



Country profile – Slovenia

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 — Slovenia

Key data on GHG emissions	2005	2011	2012	2013	EU 2012
Total GHG emissions (UNFCCC, Kyoto Protocol) (Mt CO ₂ -eq.)	20.3	19.5	18.9	18.2	4 544.2
GHG per capita (t CO ₂ -eq./cap.)	10.2	9.5	9.2	8.9	9.0
GHG per GDP (g CO ₂ -eq./PPS in EUR)	518	448	430	416	350
Share of GHG emissions in total EU-28 emissions (%)	0.4 %	0.4 %	0.4 %	0.4 %	100.0 %
EU ETS verified emissions (Mt CO ₂ -eq.)	8.7	8.0	7.6	7.4	1 848.6
Share of EU ETS emissions in total emissions (%)	42.9 %	41.1 %	40.2 %	40.5 %	40.7 %
ETS emissions vs allowances (free, auctioned, sold) (%)	- 4.6 %	- 2.8 %	- 7.5 %	+ 8.0 %	- 14.1 %
Share of CERs & ERUs in surrendered allowances (%)	0.0 %	10.0 %	47.0 %	n.a.	26.4 %
Non-ETS (ESD) emissions, adjusted to 2013–2020 scope (Mt CO ₂ -eq.)	11.6	11.5	11.3	10.8	2 566.6
Key data on renewable energy	2005	2010	2011	2012	EU 2012
Share of renewable energy in gross FEC (%) () = including all biofuels consumed in transport	(16.0 %)	(19.2 %)	19.4 %	20.2 %	14.1 %
Share of renewable energy for electricity (%)	28.7 %	32.1 %	30.8 %	31.4 %	23.5 %
Share of renewable energy for heating and cooling (%)	18.9 %	25.5 %	28.7 %	30.6 %	15.6 %
Share of renewable energy for transport (%) () = including all biofuels consumed (%)	(0.3 %)	(2.8 %)	2.1 %	2.9 %	5.1 %
Key data on energy consumption	2005	2010	2011	2012	EU 2012
Primary energy consumption (Mtoe)	7.0	7.0	7.2	6.9	1 584.8
Primary energy consumption per capita (Mtoe/cap.)	3.5	3.4	3.5	3.3	3.1
Final energy consumption (Mtoe)	4.9	4.9	5.0	4.9	1 104.5
Final energy consumption per capita (Mtoe/cap.)	2.5	2.4	2.4	2.4	2.2
Efficiency of conventional thermal electricity and heat production (%)	46.2 %	46.7 %	45.9 %	46.8 %	50.0 %
Energy consumption per dwelling by end use	2005	2009	2010	2011	EU 2011
Total energy consumption per dwelling (toe/dwelling)	1.61	1.59	1.61	n.a.	1.42
Space heating and cooling (toe/dwelling)	1.02	1.03	1.05	n.a.	0.96
Water heating (toe/dwelling)	0.27	0.28	0.28	n.a.	0.18
Cooking (toe/dwelling)	0.06	0.06	0.06	n.a.	0.08
Electricity (lighting, appliances) (toe/dwelling)	0.26	0.22	0.22	n.a.	0.20

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

2013 ESD target (% vs base year)	+ 2.3 %	2020 ESD target (% vs base year)	+ 4.0 %
2013 ESD emissions (% vs base year)	- 7.2 %	2020 ESD projections WEM (% vs base year)	+ 4.1 %
		2020 ESD projections WAM (% vs base year)	- 10.7 %

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 above the 2020 ESD target, only if measures planned until 2013 are fully implemented.

Progress towards renewable energy targets

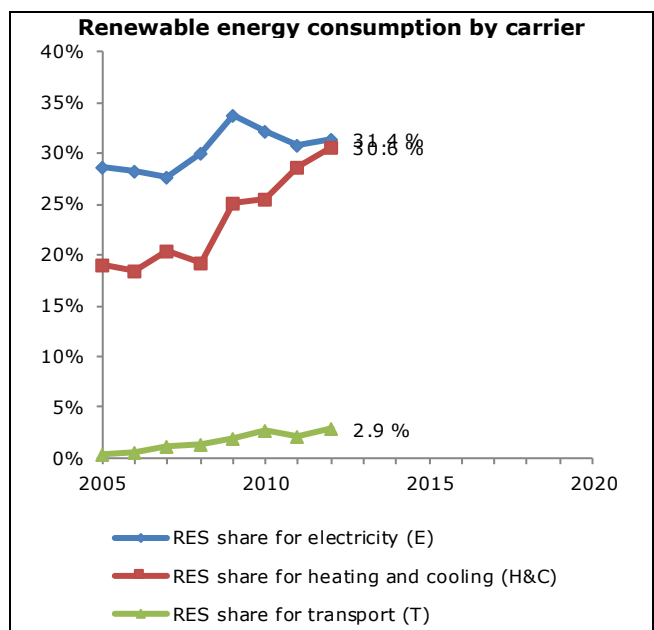
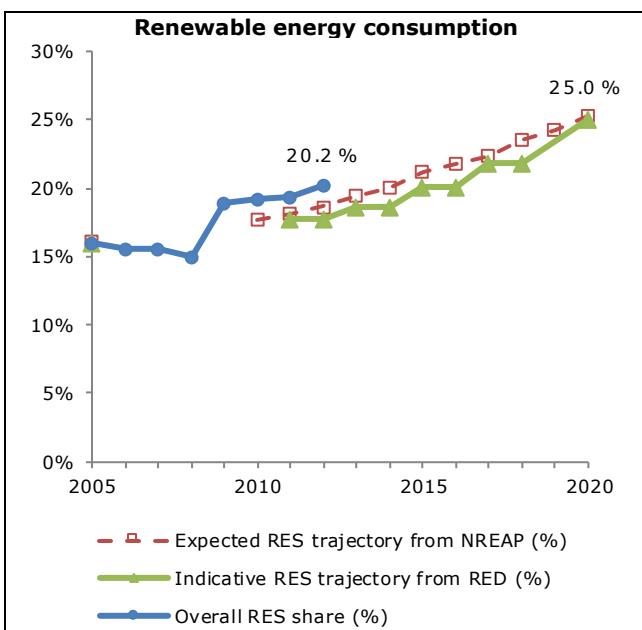
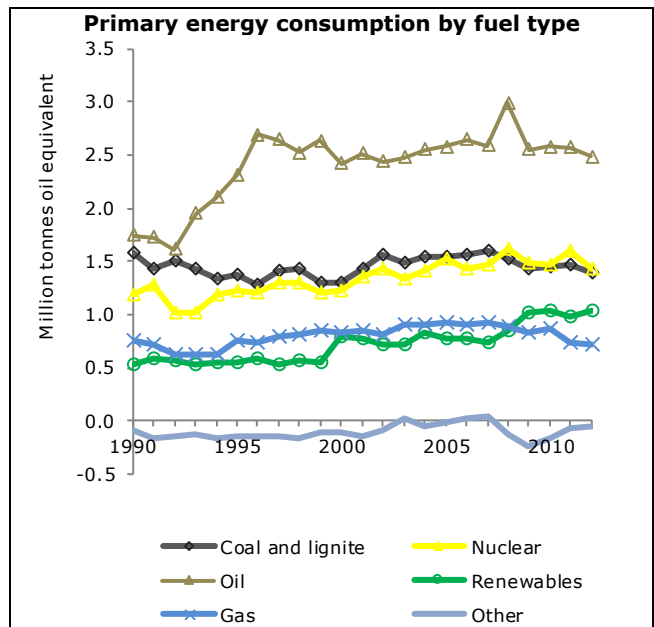
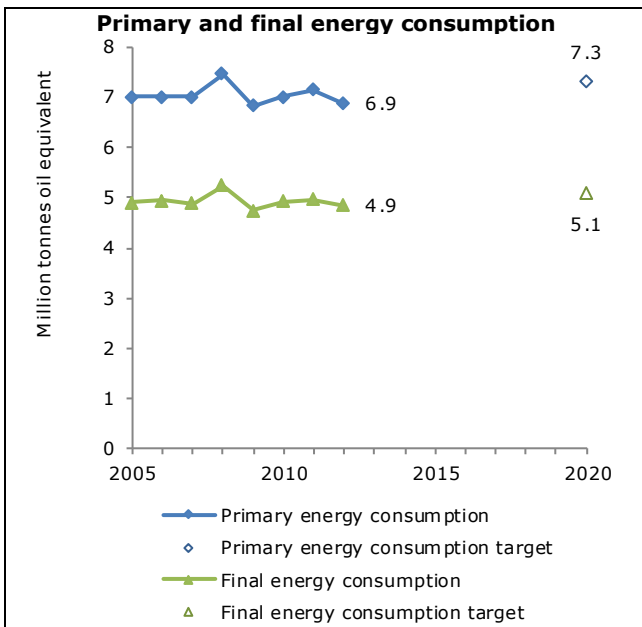
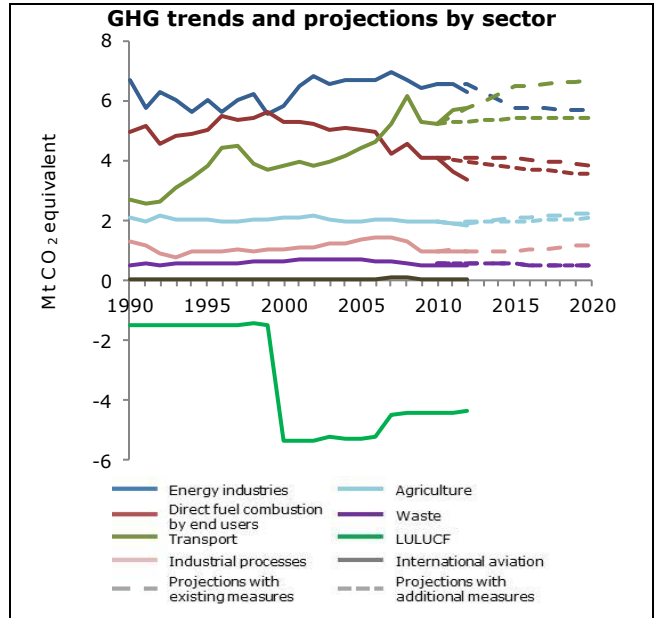
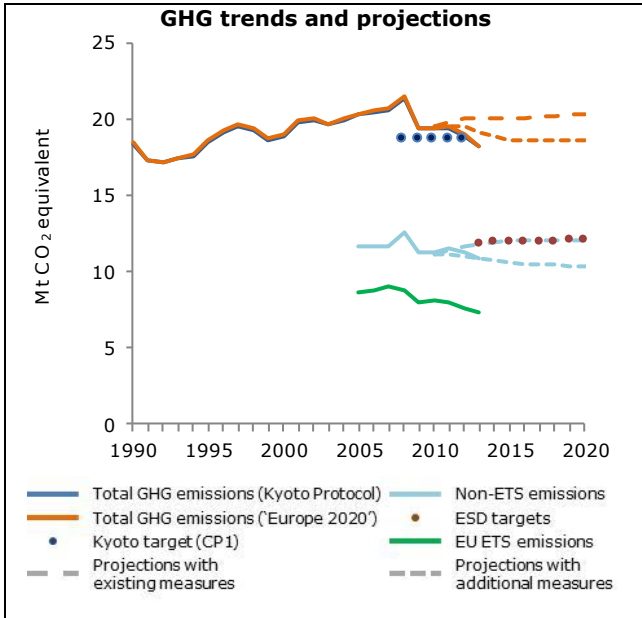
2012 RES share in gross final energy consumption (%)	20.2 %	2011–2012 indicative share from RES Directive (%)	17.8 %
2020 RES target	25.0 %	2012 expected share from NREAP (%)	18.7 %

The average share of renewable sources in gross final energy consumption for 2011–2012 was 19.8% (1.0 Mtoe), which is higher than the indicative RED target for 2011–2012 (17.8%). At the same time, the share of renewables in 2012 (20.2 %) is higher than the expected 2012 NREAP target (18.7 %). Over the period 2005–2012 the observed average annual growth rate in renewable energy consumption amounted to 3.5%. In order to reach its 2020 NREAP target, Slovenia needs an average annual growth rate of 3.3% in the run-up to 2020. In absolute terms, this is equivalent to 1.4 time its cumulative effort so far.

Progress towards energy efficiency targets

Primary energy consumption:		Final energy consumption:	
2005–2012 average annual change	- 0.3 %	2005–2012 average annual change	- 0.1 %
2012–2020 average annual change to target	+ 0.8 %	2012–2020 average annual change to target	+ 0.6 %

Slovenia has positive targets for both primary and final energy consumption, compared to 2005. Over the period 2005–2012, energy consumption decreased as a combined result of energy efficiency policies (such as those targeting improvements in conversion efficiency (CHP) and industry), as well as the effects of the economic recession. Slovenia can therefore focus on stabilising its energy consumption. Further efforts to limit the consumption of the energy and the transport sectors (which have been increasing since 2005) and electricity consumption in the residential and services sectors, could contribute to keep the country on track to meet its 2020 target.



Climate and energy policy framework

Challenges and opportunities

Slovenia faces rising greenhouse gas (GHG) emissions from the transport sector since 1990 with some fluctuations. The share in total emissions doubled from 15 % to 31 % as GHG emissions were almost stable or reduced in most of the other sectors. The increase of emissions reflects a rapid shift to private motor vehicle use. Moreover, as fuel prices are government-set in Slovenia whereas these are left to the market in neighbouring Italy and Austria, prices at the pump in Slovenia have at times been markedly lower than those across the border, leading to fuel sales to non-residents. Increasing the share of public transport and balancing fuel taxation with neighbouring countries could help to reduce GHG emissions, oil imports, and transport-related air and noise pollution.

Another challenge is the energy consumption and associated GHG emissions of buildings. The consumption of residential buildings for space heating is above the EU average although it decreased in recent years (SI-Stat, 2013). In the public sector, statistics show that a third of the buildings are without insulation. Heating and electricity for public buildings alone cost the state EUR 150 million per year. The renovation of public sector buildings, which comprise more than 9 million square metres, would require an investment of around EUR 350 million in the next 7 years, which could — if realised — stimulate the construction sector and related job creation, according to REUS JSS (2013). According to the government, annual investment of EUR 50 million in building refurbishment could create 1 200 new direct jobs and twice as many indirect jobs. The investments would also have a positive effect on public revenues through inflows of taxes and contributions of up to four times the investments, and lead to a significant reduction in the overall spending on energy (MZIP, 2013).

Climate and energy strategies

An Operational Programme for Reducing GHG Emissions until 2020 with a View to 2030 (OP GHG - 2020) is in preparation and will define indicative sectorial objectives to reduce GHG emissions until 2020 and framework objectives until 2030. A draft version made available in February 2014 foresees further support of the use of biomass and a continuation of efforts in building refurbishment.

The 2014 Energy Act provides a legal basis for the adoption of national strategic documents that will determine the long-term trend in energy supply and use. Furthermore, the Act gives the government greater powers in deciding to what extent renewables will be promoted in the future, and introduced new measures, including energy efficiency certificates for buildings, and a new district heating regime. In a next step, Slovenia will develop an Energy Concept of Slovenia and a National Energy Development Plan, which will guide major investments in energy infrastructure and help with the creation of local and regional energy concepts.

Renewable energy

Slovenia's renewable energy is mainly generated from hydropower and biomass. Electricity from renewables is promoted primarily through a feed-in tariff (FIT), a premium tariff, and a series of subsidies and loans for the installation of renewables. FITs are differentiated by technology and installation size and a steep regression rate is in place for photovoltaics. The costs of the FIT scheme are covered by a surcharge on final consumer bills. This surcharge was raised last year, but subsequently slightly lowered for energy-intensive industries, leading to a tariff deficit. The loan and grant programme provides low-interest loans and non-refundable grants to purchase renewable energy equipment. Due to the high demand the allocated financial resources get depleted very quickly each year.

Wind farms still represent a negligible portion of renewables, a main bottleneck being administrative barriers. However, Slovenia introduced its first large-scale wind power plant in Dolenja vas in May 2013, which may serve as a role model for further development. In addition, a new state land use act will be adopted soon to facilitate the build-up of wind energy. Slovenia also plans to construct 10 new hydropower plants by 2034.

Renewable heating is mainly promoted through loans and subsidies for district biomass heating, individual biomass heating systems and public sector buildings. The support is co-financed by the EU. Additional measures include an energy counselling and awareness programme (EnSvet), and minimum renewable requirements for new and reconstructed buildings, which can also be met with renewable heating.

Energy efficiency

Slovenia's energy **taxation** is above the EU average and the highest among New Member States. However, there are various exceptions, such as for electricity if it represents more than 50 % of costs of production of a product, as well as motor fuels used in a number of industry, transport, agriculture and forestry applications. Since 1996, Slovenia has an explicit carbon tax for carbon dioxide (CO₂) emissions resulting from the combustion of fossil fuels and incineration of combustible organic substances, with exemptions for EU Emissions Trading System (ETS) participants and some cogeneration. A Working Group was also established in 2012 to develop proposals on a green tax reform.

Cogeneration of electricity and heat, largely from fossil fuels, is promoted by means of a FIT.

Under the Energy Act, **energy companies are obligated** to promote end-use efficiency through the implementation of projects that lead to energy consumption reductions. In **industry**, some support programmes exist to carry out energy efficiency measures (EEW, 2013; Odyssee, 2012). The planned linking of exemptions from the CO₂ tax to the obligation of having an energy management system in place was abandoned.

In the **building** sector, minimum energy performance requirements have been introduced. An Energy Performance Certificate scheme was recently adopted, but was heavily criticised as having been speedily implemented under pressure from the European Union, without a real debate on its flaws. The primary measures to promote energy efficiency, including in buildings, are low-interest loans and grants, primarily made available through a government-affiliated administering organisation known as the Environmental Public Fund (Eco Fund). Moreover, an analysis of energy efficiency in Slovenia in the public and service sectors was done in 2013 that will serve as a starting point for the assessment and planning of energy efficiency measures at strategic and operational levels in 2014 (REUS JSS, 2013).

Transport

Slovenia levies a registration tax that is partly based on CO₂ emissions and an ownership tax based on the motor volume. Additionally, an annual environmental pollution tax, a time-based national vignette system for passenger cars,

light trucks and motorcycles, and a distance-based toll for heavy-duty vehicles apply (ACEA, 2012; CE Delft, 2012). Petrol is taxed at EU average, but it is the highest rate in the EU-13 Member States. The tax rate for diesel is significantly lower but this is partly outweighed by the higher CO₂ tax so that diesel is taxed above EU average. Other government efforts regarding the transport sector include a biofuel quota obligation (4.1 % for petrol, 6.0 % for diesel), which however was not met in 2012 (only 0.7 % share of biofuels besides a goal of 5.5 %). Incentives to purchase electric vehicles are provided mainly by the Eco Fund. Tax exemptions on biofuels existed, but were abolished in April 2014 due to finance consolidation efforts.

Slovenia's government seeks to promote public transportation and make personal road traffic less attractive. The government has allocated EUR 8 million for 'Park and Ride' measures from the EU Cohesion Fund. Moreover, public transport subsidies are available for students and the government has undertaken efforts to synchronise public transport and establish public transport zones. Some city centres have also been closed for car traffic and new public bus lines are being implemented. In addition, the government has recently increased investment in railway lines.

Fluorinated gases (F-gases)

Slovenia is one of only three countries in the EU with a special tax on F-gases in place and keeps extensive records on the amount of F-gases and their intended use. For a first filling or manufacture of F-gases, only a 5 % tax is paid, while for a refilling a 100 % tax is paid. The tax is paid per unit of pollution equivalent to 1 kg CO₂. The price of the tax imposed on the use of fluorinated GHGs is calculated to amount to a rate that is five times lower than the tax imposed on fuel combustion and amounts to EUR 12.5 per tonne of CO₂.

Agriculture

An overall action plan for climate change mitigation and adaptation in the agricultural sector existed for the years 2010 and 2011, but has not been updated since then. Slovenia's agricultural policies focus on the reduction of methane and nitrous oxide through animal husbandry and manure management policies. Additionally, numerous measures are being implemented within the context of the Rural Development Programme and the Ministry of Agriculture and Environment runs a successful programme for the promotion of local food production and consumption.

Waste

The Communal Waste Management Programme from 2013 sets out Slovenia's objectives with respect to emission reductions from waste. It aims at a reduction of GHG emissions by at least 20 % by 2020 compared to 1990 levels in the waste sector through an increase in the share of separately collected recycling fractions of municipal waste, the thermal treatment of waste and a greater use of organic ingredients. The most significant reduction of GHG emissions can be achieved by reducing landfilling of biodegradable municipal waste, for which a new operational plan for the period after 2013 is being prepared. Moreover, the CO₂ tax applies to emissions from landfills and the FIT applies to electricity generation from captured landfill gas.

Land use, land-use change and forestry

The 2007 Resolution on the National Forest Programme (ReNFP) has sustainable forest development as one of its fundamental objectives. Moreover, the Action Plan for increasing the competitiveness of the forest-wood chain in Slovenia by 2020 stipulates measures to promote the felling of trees in accordance with forest management plans. This includes, for instance, a definition of the maximum permitted felling of trees for the period 2011–2020.

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