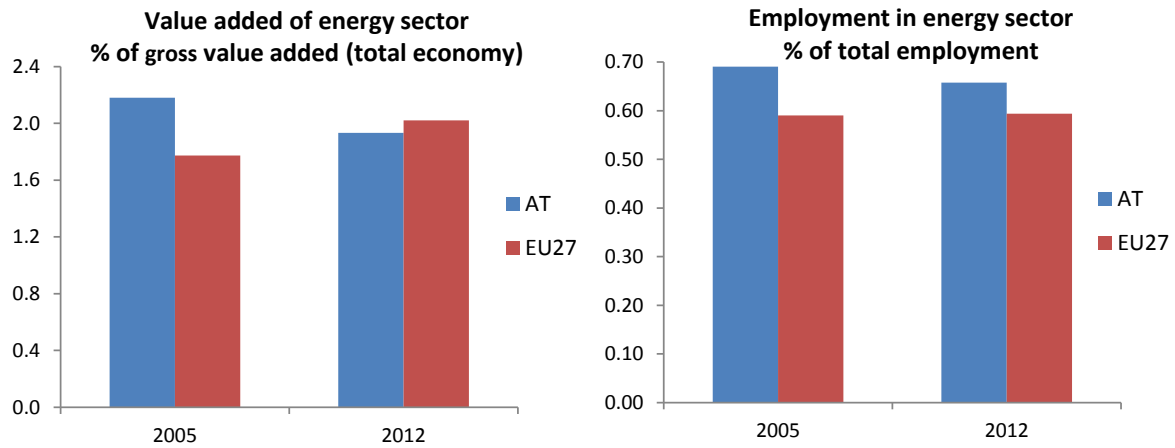
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## Macroeconomic relevance of energy

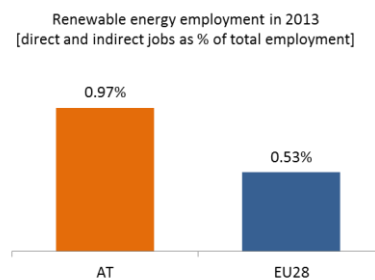
### IMPORTANCE OF THE ENERGY SECTOR

The macroeconomic significance of the energy sector in the Austrian economy has somewhat decreased since 2005 with a share in gross value added below the EU average in 2012. The share of employment in the energy sector has also decreased, while remaining well above the EU average.



Source: EUROSTAT – National Accounts

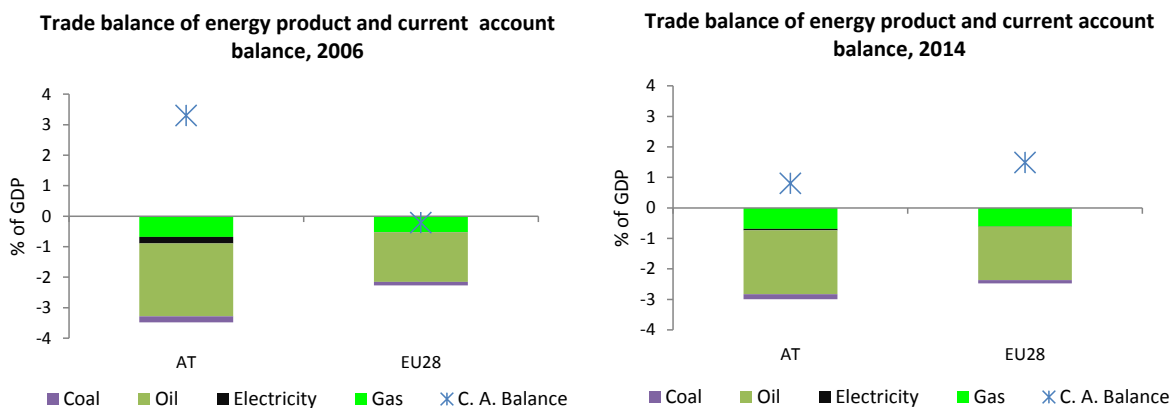
According to EurObserv'ER, in 2013, the share of direct and indirect renewable energy related employment in total employment of the economy in Austria was at about 0.97%, above the EU average of 0.53%, underlining the high importance of renewable energy for job creation in the country.



Source: European Commission, based on EurObserv'ER and EUROSTAT

### TRADE BALANCE OF ENERGY PRODUCTS

Austria is a net importer of all energy sources and its overall energy trade deficit is larger than that of the EU28. Oil is the largest component of the trade deficit. The total energy trade deficit has decreased between 2006 and 2014 from 3.4% of GDP to 2.9%. Despite the energy trade deficit, the country has however managed to run a persistent – yet decreasing - current account surplus over these years.



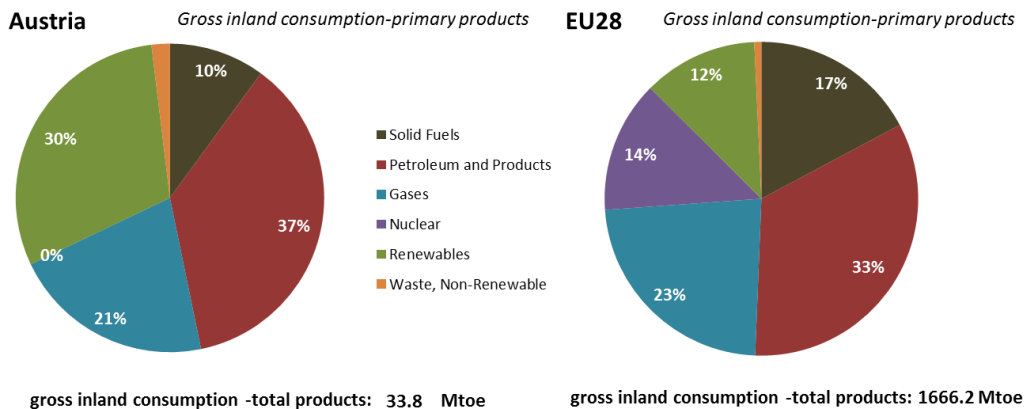
Source: EUROSTAT  
 Note: Current account balance for EU28 from European Commission (AMECO)

# 1. Energy Security, solidarity and trust

## ENERGY MIX

The energy mix of Austria differs from the one of the EU-28, with the notable difference of a much higher share of renewables, lower share of solid fuels and the absence of nuclear. Compared to 1995, the share of solid fuels and petroleum and products decreased (from 13% to 10% and from 42 to 37% of the gross inland energy consumption respectively), while the share of renewable energy increased by 8 percentage points to 30%. The share of gases decreased from 24 to 21% of the energy mix.

Gross inland energy consumption in 2013

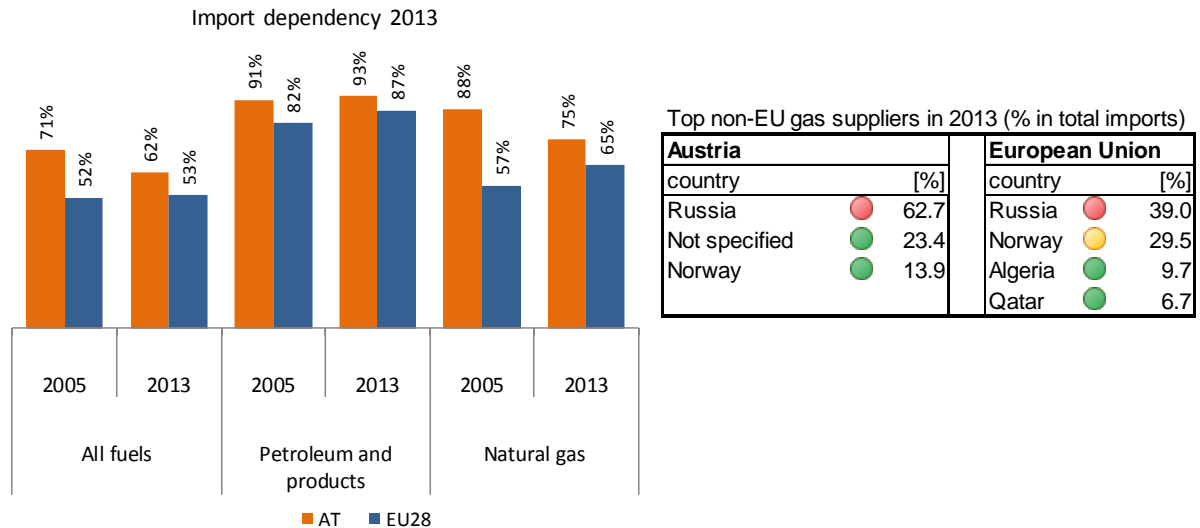


Source: European Commission, based on EUROSTAT

## IMPORT DEPENDENCY

Austria has an import dependency above the EU average for fossil fuels as well as higher dependencies on gas and petroleum and products. Austria imports at least 62% of its gas from Russia<sup>1</sup>. This also translates in a high supplier concentration index. Austria benefits from large underground gas storage facilities with a capacity above the average annual domestic consumption. The high share of renewable energy in the energy mix (80% renewable energy share in gross electricity generation) and energy efficiency improvements contribute to limiting import dependency. Austria experiences an above EU-average energy trade deficit (expressed as % of GDP).

<sup>1</sup> Top non-EU gas suppliers table is based on EUROSTAT data. The share of imports from non-EU countries is calculated as the ratio between volumes of imports from that specific non-EU supplier and total imports (from EU and non-EU countries).

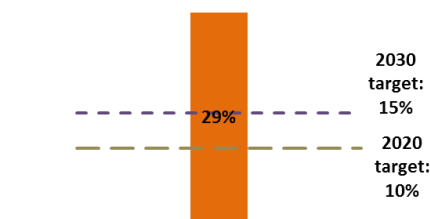


Source: European Commission, based on EUROSTAT

## 2. A fully-integrated internal energy market

### INTERCONNECTIONS

Interconnection capacity for electricity in 2014



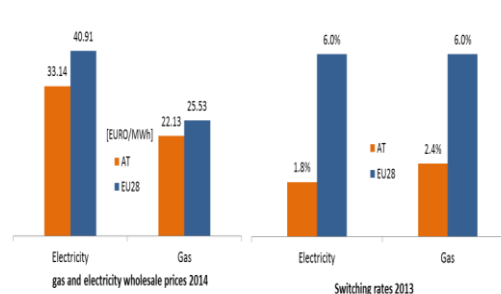
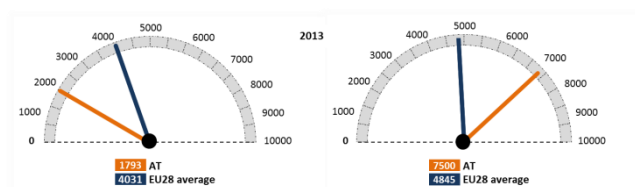
Source: European Commission based on ENTSO-E scenario outlook and adequacy forecast 2014  
 Note: Reference to 2030 target is based on October 2014 European Council conclusions stating that "the Commission will also report regularly to the European Council with the objective of arriving at a 15% target by 2030"

The interconnection level for electricity was of 29% in 2014 for Austria, which is above the 2020 and 2030 targets. The implementation of Projects of Common Interest (PCIs) until 2020 will further increase this level. It needs to be taken into account that de facto the interconnection level of Austria is higher as it forms one common price zone with Germany. The common price zone with Germany is an example for regional integration and offers high liquidity on the spot and futures markets. However, the Austrian electricity grid faces growing challenges due to high and increasing production of electricity from solar and wind. The central location of the country also poses further challenges as regards the efficient accommodation of the North-South electricity flows. Therefore the focus of the PCIs is mostly on the reinforcement of the internal lines, additional high-voltage lines to Germany, Italy and Switzerland and expansion of electricity storage capacities

In gas, remaining potential bottlenecks at certain entry-exit points, the existing mismatch of capacities and the non-coordinated development of capacities between Germany and Austria are being tackled. PCIs in gas are addressing better market integration as well as enabling reverse flows. Austria is also a significant transit country for gas as it is well-located along gas routes from Russia to Italy and Southern Germany. Its transit capacities help to secure the energy supply of its neighbours. In total, Austria has 22 PCIs including 12 PCI in electricity (of which 4 are storage projects), 9 in gas and 1 in oil.

## ELECTRICITY AND GAS MARKETS

Market concentration index for power generation (left, 2014) and gas (right, 2013). (Herfindahl index – a 10000 value corresponds to a monopoly)



Sources: ESTAT and European Commission Calculations

Sources: European Commission based on ESTAT, CEER and Platts Power Vision

The concentration of the power generation market is below EU average while the market concentration in gas is above. On the retail level market concentration is high with three main suppliers holding 56% of the market in the electricity and 72% in the gas sector. However the liquidity at the Austrian virtual gas trading point and on the wholesale gas market in general is developing well<sup>2</sup>. Wholesale electricity and gas prices are slightly below while retail prices for households are slightly above EU average, mostly because of high levies and taxes. Being dependent on gas imports, it is essential for Austria to have cross-border transport capacity available to gas traders.

The switching rates for electricity and gas consumers are below the EU average. New rules, introduced in 2013, have probably contributed to an increase in the number of consumers who subsequently switched gas and electricity supplier. According to a European survey consumer satisfaction<sup>3</sup> in Austria is high for the electricity but only average for the gas sector.

Austria has a plan to roll-out smart gas and electricity meters with all required functionalities.

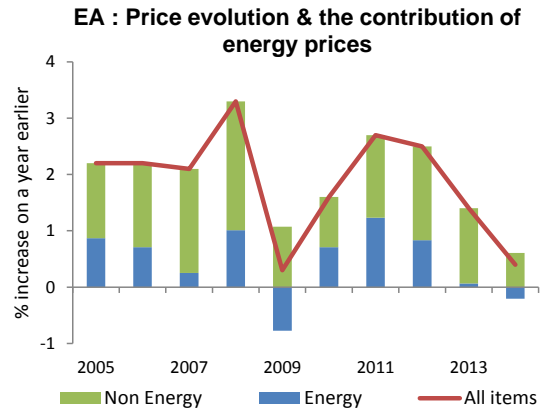
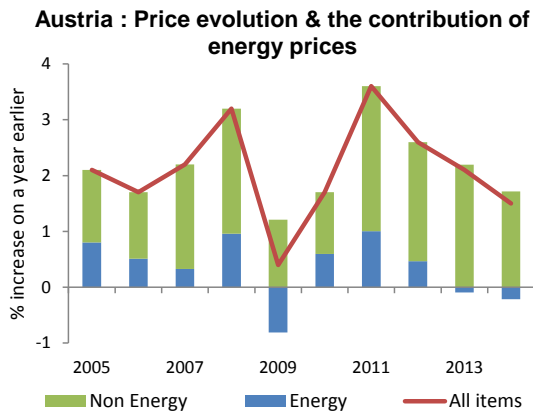
In order to respond to citizens' concerns about the import of electricity from nuclear and fossil fuels based power plants from other Member States and to enhance the information available to consumers, Austria imposes an obligation of proof of origin for 100% of the energy supply. Possible impacts on cross-border electricity trade with other Member States will need to be monitored, as not all Member States have certificates of origin in place.

## CONTRIBUTION OF ENERGY TO CONSUMER PRICE EVOLUTION

The contribution of energy prices to inflation in Austria has been very similar to that in the whole of the Euro area and overall has been relatively modest. Since 2011 the disinflationary impact of falling energy prices has been slightly more evident in Austria than in the Euro area. However the overall inflation rate in Austria has been slightly higher than in the Euro area after 2010 due to the contribution of non-energy items.

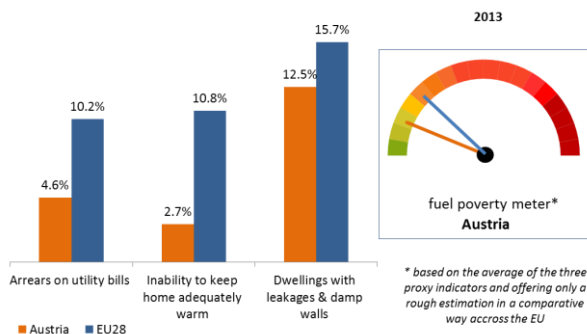
<sup>2</sup> More than 175 registered Hub members and a recent annual volume development of +13 % on the OTC market and +64 % on the exchange market.

<sup>3</sup> 10th Consumer Markets Scoreboard (June 2014), [http://ec.europa.eu/consumers/consumer\\_evidence/consumer\\_scoreboards/10\\_edition/index\\_en.htm](http://ec.europa.eu/consumers/consumer_evidence/consumer_scoreboards/10_edition/index_en.htm)



Source: DG ECFIN based on Eurostat

### VULNERABLE CONSUMERS

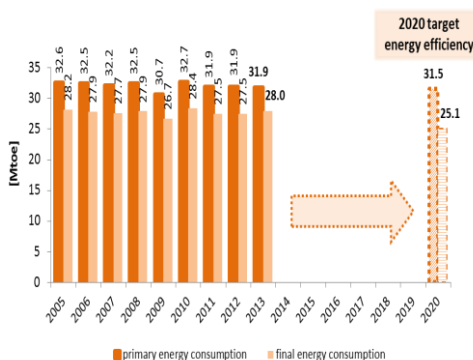


Source: European Commission, based on EUROSTAT SILC survey

Based on a EUROSTAT survey on income and living conditions, three proxy indicators are used to assess fuel poverty issues. They indicate that while relevant, the problem is less stringent in Austria than in many other EU countries. There are exemptions from levies for consumers with low income and other measures to protect vulnerable consumers, as well as implicit references to vulnerable consumers in social protection legislation. At the same time, there is no explicit definition of the concept of vulnerable consumers, i.e. a specific consumer group which is deemed vulnerable based on the energy legislation.

## 3. Energy Efficiency and moderation of energy demand

### ENERGY EFFICIENCY TARGET 2020 (31.5 Mtoe primary energy and 25.1 Mtoe final energy)



Source: European Commission, based on EUROSTAT and on national energy efficiency targets as declared by the MS under the Energy Efficiency Directive

Austria's 2020 energy efficiency target is 31.5 Mtoe expressed in primary energy consumption (25.1 Mtoe expressed in final energy consumption). Without additional efforts, it will be difficult to continue the decline in primary energy consumption. More effort is needed to further decrease Austria's current primary energy consumption (31.9 Mtoe in 2013) and to keep it at this level so as to reach the 2020 target if the economy continues to grow in the next six years<sup>4</sup>. A new energy efficiency law has been adopted on 9 July 2014 with the objective to transpose the Energy Efficiency Directive. The law introduces a bundle of measures addressing industrial buildings, production and services as well as trade and small scale consumption, mobility, energy provision, security of energy supply and the introduction of

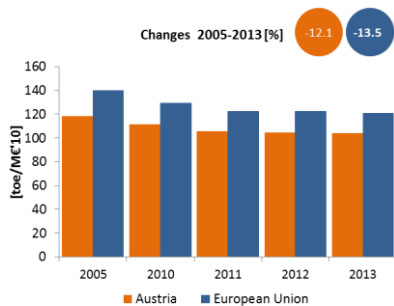
<sup>4</sup> The Austrian Energy Efficiency Law foresees a final energy consumption of 1050 PJ (=25,07 Mtoe) by 2020, which appears more ambitious than the 2020 energy efficiency target.

an energy efficiency obligation system. Effective implementation of the new Energy Efficiency Law will be important in order to use the full potential of energy efficiency in a cost-effective manner in view of reaching the 2020 target.

### ENERGY INTENSITY

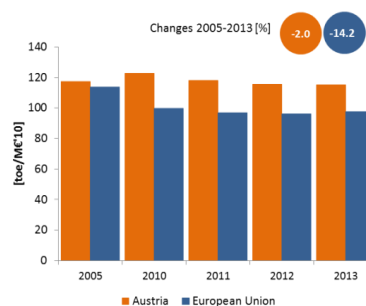
Primary energy intensity in Austria is well below the EU average and has decreased from 2005, although at a slightly slower pace than EU average. Energy intensity in the industrial sector is rather stable, and above EU average linked to a comparatively high share of energy intensive industry in Austria.

Primary energy intensity of the economy (primary energy consumption/GDP)



Source: European Commission based on EUROSTAT and European Commission/AMECO

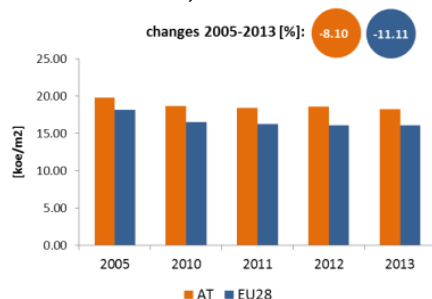
Final energy intensity in industry (final energy consumption/value added)



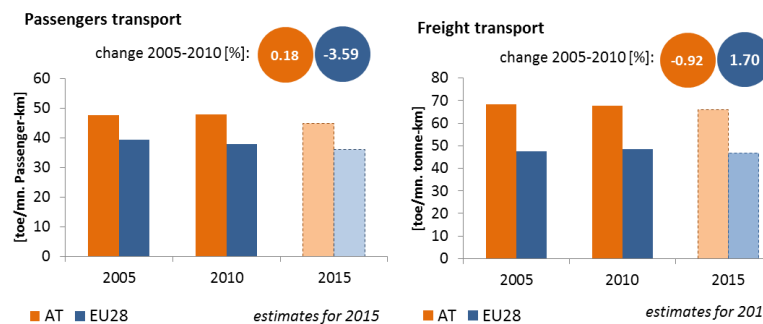
Source: European Commission based on EUROSTAT and European Commission/AMECO

Austria has delivered the long-term strategy for mobilising investment beyond 2020 in the renovation of the national building stock. The specific energy intensity of passenger cars increased slightly (0.2%) between 2005 and 2010 which reflects a less efficient usage of cars (i.e. higher stock, maybe more efficient but fewer passengers per car). The specific energy intensity for freight transport slightly decreased (-0.92%) over the same period, and remains above EU average.

Final energy consumption per m2 in residential sector, climate corrected Specific energy intensity for passenger cars and freight transport<sup>5</sup>



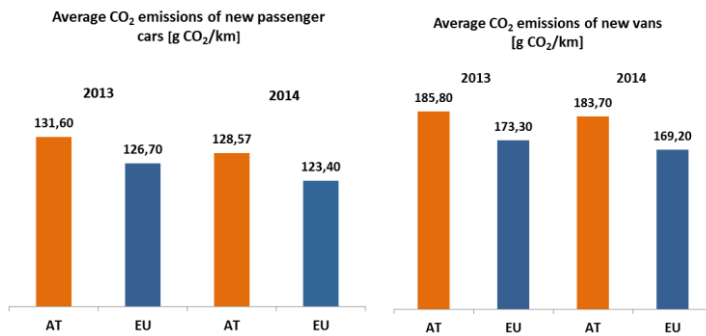
Source: European Commission based on Odyssee database



Source: PRIMES model background data and estimations based on EU Commission and EU MS inputs

<sup>5</sup> Statistics on energy demand for passengers and freight transport are not available and model estimates have been used instead. These issues should be borne in mind when comparing energy intensity in freight or passenger transport between Member States, which should be regarded as merely indicative.

EU legislation sets mandatory CO<sub>2</sub> emission reduction targets for new cars and vans. By 2021, the fleet average to be achieved by all new cars is 95 grams of CO<sub>2</sub> per kilometre. For new vans, the fleet average is set at 147 g/km by 2020.

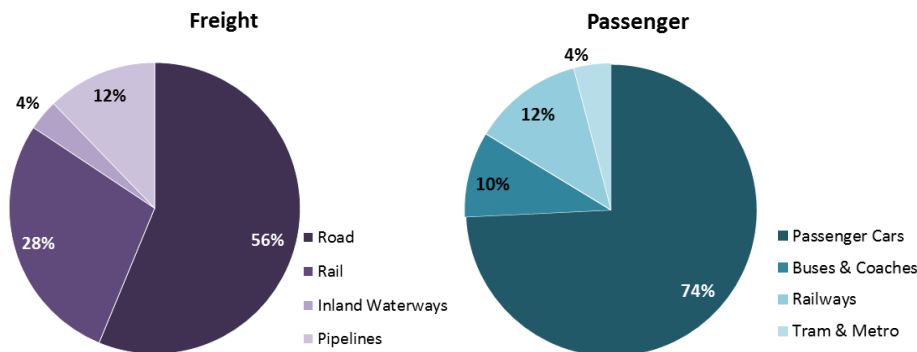


Source: European Environmental Agency. 2014 values are provisional. 2013 EU average refers to EU-27.

The Austrian Transport Master Plan underlines the importance of EU targets for CO<sub>2</sub> reduction and defines concrete measures for reaching the goals. A backbone of a resource efficient transport system in Austria is modernising rail infrastructure and services aiming for an integrated time table for Austria.

Regarding transport performance, in EU28 the inland freight modal shares are 72% by road, 17% by rail, 6% by inland waterways and 5% by pipelines. The respective inland passenger modal shares are 82% by private car, 9% by buses and coaches, 7% by railways and 2% by tram and metro. Austria reports a higher use of rail freight and passenger transport than the European average. It is among the countries with the highest share of rail transport: concerning passenger transport Austria shows the highest number of passenger-km on rail per capita in the EU28.

Modal shares Austria

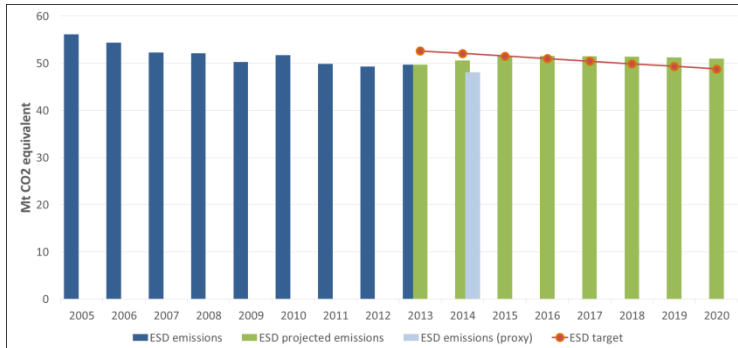


Source: Eurostat and EU transport in figures 2015. Data refers to 2013. Modal shares based on tonne-kilometres for freight sector and passenger-kilometres for passenger sector, freight data based on activity within country territory. Estimates are made when data is missing.



## 4. Decarbonisation of the economy

### NON-ETS GHG EMISSION REDUCTION TARGET 2020 (-16% by 2020 as compared to 2005 in the non-ETS sector)



Source: European Commission based on EEA. Based on preliminary inventory data.

ESD (Effort Sharing Decision) emissions are the emissions from sectors not covered by the EU ETS

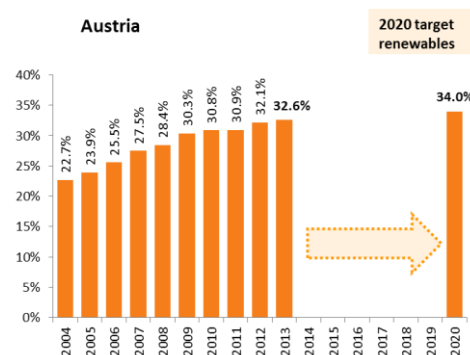
The LULUCF sector (i.e. forestry), which is not part of the Effort Sharing Decision, is expected to become a source of emissions after 2020.

Austria has decreased its emissions by 17% between 2005 and 2014 (based on 2014 approximated data).

According to its 2015 projections based on existing measures, it can be expected that on average over the 2013-2020 period, Austria's non-ETS emissions will be below the relevant targets. However, Austria is expected to fall short of its target in 2020 by a 4% gap (compared to 2005). Additional efforts and effective implementation of the new measures "Programme of Policies and Measures 2015-2018" adopted under the Climate Act in June 2015 are consequently needed to meet this 2020 national target.

Non-ETS Emissions (vs. 2005)	Projections/proxy	target
Projections with existing measures 2020	-12%	-16%
Proxy 2014	-17%	-10%

### RENEWABLE ENERGY SHARE TARGET 2020 (34%)



Source: European Commission based on EUROSTAT

With a renewable energy share of 33% in 2013, Austria is on track to reach its 34% target in 2020. Based on a traditionally high contribution from hydropower which was moderately expanded this positive development was achieved mainly by strong growth in the utilisation of wind energy, PV and in particular biomass.

### GREENHOUSE GAS EMISSION INDICATORS

- Austria aims at reducing transport emissions inter alia through measures of shifting freight transport to rail and water and thereby reducing individual transport. Furthermore, e-mobility infrastructure and infrastructure development are needed to further reduce emissions in the transport sector. While the Austrian Energy Strategy

aims for 250,000 electric vehicles by 2020, the number of such vehicles merely amounted to 3800 in 2014.

- In 2014, the revenues from the auctioning of ETS allowances amounted to EUR 53.6 millions. Revenues in Austria are not earmarked in the national budget, nevertheless, an equal amount has been reported to be used or planned to be used for climate and energy related purposes.

Largest Sectors of GHG Emissions in 2012 (*)	Austria	EU Average
Energy/power industry	16%	33%
Transport	27%	20%
Industry	33%	19%
Agriculture (incl. forestry & fishery)	10%	12%
Residential & Commercial	11%	13%
Waste & others	3%	3%

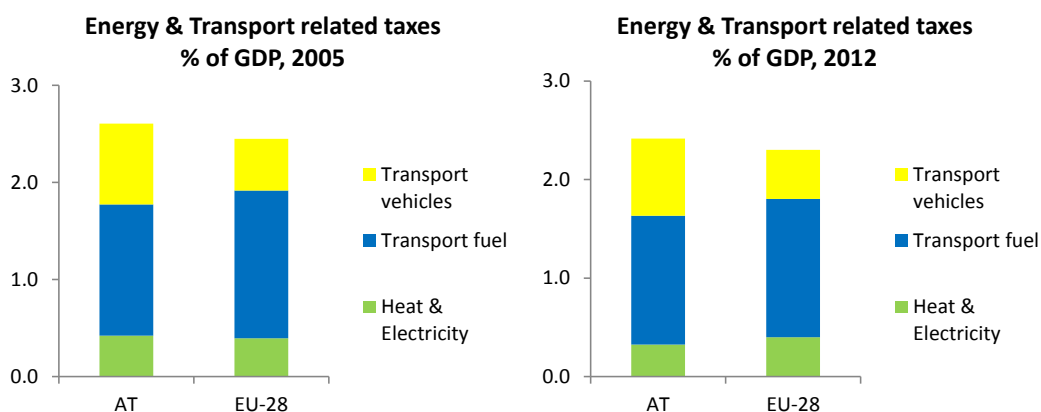
(\*)Sectoral breakdown for 2013 data not available.

GHG Emissions	Austria	EU
EU ETS auctioning revenues in 2014 (EUR millions)	53.6	3205
Share of ETS emissions in 2013	38%	42%
GHG emissions/capita in 2013 (tCO <sub>2</sub> equivalent)	9.4	8.5
Carbon intensity of the economy in 2013 (tCO <sub>2</sub> equivalent/(EUR millions))	260	328

Source: European Commission based on EEA

### ENERGY & TRANSPORT TAXATION

In Austria, energy and transport related taxes as a share of GDP was slightly above the EU28 average in 2005. The main decomposition shows that the country had relatively higher taxation of transport vehicles but lower taxation of transport fuels compared to the EU average. In 2012, the gap vis-à-vis the EU appears to have remained broadly the same, although the taxation of heat and electricity taxes as a share of GDP was slightly reduced compared to the EU average.



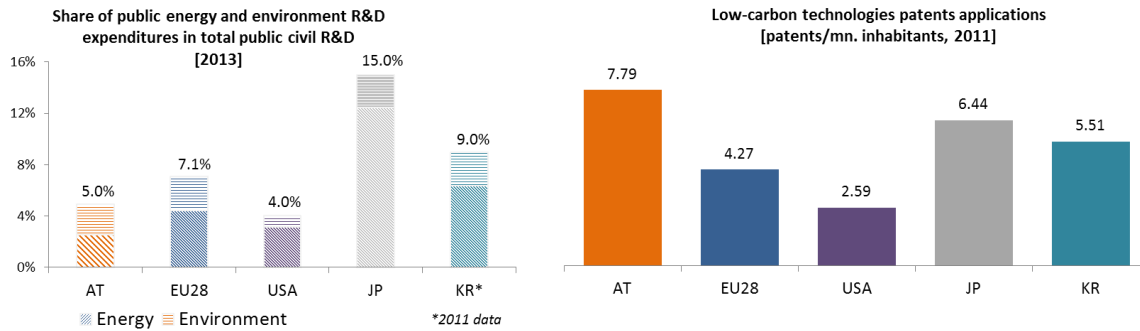
Source: Eurostat

## 5. Research, innovation and competitiveness

### RESEARCH AND INNOVATION

Austria is slightly below EU average, above the US and below Japan and South Korea in terms of public support share allocated to research and innovation in the field of energy and environment. In terms of intensity of low-carbon technologies patents, Austria performs well,

above EU average and main worldwide partners. Austria has a substantial number of innovative and export oriented companies in the field of renewable energies (in particular biomass combustion and solar thermal energy) and energy efficiency technologies.

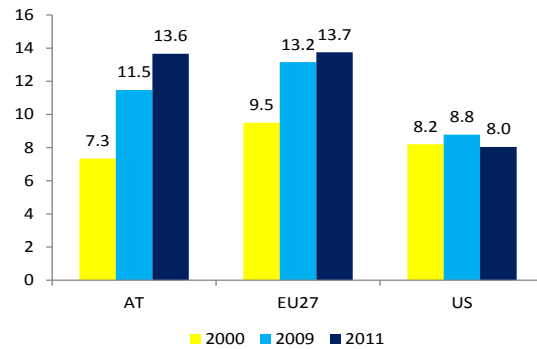


Source: European Commission based on EUROSTAT

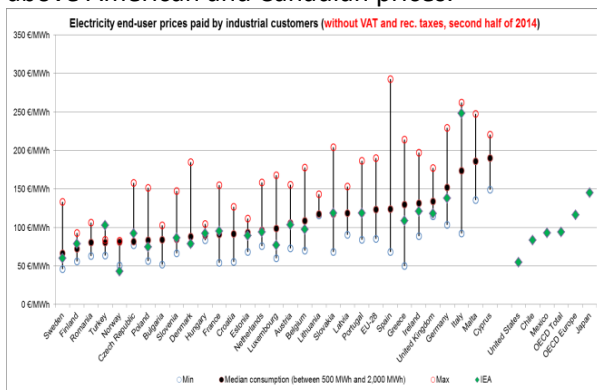
### COMPETITIVENESS

The real unit energy costs<sup>6</sup> in Austria increased from 2000 and are in line with the EU average but well above the US levels. When decomposing the factors, it can be noted that real energy prices have increased in Austria over the past ten years. Being almost at the same level as the EU average, they remain higher than in the US. However, the energy intensity of Austria's manufacturing sector is lower than the EU's and in particular the US<sup>7</sup>. When looking at electricity prices paid by industrial customers (which vary strongly according to sectors), it can be noted that such prices are in line with those of most of non-EU trading partners, except the US. Regarding gas prices, they are in line with OECD prices, but well above American and Canadian prices.

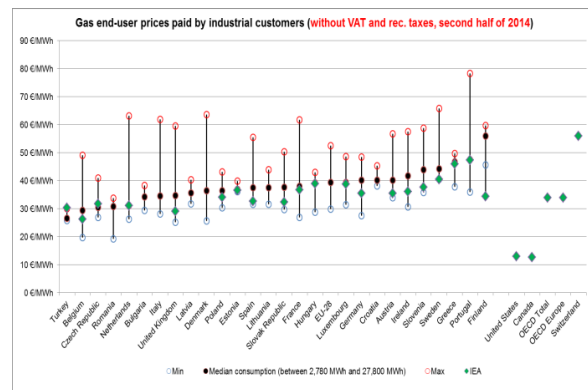
Real unit energy costs (% of value added)



Source: European Commission



Source: European Commission based on EUROSTAT and IEA



<sup>6</sup> This indicator measures the amount of money spent on energy sources needed to obtain one unit of value added. The methodological approach used to develop this indicator is available here: [http://ec.europa.eu/economy\\_finance/publications/european\\_economy/2014/pdf/ee1\\_en.pdf](http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee1_en.pdf).

<sup>7</sup> The energy intensity presented here is derived from Use Tables of WIOD, see "Energy Economic Developments in Europe SWD(2014)19".

## 6. Post-2020 Energy and Climate policy Strategy

### COMPREHENSIVE MEDIUM TO LONG-TERM STRATEGY (post-2020) FOR CLIMATE AND ENERGY

- Austria has not yet established a comprehensive climate and energy strategy going beyond 2020.
- The Austrian *Energy Strategy* (2010) indicates which strategic priorities and measures are appropriate to achieve Austria's objectives by the year 2020. One of the main aims of the current Austrian *Energy Strategy* is to increase the share of renewable energy sources (RES) in gross final energy consumption to 34% by 2020. The *Climate Change Act* (2011) provides the framework for regulating the overall Austrian climate change strategy until 2020 (and beyond) to ensure achievement of the Austrian non-ETS target. For the post-2020 period no targets or specific measures have yet been defined but they are currently being planned. Existing policies in various areas (e.g. buildings, waste, F-gas legislation, incentives for renewable energy and energy taxes) will continue to limit emissions also in 2030.
- The development of an Energy Strategy for 2030 has started but is still at an early stage. This should take into account three targets: greenhouse gas emissions, renewables and energy efficiency.
- Austria has started developing a low-carbon development strategy covering the period until 2050. Most of the Austrian provinces have developed longer-term strategies for low-carbon development, with a view beyond 2020.

#### NATIONAL TARGETS, especially for 2030

Objective, 2030-2050	Targets	Comments
GHG reduction	No	
Renewable energy	No	
Energy Efficiency / savings	No	

## 7. Regional cooperation

Regional cooperation on infrastructure development is necessary to optimise the identification of regional infrastructure priorities and to coordinate cross-border investments. Austria is a member of several Regional Groups which have been established under the trans-European energy networks (TEN-E) Regulation. Most notably, Austria is a member in 2 electricity Regional Groups, i.e. North-South electricity interconnections in Western Europe (NSI West Electricity) and North-South electricity interconnections in Central Eastern and South Eastern Europe (NSI East Electricity); 2 gas Regional Groups, i.e. North-South gas interconnections in Central Eastern and South Eastern Europe (NSI East Gas) and Southern Gas Corridor (SGC); and in the only oil Regional Group, i.e. Oil supply connections in Central Eastern Europe (OSC).

Austria is also a member of the recently created High Level Group on Central East South Europe Connectivity (CESEC) together with Bulgaria, Croatia, Greece, Hungary, Italy, Romania, Slovakia and Slovenia. The objective of this Group is to establish a regional priority infrastructure roadmap and advance its implementation in order to develop missing infrastructure and improve security of gas supplies.

Austria is a member of the Pentalateral Energy Forum. It was created in 2005 by Energy Ministers from Benelux, Germany and France in order to promote collaboration on cross-border exchange of

electricity. It is an inter-governmental initiative, assisted by an independent secretariat, whose mission consists of improving control of the cross-border network and harmonising allocation methods using information exchange between regulators and network managers in participating countries. Austria also participates in the German-led round-table on market developments.

## 8. Cohesion policy contribution

The EU Cohesion policy provides investment possibilities to implement energy policy objectives in Austria which will be complemented by national public and private co-financing, aiming at optimal leverage. It also ensures integrated territorial solutions to challenges by supporting capacity building, technical assistance and territorial cooperation, including the Danube Region and Alpine Region macro-regional strategies in which Austria takes part.

*Energy efficiency:* Over 2014-2020, EU Cohesion Policy will invest some EUR 81 million in energy efficiency improvements mainly in enterprises, but also in public and residential buildings in Austria. A further estimated EUR 5 million will be invested in supporting the move towards an energy-efficient, decarbonised transport sector in urban areas.

*Decarbonisation:* Overall, the EU Cohesion Policy investments in Austria over 2014-2020 are expected to contribute to an estimated annual decrease of GHG of around 213 000 tonnes of CO<sub>2</sub>eq.

*Research, Innovation and Competitiveness:* Over 2014-2020, EU Cohesion Policy will invest significantly in R&I and in SME competitiveness in Austria. This will be based on the national strategy as well as regional strategies for smart specialisation. For Austria, the strategies include a focus on energy and environment, material and production as well as mobility. At this stage, about EUR 17 million is foreseen for investments in R&I and adoption of low-carbon technologies in Austria.