Annex 4: Annual report on progress achieved towards national energy efficiency targets for 2016

1. Basic energy efficiency statistics

Table 1: Basic energy efficiency figures for 2014 and 2015

Indicator	Eurostat		ŠÚSR	
	2014	2015****	2014	2015
Primary energy consumption[1)] (ktoe)	15 252		14 975	15 276
Final energy consumption (ktoe)	10 057		8 711	9 146
Final energy consumption - industry (ktoe)	4 449		3 220	3 315
Final energy consumption - transport (ktoe)	2 212*		2 168	2 169
Final energy consumption - households (ktoe)	1 952		1 952	1 988
Final energy consumption - trade and services (ktoe)	1 308		1 233	1 523
Final energy consumption - agriculture (ktoe)	137		137	150
Gross value added – industry (NACE Rev.2 B-F) – EUR millions, in constant prices[2)]	24 277	26 133	24 277	26 133
Gross value added – services (NACE Rev.2 G-U) – EUR millions, in constant prices[2)]	39 381	40 317	39 381	40 317
Gross disposable income (EUR millions)	45 067	46 827	45 067	46 827
Gross domestic product (GDP) at constant prices (EUR millions)[2)]	73 530	76 347	73 530	76 347
Electricity generation at thermal power plants[3)] (ktoe)	1 921		**	**
Electricity generation from CHP[4)] (ktoe)	1 495		**	**
Heat production at thermal installations[5)] (ktoe)	831		**	**
Heat production from CHP plants, incl. waste heat in industry[6)] (ktoe)	572		**	**
Fuel inputs at thermal installations[7)] (ktoe)	6 377		**	**
Passenger kilometres (pkm millions) - all passenger transport not counting private cars[8)]			9 221	10 116
Passenger kilometres (pkm millions) - all public passenger transport not counting private cars[8)]			9 099	10 020
Passenger kilometres (pkm millions) - all non-public passenger transport not counting private cars[8)]			122	96
private cars MTC[8)] **			27 373	27 531
Tonne kilometres (tkm millions) - total	-	-	40 849	42 745
Tonne kilometres (tkm millions) - rail transport	8 829	8 439	8 829	8 439
Tonne kilometres (tkm millions) - road transport ***	31 358	33 540	31 304	33 525
Tonne kilometres (tkm millions) - waterborne transport	-	-	684	674
Tonne kilometres (tkm millions) - waterborne transport for all inland waterway transport operators on Slovak territory, irrespective of the vessel's country of registration	905	741	905	741
Population as of 31.12 of that year	5 415 949		5 421 000	5 423 801

Source: ŠÚSR (2017), Eurostat (2017), MTC (2016)

Note: 1) Primary energy consumption is calculated as the difference between gross inland consumption and non-energy consumption.
2) In constant prices calculated by chain-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 installations are calculated as the sum of fuel inputs at heating plants, broken down by fuel.
8) Includes public and non-public transport (ŠÚSR) and private cars (MTC).
** – Eurostat data on final energy consumption in transport also includes energy consumption for gas pipelines.*
*** – The ŠÚSR (Statistical Office of the Slovak Republic) neither calculates nor publishes these data.*
**** – The difference derives from the differing levels of grossing-up (quarter/year).*
***** – As some Eurostat data were not available in time, these will be added.*

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

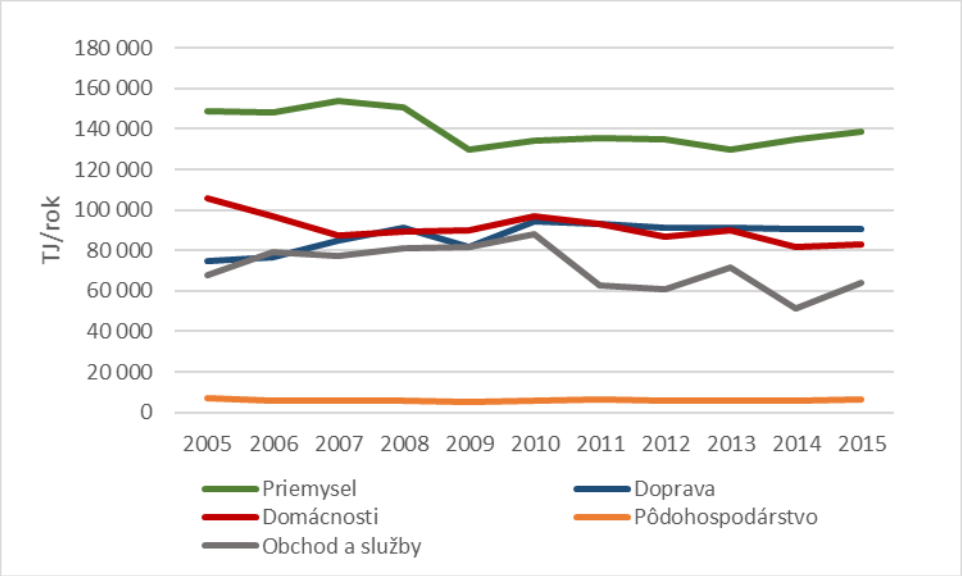
2. Energy consumption trends by sector

Table 2: Trends in final energy consumption by sector in the period 2005-2015 (TJ)

Final energy consumption (FEC) 2005-2015 [TJ]											
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
FEC total	404 068	406 458	409 033	418 291	388 725	419 031	390 845	379 105	387 842	364 705	382 904
Industry	148 785	148 381	153 704	150 591	130 038	134 268	135 575	134 692	129 681	134 830	138 781
Transport	74 846	76 496	85 004	91 490	81 895	94 303	92 851	90 976	91 151	90 765	90 828
Households	106 059	96 721	87 248	89 209	89 994	96 754	93 106	86 671	89 897	81 723	83 219
Agriculture	6 847	5 895	5 673	5 839	5 393	5 589	6 549	6 007	5 488	5 754	6 297
Trade and services	67 531	78 965	77 404	81 162	81 405	88 117	62 764	60 759	71 625	51 633	63 779

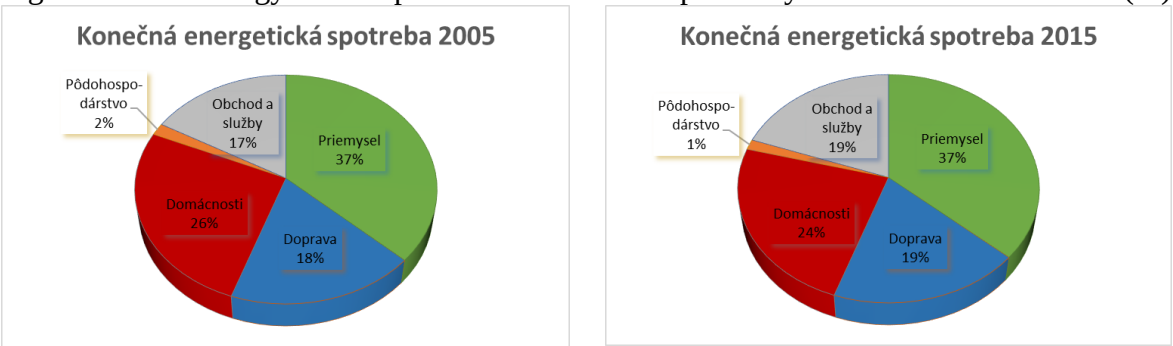
Source: ŠÚSR (2017) – SLOVSTAT

Figure 1: Final energy consumption 2005-2015 by sector (TJ)



Source: ŠÚSR (2017)

Figure 2: Final energy consumption in the Slovak Republic by sector in 2005 and 2015 (%)



Source: ŠÚSR (2017)

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 139 PJ in 2015, accounting for 37 % of total final energy consumption in Slovakia. In 2015, the sector experienced an almost 3.0 % 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. Year-on-year household energy consumption increased slightly (by 1.8 %).

Transport:
Transport was the only sector of the national economy where energy consumption rose in the reporting period (2005-2015), the increase being as much as 21 %. Energy consumption rose most sharply in the 2005-2010 period, after which it peaked. In 2015 it stood at roughly 91 PJ, representing a modest increase (0.1 %) compared with 2014.

The chief factors fuelling long-term 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 road transport. However, energy consumption in this sector has stabilised over the past five years.

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). However, in 2014 the sector recorded a year-on-year increase of 4.8 %.

Trade and services:
Total energy consumption in the trade and services sector fluctuated over the 2005-2015 period, during which average annual energy consumption stood at 71 PJ. In 2015, energy consumption experienced a significant year-on-year decrease, in the region of 23.5 %. 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 ŠÚSR for this item.1

3. Updated information on the most important legislative and non-legislative measures in 2016

This section discusses legislative and non-legislative measures implemented in 2016 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 adopted in 2016; these include primarily:

- Decree No 192/2016 of the Ministry of the Economy on monitoring energy demand in public buildings
- Decree No 13/2016 of the Ministry of the Economy laying down details of the data set provided to the energy efficiency monitoring system, the principles and rules of the monitoring system, and the method for monitoring data and processing information.

In 2016, the following EU secondary legislation on ecodesign and energy labelling was adopted:

- Commission Regulation (EU) No 2016/2282 of 30 November 2016 amending Regulations (EC) No 1275/2008, (EC) No 107/2009, (EC) No 278/2009, (EC) No 640/2009, (EC) No 641/2009, (EC) No 642/2009, (EC) No 643/2009, (EU) No 1015/2010, (EU) No 1016/2010, (EU) No 327/2011, (EU) No 206/2012, (EU) No 547/2012, (EU) No 932/2012, (EU) No 617/2013, (EU) No 666/2013, (EU) No 813/2013, (EU) No 814/2013, (EU) No 66/2014, (EU) No 548/2014, (EU) No 1253/2014, (EU) 2015/1095, (EU) 2015/1185, (EU) 2015/1188, (EU) 2015/1189 and (EU) 2016/2281 with regard to the use of tolerances in verification procedures (ecodesign)
- Commission Regulation (EU) No 2016/2281 of 30 November 2016 implementing Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products, with regard to ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units
- Commission Delegated Regulation (EU) No 2017/254 of 30 November 2016 amending Delegated Regulations (EU) No 1059/2010, (EU) No 1060/2010, (EU) No 1061/2010, (EU) No 1062/2010, (EU) No 626/2011, (EU) No 392/2012, (EU) No 874/2012, (EU) No 665/2013, (EU) No 811/2013, (EU) No 812/2013, (EU) No 65/2014, (EU) No 1254/2014, (EU) 2015/1094, (EU) 2015/1186 and (EU) 2015/1187 with regard to the use of tolerances in verification procedures (labelling).

3.2 Non-legislative measures

Projects were implemented in 2016 focusing on energy efficiency, particularly under the following measures:

[1] Energy consumption for trade and services 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.

- State Housing Development Fund – Residential building insulation – aimed at improving the thermal characteristics of residential buildings
- Insulation of family buildings
- Green programme Slovseff III. – aimed at improving energy efficiency in industry and improving the thermal characteristics of residential housing
- Environmental Fund – Activity L1 – aimed at improving the thermal characteristics of public buildings.

In 2016, a call under Specific Objective 4.3.1. (Reduction of energy consumption in public buildings) was ended and a further call was drawn up. The body responsible for the call is the SIEA, the intermediate body for the Operational Programme 'Quality of the Environment' (OP QoE), managed by the Ministry of the Environment. The call is scheduled to be launched in the first quarter of 2017, with EUR 120 million of EU funding expected to be allocated.

In addition, a support mechanism was also introduced in 2016 for the implementation of energy audits in SMEs in the Bratislava region (other regions will be supported through the OP QoE). EUR 300 000 have been allocated for energy audits in SMEs. The support mechanism will be implemented in 2017.

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 250 m^2 owned and occupied by central government bodies that do not meet the national minimum energy performance requirements – 2016

Indicator	2016
Total floor area of the buildings of central bodies of State administration not complying with national minimum energy performance requirements for buildings	413 451 m^2

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 250 m^2 owned and occupied by central government bodies that was renovated at least to national minimum energy performance requirements for buildings – 2016

Indicator	2016
Total floor area of buildings of central government bodies that was renovated at least to national minimum energy performance requirements for buildings	0 m^2

Source: Slovak Innovation and Energy Agency (2017), data for 2016 collected as at 31 March 2017.[2]

4.3. Energy savings achieved in buildings concerned in 2016

[2] Data will be supplemented on the basis of data provided under Section 10(8) of Energy Efficiency Act No 321/2014

Indicator	2016
Energy savings in buildings owned and occupied by central government bodies	0.0 GWh

Source: Slovak Innovation and Energy Agency (2017), data for 2016 assessed as at 31 March 2017.[2]

Indicator	2016
Energy savings in buildings owned and occupied by central government bodies at least to minimum energy performance requirements for buildings	0.0 GWh

Source: Slovak Innovation and Energy Agency (2017), data for 2016 assessed as at 31 March 2017.[2]

Indicator	2016
Energy savings in buildings owned and occupied by central government bodies for which an alternative approach was used (Article 5(6))	23.02 GWh

Source: Slovak Innovation and Energy Agency (2017), data for 2016 assessed as at 31 January 2017.[3]

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.[4] 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 23.02 GWh in 2016, equivalent to roughly 44 % of the energy savings target for buildings (52.17 GWh/year). The data were identified by monitoring energy savings for individual buildings using a bottom-up approach based on INFOREG database certificates.

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)(a) 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 (...),[4] and in the Buildings Renovation Plan approved by Government Resolution 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 2018. 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. Energy savings achieved through energy efficiency obligation schemes or alternative measures

The Slovak Republic applies Article 7 of the Directive to the implementation of 'alternative' policy measures, in particular due to the possible impact on growth of final energy prices, which would ultimately have a negative impact on the business environment, which in turn would reduce the competitiveness of the economy and possibly increase unemployment.

[3] Data will be updated on the basis of data provided under Section 10(8) of Energy Efficiency Act No 321/2014

[4] 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.

The evaluation of individual measures by sector is included in Chapter 3 of the energy efficiency action plan for 2017-2019, looking forward to 2020.

6. 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 levels of final energy consumption and primary energy consumption in 2016 are not currently available, this target can be evaluated as at 30 April 2017 only by means of a comparison with energy consumption in 2015 (see Table 8).

Table 3: National indicative energy efficiency target for 2020 and comparison with the level of energy consumption in 2015

	Comparison of the national indicative energy efficiency target for 2020 and the current level of energy consumption					
	FEC			**PEC**		
	[TWh]	**[PJ]**	**[%]**	**[TWh]**	**[PJ]**	**[%]**
National indicative energy efficiency target (energy consumption in 2020)	105	387	-	191	686	-
Level of energy consumption (FEC and PEC) 2015	106	383	99 %	178	640	93 %

Source: Ministry of the Economy (2016), ŠÚSR (2017)

More detail is provided in Chapter 1 of the energy efficiency action plan for 2017-2019, looking forward to 2020.