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ENER 388  
CLIMA 127  
AGRI 607  
COMPET 524  
TRANS 370  
ENV 718  
ECOFIN 891  
RELEX 947  
TELECOM 217  
CONSOM 197

#### COVER NOTE

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From: Secretary-General of the European Commission,  
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 19 November 2015

To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of  
the European Union

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Subject: COMMISSION STAFF WORKING DOCUMENT  
Country Factsheet Slovenia  
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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Delegations will find attached document SWD(2015) 238 final.

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**COMMISSION STAFF WORKING DOCUMENT**

**Country Factsheet Slovenia**

*Accompanying the document*

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

**State of the Energy Union**

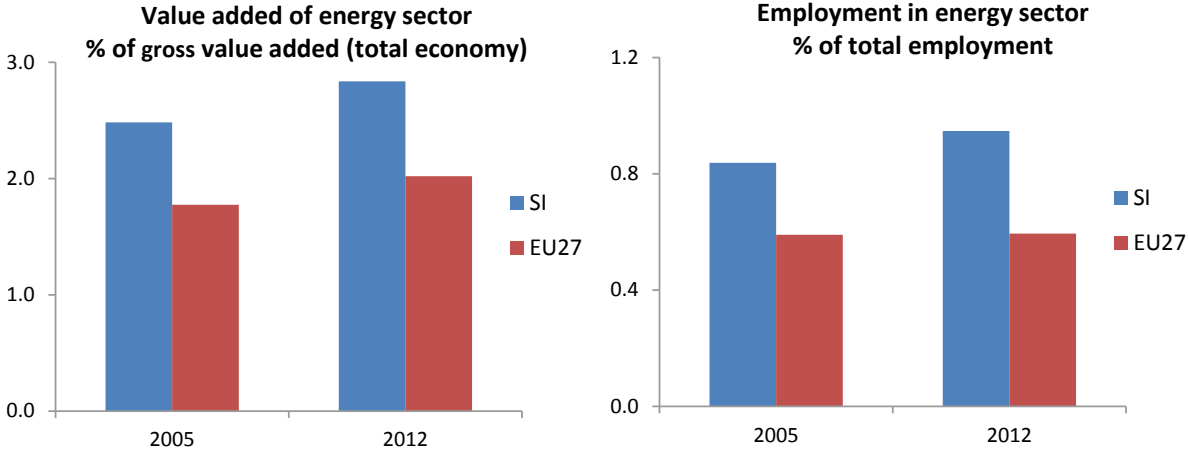
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## Macroeconomic relevance of energy

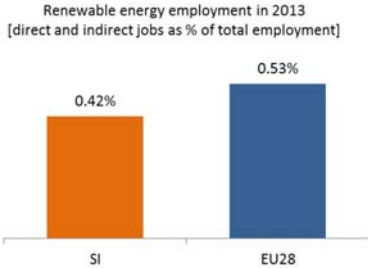
### IMPORTANCE OF THE ENERGY SECTOR

The macroeconomic significance of the energy sector in Slovenia is considerably higher than in the EU27 both in terms of share of the sector in total gross value added and in total employment. The two shares also increased visibly between 2005 and 2012 further distancing 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 Slovenia was at about 0.42%, below the EU average of 0.53%.

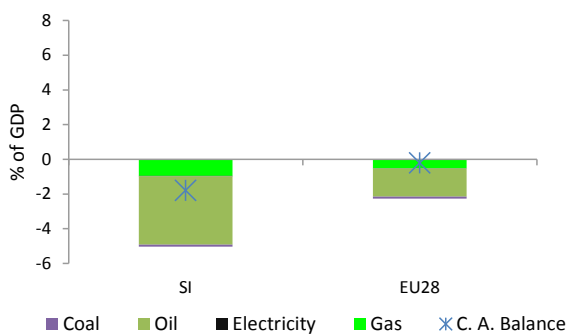


Source: European Commission, based on EurObserv'ER and EUROSTAT

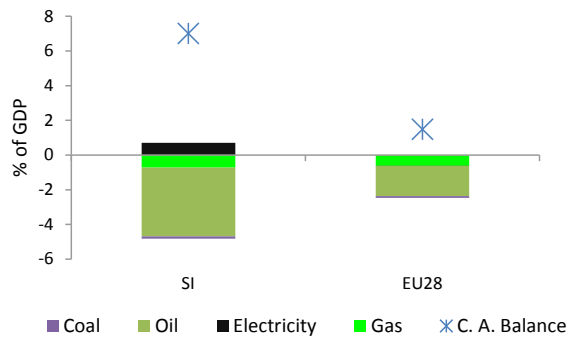
### TRADE BALANCE OF ENERGY PRODUCTS

Slovenia's energy trade deficit has been consistently higher than that of the EU28 both in 2006 and in 2014 but it has slightly improved over the period. The largest component is the oil trade deficit while the electricity trade balance actually moved to a surplus in 2013 and 2014. Despite the energy trade deficit, the country's current account moved from a small deficit in 2006 to a large surplus of more than 6% in 2014 however mostly due to a contraction of domestic demand and therefore imports.

Trade balance of energy product and current account balance, 2006



Trade balance of energy product and current account balance, 2014



Source: EUROSTAT

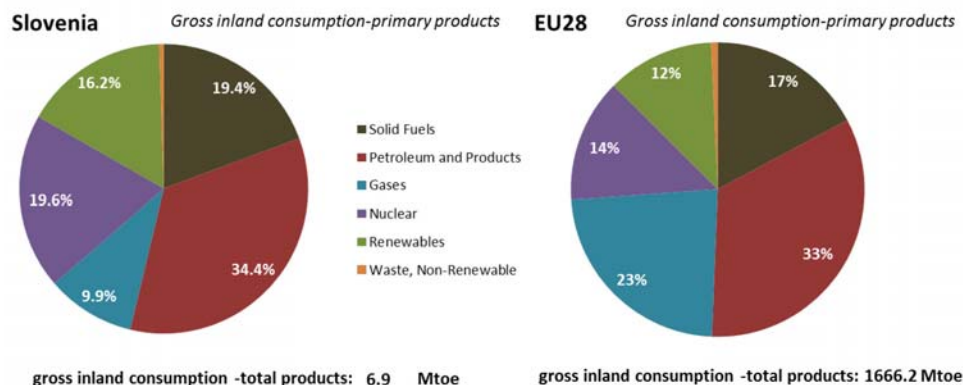
Note: Current account balance for EU28 from European Commission (AMECO)

## 1. Energy Security, solidarity and trust

### ENERGY MIX

The energy mix of Slovenia is broadly in line with the one of the EU-28, with the notable difference of a higher share of nuclear and lower of gases. Compared to 1995, the share of solid fuels and petroleum and products decreased (from 23% to 19% and from 38 to 34% of gross inland energy consumption respectively), while the share of renewable energy increased more than twofold, by 9 percentage points. The share of gases decreased slightly, from 11 to 10% of the energy mix.

Gross inland energy consumption in 2013



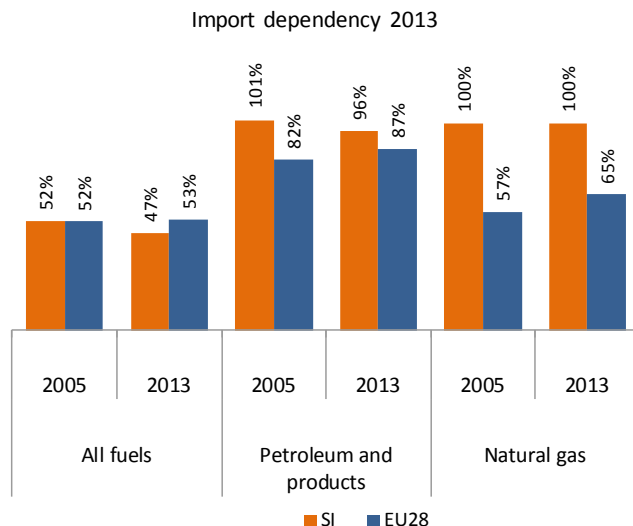
Source: European Commission, based on EUROSTAT

### IMPORT DEPENDENCY

The import dependency<sup>1</sup> in Slovenia is in line with the one of the EU as a whole. Import dependency is really high for petroleum products and gas. In addition, Slovenia imports most of its gas from Russia<sup>2</sup>. However, Slovenia has access to several import sources and imports from Russia are based on price-considerations. The energy trade deficit (mostly on oil), expressed in percentage of GDP, is high and well above EU average.

<sup>1</sup> Note: A dependency rate in excess of 100% indicates that energy products have been stocked.

<sup>2</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).



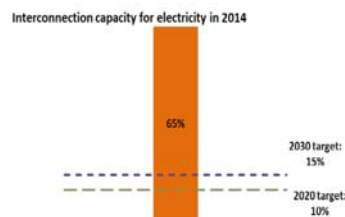
Top non-EU gas suppliers in 2013 (% in total imports)

Slovenia		European Union	
country	[%]	country	[%]
Russia	57.9	Russia	39.0
		Norway	29.5
		Algeria	9.7
		Qatar	6.7

Source: European Commission, based on EUROSTAT

## 2. A fully-integrated internal energy market

### INTERCONNECTIONS



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"

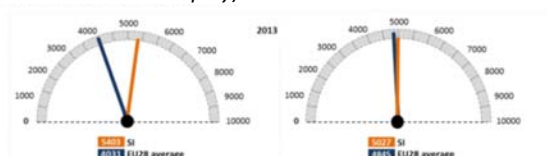
According to Commission figures, the percentage of the interconnection capacity was 65% in 2014 for Slovenia.

Slovenia has several electricity Projects of Common Interest, including two electricity clusters with a high voltage transmission line between Slovenia, Croatia and Hungary and a high voltage transmission line between Slovenia and Italy. Further strengthening of the national power grid is needed to ensure the reliable and safe operation of the national electricity system and cross-border flows (trade).

There are several gas Projects of Common Interest, which are relevant for Slovenia, including interconnections between Hungary and Slovenia as well as with Croatia and Austria. These projects will enhance market integration and contribute to the security of supply in the region.

### ELECTRICITY AND GAS MARKETS

Market concentration index for power generation (left) and gas supply (right) (2013) (Herfindahl index – 10000 means monopoly)

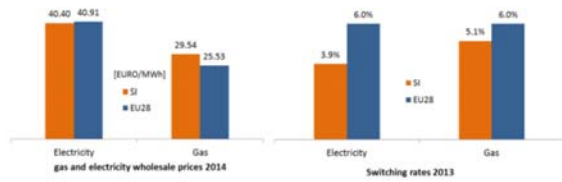


Sources: European Commission based on ESTAT, CEER and Platts Power Vision

Concentration on power generation markets is high, and above EU average. The modest market size does not facilitate the development of many generators.

Regarding gas, the principal importer is supplying about 66% (down from 90%) of the wholesale market and about 58% of the retail market.

Wholesale electricity prices are slightly below EU average, while wholesale gas prices are above. Nevertheless, the absence of price regulation allowed a new player to enter the market with a pricing



Sources: ESTAT and European Commission Calculations

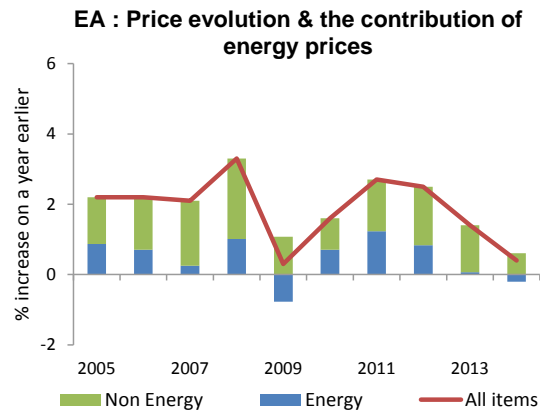
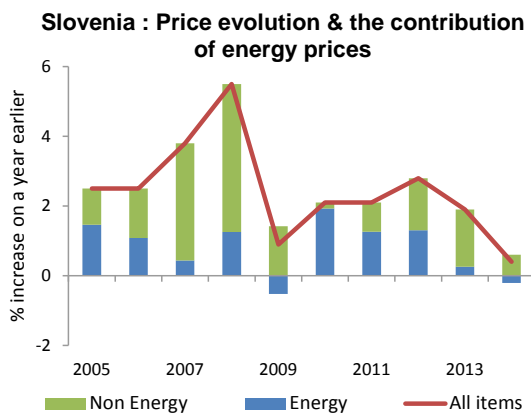
strategy very different from that of the existing players and obliging the incumbent suppliers to modify their price strategies.

Consumers' overall assessment of retail gas and electricity markets, which is fully liberalised, scores the highest and second highest in the EU<sup>3</sup>. The switching rate for electricity was at 3.9% and 5.1% for gas. The vast majority of switches were undertaken by household customers who changed their supplier following the entrance of competition into the household market segment.

Slovenia has rolled-out 29% of smart meters in electricity.

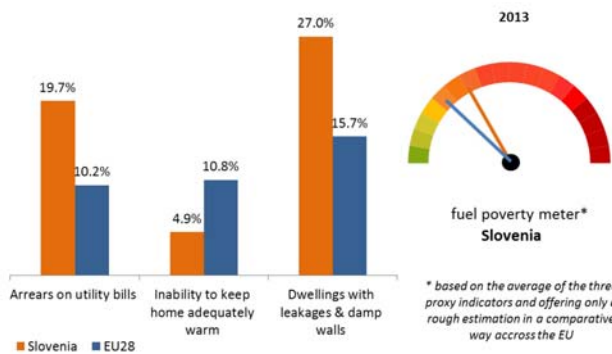
### CONTRIBUTION OF ENERGY TO CONSUMER PRICE EVOLUTION

The inflation rate of Slovenia was similar to that of the Euro area prior to the crisis and the energy component had a large impact especially in 2005 and 2006. After 2007 the inflation rate increased above the Euro area average and then fell significantly between 2008 and 2009 and remained around the Euro area average ever since. The contribution of the energy component has remained a significant determinant of the changes in consumer prices in Slovenia, after the crisis, while the contribution of the non-energy component has been less important than for the Euro area average.



Source: DG ECFIN based on Eurostat

### VULNERABLE CONSUMERS



Source: European Commission, based on EUROSTAT SILC survey

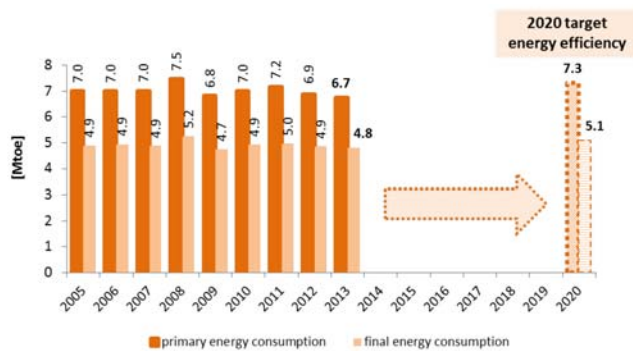
According to three proxy indicators from the EUROSTAT SILC survey, fuel poverty seems to be above the EU average in Slovenia and particularly regarding arrears on utility bills. In 2013, due to unpaid electricity bills in Slovenia the supply was stopped to 6877 household consumers, 0.03 percentage point more than in 2012. Nevertheless, vulnerable consumers in Slovenia are protected by the Energy Law which forbids the disconnection of low-income households

<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)

with arrears on energy bills. Consequently, the annual national regulatory authority's report states that only few consumers were recognised as vulnerable in 2013.

### 3. Energy Efficiency and moderation of energy demand

#### ENERGY EFFICIENCY TARGET 2020 (7.3 Mtoe primary energy and 5.1 Mtoe final energy)



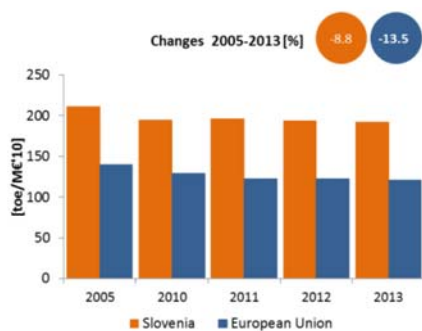
Slovenia’s 2020 energy efficiency target is 7.3 Mtoe expressed in primary energy consumption (5.09 Mtoe expressed in final energy consumption). When comparing the trend of primary energy consumption with the GDP development over the past decades, it can be seen that no decoupling of both has taken place. Even if Slovenia’s current primary energy consumption (6.7 Mtoe in 2013) is slightly below its 2020 target, additional efforts regarding energy efficiency seem needed to keep the primary energy consumption at this level or to minimise its increase when the GDP increases again during the next five year period.

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

#### ENERGY INTENSITY

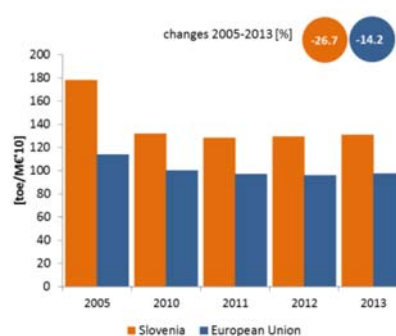
Primary energy intensity in Slovenia has decreased since 2005, but remains above EU average. A high energy intensity reduction is recorded in the industrial sector, i.e. about 27% since 2005 and 2013, but it also remains above EU average.

Primary energy intensity of the economy



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

Final energy intensity in industry

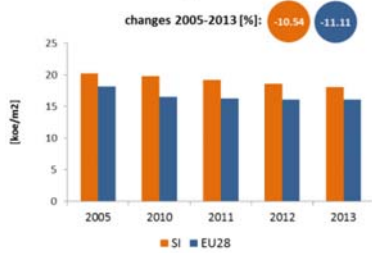


Source: European Commission based on EUROSTAT and European Commission /AMECO

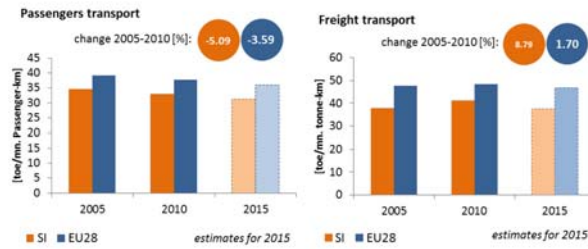
Specific energy consumption by households is above EU average and decreased at a similar pace than the EU average. The specific energy intensity of passenger cars decreased slightly between 2005 and 2010 which reflects a more efficient usage of cars. The specific energy intensity for freight transport increased between 2005-2010 more than the EU average.



Final energy consumption per m<sup>2</sup> in residential sector, climate corrected

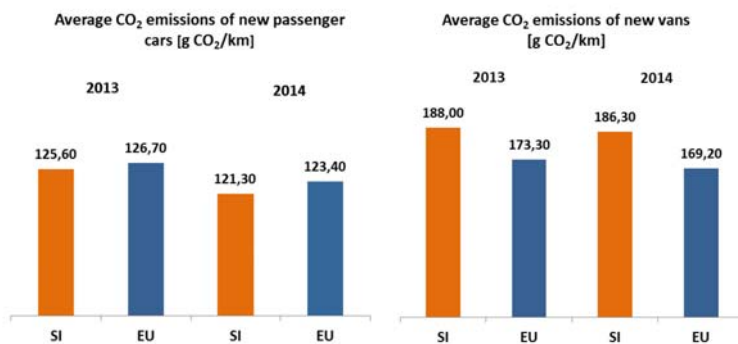


Source: European Commission based on Odyssee database



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

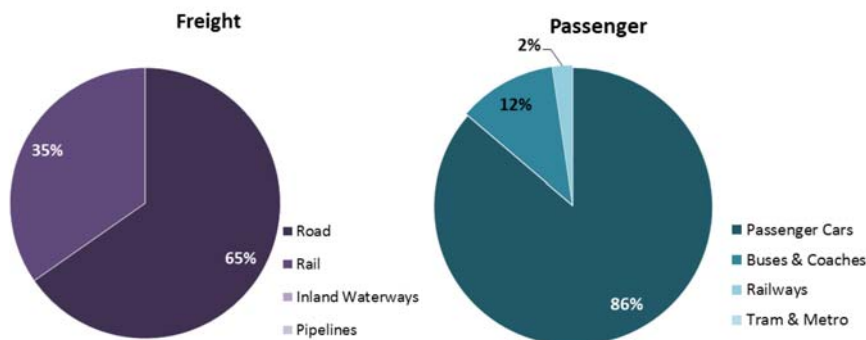
EU legislation sets mandatory CO<sub>2</sub> emission reduction targets for new cars and vans. By 2021, the fleet average to be achieved by all new cars is 95 grams of CO<sub>2</sub> per kilometre. For new vans, the fleet average is set at 147 g/km by 2020.



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

Regarding transport performance, in EU-28 the inland freight modal shares are 71% by road, 17% by rail, 7% 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.

Modal shares Slovenia



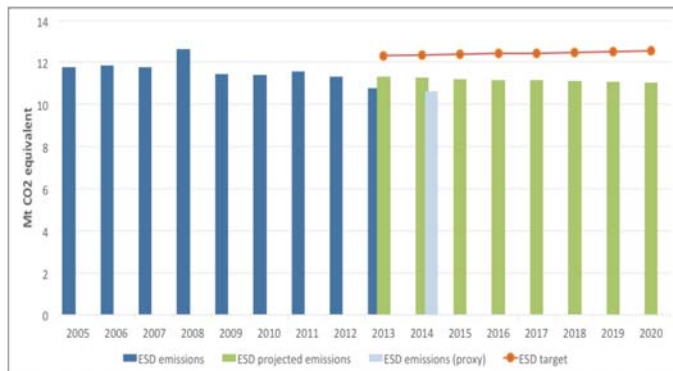
Source: Eurostat and EU transport in figures 2015. Data refers to 2013. Modal shares based on tonne-kilometres for freight sector and passenger-kilometres for passenger sector, freight data based on activity within country territory. Estimates are made when data is missing.

<sup>4</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.



## 4. Decarbonisation of the economy

### NON-ETS GHG EMISSION REDUCTION TARGET 2020 (+4% 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.

In 2014, the emissions decreased with respect to 2005, so that the interim target for 2014 will be overshoot by a margin of 13.8%.

According to the latest projections, Slovenia is on track to reach its greenhouse gas emission reduction target for 2020 as compared to 2005.

Non-ETS Emissions (vs. 2005)	Projections/proxy	target
Projections with existing measures 2020	-8%	+4%
Proxy 2014	-12%	+3%

### RENEWABLE ENERGY SHARE TARGET 2020 (25%)



Source: European Commission based on EUROSTAT

With a renewable energy share of 21.5% in 2013, Slovenia is on track to reach its 25% target in 2020.

### GREENHOUSE GAS EMISSION INDICATORS

- The share of emissions from transport is well above the EU average also due to the transit traffic across the country. In Slovenia transport is the most energy-intensive sector, with its share in energy consumption increasing since 2005.
- Slovenia's carbon intensity of the economy has been decreasing and is around 50% higher than the EU average.
- In 2014 the revenues from the auctioning of ETS allowances amounted to EUR 16.6 million, out of which 55% are planned to be used for climate and energy related purposes (energy efficiency and sustainable transport, mainly).

Largest Sectors of GHG Emissions in 2012(*)	Slovenia	EU Average
Energy/power industry	33%	33%
Transport	31%	20%
Industry	14%	19%
Agriculture (incl. forestry & fishery)	11%	12%
Residential & Commercial	8%	13%
Waste & others	3%	3%

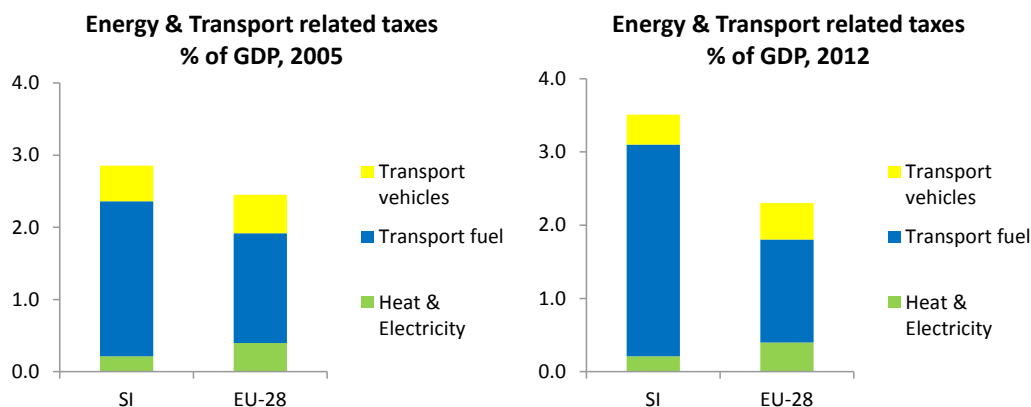
(\*) Sectoral breakdown for 2013 data not available

GHG Emissions	Slovenia	EU
EU ETS auctioning revenues in 2014(EUR millions)	16.6	3205
Share of ETS emissions in 2013	41%	42%
GHG emissions/capita in 2013 (tCO <sub>2</sub> equivalent)	8.8	8.5
Carbon intensity of economy in 2013 (tCO <sub>2</sub> equivalent/EUR millions)	517	328

Source: European Commission based on EEA

### ENERGY & TRANSPORT TAXATION

In 2005 energy and transport taxes as a share of GDP in Slovenia were more or less in line with the EU average, despite some differences in their composition. By 2012 the gap with the EU had widened. Slovenia displays a considerable increase by nearly 40% in the transport fuel taxes, expressed as a share of GDP, which is mainly due to increased consumption of fossil fuels in the transport sector. This has brought the overall energy end transport taxation at considerably higher level than the EU28 average.

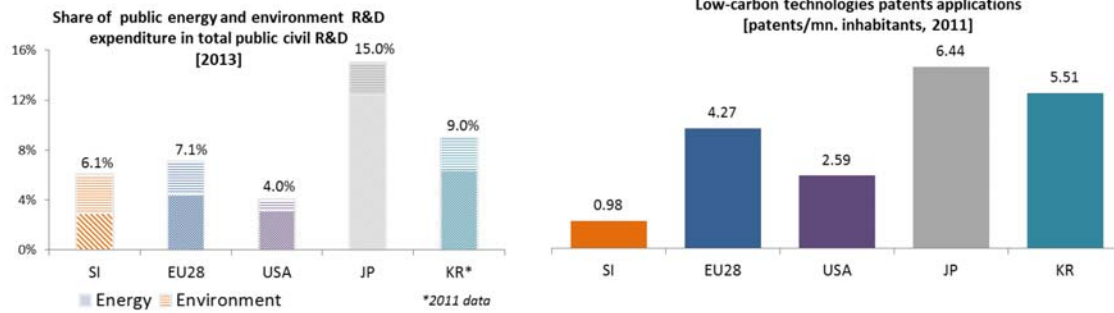


Source: Eurostat

## 5. Research, innovation and competitiveness

### RESEARCH AND INNOVATION

Slovenia is near the 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 sustainable energy, low-carbon and environment. In terms of intensity of low-carbon technologies patents, Slovenia is much behind the EU average and main worldwide partners.

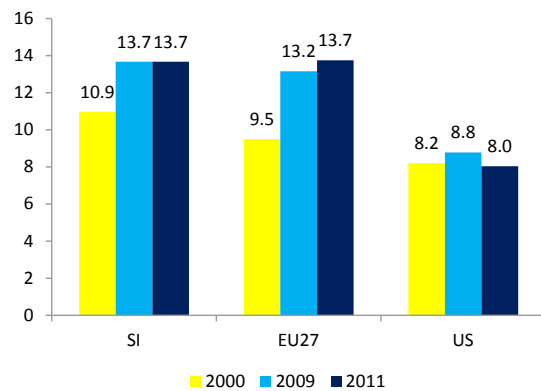


Source: European Commission based on EUROSTAT

COMPETITIVENESS

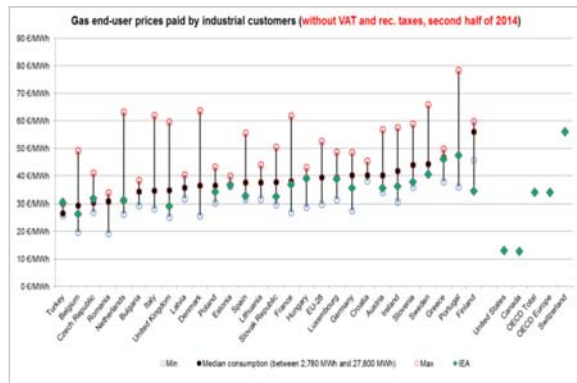
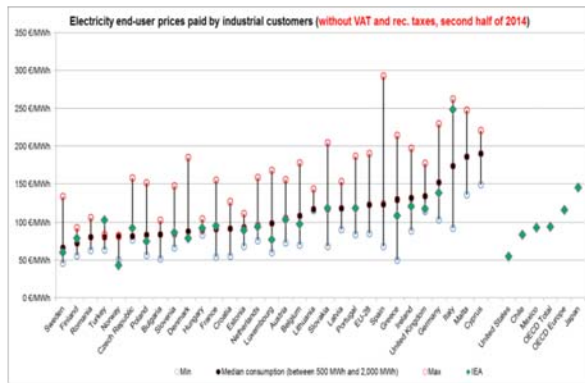
The real unit energy costs<sup>5</sup> in Slovenia are in line with the EU average but higher than in the US. Real energy prices have increased in Slovenia over the past ten years while energy intensity<sup>6</sup> has slightly improved. Retail electricity prices for industrial customers in Slovenia are below the EU average and at the level of other trading partners. Retail gas prices for industrial consumers are above EU28 average and higher than in the US and in other non-EU OECD trading partners except Japan.

Real unit energy costs (% of value added)



So

Source: European Commission



Source: EUROPEAN COMMISSION based on EUROSTAT and IEA

6. Post-2020 Energy and Climate policy Strategy

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

- Slovenia has not yet established a comprehensive medium to long-term strategy for climate and energy covering the post-2020 period.

<sup>5</sup> This indicator measures the amount of money spent on energy sources needed to obtain one unit of value added.

<sup>6</sup> The energy intensity presented here is derived from Use Tables of WIOD, see "Energy Economic Developments in Europe SWD(2014)19".

- An Operational Programme for Reducing GHG Emissions by 2020 with an outlook to 2030 has been adopted by the Government in December 2014. The Operational Programme includes indicative goals for 2030.
- 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. Following the adoption of the act, the process of adopting the Energy Concept (to be adopted in 2016) has been launched in June 2015 by publishing a public consultation document. A National Energy Development Plan will also be developed, which will guide major investments in energy infrastructure in the future.

### NATIONAL TARGETS, especially for 2030

Objective, 2030-2050	Targets	Comments
GHG reduction	No (but indicative goals for 2030)	Indicative 2030 sectorial targets to reduce GHG emissions compared to 2005 emission levels in the non-ETS sectors
Renewable energy	No	
Energy Efficiency / savings	No	

## 7. Regional cooperation

Slovenia is a member of the High Level Group on Central and South Eastern Europe Gas Connectivity (CESEC) together with Austria, Bulgaria, Croatia, Greece, Hungary, Italy, Romania and Slovak Republic. The objective of the High Level 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. Slovenia also participates at the Central & Eastern European Electricity (CEEE) Forum, supporting electricity markets integration (with Austria, Czech Republic, Germany, Hungary, Poland and Slovakia).

Furthermore, Slovenia participates in 2 other regional cooperation groups:

- North-South Interconnections in Central and South Eastern Europe (North-South East);
- Southern Gas Corridor.

## 8. Cohesion policy contribution

The EU Cohesion policy provides for important investment possibilities to implement energy policy objectives in Slovenia 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 cross-border cooperation such as the Danube Region, Adriatic and Ionian Region, and Alpine Region macro-regional strategies in which Slovenia takes part.

*Internal energy market:* Over 2014-2020, EU Cohesion Policy will invest some EUR 20 million in smart electricity distribution grids in Slovenia. These investments are expected to contribute to around 300 000 additional users connected to smart grids.

*Energy efficiency:* Over 2014-2020, EU Cohesion Policy will invest some EUR 282 million in energy

efficiency improvements in public and residential buildings and in SMEs, as well as in high-efficiency cogeneration and district heating in Slovenia. A further estimated EUR 188 million will be invested in supporting the move towards an energy-efficient, decarbonised transport sector. These investments are expected to contribute to around 2 500 households with improved energy consumption classification and a decrease of around 23 000 000 kWh per year of decreased primary energy consumption of public buildings, as well as to around 25 km of reconstructed or upgraded railway lines.

*Decarbonisation:* Overall, the EU Cohesion Policy investments in Slovenia over 2014-2020 are expected to contribute to an estimated annual decrease of GHG of around 63 000 tonnes of CO<sub>2</sub>eq. Over 2014-2020, EU Cohesion Policy will invest some EUR 12 million in renewable energy in Slovenia. These investments are expected to contribute to around 80 MW of additional capacity of renewable energy production.

*Research, Innovation and Competitiveness:* Over 2014-2020, EU Cohesion Policy will invest significantly in R&I and in SME competitiveness in Slovenia. This will be based on the national strategy for smart specialisation. At this stage, at least EUR 70 million is foreseen for investments in R&I and adoption of low-carbon technologies in Slovenia, but this might increase further in line with the evolving content of the smart specialisation strategy.