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Country profile – Italy

The section 'Key climate- and energy-related data' was prepared by the EEA. It includes the latest data available as of 31 July 2014

The section 'Climate and energy policy framework' was prepared by eclareon and Ecologic Institute, Germany. It includes the latest information on national policies and measures available as of 31 May 2014.

For methodological details and other country profiles, see www.eea.europa.eu/themes/climate/country-profiles.

Key climate- and energy-related data — Italy

Key data on GHG emissions	2005	2011	2012	2013	EU 2012
Total GHG emissions (UNFCCC, Kyoto Protocol) (Mt CO ₂ -eq.)	574.3	486.6	460.1	438.0	4 544.2
GHG per capita (t CO ₂ -eq./cap.)	9.9	8.2	7.7	7.3	9.0
GHG per GDP (g CO ₂ -eq./PPS in EUR)	415	315	295	284	350
Share of GHG emissions in total EU-28 emissions (%)	11.1 %	10.6 %	10.1 %	9.8 %	100 %
EU ETS verified emissions (Mt CO ₂ -eq.)	226.0	190.0	179.1	164.4	1 848.6
Share of EU ETS emissions in total emissions (%)	39 %	39 %	39 %	38 %	41 %
ETS emissions vs allowances (free, auctioned, sold) (%)	+ 4.6 %	- 2.7 %	- 7.1 %	- 11.6 %	- 14.1 %
Share of CERs & ERUs in surrendered allowances (%)	0.0 %	10.3 %	26.1 %	n.a.	26.4 %
Non-ETS (ESD) emissions, adjusted to 2013–2020 scope (Mt CO ₂ -eq.)	330.5	284.7	269.2	271.4	2 566.6
Key data on renewable energy	2005	2010	2011	2012	EU 2012
Share of renewable energy in gross FEC (%)			12.3 %	13.5 %	14.1 %
() = including all biofuels consumed in transport	(5.9 %)	(10.6 %)			
Share of renewable energy for electricity (%)	16.4 %	20.2 %	23.7 %	27.6 %	23.5 %
Share of renewable energy for heating and cooling (%)	4.7 %	10.7 %	12.5 %	12.8 %	15.6 %
Share of renewable energy for transport (%)			4.7 %	5.8 %	5.1 %
() = including all biofuels consumed (%)	(0.8 %)	(4.6 %)			
Key data on energy consumption	2005	2010	2011	2012	EU 2012
Primary energy consumption (Mtoe)	178.9	165.2	162.8	155.3	1 584.8
Primary energy consumption per capita (Mtoe/cap.)	3.1	2.8	2.7	2.6	3.1
Final energy consumption (Mtoe)	134.5	124.8	122.1	119.0	1 104.5
Final energy consumption per capita (Mtoe/cap.)	2.3	2.1	2.1	2.0	2.2
Efficiency of conventional thermal electricity and heat production (%)	45.5 %	46.7 %	46.7 %	46.6 %	50.0 %
Energy consumption per dwelling by end use	2005	2009	2010	2011	EU 2011
Total energy consumption per dwelling (toe/dwelling)	1.14	1.11	1.19	1.21	1.42
Space heating and cooling (toe/dwelling)	0.80	0.78	0.86	0.87	0.96
Water heating (toe/dwelling)	0.11	0.10	0.10	0.10	0.18
Cooking (toe/dwelling)	0.07	0.07	0.07	0.07	0.08
Electricity (lighting, appliances) (toe/dwelling)	0.17	0.16	0.16	0.16	0.20

Progress towards GHG targets (under the Effort Sharing Decision, i.e. non-ETS emissions)

2013 ESD target (% vs base year)	- 8.9 %	2020 ESD target (% vs base year)	- 13.0 %
2013 ESD emissions (% vs base year)	- 17.8 %	2020 ESD projections WEM (% vs base year)	- 9.5 %
		2020 ESD projections WAM (% vs base year)	- 18.5 %

Based on approximated emission estimates for 2013, emissions covered by the Effort Sharing Decision (ESD) (i.e. in the sectors which are not covered by the EU ETS) are expected to be below the annual ESD target in 2013. Projections indicate that 2020 ESD emissions are expected to be below the 2020 ESD target, only if measures planned until 2013 are fully implemented.

Progress towards renewable energy targets

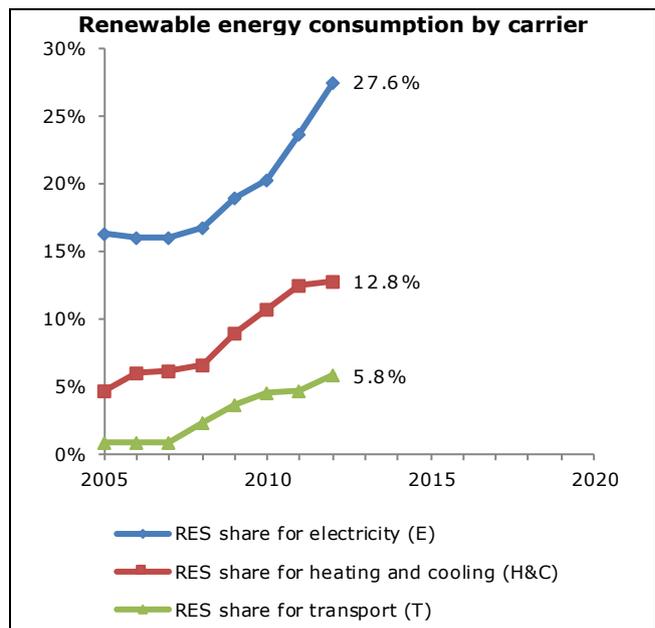
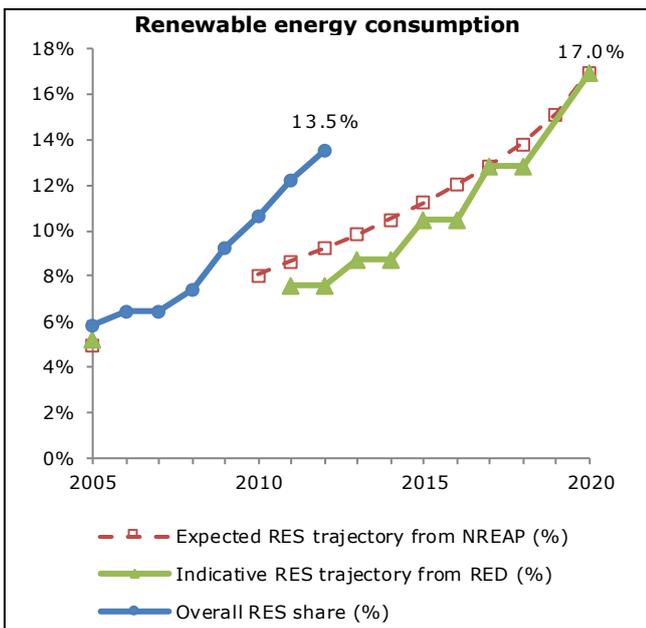
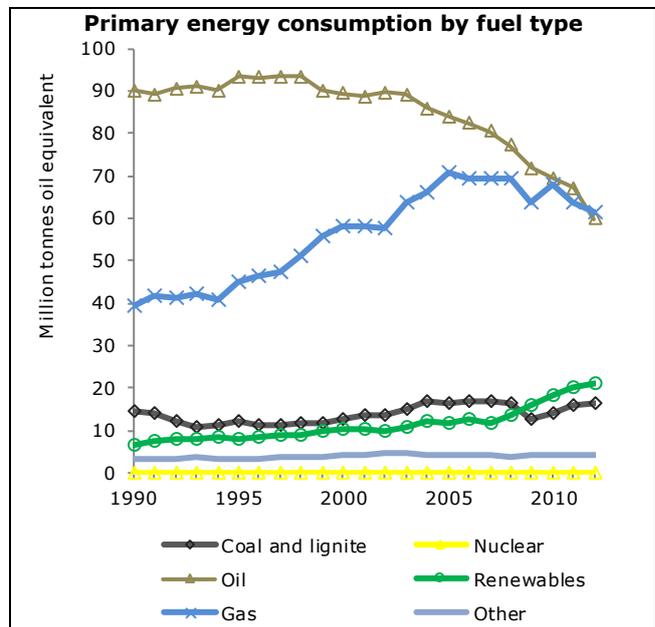
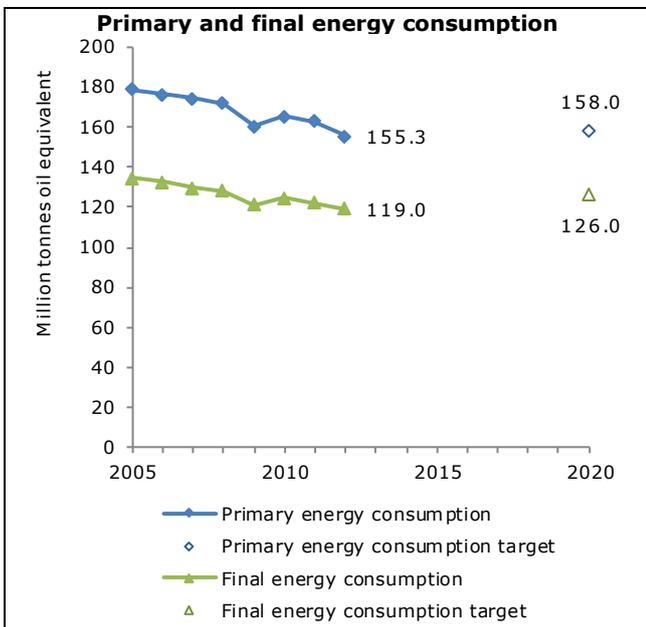
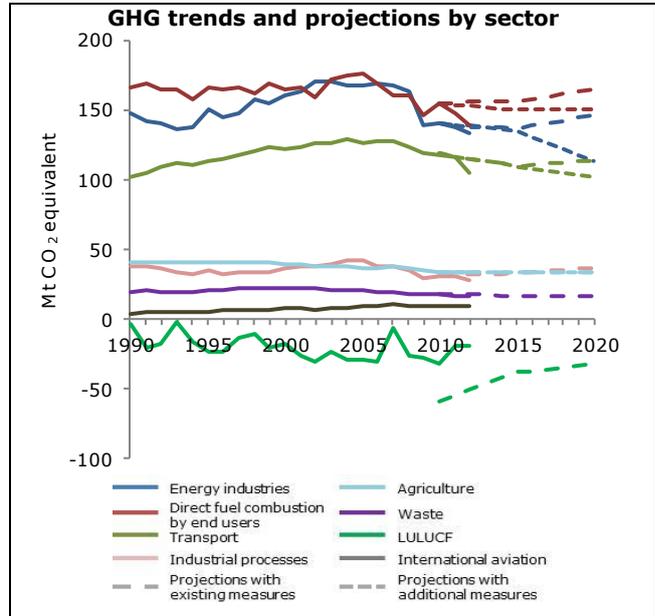
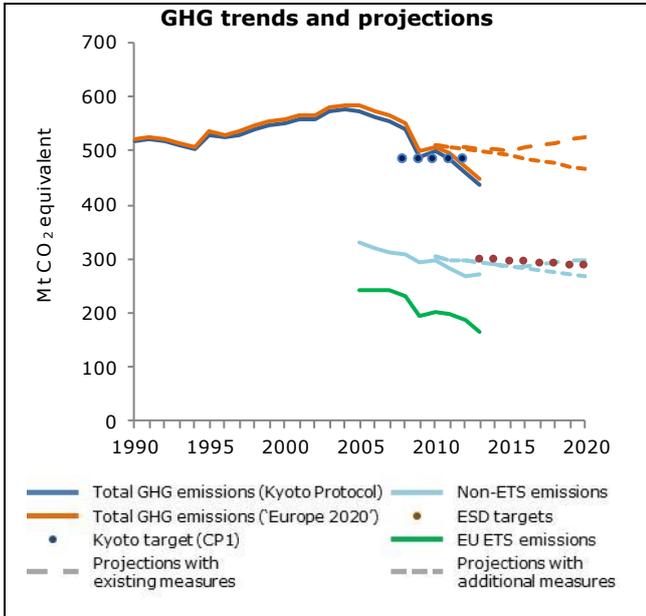
2012 RES share in gross final energy consumption (%)	13.5 %	2011–2012 indicative share from RES Directive (%)	7.6 %
2020 RES target	17.0 %	2012 expected share from NREAP (%)	9.2 %

The average share of renewable sources in gross final energy consumption for 2011–2012 was 12.9% (16.2 Mtoe), which is higher than the indicative RED target for 2011–2012 (7.6%). At the same time, the share of renewables in 2012 (13.5 %) is higher than the expected 2012 NREAP target (9.2 %). Over the period 2005–2012 the observed average annual growth rate in renewable energy consumption amounted to 11.3%. In order to reach its 2020 NREAP target, Italy needs an average annual growth rate of 3.2% in the run-up to 2020. In absolute terms, this is equivalent to 0.5 time its cumulative effort so far.

Progress towards energy efficiency targets

Primary energy consumption:		Final energy consumption:	
2005–2012 average annual change	-2.0 %	2005–2012 average annual change	-1.7 %
2012–2020 average annual change to target	0.2 %	2012–2020 average annual change to target	0.7 %

Primary and final energy consumption decreased at a faster pace than is necessary to achieve the 2020 targets. The decrease was a combined result of energy efficiency policies (in particular the introduction of a white certificate scheme) and the effects of the economic crisis (resulting in a decrease in activity). Italy can therefore focus on limiting its energy consumption. Reducing distribution losses, which have increased by 7.3 % since 2008, and improving efficiency in electricity generation, where the consumption of solid fuels increased by 25 % since 2009, could contribute to further reducing primary energy consumption. In addition, the residential sector is the only sector where energy consumption actually increased since 2007, in stark contrast with the industry and transport sectors which experienced a significant reduction.



Climate and energy policy framework

Challenges and opportunities

Climate change is an important topic in the political debate in Austria. Nevertheless, Austria is projected to not be reaching its 2020 emission target under the ESD with existing measures (EEA, 2013). The main sectors contributing to greenhouse gas (GHG) emissions are industry and transport: GHG emissions from industry energy use and from industrial processes account for one third of total emissions. Increasing energy efficiency in this area could not only reduce the associated GHG emissions but also bring down energy costs, with mid- and long-term advantages for competitiveness. However, the Energy Efficiency Act, which would implement targets and measures, has not been passed by parliament so far. GHG emissions from transport account for 26 % of total emissions while taxes on energy and in particular on transport fuels are rather low compared to other Member States, although the fuel tax has been increased and some exemptions from fuel and energy taxes have been abolished. A further shift of tax collection towards environmental taxes, including on transport fuels, could incentivise more efficient driving, reduce 'fuel tourism' in border regions and a switch to public transport where possible, thus reducing transport emission levels. Implementing nation-wide speed limits could also further bring down transport emissions.

Climate and energy strategies

In 2011, Austria introduced the Climate Protection Act, the corner stone of current climate policies, setting maximum amounts of emissions for different sectors (transport, heating, waste, industry, agriculture, F-gases and other emissions) for the period from 2008 to 2012. In April 2013, the bill was amended to define the maximum amount of GHG emissions for the years 2013 to 2020. The National Climate Committee develops instruments to achieve these targets, for example in the fields of energy efficiency, renewable energy, spatial planning, mobility, waste management and natural carbon sinks.

The 2010 Energy Strategy further formulates measures to reduce GHG emissions from the energy system. Next to energy efficiency and security of supply, renewable energy represents the third pillar of the strategy. In addition, Austria is pursuing a Sustainability Strategy that aims to decouple economic growth and emissions growth. There are currently 190 000 green jobs in Austria generating approximately 11 % of the gross domestic product (GDP) and representing around 5 % of total employment (Lebensministerium, 2012).

Renewable energy

Austria has been one of the front-runners in the EU regarding renewable energy deployment. The main promotion scheme for renewable electricity is a feed-in tariff (FIT). The 2012 amendment of the Green Electricity Act sets technology-dependent 2020 targets for renewable energy expansion (additional 1 000 MW of hydro power, 2 000 MW of wind energy, 200 MW of biomass and biogas, and 1 200 MW of photovoltaics (PVs)). The scheme provides guaranteed FITs for 13 years, and for biomass power plants for 15 years. The funds are raised by a levy paid by end users who pay a EUR 11 lump sum per year (Ökostrompauschale) plus a contribution that is based on consumption (Ökostromförderbeitrag). On average, this sums up to an annual contribution of EUR 53 per household. The sum is restricted to EUR 20 for low-income households (BMWFJ, 2012). In addition, PV systems on buildings exceeding 5 kW as well as small and medium-sized hydroelectric power stations are supported through investment grants. PV installations with a maximum capacity of 5 kW can qualify for investment subsidies of EUR 300 per kW for roof-top or ground-mounted installations and EUR 400 per kW for building-integrated solutions.

The most substantial form of supporting small-scale renewable heating and cooling is provided by the Environmental Assistance in Austria (UFI) programme. There are special investment incentives, usually investment grants, for solar thermal installations, heat pumps, geothermics and biomass heating plants with funding guidelines published separately for each federal state.

Energy efficiency

The 2010 Energy Strategy mentions energy efficiency as one of three important pillars. However, no long-term strategy and targets have been implemented so far. A proposal for an Energy Efficiency Act has not been passed by parliament.

Energy **taxation** is moderate with the level of excise duties being slightly above EU average. In addition, there are exemptions for energy-intensive businesses, for example chemical reduction processes in blast furnaces, as well as for liquid gas used as fuel for local regular transport services. Austria has no carbon dioxide (CO₂) tax in place.

The Combined Heat and Power Act creates a framework for the promotion and development of high-efficiency **cogeneration** of heat and power and subsidises new cogeneration plants.

There are voluntary agreements with energy suppliers to promote energy savings, as well as an obligation for energy-intensive companies to include regular energy auditing. In the context of the 'klima:aktiv' programme, a support initiative promoting energy efficiency in the industrial sector was launched already in 2006, supporting enterprises in the industrial sector with the implementation of energy-efficiency measures using trainings and instructions.

In the **building sector**, minimum energy performance standards and performance certification have been introduced for new or modernised buildings. A support scheme for thermal insulation of existing buildings was introduced in 2012. The programme provides grants with a maximum funding volume per project of EUR 9 300 in 2013, with an overall budget of EUR 123 million: EUR 70 million was designated for the private sector, a maximum of EUR 30 million was designated to companies and a spillover of EUR 23 million was reserved for business revival. The programme has been re-launched for 2014 with a budget of EUR 100 million.

Transport

A vehicle registration tax is regulating the charges for new cars based on fuel consumption and purchase price, in combination with a gradual CO₂ bonus-malus system. There is no specific ownership tax in place but instead an insurance tax based on kW (passenger cars) and weight (commercial). Additionally, Austria has introduced a vignette system for motorway use by cars. Diesel and petrol are taxed at around EU average, while diesel is charged about 17 % less per litre than petrol. However, a main factor influencing energy consumption and GHG emissions from the transport sector is the low fuel prices compared to adjacent countries, leading to a considerable share of fuel exports. Between 1990 and 2011 the volume of freight transport carried out abroad using fuels from Austria increased six-fold.

Biofuels are promoted through a quota system and a fiscal regulation mechanism.

The Transport Master Plan introduced in 2012 aims at decreasing GHG emissions by 6 % by 2020 and by 19 % by 2025. The Plan includes measures mainly concentrated on the improvement of public transport, cycling, and electromobility. Furthermore, it suggests moving 40 % of freight transport from road to railway by 2025. To maintain and expand the railway network, investments in corporate rail connections are promoted. The 'klimate:aktiv mobil' programme provides funding of transport projects to reduce CO₂ emissions as well as consulting for climate-friendly mobility until 2020.

Fluorinated gases (F-gases)

Austria plans to introduce a tax on F-gases used and emitted in cooling systems, which is expected to bring emission reductions of 90 kt CO₂ by 2020 through the use of substitutes.

Agriculture

Emissions from agriculture have decreased consistently since 1990, which mainly can be ascribed to reduced animal stock and usage of fertiliser. Around three quarters of all agricultural enterprises participate in the Austrian agri-environmental programme (ÖPUL), which aims at reducing the application of fertilisers, increasing the use of organic farming methods and expanding crop rotation. Today, more than 19 % of total agricultural land is managed according to EU requirements for organic farming; since 1990, the number of organic farms increased nearly 15-fold to some 21 000 in 2012 (BMLFUW, 2014). Moreover, the Climate and Energy Fund provides support to Austrian farmers and foresters, for example by financing energy efficiency checks on farms as well as general consultations.

Waste

The Austrian Waste Management Act, the Landfill Ordinance and the Remediation of Contaminated Sites Act introduced policy measures following the principles of waste prevention, ban on land filling of untreated solid waste, waste recovery (recycling and incineration with energy recovery), and remediation of former uncontrolled landfill sites. Around 15 % of total waste is incinerated for energy recovery; 62 % is collected for conditioning, recycling and recovery, and 23 % is subject to other treatments. However, the amount of waste has increased by around 10 million tonnes, mainly triggered by an increase of excavation material (BMLFUW, 2014).

Land use, land-use change and forestry

Austria's territory is covered with woods by more than 47 %, which makes it one of the most densely wooded countries in central Europe. The principles of forest management, mainly laid down in the Austrian Forest Act, focus on the maintenance of biodiversity, regeneration capacity and vitality, as well as productivity of forests. Moreover, forest biodiversity is supported by the Natural Forest Reserves Programme. The Austrian Forest Dialogue is an ongoing public dialogue to balance interests in forest utilisation and secure long-term benefits of the Austrian forest. One spin-off of this dialogue is the Austrian Forest Programme, which identifies issues, and proposes targets and actions to ensure a continuous sustainable management and development process in the fields of climate protection, biodiversity and international responsibility. Due to its large forest resources, Austria has a leading position in the use of biomass for energy generation (BMLFUW, 2014).

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