

## **Annual report on progress achieved towards national energy efficiency targets for 2015**

Every year, the Slovak Ministry of the Economy draws up an annual report on the progress achieved towards the national energy efficiency targets during the preceding calendar year, pursuant to Section 4(1)(d) of Act No 321/2014 on energy efficiency<sup>1</sup> and in accordance with Article 24(1) and with Annex XIV, Part 1, of Directive 2012/27/EU on energy efficiency.<sup>2</sup> The report contains a basic update on progress towards meeting energy savings targets and on compliance with other provisions of Directive 2012/27/EU.

The purpose of the annual report is to provide a yearly evaluation of compliance with the energy savings targets set by Slovakia on the basis of Directive 2012/27/EU, and of the fulfilment of obligations under that Directive, notably:

- an evaluation of progress towards meeting the national indicative energy efficiency target for 2020 in the form of an absolute value for primary energy consumption and final energy consumption, as provided for in Section 5(1)(c) of Act No 321/2014;
- an evaluation of progress towards meeting the final consumer energy savings target, as provided for in Section 5(1)(b) of Act No 321/2014;
- an evaluation of progress towards meeting the energy savings target for buildings, as provided for in Section 10(3)(a) of Act No 321/2014;
- the provision of basic statistics on energy consumption in Slovakia and selected statistical indicators for previous available years;
- updates on legislative and non-legislative measures implemented in the previous year which contribute towards meeting the national target as provided for in Section 5(1)(c) of Act No 321/2014.

The content of the annual report is consistent with Part 1 of Annex XIV to Directive 2012/27/EU.

### **1. Basic energy efficiency statistics**

Basic energy consumption statistics are provided for the previous two calendar years, as required by Directive 2012/27/EU on energy efficiency (see Table 1). Where national (ŠÚSR) statistics differ from Eurostat data, statistics from both sources are provided. Table 1 also contains revised data for 2013.

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<sup>1</sup> Act No 321/2014 of 21 October 2014 on energy efficiency and amending certain acts.

<sup>2</sup> Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012), as amended by Council Directive 2013/12/EU of 13 May 2013 (OJ L 141, 28.5.2013).

Table 1: Basic energy efficiency figures for 2013 and 2014

Indicator	Eurostat		ŠÚSR	
	2013	2014	2013	2014
Primary energy consumption <sup>1)</sup> (ktoe)	15 929	15 252	15 761	14 975
Final energy consumption (ktoe)	10 608	10 057	9 263	8 786
Final energy consumption - industry (ktoe)	4 268	4 449	3 097	3 221
Final energy consumption - transport (ktoe)	2 350*	2 212*	2 177	2 168
Final energy consumption - households (ktoe)	2.148	1 952	2 147	1 952
Final energy consumption - services (ktoe)	1 711	1 308	1 711	1 307
Final energy consumption - agriculture (ktoe)	131	137	131	137
Final energy consumption - other sectors (ktoe)	3 990	3 397	3 989	3 397
Gross value added – services (NACE Rev.2 B-F) - EUR millions, in constant prices <sup>2)</sup>	21 894	23 652	21 894	23 652
Gross value added – services (NACE Rev.2 G-U) - EUR millions, in constant prices <sup>2)</sup>	40 613	39 801	40 613	39 801
Gross disposable income (EUR millions)	45 114	46 532	45 114	46 532
Gross domestic product (GDP) - in constant prices (EUR millions) <sup>2)</sup>	71 363	73 162	71 363	73 162
Electricity generation at thermal power plants <sup>3)</sup> (ktoe)	1 984	1 921	**	**
Electricity generation from CHP <sup>4)</sup> (ktoe)	1 556	1 495	**	**
Heat production at thermal installations <sup>5)</sup> (ktoe)	1 016	831	**	**
Heat production from CHP plants, incl. waste heat in industry <sup>6)</sup> (ktoe)	709	572	**	**
Fuel inputs at thermal installations <sup>7)</sup> (ktoe)	6 837	6 377	**	**
Passenger kilometres (pkm millions) - all passenger transport			36 234	36 472
Passenger kilometres (pkm millions) - all public passenger transport			8 971	9 099
Passenger kilometres (pkm millions) - all non-public passenger transport (in particular cars)			27 263	27 373
Tonne kilometres (tkm millions) - total			39 245	40 849
Tonne kilometres (tkm millions) - rail transport	8	9	8 494	8 829
Tonne kilometres (tkm millions) - road transport	30 147	31 358	30 005	31 304
Tonne kilometres (tkm millions) - waterborne transport	1 006	905	746	684
Population as at 31 December	5 410 836	5 415 949	5 416 000	5 421 000

Source: ŠÚSR (2016), Eurostat (2016), MDVRR SR (2016)

Notes:

(1) Primary energy consumption is calculated as the difference between gross inland consumption and non-energy consumption;

2) In constant prices calculated by chaining-linking of volumes, using 2010 as the reference year;

3) Electricity generation in thermal power plants is calculated as the sum of public and works generating plants ;

4) Electricity generation from CHP is calculated as the sum of public and works generating plants;

5) Heat production in thermal installations is calculated as the sum of the quantity of heat produced at heating plants, broken down by fuel;

6) Heat production from CHP plants, including industrial waste heat, is calculated as the sum of the quantity of heat generated at public and works heating plants and heat consumption in industry;

7) Fuel inputs at thermal power installations are calculated as the sum of fuel inputs at heating plants, broken down by fuel.

8) Includes public transport by rail and road, excl. VAT, and VAT (Ministry of Transport, Construction and Regional Development, 2016)

\* - Eurostat data on final energy consumption also includes energy consumption for gas pipelines;

\*\* - The ŠÚSR (Statistical Office of the Slovak republic) neither calculates nor publishes these data.

The principal reason for the differences between ŠÚSR and Eurostat data lies in the different methodologies used to calculate the data for various items (chiefly in terms of reporting consumption of coal, energy consumption to power gas pipeline compressor stations, and of the fact the ŠÚSR uses calorific value for all fuels, whereas Eurostat uses gross calorific value for some fuels), since they are based on identical data.

## 2. Energy consumption trends by sector

Final energy consumption (FEC) followed a downward trend until 2014. Industry has traditionally led the way in terms of energy consumption in Slovakia, followed by transport, households and trade and services, with agriculture accounting for the lowest proportion of the total FEC (Table 2, Fig. 1).

Table 2: Trends in final energy consumption by sector, 2004-2014 (TJ)

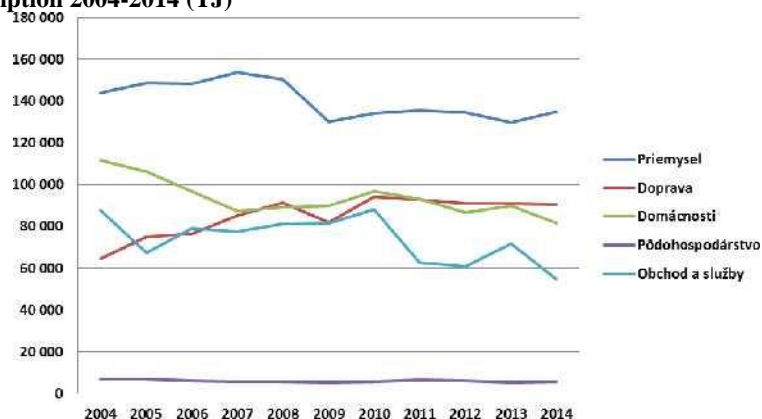
Final energy consumption (FEC), 2004-2014 [TJ]											
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>FEC total</b>	414 612	404 068	406 458	409 033	418 291	388 725	419 031	390 845	379 105	387 842	367 839
<b>Industry</b>	143 898	148 785	148 381	153 704	150 591	130 038	134 268	135 575	134 692	129 681	134 863
<b>Transport</b>	64 469	74 846	76 496	85 004	91 490	81 895	94 303	92 851	90 976	91 151	90 765
<b>Households</b>	111 645	106 059	96 721	87 248	89 209	89 994	96 754	93 106	86 671	89 897	81 723
<b>Agriculture</b>	6 920	6 847	5 895	5 673	5 839	5 393	5 589	6 549	6 007	5 488	5 754
<b>Trade and Services</b>	87 680	67 531	78 965	77 404	81 162	81 405	88 117	62 764	60 759	71 625	54 734

Source: ŠÚSR (2016) - SLOVSTAT as at 31.3.2016

Final energy consumption has declined by roughly 11 % overall during the past 10 years. Energy consumption has fallen most in the Households sector (-27 %). It has risen most sharply in the Transport sector (by as much as 41 %) (see Fig. 1).<sup>3</sup> Year on year, energy consumption fell by 5.2 % (mainly because energy consumption fell in the Trade and services and Households sectors), although it did increase in the Industry and Agriculture sectors.

Fig. 1 Final energy consumption 2004-2014, by sector (TJ)

Final energy consumption 2004-2014 (TJ)

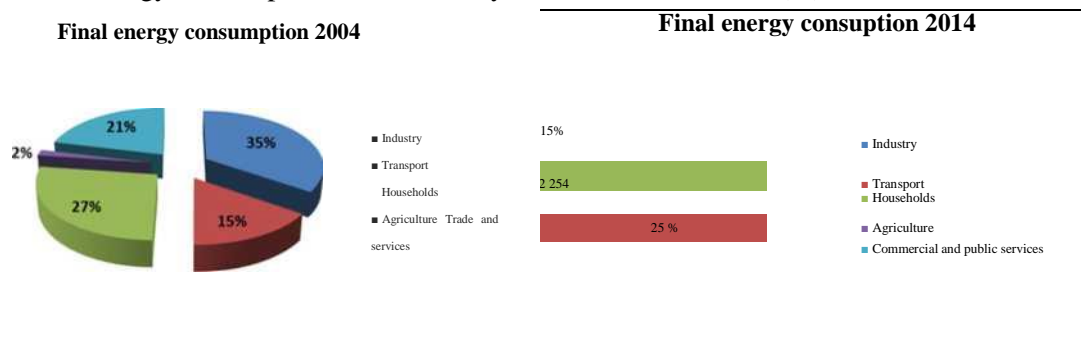


Source: Statistical Office of the Slovak Republic (2016) – SLOVSTAT as at 31 March 2016

<sup>3</sup> The Trade and Services sector is not evaluated, as it is a statistically superfluous sector which reflects variations in other sectors.

The changes described above that have taken place in the past decade also brought about a change in each sector's share in FEC in Slovakia. The most striking changes have occurred in the Households and Transport sectors. Whilst the Households sector's share of energy consumption declined by five percentage points (over the 2004-2014 period), the Transport sector's share increased by seven percentage points. Nevertheless, industry continued to account for the lion's share of energy consumption: roughly one-third of the total final energy consumption in Slovakia.

Fig. 2: Final energy consumption in Slovakia by sector, 2004 and 2014 (%)m



Source: ŠÚSR (2016) - SLOVSTAT as at 31.3.2016

### Industry:

The industrial sector is the largest consumer of energy. Energy consumption in industry gradually decreased between 2004 and 2007, when a modest rise in consumption was recorded. Energy consumption fell considerably after 2008 and has not increased substantially since then. Final energy consumption in industry was 134.9 PJ in 2014, accounting for 36.7 % of total final energy consumption in Slovakia. In 2014, the sector experienced a 4.0 % year-on-year rise in energy consumption.

### Households:

This sector saw the largest decline in energy consumption in absolute terms compared with other sectors of the national economy in the 2003-2007 period. This period of substantial decline was followed by a modest increase in energy consumption and, in recent years, consumption has fluctuated up and down slightly, albeit with a slight downward trend. Between 2013 and 2014, household energy consumption fell significantly, by as much as 9.1 %.

### Trade and Services:

Total energy consumption in the Trade and Services sector fluctuated over the 2004-2014 period, during which average annual energy consumption stood at 73.8 PJ. Consumption fell most sharply in 2006 and 2011. In 2014, energy consumption experienced a significant year-on-year decrease, in the region of 23.6 %. This variation can be explained by the break-up and merger of undertakings,

changes in their sectoral classification and the resulting changes in terms of where their consumption is classified in the energy balance, and by the calculation method used by the ŠUSR for this item.<sup>4</sup>

### **Agriculture:**

Energy consumption in the Agriculture sector does not exhibit such pronounced fluctuations as in other sectors. Even so, energy consumption in this sector has shrunk by 17 % over the medium term (2004-2014). In 2014, the sector recorded a year-on-year decrease of 4.8 %.

### **Transport:**

Transport was the only sector of the national economy where energy consumption rose in the reporting period (2004-2014), the increase being as much as 41 %. Energy consumption rose most sharply in the 2005-2010 period, after which it peaked. In 2014, energy consumption stood at 91 PJ, representing a modest decrease of 0.4 % compared with 2013.

The chief factors fuelling energy consumption growth in transport in the reporting period include the ever-growing numbers of registered motor vehicles and the accompanying rise in the numbers of people travelling by car (a hike in private car use at the expense of public transport), along with an expansion in road haulage as the carriage of goods switches from less energy-intensive modes of transport to the roads. However, energy consumption in this sector has stabilised over the past four years.

## **3. Updated information on the most important legislative and non-legislative measures in 2015**

This section discusses legislative and non-legislative measures implemented in 2015 which contribute towards the national energy efficiency targets for 2020.

### **3.1 Legislative measures**

Several pieces of legislation of general application implementing Act No 321/2014 on energy efficiency and amending certain acts, as well as other generally applicable regulations, were drawn up and adopted in 2015; these include:

Decree No 88/2015 of the Ministry of the Economy laying down the scope of assessment and the method of calculating the energy efficiency of power sources and distribution frames, and energy efficiency values; Decree No 99/2015 of the Ministry of the Economy laying down detailed rules for the provision of an ancillary energy service and of a guaranteed energy service;

- Decree No 179/2015 of the Ministry of the Economy on energy audit;
- Decree No 319/2015 of the Ministry of the Economy on the testing of professional competence to act as an energy auditor;
- Decree No 99/2015 of the Ministry of the Economy on the calculation of, and compliance with, energy efficiency targets;
- Government Regulation No 236/2015 laying down detailed technical requirements relating to

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<sup>4</sup> Energy consumption in the Trade and Services sector is not determined separately, but is estimated by reference to all other data. Consequently, any deviations from the norm in other sectors are also reflected here.

the efficiency of hot-water boilers fired by liquid fuels or gaseous fuels and detailed procedures for conformity assessment;

- Decree No 13/2016 of the Ministry of the Economy on the method of monitoring energy efficiency;
- Decree No 14/2016 of the Ministry of the Economy laying down technical requirements relating to the thermal insulation of heat and hot water distribution systems

In 2015, the following EU secondary legislation on ecodesign and energy labelling was adopted:

#### Ecodesign:

- Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers;
- Commission Regulation (EU) 2015/1185 of 24 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel local space heaters;
- Commission Regulation (EU) No 2015/1188 of 28 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for local space heaters;
- Commission Regulation (EU) No 2015/1189 of 28 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel boilers;
- Commission Regulation (EU) 2015/1428 of 25 August 2015 amending Commission Regulation (EC) No 244/2009 with regard to ecodesign requirements for non-directional household lamps and Commission Regulation (EC) No 245/2009 with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps and repealing Directive 2000/55/EC of the European Parliament and of the Council and Commission Regulation (EU) No 1194/2012 with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment.

#### Energy labelling:

- Commission Delegated Regulation (EU) 2015/1094 of 5 May 2015 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of professional refrigerated storage cabinets;
- Commission Delegated Regulation (EU) 2015/1186 of 24 April 2015 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of local space heaters;
- Commission Delegated Regulation (EU) 2015/1187 of 27 April 2015 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of solid fuel boilers and packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices

#### CHP:

- Commission Delegated Regulation (EU) 2015/2402 of 12 October 2015 reviewing harmonised efficiency reference values for separate production of electricity and heat in application of Directive 2012/27/EU of the European Parliament and of the Council and repealing Commission Implementing Decision 2011/877/EU

### 3.2 Non-legislative measures

Several key measures contributing to the energy savings target were drawn up and approved in 2015. One of the most important new measures is the launching of the first calls under the Quality of the Environment OP and other ESIF operational programmes, as well as an Environmental Fund call aimed at providing support for the renovation of public buildings and implementation of Munseff II and Sloveff II projects. Numerous projects financed from the 2007-2013 Structural Funds were also completed in 2015.

The most important measures contributing to the energy savings target under Article 7 of the Directive are set out in Table 3.

Table 3: Overview of key policy measures for achieving the target under Article 7 of Directive 2012/27/EU in 2015

Source of financing	Most significant non-legislative active measures in 2015
OP Competitiveness and Economic Growth, 2007-2013 Structural Funds	- Innovation and technology transfers at industrial enterprises; - Increased energy efficiency in industrial production; - Energy auditing in public buildings;
OP Health, 2007-2013 Structural Funds	- Improvements in the thermal performance of buildings – hospitals and healthcare facilities;
OP Transport, 2007-2013 Structural Funds	- Fleet renewal and modernisation; - Building and upgrading of transport infrastructure;
Regional OP, 2007-2013 Structural Funds	- Improvements in the thermal performance of public buildings – Schools and school facilities, social service facilities, cultural facilities, etc.;
OP Research and Development, 2007-2013 Structural Funds	- Improvements in the thermal performance of public buildings – Schools and school facilities;
State Housing Development Fund – Residential building insulation	- Improvements in the thermal performance of residential buildings;
Sloveff III Green Programme	- Improvements in the thermal performance of multi-family buildings; - Improvements in energy efficiency in industry;
Environmental Fund – Activity L1	- Improvements in the thermal performance of public buildings.

Other non-legislative support measures were also implemented (see planned measures under the 3AP), including URSO Methodological Guideline No 05/12/2015 of 11 June 2015 providing guidance to electricity undertakings and gas undertakings on the application of measures to boost energy efficiency.

## 4. Information on the renovation of central government buildings

In accordance with Directive 2012/27/EU, each Member State must ensure that, as from 1 January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year to meet at least the minimum energy performance requirements for buildings (Article 5(1) of the Directive). This target may also be met by alternative means (Article 5(6) of the Directive) that will result in the same volume of energy savings by 2020 as the basic approach defined in Article 5(1) of the Directive.

#### 4.1 Total floor area of buildings with a total floor area over 500 m<sup>2</sup> owned and occupied by central government bodies that do not meet the national minimum energy performance requirements - 2015

Indicator	2015
Total floor area of the buildings of central bodies of State administration not complying with national minimum energy performance requirements for buildings	420 329 m <sup>2</sup>

Source: Ministry of Transport, Construction and Regional Development (2016)

#### 4.2 Total floor area of heated and cooled buildings with a total floor area over 500 m<sup>2</sup> owned and occupied by central government bodies that was renovated at least to national minimum energy performance requirements for buildings - 2015

Indicator	2015
Total floor area of buildings of central government bodies that was renovated at least to national minimum energy performance requirements for buildings	9 168 m <sup>2</sup>

Source: Slovak Innovation and Energy Agency (2016), data for 2015 collected as at 31 March 2016

#### 4.3 Energy savings achieved in buildings concerned in 2015

Indicator	2015
Energy savings in buildings owned and occupied by central government bodies	0.087 GWh

Source: Slovak Innovation and Energy Agency (2016), data for 2015 collected as at 31 March 2016

Indicator	2015
Energy savings in buildings owned and occupied by central government bodies and renovated at least to minimum energy performance requirements for buildings	0 GWh

Source: Slovak Innovation and Energy Agency (2015), data for 2015 collected as at 31 March 2016

Indicator	2015
Energy savings in buildings owned and occupied by central government bodies for which an alternative approach was used (Article 5(6))	54.77 GWh

Source: Slovak Innovation and Energy Agency (2015), data for 2015 collected as at 31 March 2016

In addressing energy savings in buildings, Slovakia opted for an alternative approach to achieving the target under Article 5(1) of Directive 2012/27/EU, as provided for in Article 5(6) of the Directive. The alternative approach chosen included the setting of an energy savings target of 52.17 GWh/year. At the time of drawing up this annual report, the data collected indicated that the energy savings achieved by renovating buildings of central government bodies amounted to 54.77 GWh in 2015, equivalent to roughly 105 % of the energy savings target for buildings (52.17 GWh/year). These energy savings include energy saved by renovating the buildings of organisations directly subordinate to central government bodies. The data were identified by detailed monitoring of energy savings for individual projects (buildings) using a bottom-up approach.

#### Other information relating to the buildings sector as defined in Act No 321/2014

A survey of buildings as provided for in Section 9(1)9a) of Act No 321/2014 was included in the Strategy for the renovation of the residential and non-residential building stock in the Slovak Republic (*Stratégia obnovy fondu bytových a nebytových budov v Slovenskej republike*), approved by Government Resolution No 347/2014. The annual energy savings target for buildings (as provided for in Section 10(3)(a)) was published in the Notification of an alternative approach under Article 5 of Directive (...) <sup>5</sup>, and in the Buildings Renovation Plan approved by Government Resolution

<sup>5</sup> Notification of alternative approach as provided for in Article 5 of Directive 2012/27/EU on energy efficiency. The notification was sent to the European Commission on 27 December 2013.



No 386/2015. A list of the buildings earmarked for renovation in the year ahead (as provided for in Section 10(3)(c)) will be included in the Buildings Renovation Plan for 2017. A list of the buildings in question (as provided for in Section 10(6)) is provided on the website of the Ministry of Transport, Construction and Regional Development <http://www.telecom.gov.sk/index/index.php?ids=170474>.

## 5. Evaluation of energy efficiency measures

Energy efficiency measures were evaluated on a project-by-project basis, i.e. using a bottom-up method. Measures were evaluated on the basis of extensive data collected between November 2015 and April 2016, including also data on savings achieved by projects implemented in 2014 and in 2015. The 2014 data included in this report constitute an update of the data included in the annual report for 2014.

For the purpose of calculating cumulative savings (i.e. for the final consumer energy savings target), the total annual energy savings that can be achieved by the projects implemented in the year are counted. Table 4 provides an evaluation of energy efficiency measures in 2014 and 2015 from the perspective of annual energy savings.

Table 4: Evaluation of energy efficiency measures in 2014 and 2015

	Annual energy savings			
	Energy savings (FEC)		Energy savings (PEC)	
	2014	2015	2014	2015
	[TJ/year]	[TJ/year]	[TJ/year]	[TJ/year]
Buildings	1 619.80	1 618.20	2 534.89	2 532.40
Industry	1 015.08	1 617.34	1 588.54	2 531.05
Public sector	167.42	351.64	262.01	550.29
Transport	79.49	372.48	124.40	582.91
Appliances	143.51	191.82	224.58	300.18
Energy transformation, transmission and	0.00	0.00	0.00	454.22
Total	3 025.30	4 151.47	4 734.43	6 951.05

Notes: (A) Energy savings data for 2014 constitute an update of data contained in the annual report for 2014 (B) Until 2014, only energy consumption was monitored for evaluation purposes, in accordance with Directive 2006/32/EC; (C) In the Energy transformation, transmission and distribution sector, the savings relate only to primary energy consumption.

The methodologies for evaluating measures to ensure compliance with Article 7 of Directive 2012/27/EU and for other targets deriving from Directive 2012/27/EU and Directive 2006/32/EC differ from one another in that the target under Article 7 takes account only of savings beyond the minimum requirements and obligations stemming from EU legislation. This difference concerns appliances, cars and light-duty commercial vehicles. Otherwise, the methodology for calculating annual energy savings is the same for each measure. The procedure for evaluating energy savings under selected measures is set out in the methodology tables in Annexes 3 and 4 to the Energy Efficiency Action Plan for 2014-2016, looking ahead to 2020 ('Third Action Plan' or '3AP'). These methodology tables will be added to and updated on an ongoing basis.

## **6. Energy savings achieved through energy efficiency obligation schemes or alternative measures**

In accordance with Article 7(1) of Directive 2012/27/EU, each Member State must set up an energy efficiency obligation scheme ensuring that energy suppliers achieve a cumulative end-use energy savings target by 31 December 2020. The cumulative target represents the aggregate of annual energy savings of 1.5 % of the average annual energy sales by all energy suppliers to final customers. The resulting cumulative energy savings target for 2014-2020 was set at 26 565 GWh (in terms of final energy consumption). Of this, the annual energy saving is 948.75 GWh per year (3 416 TJ).

In connection with measures to save energy among final consumers, Slovakia opted to apply an alternative approach in accordance with Article 7(9) of the Directive. By following this course, Slovakia attempted to eliminate, as much as possible, potential increases in the end pricing of energy (electricity, gas, heat) that would have occurred by applying obligation schemes, under which the obligated parties would have reflected the investment costs of implementing energy efficiency measures among final consumers in the end energy prices.

The alternative approach did not affect the level of the cumulative energy savings target in the 2014-2020 period, which should amount to 26 565 GWh in 2021.

### **Methodology for the inclusion of energy savings when evaluating the final consumer savings target**

For the purposes of evaluating the achievement of the final consumer energy savings target, energy savings have been counted for the measures implemented in the year in question; this is consistent with paragraph 49 of the Interpretation Note for Article 7 of the Directive<sup>6</sup>.

Horizontal and support measures ('soft measures') contribute to energy savings indirectly, and often across all sectors. However, their contribution to energy savings is manifested in savings achieved in the investment measures implemented. Consequently, and in order to avoid double counting, energy savings achieved under soft measures are not quantified separately.

Energy savings as a result of voluntary agreements and fiscal stimuli also count towards the achievement of the final consumer energy savings target.

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<sup>6</sup> Guidance note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, Article 7: Energy efficiency obligation schemes. SWD(2013) 451 final, Brussels, 6.11.2013.

### **Energy savings for the purpose of evaluating achievement of the final consumer energy savings target in 2015**

Final consumer energy savings amounted to 1 150.36 GWh in 2015, representing an increase of roughly 37 % in energy savings compared with 2014, when energy savings of 837.67 GWh were achieved. Final consumer energy savings for the two years combined therefore totalled 1 988,03 GWh. This figure will be updated once data not received before the deadline for submitting this annual report have been processed. The evaluation for 2015 took account of data available at 8 April 2016. The increase in energy savings in 2015 may be attributed to the launch of measures in 2014 and their gradual implementation, as well as to the fine-tuning and improved monitoring of measures in progress. The amount of energy savings achieved in each sector is shown in Table 5.

**Table 5: Energy savings for compliance with Article 7 of the Directive in 2014 and 2015**

[GWh/year]	Energy savings for compliance with Article 7	
	2014	2015
Buildings	449.94	449.50
Industry	180.52	388.68
Public sector	45.23	95.88
Transport	22.08	103.47
Appliances	38.46	52.25
Voluntary agreements and fiscal stimuli	101.44	60.58
<b>TOTAL</b>	<b>837.67</b>	<b>1 150.36</b>

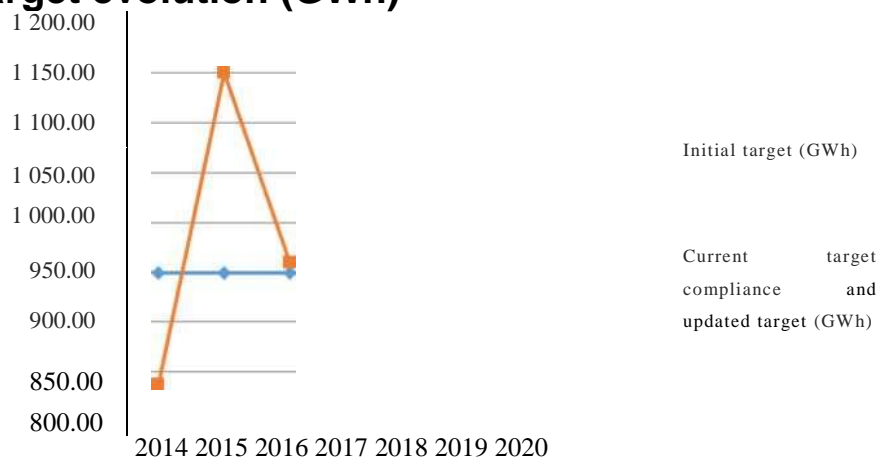
On the basis of these provisional results, Slovakia has re-assessed the target for the 2016-2020 period so that the total cumulated energy savings to be achieved during that period is 26 565 GWh. Trends in energy savings are shown in Table 6.

**Table 6: Annual energy saving trend**

Energy saving target (GWh)	2014	2015	2016	2017	2018	2019	2020
Initial target	948.75	948.75	948.75	948.75	948.75	948.75	948.75
Current target achievement	837.67	1 150.36					
Updated target			959.84	959.84	959.84	959.84	959.79

Fig. 3: Annual target evolution and target compliance

### Annual target evolution (GWh)



As the target for the purposes of Article 7 of Directive 2012/27/EU on energy efficiency is expressed as a cumulative value, the data on energy savings achieved in 2014 and 2015 are presented in the form of a matrix showing how they will evolve during the period to 2020 (see Table 7). The fall-off in energy savings in the final years can be explained by the life-times of activities carried out under the measures concerned.

Table 7: Energy savings for compliance with Article 7 of the Directive by means of alternative measures in the 2014-2015 period

Year	Cumulative energy savings [GWh]		
	2014	2015	
2014	837.67		
2015	837.67	1 150.36	
2016	837.67	1 150.36	
2017	837.67	1 150.36	
2018	837.67	1 150.36	
2019	652.94	1 150.36	
2020	652.94	921.40	
Cumulative data for 2014-2020	5 494.25	6 673.20	12 167.45

Several factors have had a bearing on the result of compliance with the final consumer energy savings target in 2015:

- The imminent end of the programming period for the 2007-2013 Structural Funds (31 December 2015), as a result of which energy savings in 2015 were higher than in 2014 (many projects were only in their implementation phase in 2014, and the last calls were still being made in 2015).

- Implementation of projects to be financed by the European Structural and Investment Funds in the new 2014-2020 financial perspective (ESIF 2014-2020) will not begin until 2015. The ESIF partnership agreement (2014-2020) was approved in October 2014: the first calls will be issued in 2015 and the first projects are likely to be implemented during 2016.
- For some of the measures that were implemented in 2015 and had been planned under the 3AP (e.g. measures in the Transport sector), only incomplete data on savings were available at the time of compiling this annual report. The data in question will be updated in the 4th Action Plan.
- Whilst energy savings can be monitored within the scope of the Structural Funds (2007-2013), the measurable energy savings indicator is not always set as a mandatory indicator for some of the projects implemented, and additional information required to evaluate the energy savings is often unavailable in the ITMS system (e.g. the initial energy performance of a building prior to renovation, the total floor area, etc.).
- For several new measures under Act No 321/2014 that were planned under the 3AP (e.g. measures implemented in relation to transformation, transmission and distribution, or projects implemented by energy service providers), the system for collecting the data required for evaluating energy savings is being used for the first time in 2016. It is therefore likely that additional data will be received during 2016, and the data will be updated under the 4th Action Plan.
- Act No 321/2014 provides for the conclusion of voluntary agreements under which additional energy savings are anticipated. Negotiations are currently under way on these agreements with a view to establishing a system for concluding such agreements and a system for collecting and evaluating data. Data relating to them will be updated under the 4th Action Plan.
- There is no comprehensive support system in place yet for energy efficiency measures with continuous financing arrangements that covers those segments not embraced by the Structural Funds (in the new 2014-2020 financial framework, this mainly concerns the Bratislava Region) and that responds flexibly to the needs of the market.

As data were not available for all projects implemented in 2015, the data on achievement of this binding target will be updated on the basis of further data collection during 2016. The Ministry of the Economy and the Slovak Innovation and Energy Agency are currently working on extending the energy efficiency monitoring system so that savings made under measures not tracked so far can be monitored.

## **7. Evaluation of achievement of the national energy efficiency target**

On the basis of Article 3 of Directive 2012/27/EU and in accordance with Section 5(1)(c) of Act No 321/2014, a national energy efficiency target was set for 2020 (the 'national target') in the form of an absolute value for primary energy consumption and final energy consumption.

As statistics on the level of final energy consumption and the level of primary energy consumption in 2015 are not currently available, this target can be evaluated as at 30 April 2016 only by means of a comparison with energy consumption in 2014 (see Table 8).

Table 8 National indicative energy efficiency target for 2020 and comparison with the level of energy consumption in 2014

	Comparison of the national indicative energy efficiency target for 2020 and the current level of energy consumption					
	FEC			PEC		
	[TWh]	[PJ]	[%]	[TWh]	[PJ]	[%]
<b>National indicative energy efficiency target (level of energy consumption in 2020)</b>	105	378	-	191	686	-
<b>Level of energy consumption (FEC and PEC) in 2014</b>	102	368	-3 %	174	627	-9 %

Source: Slovak Ministry of the Economy (2016), ŠÚSR (2016)

In 2014, energy consumption (FEC2014 and PEC2014) was below the national energy efficiency targets set. Final energy consumption is 3 % lower, and primary energy consumption as much as 9 % lower, than the specified targets. This can be explained by the fact that the PEC target reflects the planned launch of new facilities at Mochovce Nuclear Power Plant (EMO 3,4), which will push PEC up by approximately 60 PJ by 2020, with no change in FEC.

## Conclusion

The annual report is drawn up by the Ministry of Economy every year for the preceding calendar year pursuant to Section 4(1)(d) of Act No 321/2014 on energy efficiency. It contains information on the fulfilment of selected basic obligations deriving from Directive 2012/27/EU. It should also be noted that 2014 was the first year for which obligations under the Directive and the Act were evaluated. Consequently, some data are not yet available and some planned measures are still in the implementation phase.

With regard to building renovation, only a handful of buildings owned/used by central government bodies were renovated. The main reason for this is that no funds for the renovation of such buildings have yet been earmarked in the State budget. This target is being met using an alternative approach involving the renovation of all public buildings. Savings amounting to 54.77 GWh were thus recorded in 2015, which means that the annual energy savings target for buildings was met.

In terms of progress towards meeting the final consumer energy savings target, in the first year of implementation, i.e. 2014, the energy saving can be put at 1 150.36 GWh, which is an increase of approximately 37 % compared with 2014, when energy savings totalled 837.67 GWh. Figures for compliance with this binding target will be updated on the basis of further data collection in 2016. It is the shift to the measures that are to be implemented with the support of the European Structural and Investment Funds, in particular through the OP Environmental Quality and the Integrated Regional OP, and the quality of their implementation, that will have the greatest impact on the strategy for meeting the updated target for 2016 (959.84 GWh).

As regards compliance with the national indicative energy efficiency target for 2020 (in accordance with Section 5(1)(b) of Act No 321/2014), it may be noted that the level of energy consumption in 2014 was lower than the national energy efficiency targets that have been set. Final energy consumption is 3 % lower, and primary energy consumption as much as 9 % lower, than the target values. In the long term, however, it must be ensured that the energy consumption level is maintained at the level of the targets set for the period to 2020. From the perspective of the structure of energy

consumption in Slovakia, it will be important, in this respect, to ensure that energy consumption is held at its current level and/or to offset consumption in the most energy-intensive sectors using additional measures. In 2017, after updating the data for 2014 and 2015 and the data relating to measures to be taken in 2016, Slovakia will undertake a (qualitative and quantitative) re-evaluation of its strategy for complying with Article 7 of Directive 2012/27/EU.