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# Assessment of climate change policies in the context of the European Semester

## Country Report: Slovakia



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The report provides an overview of current emission trends and progress towards targets as well as policy developments that took place over the period from February 2013 to November 2013.

Please feel free to provide any comments or suggestions to the authors through the contacts listed above.

## Short summary

**Background:** Climate change itself receives only moderate attention in Slovakia as a policy issue and the high energy intensity of the economy remains a key issue. The energy mix is quite diversified including gas, nuclear, oil and solid fuels but with only a small share coming from renewable energy. Slovakia's Energy Policy Strategy is expected to be approved in December 2013 and outlines the long-term energy objectives of the country until 2035, focusing on increasing domestic production of nuclear and hydro energy sources to reduce import dependency, which is above the EU average.

**Non-ETS emission reduction target:** The 2020 target for Slovakia is a limited growth target of +13 % (compared to 2005) but in actual fact emissions decreased by 2% between 2005 and 2011. According to the latest available projections, the target would be overachieved by a wide margin of 37 percentage points as emissions are expected to be reduced by 24% from 2005 to 2020.

### Key indicators 2011:

GHG emissions	SK	EU
ESD EU 2020 GHG target (comp. 2005)	+13%	
ESD GHG emissions in 2011 (comp.2005)	-2%	-9%
Total GHG emissions 2012 (comp.2005)	-16%	-12%
GHG emissions/capita (tCO <sub>2</sub> eq)	8.4	9.0

→ **7% lower** per capita emissions than EU average

GHG emissions per sector	SK	EU
Energy/power industry sector	23%	33%
Transport	14%	20%
Industry (incl. industrial processes)	40%	20%
Agriculture (incl. forestry & fishery)	7%	12%
Residential & Commercial	8%	12%
Waste & others	5%	3%

→ **Industry** followed by Energy/power industry sector and Transport

Energy	SK	EU
EU 2020 RES target	+14%	
Primary energy consumption/capita (toe)	3.2	3.4
Energy intensity (kgoe/1000 €)	350	144
Energy to trade balance (% of GDP)	-6.5%	-3.2%

→ **4% lower** per capita consumption, **142% higher** energy intensity, contribution of energy to trade balance **double** EU average.

Taxes	SK	EU
Share of environmental taxes (% of GDP)	1.8%	2.4%
Implicit tax rate on energy (€/toe)	49	184

→ **Lower share** of environmental taxes and **74% lower** implicit tax rate on energy than EU average.

**Key policy development in 2013:** The implementation of the EU Directive of energy performance of buildings (Council Directive 2010/31/EU) into Slovak law, (Act N. 555/2005) took effect in January 2013 along with an amendment made in June 2013 regulating the obligations to conduct energy audits for energy efficiency of heat and hot water distribution networks. Regarding renewable energy support, amendments to the Renewable Energy Act scaled back feed-in tariffs for all technologies. Solar installations are only eligible for support with a capacity of up to 30 kW on buildings and rooftops. The Stability Programme of 2013-2016 foresees reassessments on the subsidies for renewable energy and coal; however these have not been carried out so far.

**Key challenges:** Slovakia is the fifth most energy intensive economy in the EU. At the same time, taxes on energy are significantly below the EU average. GHG emissions from transport are growing in importance and average emissions for newly registered cars are the 9<sup>th</sup> highest in the EU. The introduction of a carbon tax for the non-ETS sectors has been considered, but so far no progress has been made.

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## I Background on climate and energy policies

The reduction of GHG emissions in Slovakia after 1990 was mainly driven by structural changes in the economy. However, in the current policy context climate change receives some attention, but is usually contained in policies prioritizing economic growth (Climate Policy Tracker 2011). Since 2012, the Slovak Government has focused on reducing the financial support given to renewable energy in order to balance resulting higher electricity prices (MFSR 2012). In order to meet its emission targets, Slovakia focuses on energy efficiency measures and the further development of nuclear energy.

The Energy Policy of the Slovak Republic (*Energetická politika SR*) is expected to be approved by the Government in December 2013. The “Energy Policy” is a strategy document that defines the objectives and priorities of the energy sector until 2035, with an outlook to 2050. It also outlines the development of several energy projects. Among others, the “Energy Policy” envisages the construction of a new nuclear power plant in Bohunice. However, construction of another nuclear power station just exceeded both the original budget and time schedule (see Chp. 4). In addition, the “Energy Policy” foresees a hydro power plant in Sereď, which is expected to produce 180 GWh of electricity, and a pumped storage hydro power plant in Ipeľ with an installed capacity of 600 MW (Energia 2013n). The Ministry of Economy pointed out that the construction of a new nuclear power plant will necessitate the expansion of the existing transmission grid (Energia 2013d).

According to the Stability Programme for 2013-2016 (*Program stability Slovenskej republiky na roky 2013 až 2016*), which was released in April 2013, the Slovak Ministry of Finance is considering abolishing several exemptions from energy taxes in order to generate additional revenues for the state budget (Program stability 2013). The Ministry, however, does not foresee a significant increase in energy taxes, stating that the aforementioned measure would pose a disproportionate financial burden on low-income households. Also, an increase in the excise tax on fuel is not planned during the scheduled period. Instead, the subsidies for renewable energy and coal will be reassessed in order to minimise possible effects on electricity prices while meeting the EU targets (Energia 2013c).

## 2 GHG projections

### Background information

In 2011, Slovakia emitted 45.3 Mt CO<sub>2</sub>eq (UNFCCC inventory 2011). Total emissions decreased by 37% between 1990 and 2011, mainly driven by the structural changes incurred during the transition to a market economy. A third of total emissions stem from energy use. However, emissions in that sector have been reduced significantly by more than 50% between 1990 and 2011, due to declining economic activity in the 1990s and more recently, as a result of improved energy efficiency in buildings. Also, emissions from energy supply have decreased notably by around 50%. Reductions in livestock numbers and fertilizer use have resulted in a decrease of more than 50% of emissions from agriculture. Emissions from industrial processes decreased by 14%, mainly due to the recent economic recession. Only emissions from transport reported an increase of 27%

between 1990 and 2010 driven by the growing number of passenger cars and freight road transport (UNFCCC inventory 2011, EEA 2012, UNFCCC 2012). From 2011 to 2012, GHG emissions are expected to decrease mainly through emission reductions realised in energy supply, energy use and the transport sector (EEA 2013c).

### **Progress on GHG target**

There are two sets of targets to evaluate: 1) the Kyoto Protocol targets for the period 2008-12 (which has just ended) and 2) the 2020 targets for emissions not covered by the EU ETS.

Under the Kyoto-Protocol the emission reduction target for Slovakia for the period 2008-2012 has been set to minus 8 % based on 1990 levels. An evaluation of the latest complete set of greenhouse gas data (for the year 2011; there is only preliminary data for 2012) shows that Slovakia's emissions have decreased on average by 37.1% compared to the Kyoto base year (EEA 2013a). Therefore, Slovakia is going to meet its Kyoto target through domestic emissions reductions directly.

By 2020, Slovakia can increase its emissions not covered by the EU ETS by 13% compared to 2005, according to the Effort Sharing Decision (ESD) <sup>(1)</sup>. The latest data suggest that Slovakia is currently on track to meet this target. According to the 2012 emission estimates, emissions were 15 percentage points below of the Annual Emissions Allocation <sup>(2)</sup> for the year 2013. By 2020, national projections (EEA 2013b) show that Slovakia is expected to significantly overachieve the 2020 target with existing measures by about 37 percentage points (see Table 1) which is the second-highest overachievement among MS (after Cyprus).

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<sup>1</sup>Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

<sup>2</sup>Commission decision of 26 March 2013 on determining Member States' annual emission allocations for the period from 2013 to 2020 pursuant to Decision No 406/2009/EC of the European Parliament and of the Council. Online available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:090:0106:0110:EN:PDF>

**Table I: GHG emission developments, ESD-targets and projections (in Mt CO<sub>2</sub>eq)**

	1990	2005	2010	2011	2012*	ESD target**		2020 Projections***	
						2013	2020	WEM	WAM
Total	71.8	50.6	45.9	45.3	42.5				
Non-ETS (% from 2005)		24.2	24.2	23.1	21.6 -2% -11%	25.1 4%	25.4 13%	17 -24%	17 -26%
Energy supply (% share of total)	16.9 24%	11.7 23%	9.4 20%	9.4 21%					
Energy use (w/o transport) (% share of total)	28.6 40%	15.1 30%	13.8 30%	13.6 30%					
Transport (% share of total)	5.0 7%	6.3 12%	6.7 14%	6.4 14%					
Industrial processes (% share of total)	9.5 13%	9.4 19%	8.6 19%	8.2 18%					
Agriculture (% share of total)	7.1 10%	3.2 6%	3.1 7%	3.1 7%					

Source: UNFCCC inventories; EEA (2013b); Calculations provided by the EEA and own calculations.

\* proxies for 2012

\*\* The ESD target for 2013 and for 2020 refer to different scopes of the ETS: the 2013 target is compared with 2012 data and is therefore consistent with the scope of the ETS from 2008-2012; the 2020 target is compared to 2020 projections and is therefore consistent with the adjusted scope of the ETS from 2013-2020. 2005 non-ETS emissions for the scope of the ETS from 2013-2020 amounted to 22 Mt CO<sub>2</sub>eq.

\*\*\* Projections with existing measures (WEM) or with additional measures (WAM).

Legend for colour coding: green = target is being (over)achieved; orange = not on track to meet the target

Total greenhouse gas emissions (GHG) and shares of GHG do not include emissions and removals from LULUCF (carbon sinks) and emissions from international aviation and international maritime transport.

National projections of GHG emissions up to 2020 need to be prepared by the Member States in accordance with the EU Monitoring Mechanism <sup>(3)</sup> every two years, and the latest submission was due in 2013. The projections need to be prepared reflecting a scenario that estimates total GHG emissions reductions in line with policies and measures that have already been implemented (with existing measures, WEM), and an additional scenario that reflects developments with measures and policies that are in the planning phase (with additional measures, WAM) may also be submitted.

In the following two tables, these measures have been summarised with a focus on national measures and those EU instruments expected to reduce emissions the most. Please note that the table includes also measures that address GHG emissions covered under the ETS such as measures reducing emissions from electricity generation (e.g. feed-in tariffs). An update on the status of the policies and measures is included in order to assess the validity of the scenarios.

<sup>3</sup> Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

**Table 2: Existing and additional measures as stated in the 2013GHG projections**

Existing Measures (only important national measures)		Status of policy in November 2013
Energy	Act N. 137/2010 Coll. on air quality: Defines goals for air quality, the assessment of air quality and the rights and duties of public and middle and large scale of sources in air protection.	The last amendment (Decree 180/2013) to this act came into effect on 1 October 2013. The decree organises the responsibilities of local governments.
	Act N. 309/2009 Coll. on the support of renewable energy sources and high-efficiency combined energy production: Defines specific options of support for renewable electricity, including the timeframe of guaranteed price for purchasing.	The last amendment (Decree 30/2013) to this act came into effect on 1 July 2013 (see: Policy development). The decree implements changes to the support of renewables (see: Chapter 4)
	National action plan for biomass use, Government Resolution of SR No. 130/2008 - NAP Biomass of SR	Implemented for the period 2008-2013
Energy Efficiency	Act N. 555/2005 Coll. on Energy Performance of Buildings: Defines measures leading to improvement of energy efficiency in buildings with the aim to optimize indoor conditions in buildings and reduce CO <sub>2</sub> emissions emitted from building maintenance. Also stipulates the respective competences of public authorities.	The last amendment (Decree 300/2012) to this act came into effect on 1 January 2013 (see: Chapter 4). The decree implements the Council Directive 2010/31/EU into Slovak law.
	Concept on Energy Efficiency in Buildings by 2010 overlooking to 2020, Governmental Resolution of the SR No. 336/2012 - residential 80 kWh/m <sup>2</sup>	Implemented.
	Act N. 476/2008 Coll. on Energy Efficiency: Provides the obligation to develop a concept for a ten year period. This policy defines min. technical requirements for heat insulation of heat and hot water distribution networks, as well as minimum standards of transfer, transport, and distribution of heat.	The last amendment (Decree 69/2013) to this act came into effect 1 June 2013. The amendment regulates the obligations to conduct energy audits.
Transport	Decree N. 362/2010 Coll. determining the requirements for quality of fuels and maintaining the operational evidence on fuels: Defines higher share of biofuel in gasoline and mineral oil, and duty of providing information on the share of biofuels in transport.	The decree came into effect on 15 September 2010. There have been no amendments as of November 2013.
	Regulation N. 655/2007 Coll. on technical conditions to reduce emissions from air conditioning systems in motor vehicles	The regulation came into effect on 1 May 2008. So far, there have been no amendments.

	Act. N. 286/2009 Coll. on fluorinated GHG emissions and on the change and amendment of certain acts (and Decree N. 314/2009 Coll. implementing Act 286/2009 Coll.): Regulates the obligations of handling, products and equipment. Also regulates the sphere of action of the state administration bodies and responsibilities.	The last amendment (Decree 180/2013) to this act came into effect on 1 October 2013. The decree organises the responsibilities of local governments.
Other non-ETS sectors	The Nitrates Directive represents a set of measures to reduce water pollution (surface and underground) caused by nitrates stemming from the application of mineral and farm fertilizers.	Decree 199/2008 as amended by Decree 462/2011. The decree comprises: designation of vulnerable zones (NVZs); elaboration of good agricultural practices and of mandatory action programmes (AP) for the NVZs; 4) water monitoring; 5) revision of NVZ & AP at least every 4 years if necessary(WRI 2012).
	Ordinance of the Government of the Slovak Republic No. 488/2010 Coll. on conditions for granting subsidies in agriculture through direct payments - Soils WEM	Implemented.
	Rural Development Programme for the period of 2014 - 2020	Adopted. The Impact Assessment Procedure mitigates 56 frame targets for specific policies and measures in LULUCF sector.
	Act No. 409/2006 - complete text of the Act. 223/2001 on Waste, fulfilling EU targets in landfilling and share of this waste management in 2030 to 60%. It includes increasing of composting activity	Implemented.

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, May 2013.

Additional measures)	Measures(only important national	Status of policy in November 2013
Energy	Act proposal on carbon capture and storage: Installations are allowed to reduce their emissions from power production through CCS.	On 12 July 2011, Act N. 258/2011 Coll. on carbon capture and storage came into effect. The last amendment (Decree 39/2013) to this act came into effect on 15 March 2013. The law determines the conditions for issuing, updating and withdrawing permits for carbon capture and storage.
Transport	Act No. 158/2011 on Support for Energy-Air pollution from traffic	The EURO 6 standards are expected to be introduced in 2015.

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, May 2013.

One of the most important measures with regard to non-ETS emissions was the implementation of the EU Directive of the energy performance of buildings (Council Directive 2010/31/EU) into Slovak law, which came into effect on 1 January 2013 (see also Chapter 4). Under the scenario with additional measures, a higher impact of the existing measures is mainly assumed. As the most important existing measures are still

implemented or have been updated, a significant overachievement is projected and it is very likely that Slovakia will reach its 2020 target.

### 3 Evaluation of National Reform Programme 2013 (NRP)

In April of each year, Member States are required to prepare their National Reform Programmes (NRPs), which outline the country's progress regarding the targets of the EU 2020 Strategy. The NRPs describe the country's national targets under the Strategy and contain a description of how the country intends to meet these targets. For climate change and energy, three headline targets exist: 1) the reduction of GHG emissions, 2) the increase of renewable energy generation, and 3) an increase in energy efficiency (<sup>4</sup>).

The NRP focuses on policies for energy efficiency and no measures on adaptation are mentioned. As regards renewable energy, the NRP emphasises that support provided to RES has to be reduced in order to meet the set targets in a cost-effective manner, while preventing disproportionate increases in electricity prices.

In the following table, the main policies and measures as outlined in the NRP of April 2013 (<sup>5</sup>) have been summarised, and their current status (implemented, amended, abolished, or expired) is given, with specifics on latest developments.

**Table 3: Main policies and measures as outlined in the NRP, April 2013**

Low-carbon Development Strategy of the Slovak Republic until 2030	
Status as stated in the NRP	A working group was created at the Commission for the Coordination of Climate Change Policies to prepare and coordinate a Slovak adaptation strategy for adverse effects of climate change and a Slovak low-carbon development strategy until 2030. The Low-carbon Development Strategy through 2030 and the Climate Change Adaptation Strategy of the Slovak Republic will be prepared in cooperation with social and economic partners, as well as civic associations.
Status as per Nov 2013	The Strategy has not been published yet.
Description of policy or measure	An overview of the reduction potential of various measures and the expected costs of their implementation will be provided, including an impact study (NRP 2013).

<sup>4</sup>There are specific targets for all MS by 2020 for non-ETS GHG emission reductions (see section 2) as well as for the renewable energy share in the energy mix by 2020 (see section 4, renewable energies). Specific energy efficiency targets will be defined (or revised) by the MS until the end of April 2013 in line with the methodology laid out in Article 3 (3) of the Energy Efficiency Directive (Directive 2012/27/EU).

<sup>5</sup>All NRPs are available at: [http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index\\_en.htm](http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm)

**Redefining the RES support in order to meet the set targets in a cost-effective manner**

Status as stated in the NRP To be implemented.

Status as per Nov 2013 In July 2013, feed-in tariffs for all technologies have been further reduced. Since 1 July, only solar installations up to 30 kW on buildings and rooftops are eligible for support (URSO 2013).

Description of policy or measure The Government will take further steps to eliminate disproportionately high final electricity prices caused by the financial support to RES. Measures adopted so far have tightened the rules on the payment of premium tariffs. These efforts will continue by redefining the support provided to RES in order to meet the set targets in a cost-effective manner, while preventing disproportionate increases in electricity prices. Feed-in tariffs should depend on a development potential of individual types of RES and should be set as a complementary instrument to other environmental measures which may affect RES development (subsidies, ETS) in order to avoid the over-lapping of individual instruments (NRP 2013).

**State Housing Development Fund**

Status as stated in the NRP In order to improve the energy efficiency of the existing residential buildings in urban areas, a credit fund was created during the 2007-2013 programming period. This initiative should continue through to the new 2014 – 2020 programming period.

Status as per Nov 2013 Implemented.

Description of policy or measure The State Housing Development Fund is oriented towards individuals, households and associations of flat owners and can be used in the form of non-repayable grants or favourable loans in order to improve the thermal insulation of residential buildings and apartments. Applications are received on an ongoing basis until the entire amount allocated in the annual budget is spent, but not later than the 31st of December of the respective year (BuildUp 2013).

**Reform of coal production support**

Status as stated in the NRP To be implemented.

Status as per Nov 2013 The support of electricity from domestic coal has been considerably lowered. While consumers were obliged to pay a total sum of € 70.6 million in the final price of electricity to support domestic coal in 2011, in 2013, this fee shall only amount to € 24 m and in 2014 to € 19 m (Ministerstvospravodlivosti 2011).

Description of policy or measure Regarding the emissions reduction target in energy sectors, it is necessary to review subsidies for coal production. Slovakia has been supporting electricity produced from domestic coal since 2005. This is done by refunding the costs of production included in the tariff for electricity supply paid by customers. In 2011, the customers thus paid almost € 71 million more in their bills. On the other hand, coal production and consumption have a detrimental effect on human health and pose an excessive burden on the environment (NRP 2013).  
Therefore, the Slovak Government will seek optimal ways to support coal production in Slovakia in the future, with the aim of minimising the impacts on the final price of electricity for households and businesses and on the environment (NRP 2013).

## 4 Policy development

This section covers significant developments made in key policy areas between February 2013 and November 2013. It does not attempt to describe every instrument in the given thematic area.

### Horizontal Issues

The Ministry of Environment launched a new call (Call OPŽP-PO3-13-1) within the Operational Environment Programme (Operačný program Životnéprostredie) under the priority axis “Air Pollution Control and minimisation of adverse impacts of climate change”. The objective of the call is to improve the National Emission Information System (NEIS) and support projects aimed at air quality monitoring, as well as projects to improve the monitoring and projection of GHG emissions. The call was closed on 26 April 2013. The indicative amount of funds allocated for this call was € 807,222 from the ERDF and the state budget (OPŽP 2013).

### Environmental Taxation

In Slovakia, the share of environmental tax revenues in total tax revenues amounted to 6.46% in 2011, slightly more than the EU average. However, in proportion to the country's GDP, these revenues reach a value of 1.84%, which is the fifth-lowest percentage in the EU. Slovakia is considering introducing a carbon tax, according to its 2011 NRP, but no further progress has been made in this regard. As of 2011, the country has an implicit tax rate of 48.5 € per tonne of oil equivalent. Slovakia's economy was the fifth-highest energy intense economy in 2010. The share of energy tax revenues in total tax revenues in Slovakia is moderate (Eurostat 2013a).

According to the Stability Programme for 2013-2016 (*Program stability Slovenskej republiky naroky 2013 až 2016*), which was released in April 2013, the Slovak Ministry of Finance is considering abolishing several exemptions from energy taxes in order to generate additional revenues for the state budget. According to the Ministry, the abolition of the high number of optional, i.e. voluntary, energy tax exemptions for electricity, coal or natural gas would result in an increase in revenue of about € 50 million annually (Program stability 2013). At the same time, however, the Ministry does not foresee a significant increase in energy taxes, stating that this measure would pose a disproportionate burden on low-income households. Also an increase in the excise tax on fuel is not planned during the scheduled period since increasing prices for petrol and diesel could endanger Slovakia's competitiveness in the region. Instead, according to the Ministry, the subsidies for renewable energy and coal should be reassessed in order to minimise negative impacts on electricity prices while meeting the EU targets (Energia 2013c).

The introduction of a carbon tax for the non-ETS sector was considered in the 2012 National Reform Programme (NRP), but it was not mentioned in the 2013 NRP and no progress has been made in this regard. However, in contrast to previous years, the support of electricity generated from domestic coal will be decreased. While electricity consumers were obliged to pay a total sum of € 70.6 million in 2011 to support domestic coal; this fee shall be reduced to € 24 million in 2013 and € 19 million in 2014 (Ministerstvospravodlivosti 2011).

## Energy Generation

As previously mentioned, the “Energy Policy of the Slovak Republic” strategy (*Energetická politika SR*) is expected to be approved by the Government in December 2013, defining the objectives and priorities of the energy sector until 2035, with an outlook to 2050. Among others, the “Energy Policy” envisages the construction of a new nuclear power plant in Bohunice with an installed capacity of 2,400 MW until 2025. Furthermore, the Energy Policy foresees a hydro power plant in Sereď, which shall annually produce 180 GWh of electricity, and a pumped storage hydro power plant in Ipeľ with an installed capacity of 600 MW (Energia 2013n). According to the Ministry, “the commissioning of these energy sources will require a relevant expansion of the internal electricity system, as well as cross-border links, so that electricity can be produced reliably either for domestic consumers or for export” (Energia 2013d). The last “Energy Policy of the Slovak Republic” strategy was approved in 2008.

The Slovak Government and the Italian company Enel agreed to increase the budget for the completion of the Mochovce nuclear power plant by € 260 million to a new total of € 3.26 billion in July 2013. This decision followed the fact that the original budget request of € 800 million was not met resulting in a complaint made by the Slovak Government against Enel for exceeding both the original budget and time schedule. The Slovak Government’s agreement to increase funding resulted from the fact that the construction of the nuclear power plant was the largest private investment in Slovakia’s history and its termination would have resulted in the loss of many jobs and would have led to a shortfall in public finances (EurActiv 2013a).

On 15 July 2013 the power utility company E.ON announced plans to mothball its combined-cycle gas turbine (CCGT) in Malženice by October 2013. In an official release, E.ON stated the CCGT could no longer operate profitably considering the low electricity and carbon prices in Europe. According to the utility company, “the unmanaged, heavily subsidized growth of renewables and the resulting collapse of the EU emissions trading scheme are rendering, in particular, gas-fired power plants in Europe largely uneconomic to operate.” The gas turbine in Malženice was put into operation in January 2011. It has a gross generating capacity of 430 MW. Nevertheless, it has only operated for about 5,600 hours in the past 30 months. Originally, the plant was supposed to operate for at least 4,000 to 5,000 hours per year (E.ON 2013).

## Energy Efficiency

As mentioned above, Slovakia’s economy exhibits high energy intensity and is, despite major efforts, still the fifth-most energy intense economy in the EU. However, between 2005 and 2011, Slovakia was able to reduce the energy intensity of its economy by 30%, a rate greater than that of any other MS. Energy consumption was also reduced over the same time span by 3%. From 2010 to 2011 reductions were even higher (-7%) and above the EU average of 4% (Eurostat 2013a).

After a long phase of stagnation, energy efficiency improved in Slovakia’s industrial sector between 2005 and 2008, but since 2009 progress has reversed due to the financial crisis. The steel industry, which is the biggest energy consumer, has been mainly responsible for this development. In contrast, efficiency improved substantially in other, minor branches such as the chemicals industry (70%). Efficiency improvements in the household sector have been rather slow with an increase of only 2.5% between 2000 and 2010 (Odyssee 2012).

The law on energy performance of buildings (Act N. 555/2005) is the main instrument to reduce GHG emissions from buildings until to 2020 (see national GHG projections). Act No. 300/2012 recently provided a regulation on energy performance certificates (EPC) for buildings. The legislative changes took effect as of January 2013, and they set standards for the compilation of EPCs in order to improve their quality. Different energy efficiency classes will help both property owners and purchasers classify the energetic status of the building and related expenditures for energy consumption. Buildings that are obliged to provide an energy performance certificate as well as an energy efficiency label include public buildings with a total floor area of more than 500 m<sup>2</sup> owned by a public authority and frequently visited by the public (SIEA 2012a). Furthermore, energy certification is required for buildings or separate parts of a building that are sold or rented to a new tenant, as well as all newly constructed buildings or all buildings that have undergone major renovation (SIEA 2012f).

The Operational Programme Competitiveness and Economic Growth (*Operačný program Konkurencieschopnosť a hospodársky rast*) under the call KaHR-111SP-1201 provided new financial support for energy efficiency measures. On 21 December 2012, the Ministry of Economy launched a call for the submission of application for grants under the sub-measure 1.1.1 – *Innovation support and technology transfer*. The objective of the call was to support the private sector in order to increase innovative activities and ensure technology transfer to companies. The support shall also contribute to reducing the energy intensity of production, reducing environmental impacts of industrial activities and increasing the efficiency of production. The deadline for applications was 3 April 2013. The indicative amount of funds allocated for this call is € 110 million (SIEA 2012c).

In addition, more frequent inspections of biomass- and biogas-fired boilers have been introduced by Act No. 314/2012 Z.z. in order to improve the operation of these devices, allowing owners to reduce fuel consumption and therefore contribute to environmental protection and resource efficiency. Owners or operators of these systems can be fined if they fail to ensure an on-time inspection. As of 01 January 2013, owners of non-production buildings using heating systems with boilers for biomass and biogas have to ensure shorter intervals for the regular monitoring of these devices. The control intervals for boilers with an output of more than 100 kW must take place every 2 years rather than 6, as before. Boilers with capacities of 30-100 kW must be inspected every 6 years and boilers with 20-30 kW every 12 years; an inspection interval of 15 years applies to residential buildings (SIEA 2012b).

In April 2013, the European Bank for Reconstruction and Development (EBRD) declared their support for more sustainable energy consumption in Slovakia with a € 15 million loan to one of Slovakia's leading banks, the Všeobecná úverová banka (VUB). The funds will be on-loan to municipal borrowers, private municipal service providers, energy service companies and housing associations for energy efficiency projects. Furthermore, the loan will be complemented by technical assistance provided by the EU/EBRD Municipal Finance Facility for Energy Efficiency. This facility aims at reducing the country's energy intensity and high dependency on gas and oil imports (EBRD 2013).

Between 2013 and 2018, the capital of Slovakia, Bratislava, will receive financial support under the "European cities as leaders" project, for which the Commission has allocated € 16 million. Bratislava was the only city in Eastern Europe selected in the framework of the EUGUGLE project ("European Cities Serving as Green Urban Gate towards Leadership in Sustainable Energy"). The project aims to increase energy efficiency and reduce

energy consumption in select buildings. In Bratislava, the project envisions the renovation of residential buildings with a total floor area of 40,000 m<sup>2</sup>. The support will only be granted if the buildings reach the energy efficiency criteria that will be applicable to Slovakia in 2016 (EurActiv 2013).

### Renewable Energy

Energy from renewable sources amounted to 9.7% of total energy consumption in 2011 and the country is on track to meet its 2020 target of 14% according to its National Renewable Energy Action Plan (NREAP) (EEA 2013c). In the electricity sector, the proportion of final consumption that is produced from renewable sources hovered around 15-16% for most of the 2000s and reached 19.8% in 2011 (Eurostat 2013b). Renewable energy electricity generation is dominated by hydro with a small contribution of biomass. Other renewable energies did not play any role until mid-2011, when the PV sector increased sharply after several large scale installations were connected to the grid (RES Integration 2011). Regarding the generation of heat from renewable sources, biomass accounts for the highest proportion. However, the use of biomass in Slovakia is still minimal in comparison to other EU countries (FES 2012).

In December 2012, the Slovak Government proposed an amendment to the Renewable Energy Act (*Zákon č. 309/2009 o podpore obnoviteľných zdrojov energie*), which was approved by Parliament on 29 January 2013. According to this amendment, from 1 July 2013, the feed-in tariff only applies to photovoltaic installations on buildings with a maximum capacity of 30 kW. All larger installations are no longer covered by the support mechanism. Slovak decision makers argued that this proposal would “reduce unfair practices of some electricity producers” and “reduce the impact on the end user of electricity” (Energia 2013c). It must be noted that electricity prices for households were rather stable since 2010 according to Eurostat (2013c). In addition, the Slovak Association of Photovoltaic Industry (SAPI) is concerned that the amendment will jeopardize the Slovak PV industry (SAPI 2012).

Feed-in tariffs for all technologies were reduced on 1 July 2013 and will be subject to another reduction on 1 January 2014. Beginning in 2014, the following feed-in tariffs will apply:

Technology	New feed-in tariff
PV up to 30 kW	€ct 9.894 per kWh
Wind	€ct 7.03 per kWh
Hydro up to 5 MW	€ct 9.798 – 11.127 per kWh
Geothermal	€ct 15.513 per kWh
Biomass	€ct 9.209 – 12.61 per kWh
Biogas	€ct 7.034 – 12.262 per kWh

Source: ÚRSO 2013

For small-scale renewable energy generation plants up to 10 kW a development plan (*Koncepcia rozvoja výroby elektriny z malých obnoviteľných zdrojov energie v SR*) was approved by the Slovak Government on 3 July 2013. The development plan was prepared in cooperation with the Minister of Economy and the President of the regulatory authority ÚRSO and intends to reduce the administrative barriers for small renewable

energy installations. Furthermore, it includes plans to make certain micro-regions more energy independent through the diversification of energy sources (Energia 2013i).

On 22 October 2013, the Slovak Parliament approved an amendment to the Act on the Promotion of Renewable Energy Sources (*Zákon o podpore obnoviteľných zdrojov energie*). The amendment changes the conditions for the promotion of CHP plants with capacities of more than 125 MW and raises the current minimum share of renewable energy from 20% to 30%. Furthermore, renewable energy producers (except wind power plants) are now entitled to receive the preferential feed-in tariffs for the first 5 MW (rather than 10 MW) of electricity supplied to the grid. However, plants with higher capacities can still receive the entire support, provided that they combine electricity and heat production. In addition, gases generated as by-products of metallurgical production processes may also be supported, which according to the Ministry of Economy aims to promote domestic energy sources to reduce the dependence on imports of primary energy sources (CFO, 2013).

The amendment has been met with some criticism as it is linked to the company U.S. Steel that demanded concessions from Slovakia on energy and the environment or threatened to leave the country. U.S. Steel is Slovakia's largest private employer and central to the nation's car industry (Reuters, 2013).

However, it is worth noting that the amendment also intends to simplify the connection process for small renewable energy installations up to 10 kW. These producers shall be guaranteed a free connection to the distribution grid at existing delivery points and distribution system operators shall provide for the free installation of a bi-directional meter measuring the amount of electricity taken from and fed into the grid. These measures shall support installations in households which do not require support through a feed-in tariff but that cover a large part of the energy consumption (Energia, 2013m).

### **Energy Networks**

In 2013, the Slovak transmission system operator SEPS was planning to invest € 95.9 million in the reconstruction and development of the transmission grid. Compared to 2012, when the company spent € 41.6 million, the volume of investments has more than doubled. According to the Executive Director of Management Support, Igor Gallo, the investment plan for 2013 is mainly focused on continuing and completing the contracts commenced in previous years (Energia 2013e).

On 19 June 2013, representatives of the regulatory authorities of Slovakia, Poland, Hungary and the Czech Republic (the Visegrad Four), decided at their first joint meeting to establish a permanent forum on energy regulation issues in order to strengthen the existing cooperation in several "projects of common interest". This decision was initiated by the chairwoman of the Energy Regulator Office ERÚ in the Czech Republic (The Daily 2013).

### **Transport**

Emissions from transport have increased between 1990 and 2011, but showed a downward trend in 2011. However, their proportion among Slovakia's total emissions has increased to 14% (Table 1). Average emissions for newly registered cars are the 9<sup>th</sup> highest in the EU with a level of 140.9 gCO<sub>2</sub>/km. Average emissions in Slovakia have decreased at a lower rate than the EU average between 2005 and 2012 (Eurostat 2013a). This might be influenced by the fact that no registration tax applies and that an

ownership tax – which is rather low compared to other EU MS - applies only to vehicles used for business purposes, based on weight and number of axles but not on CO<sub>2</sub> emissions. Additionally, Slovakia levies an annual vignette for cars, and a distance-based road toll for HDVs on specific highways (ACEA 2012, CE Delft 2012). Petrol tax rates are at EU average. However, diesel is taxed at a much lower rate, well below the EU average (European Commission 2013).

There are two different biofuel targets for the Slovak transport sector: one type of target is for the biofuel energy content share, which is calculated from the energy content of the total quantity of petrol and diesel fuels placed on the market, and the other type of target pertains to the minimum content of biofuels in each litre of a particular type of fuel (diesel and petrol). As of 1 January 2013, the obligatory biofuel content share amounts to 4%. While the minimum volume for biodiesel in diesel was set to 5.4%, the bioethanol component in petrol was raised to 3.3% <sup>(6)</sup>.

The Slovak Association for Electromobility (SEVA), established in 2012, published a paper titled *Background of the proposal for an electromobility development strategy in the Slovak Republic* in March 2013 that was subsequently adopted by the Ministry of Economy. The adopted strategy seeks to identify the potential for electromobility in Slovakia. It is primarily aimed at increasing competitiveness, fostering innovation, and creating new jobs.

On 21 September 2013 a joint memorandum between the capital city of Bratislava and SEVA was signed, marking agreement on several points related to e-mobility and electric vehicles. The city of Bratislava plans to propose and implement support measures (Energia 2013g).

## **Waste**

On 19 November 2013, the European Parliament approved a new regulation which will extend EU financial aid to help Slovakia complete the decommissioning of the Bohunice nuclear power plant. "Decommissioning" covers all the activities that take place after reactors are shut down. Decommissioning can include the removal and the final disposal of spent fuel elements, decontamination, dismantling, demolition of the nuclear installations, disposal of remaining radioactive waste materials, and environmental restoration of contaminated sites. Overall, €225 million of subsidies will be made available for Bohunice. However, in order to qualify for this aid, Slovakia will have to meet certain conditions, including fully transposing the Nuclear Safety Directive into national law (EurActiv 2013b).

It is important to note that many Slovak companies are not considering investing in the use of waste due to the fact that frequent legislative changes have occurred in the Slovak heating sector, which in turn has led to a lack of investment security (Energia 2013h). As a result, only few investments are taken in waste projects but also in renewable energy projects and the distribution grid.

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<sup>6</sup>Zákon 309/2009 Z.z. o podpore obnoviteľných zdrojov energie

## 5 Policy progress on past CSRs

As part of the European Semester, Country Specific Recommendations (CSRs) for each MS are provided by the EU Commission in June of each year for consideration and endorsement by the European Council). The recommendations are designed to address the major challenges facing each country in relation to the targets outlined in the EU 2020 Strategy. In the following table, those CSRs that are relevant for climate change and energy that were adopted in 2013 are listed, and their progress towards their implementation is assessed.

Existing Country Specific Recommendations	Progress
Strengthen interconnections with neighbouring countries.	<p>Slovakia has interconnections to its neighbouring countries besides Austria. The EU Commission considers important to increase the connection capacity especially to Hungary (COM 2013). No specific actions have taken place in this regard. However, on 19 June 2013, representatives of the regulatory authorities of Slovakia, Poland, Hungary and the Czech Republic, decided to establish a permanent forum on energy regulation issues in order to strengthen the existing cooperation in several “projects of common interest” (The Daily 2013).</p>
Improve energy efficiency in particular in buildings and industry.	<p>Act No. 300/2012 provided a regulation on energy performance certificates (EPC) for buildings, which took effect in January 2013. Buildings that are obliged to provide an EPC as well as an energy efficiency label include public buildings with a total floor area of more than 500 m<sup>2</sup> owned by a public authority and frequently visited by the public. Furthermore, energy certification is required for buildings or separate parts of a building that are sold or rented to a new tenant, as well as all newly constructed buildings or all buildings that have undergone major renovation (SIEA 2012f).</p> <p>New financial support for energy efficiency measures, in combination with competitiveness, is provided by the OP Competitiveness and Economic Growth. On 21 December 2012, the Ministry of Economy launched a call to support the private sector in order to increase innovative activities and ensure technology transfer to companies. The support shall also contribute to reducing the energy intensity of production, reducing environmental impacts of industrial activities and increasing the efficiency of production. The deadline for applications was 3 April 2013. The indicative amount of funds allocated for this call is € 110 million (SIEA 2012c).</p>

## 6 References

- ACEA (European Automobile Manufacturer's Association) (2012). Taxation Guide 2012: Online available at: <http://yourfleet.volvocars.com/media/45427/taxguide2012.pdf>
- Act No. 98/2004 (Zákon o spotrebnej dani z minerálneho oleja). Available at: <http://www.zakonypreludi.sk/zz/2004-98>
- Bankwatch (2012): The devil in the details: Europe's low-carbon economy dream. Available at: <http://bankwatch.org/node/9859>
- BuildUp (2013): Štátny fond rozvoja bývania (State Housing Development Fund) – Slovakia. Available at: <http://www.buildup.eu/de/links/36157>
- Climate Policy Tracker (2011): Slovakia. Available at: <http://www.climatepolicytracker.eu/sites/all/files/Slovakia2011.pdf>
- CE Delft (2012): An inventory of measures for internalising external costs in transport. Final report. European Commission, Directorate-General for Mobility and Transport
- CFO (2013): Parlament schválil novelu zákona o podpore obnoviteľných zdrojov energie. Available at: [http://www.cfo.sk/articles/parlament-schvalil-novelu-zakona-o-podpore-obnovitelnych-zdrojov-energie#.UrGEt\\_TuKck](http://www.cfo.sk/articles/parlament-schvalil-novelu-zakona-o-podpore-obnovitelnych-zdrojov-energie#.UrGEt_TuKck)
- COM (EU Commission) (2013): Commission delegated regulation (EU) No .../. of 14.10.2013 amending Regulation (EU) No 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure as regards the Union list of projects of common interest.
- EBRD (2013): EBRD supporting energy efficiency in Slovak Republic. Available at: <http://www.ebrd.com/pages/news/press/2013/130411.shtml>
- EEA (2012): Greenhouse gas emission trends and projections in Europe 2012 - Tracking progress towards Kyoto and 2020 targets. EEA Report No 6/2012. Online available at: <http://www.eea.europa.eu/publications/ghg-trends-and-projections-2012>
- EEA (2013a): EEA greenhouse gas - data viewer: Change in emissions by country (%), Kyoto base year - 2011. Online available at: <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>
- EEA (2013b): Trends and projections in Europe 2013. Tracking progress towards Europe's climate and energy targets until 2020. EEA Report No 10/2013. Online available at: <http://www.eea.europa.eu/publications/trends-and-projections-2013>
- EEA (2013c): Climate and energy country profiles - Key facts and figures for EEA member countries. EEA Technical report No 17/2013. Online available: <http://www.eea.europa.eu/publications/climate-and-energy-country-profiles>
- Energia (2013b): Fico: Dostavba Mochoviec je už v dvojročnom sklze. Available at: <http://www.energia.sk/spravodajstvo/elektrina-a-elektromobilita/fico-dostavba-mochoviec-je-uz-v-dvojrocnom-sklze-2/9461/>
- Energia (2013c): Ministerstvo financií uvažuje na zrušení výnimiek pri energetických daniach. Available at: <http://www.energia.sk/spravodajstvo/legislativa-a-regulacia/ministerstvo-financii-uvažuje-na-zrusenim-vynimiek-pri-energetickych-daniach/10124/>
- Energia (2013d): S výstavbou novej jadrovej elektrárne sa počíta aj v EP. Available at: <http://www.energia.sk/spravodajstvo/jadrova-energia/s-vystavbou-novej-jadrovej-elektarne-sa-pocita-aj-v-ep/10362/>

- Energia (2013e): SEPS plánuje tento rok preinvestovať takmer 96 mil. Eur. Available at:<http://www.energia.sk/spravodajstvo/elektrina-a-elektromobilita/seps-planuje-tento-rok-preinvestovat-takmer-96-mil-eur/9556/>
- Energia (2013f): Konceptiu rozvoja elektromobility už schválilo aj Slovensko. Available at:<http://www.energia.sk/spravodajstvo/elektrina-a-elektromobilita/koncepciu-rozvoja-elektromobility-uz-schvalilo-aj-slovensko/10267/>
- Energia (2013g): Bratislava chce rozvíjať e-mobilitu. Available at:<http://www.energia.sk/spravodajstvo/elektrina-a-elektromobilita/bratislava-chce-rozvijat-emobilitu/11350/>
- Energia (2013h): Slováci sa odpadov desia, nevidia v nich potenciálny zdroj energie. Available at:<http://www.energia.sk/tema/zemny-plyn-a-teplo/slovaci-sa-odpadov-desia-nevidia-v-nich-potencialny-zdroj-energie/10162/>
- Energia (2013i): Vláda: Vážny má pripraviť koncepciu rozvoja výroby elektriny z OZE do 10 kW. Available at:<http://www.energia.sk/spravodajstvo/obnovitelne-zdroje/vlada-vazny-ma-pripravit-koncepciu-rozvoja-vyroby-elektriny-z-oze-do-10-kw/9540/>
- Energia (2013j): Dotácie na slnečné kolektory by sa mohli obnoviť. Available at:<http://www.energia.sk/spravodajstvo/obnovitelne-zdroje/dotacie-na-slnečne-kolektory-by-sa-mohli-obnovit/9963/>
- Energia (2013k): Kúpu slnečných kolektorov už stat zrejme nepodporí. Available at:<http://www.energia.sk/spravodajstvo/obnovitelne-zdroje/kupu-slnečných-kolektorov-uz-stat-zrejme-nepodpori/10431/>
- Energia (2013l): Na Slovenskuvraje nehrozí “bioplynový boom“. Available at:<http://www.energia.sk/spravodajstvo/obnovitelne-zdroje/na-slovensku-vraj-nehrozi-bioplynovy-boom/9969/>
- Energia (2013m): Fotovolticividia v novele o OZE ajpozitíva. Available at:<http://www.energia.sk/spravodajstvo/obnovitelne-zdroje/fotovoltici-vidia-v-novele-o-oze-aj-pozitiva/11624/>
- Energia (2013n): Nováenergetickápolitikapomalysmeruje do vlády. Available at:<http://www.energia.sk/spravodajstvo/legislativa-a-regulacia/nova-energeticka-politika-pomaly-smeruje-do-vlady/11810/>
- E.ON (2013): Combined-cycle gas turbine in Malzenice, Slovakia, to be mothballed. Available at:<http://www.eon.com/en/media/news/press-releases/2013/7/15/gas--und-dampfkraftwerk-im-slowakischen-malzenice-geht-in-kaltres.html>
- EurActiv (2013): Bratislava zvýši energetickú hospodárnosť budov. Available at:<http://www.euractiv.sk/energetika/clanok/bratislava-ziskala-financie-na-zvysenie-energetickej-hospodarnosti-budov-021523>
- EurActiv (2013a): Vláda schválila čiastočné zvýšenie rozpočtu dostavby Mochoviec. Available at:<http://www.euractiv.sk/energetika/clanok/vlada-schvalila-ciastocne-zvysenie-rozpocetu-dostavby-mochoviec-021378>
- EurActiv (2013b): Slovensko dostane ďalšie peniaze na vyradovanie Bohunic. Available at:<http://www.euractiv.sk/energetika/clanok/slovensko-dostane-dalsie-peniaze-na-vyradovanie-bohunic-021762>
- Europe2020 (2012): Green Jobs: Employment potential and challenges. Available at:[http://ec.europa.eu/europe2020/pdf/themes/green\\_jobs.pdf](http://ec.europa.eu/europe2020/pdf/themes/green_jobs.pdf)
- European Commission (2013): Excise duty tables. Part II – Energy products and Electricity. RED 1036. January 2013. DG Taxation.

- Eurostat (2013a): Source of data is Eurostat using the following tables: Implicit tax rate on energy (tsdcc360). Energy intensity of the economy (tsdec360). Final energy consumption (ten00095). Share of renewable energy in gross final energy consumption (t2020\_31). Average carbon dioxide emissions per km from new passenger cars (tsdtr450). Final energy consumption by sector (tsdpc320). Greenhouse gas emissions by sector (tsdcc210). Environmental tax revenues - % of total revenues from taxes and social contributions (ten00064). Total environmental tax revenues as a share of GDP (ten00065).
- Eurostat (2013b): Shares 2011 – Short assessment of renewable energy sources. Last update: 11 June 2013 including the latest data on renewable energy generation. Online available at: [http://epp.eurostat.ec.europa.eu/portal/page/portal/energy/other\\_documents](http://epp.eurostat.ec.europa.eu/portal/page/portal/energy/other_documents)
- Eurostat (2013c): Electricity prices for domestic consumers, from 2007 onwards - bi-annual data [nrg\_pc\_204] Last update: 17-12-2013. Online available at: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>
- FES (2012): Resource Efficiency Gains and Green Growth Perspectives in Slovakia. Available at: <http://library.fes.de/pdf-files/id-moe/09379.pdf>
- MFSR (2012): Národný program reforiem Slovenskej republiky 2012. Available at: [http://www.finance.gov.sk/Components/CategoryDocuments/s\\_LoadDocument.aspx?categoryId=8046&documentId=7359](http://www.finance.gov.sk/Components/CategoryDocuments/s_LoadDocument.aspx?categoryId=8046&documentId=7359)
- Ministerstvo spravodlivosti (2011): Analýza fungovania štátnej podpory baníctva, Available at: [https://lt.justice.gov.sk/Attachment/Anal%C3%BDza\\_vlastn%C3%BD%20materie%C3%A1I\\_doc.pdf?instEID=191&attEID=33275&docEID=161187&matEID=3698&langEID=1&tStamp=20110401122047233](https://lt.justice.gov.sk/Attachment/Anal%C3%BDza_vlastn%C3%BD%20materie%C3%A1I_doc.pdf?instEID=191&attEID=33275&docEID=161187&matEID=3698&langEID=1&tStamp=20110401122047233)
- Odyssee (2012): Energy Efficiency in the EU - Country Profiles and National Reports. Online available at: [http://www.odyssee-indicators.org/publications/country\\_profiles.php](http://www.odyssee-indicators.org/publications/country_profiles.php) and [http://www.odyssee-indicators.org/publications/national\\_reports.php](http://www.odyssee-indicators.org/publications/national_reports.php)
- OECD (2013): Taxing Energy Use. A graphical analysis. OECD Publishing.
- OPŽP (2013): Výzva OPŽP-PO3-13-1. Available at: [http://www.opzp.sk/wp-content/uploads/01\\_Vyzva-OPZP-PO3-13-1.pdf](http://www.opzp.sk/wp-content/uploads/01_Vyzva-OPZP-PO3-13-1.pdf)
- Pravda (2013): Štát zvažuje dodatočné zdanenie výrobcov zelenej energie. Available at: <http://spravy.pravda.sk/ekonomika/clanok/281319-stat-zvazuje-dodatocne-zdanenie-vyrobcov-zelenej-energie/>
- Program stability (2013): Program stability Slovenskej republiky na roky 2013 až 2016. Available at: [https://lt.justice.gov.sk/\(X\(1\)S\(ev0jd1a23grebj45fnfu3bzq\)\)/Attachment/material.pdf?instEID=-1&attEID=53621&docEID=300752&matEID=6084&langEID=1&tStamp=20130415195605093](https://lt.justice.gov.sk/(X(1)S(ev0jd1a23grebj45fnfu3bzq))/Attachment/material.pdf?instEID=-1&attEID=53621&docEID=300752&matEID=6084&langEID=1&tStamp=20130415195605093)
- Regulation No. 440/2012. Available at: <http://www.zakonypreludi.sk/zz/2012-440>
- Reporting of Member States in accordance with Decision No 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community GHG emissions and for implementing the Kyoto Protocol. Last submission: May 2013. Overview on policies and measures available at the website of the EEA: <http://www.eea.europa.eu/data-and-maps/pam>
- Reuters (2013): US Steel to stay in Slovakia for at least 5 years. Available at: <http://www.reuters.com/article/2013/03/26/slovakia-ussteel-idUSL5N0CI20Q20130326>
- SAPI (2012): ÚRSO schované za MHSR opäť likviduje solárny priemysel. Available at: <http://www.sapi.sk/news/urso-v-zastupeni-mhsr-/>

- SIEA (2012a): Bezplatné energetické poradenstvo ŽIŤ ENERGIU. Available at: [http://www.siea.sk/materials/files/poradenstvo/publikacie/letaky/dl\\_letaky/SIEA\\_letak\\_certifikacia\\_kontrola\\_kotlov.pdf](http://www.siea.sk/materials/files/poradenstvo/publikacie/letaky/dl_letaky/SIEA_letak_certifikacia_kontrola_kotlov.pdf)
- SIEA (2012b): Energia pre budovy podľa nových pravidiel. Available at: [www.siea.sk/uvod-aktuality/c-3356/energia-pre-budovy-podla-novych-pravidiel/](http://www.siea.sk/uvod-aktuality/c-3356/energia-pre-budovy-podla-novych-pravidiel/)
- SIEA (2012c): Výzva KaHR – 111SP-1201. Available at: <http://www.siea.sk/uskutocnene-vyzvy-podla-terminu-zverejnenia/c-3447/vyzva-kahr-111sp-1201/>
- SIEA (2012d): Výzva KaHR–13SP–1201. Available at: <http://www.siea.sk/uskutocnene-vyzvy-podla-terminu-zverejnenia/c-2825/vyzva-kahr-13sp-1201/>
- SIEA (2012e): Zákon č. 314/2012 Z. z. – kontrola kotlov. Available at: <http://www.siea.sk/clanky-legislativa/c-396/zakon-c-314-2012-z-z-kontrola-kotlov/>
- SIEA (2012f): Zákon č. 555/2005 Z. z. – Energetická certifikácia budov. Available at: <http://www.siea.sk/clanky-legislativa/c-432/zakon-c-555-2005-z-z-energeticka-certifikacia-budov/>
- Slovenský rozhlas (2013): Novela o podpore obnoviteľných zdrojov energií je na svete. Available at: <http://www.rozhlas.sk/radio-international-sk/tema-dna/Novela-o-podpore-obnovitelnych-zdrojov-energii-je-na-svete?l=2&i=56932&p=1>
- Slovak Ministry of Finance (2012): Information on the Implementation of the National Reform Programme, November 2012. Available at: [http://www.rokovania.sk/File.aspx/ViewDocumentHtml/Mater-Dokum-150827?prefixFile=m\\_](http://www.rokovania.sk/File.aspx/ViewDocumentHtml/Mater-Dokum-150827?prefixFile=m_)
- The Daily (2013): V4 Energy Regulators Come Together. Available at: <http://www.thedaily.sk/v4-energy-regulators-come-together/>
- UNFCCC (2012) Reports on in-depth reviews of the fifth national communications of Annex I Parties. Available at: [http://unfccc.int/national\\_reports/annex\\_i\\_natcom/idr\\_reports/items/4056.php](http://unfccc.int/national_reports/annex_i_natcom/idr_reports/items/4056.php)
- UNFCCC inventory (1990-2011): National greenhouse gas inventories (IPCC Common Reporting Format sector classification). Online available for the EU: <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer> (Last modified: May 29, 2013 09:30 AM )
- UNDP (2012): Renewable energy in Slovakia: problems and prospects. Available at: <http://europeandcis.undp.org/ourwork/environment/show/AEA42619-F203-1EE9-BC5C3AA170C8DE7D>
- URSO (2012b): Zákon č. 250/2012 o regulácii v sieťových odvetviach. Available at: [http://www.urso.gov.sk/doc/legislativa/z\\_250-2012\\_sk.pdf](http://www.urso.gov.sk/doc/legislativa/z_250-2012_sk.pdf)
- URSO (2012c): Zákon č. 251/2012 o energetike. Available at: [http://www.urso.gov.sk/doc/legislativa/z\\_251-2012\\_sk.pdf](http://www.urso.gov.sk/doc/legislativa/z_251-2012_sk.pdf)
- URSO (2013): Vyhláška č. 221/2012. Available at: [http://www.urso.gov.sk/sites/default/files/vyhl\\_221-2013.pdf](http://www.urso.gov.sk/sites/default/files/vyhl_221-2013.pdf)
- World Nuclear Association (2012): Nuclear Power in Slovakia. Available at: <http://www.world-nuclear.org/info/inf91.html>
- WRI (2012): Implementation of Nitrate Directive in Slovak Republic. Available at: [http://www.icpdr.org/main/sites/default/files/nodes/documents/nitrate\\_directive\\_in\\_sk\\_kunikova\\_bujonski.pdf](http://www.icpdr.org/main/sites/default/files/nodes/documents/nitrate_directive_in_sk_kunikova_bujonski.pdf)
- Zákon 309/2009 Z.z. o podpore obnoviteľných zdrojov energie a vysokoúčinnej kombinovanej výroby. Available at: [http://www.energoforum.sk/EnergoforumPortal/Data/Documents/Public/Legislation/Sk/309\\_2009\\_novela\\_136\\_2011.pdf?v1](http://www.energoforum.sk/EnergoforumPortal/Data/Documents/Public/Legislation/Sk/309_2009_novela_136_2011.pdf?v1)