6th REPORT ON PROGRESS TOWARDS NATIONAL ENERGY EFFICIENCY TARGETS IN THE CZECH REPUBLIC

pursuant to Article 24 of Directive 2012/27/EU on energy efficiency

1. Introduction

Pursuant to Article 24 (Review and monitoring of implementation) of 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 ('the Directive'), 'by 30 April each year as from 2013, Member States shall report on the progress achieved towards national energy efficiency targets'.

The Czech Republic's energy efficiency strategy is detailed in the National Energy Efficiency Action Plan (NAPEE), the fifth version of which (NAPEE-V) was approved by the government on 15 May 2017.

The 2017 progress report focuses on assessing the impact of the practical implementation of the Directive in the Czech Republic and its actual impact on energy consumption (i.e. the Czech contribution to meeting the EU energy efficiency target for 2020). It provides information on the updating of selected instruments aimed at increasing energy efficiency, assessing policy measures under Article 7 of the Directive based on updates to the methodology for assessing those measures, the achievement of binding targets deriving from the Directive, and predicting further developments towards those goals.

2. National indicative energy efficiency target of the Czech Republic for 2020

The national indicative energy efficiency target, the 'national contribution' to achieving the Union's 2020 20 % headline target for energy efficiency, was set in line with the requirements of Article 3 of the Directive. Under the provisions of this Article, each Member State is to set a national indicative energy efficiency target based on primary energy consumption or final energy consumption.

The Czech Republic's approach to setting the national energy efficiency target is based on the Common European Framework for the Promotion of Energy Efficiency, which specifies achievement of the EU's energy efficiency target by 2020. With this target, the EU has committed itself to a 20 % decrease in energy consumption by 2020, compared with the reference scenario for the development of energy consumption in 2007. The Czech Republic's approach to setting the national contribution was similar, i.e. reducing the value of final energy consumption by 20 % in 2020, compared with the Czech reference scenario. Under this scenario, the Czech Republic's final energy consumption in 2020 would be 1 324.87 PJ, i.e. 31.644 Mtoe, without taking into account the effect of savings from implementing the Directive.

The Czech Republic's indicative energy efficiency target was set in accordance with the 'Update of the Czech Republic's State Energy Policy' ('the Update'), a document approved by the Czech government in its Resolution No 362 of 18 May 2015.[1]

The Czech Republic's national indicative energy efficiency target is set at 1 060 PJ, i.e. 25.315 Mtoe of final energy consumption. The estimated national target expressed in primary energy consumption was established at 1 855 PJ, i.e. 44.305 Mtoe, based on a primary energy coefficient of 1.75.[2]

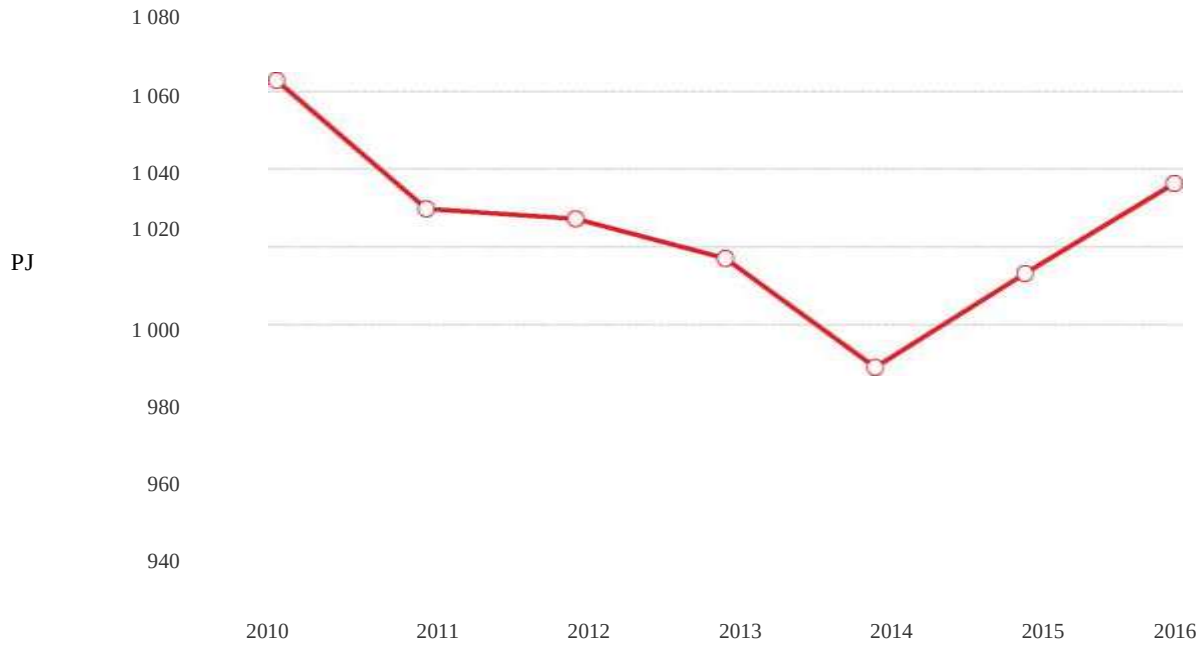
[1] The Update is a strategic document by which the Czech Government formulates the political, legislative and administrative framework for reliable, affordable and sustainable energy supply (https://www.mpo.cz/dokument158012.html).

[2] The coefficient was determined on the basis of developments in the primary energy coefficient in 2010–2015, assuming increasing energy conversion efficiency.

3. Statistical data for the Czech Republic and analysis of trends in energy consumption

Analysis of trends in energy consumption shows a year-on-year increase in energy consumption, as in 2015. Consumption in 2016 increased year-on-year by 2.3 %, which in absolute terms represents 23 PJ. The increase in final energy consumption was due in particular to increased demand in the household and transport sectors. Consumption in industry, on the other hand, fell year-on-year. **The key point is that, despite increasing final energy consumption, the energy intensity of the economy is falling in the long term. The year-on-year fall in 2016 was 4 % and amounts to 395.8 GJ/CZK million of GDP.**[3]

Figure 1: Development of final energy consumption in the Czech Republic, 2010-2016



Source: Eurostat

[3] Gross domestic product at market prices in 2010 (source: Eurostat).

Figure 2: Development of energy intensity in the Czech Republic, 2010-2016

Source: Eurostat

In 2016, energy consumption in the household sector (not adjusted for external influences; see below) increased year-on-year by just under 3.5 %. However, the year-on-year increase in 2016 must be seen in the context of external influences affecting energy consumption, particularly climatic conditions. Energy consumption in 2014 and 2015 was influenced by above-average temperatures in the heating season, leading to reduced heating consumption compared to 2013.[4] For this reason, this level of consumption must be regarded as a statistical outlier, and recent developments in energy consumption in 2016 must be compared with 2013, which is closer to the average value for degree-days during 2010-2016.[5] It should be noted in this context that household energy consumption in 2016 fell by more than 12 PJ compared to 2013.

Energy consumption in the household sector over the previous period was also influenced by the increased number of new housing units, the increased average floor area in housing units[6] and the fall in the number of people living in a single housing unit.[7] In demographic terms, the level of consumption reflects an increase in the population and in disposable household income,[8] leading to raised living standards and influencing consumer behaviour, which affects energy consumption.

However, looking at final energy consumption in the household sector adjusted for climatic influences, it can be seen that consumption is stagnating. In 2016, energy consumption in heating per housing unit with climatic correction reached the same level as in 2015, corresponding to an approximate level of 50 GJ per dwelling. The relatively stable level of adjusted energy consumption, in combination with the influence of the above-mentioned factors increasing energy consumption in the household sector, means that, all other things being equal, reducing the energy intensity of buildings has a significant effect on energy consumption in the

[4] In 2016, the value for degree-days in the heating season was approximately 12 % higher than in 2014, and 4 % higher than in 2015. Compared to 2013, the value for degree-days in 2016 was 6 % lower, and 1 % lower than the average (source: Czech Hydrometeorological Institute (ČHMÚ)).

[5] In 2013, the value for degree-days approached the average values for 2010-2016, while being 5 % higher than that average. In 2016, the value for degree-days was 1 % lower than average values (source: ČHMÚ).

[6] Average floor area in housing increased by 5 % between 2004 and 2015 (source: Czech Statistical Office (ČSÚ) - ENERGO 2015).

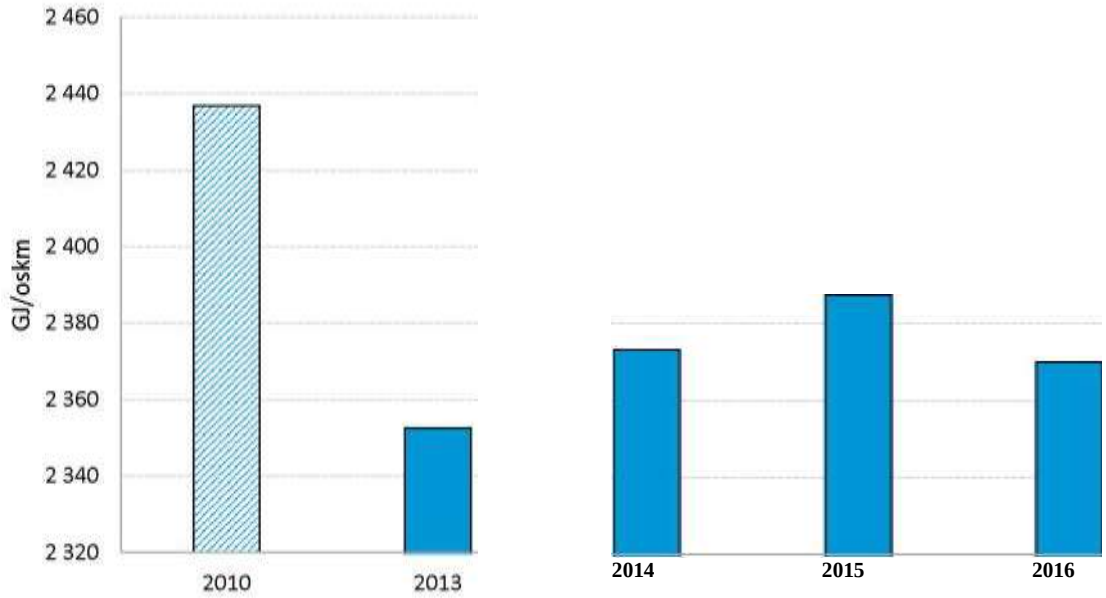
[7] The fall in the number of people living in a single housing unit reflects a trend towards independent living. The average number of people in a housing unit fell by 11 % between 2004 and 2015 (source: ČSÚ - ENERGO 2015).

[8] Gross disposable income increased year-on-year by 4.3 % in 2015 and by 3.4 % in 2016 (source: Eurostat).

household sector. Measures to reduce the energy intensity of buildings are 'voluntary', resulting from individual actions without State aid or from implementing Article 7 of the Directive. Analysis shows that only 30 % of projects for insulating single-family homes and apartment blocks, 6 % of the heat pumps supplied and 25 % of solar thermal systems installed (by area) use State aid. Significantly more is therefore done outside the system set out in Article 7 of the Directive.

The transport sector has already seen a long-term increase in energy consumption. The year-on-year increase in energy consumption in the transport sector in 2016 was 4 %, or approximately 10 PJ overall. This was due in particular to a year-on-year increase of 4.5 % in the number of person-kilometres. Despite the year-on-year increase in person-kilometres, year-on-year energy consumption per person-kilometre fell in 2016 (including private car transport and public transport)[9] as well as energy consumption per vehicle (including only private car transport). Based on the trends in these indicators, it can be assumed that the efficiency of public transport has increased.

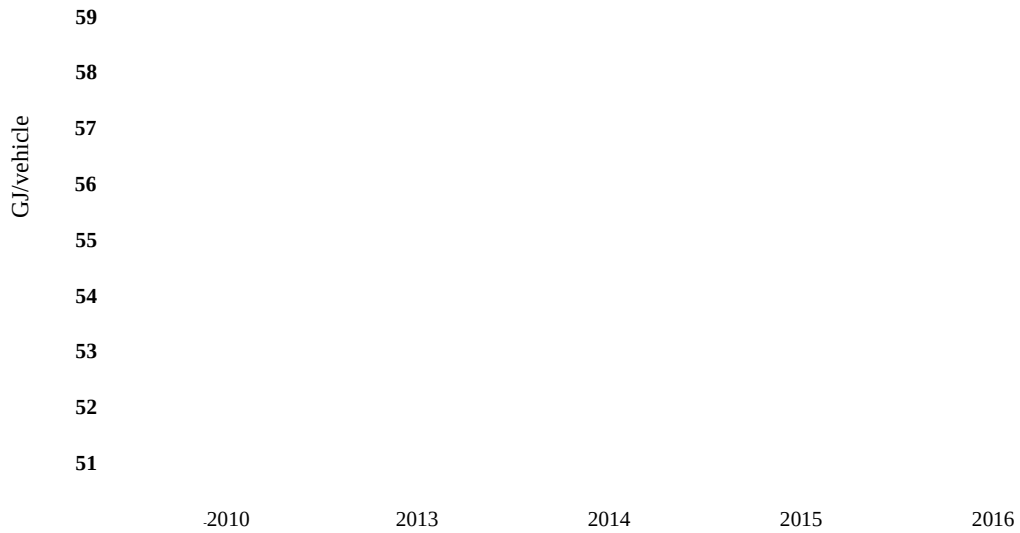
Figure 3: Energy consumption in the transport sector in person-kilometres, 2010-2016
(GJ/pkm)



Source: Ministry of Transport, Eurostat

[9] Public transport includes rail, bus, air, internal waterways and urban public transport.

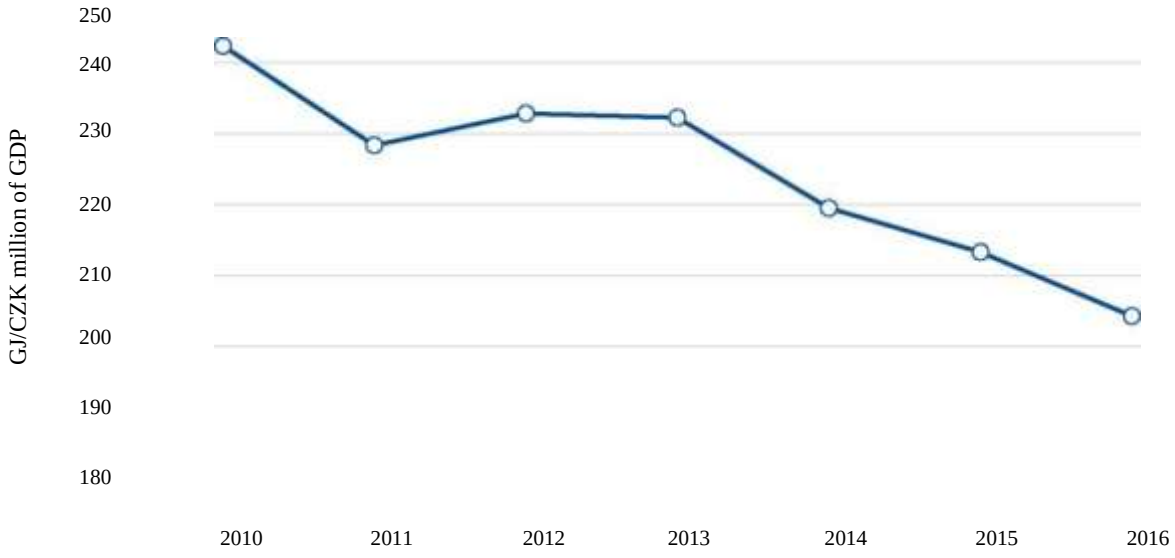
Figure 4: Energy consumption in the transport sector per vehicle, 2010-2016 (see original)



Source: Ministry of Transport, Eurostat

Compared to other sectors, the industrial sector recorded a fall in energy consumption. It declined by nearly 4 %, despite the fact that gross value added increased by 4 %. Based on this long-term trend, energy intensity in industry has also fallen steadily since 2012 to gross value added (GVA). Compared to 2015, energy intensity in industry has fallen year-on-year by more than 4 %. Over the long term, the ratio of energy consumption to industrial production has also fallen, as measured against the industrial production index (IPI).[10] In 2016, this ratio fell year-on-year by 3.7%, confirming the trend towards increasing technical efficiency in the industrial sector.

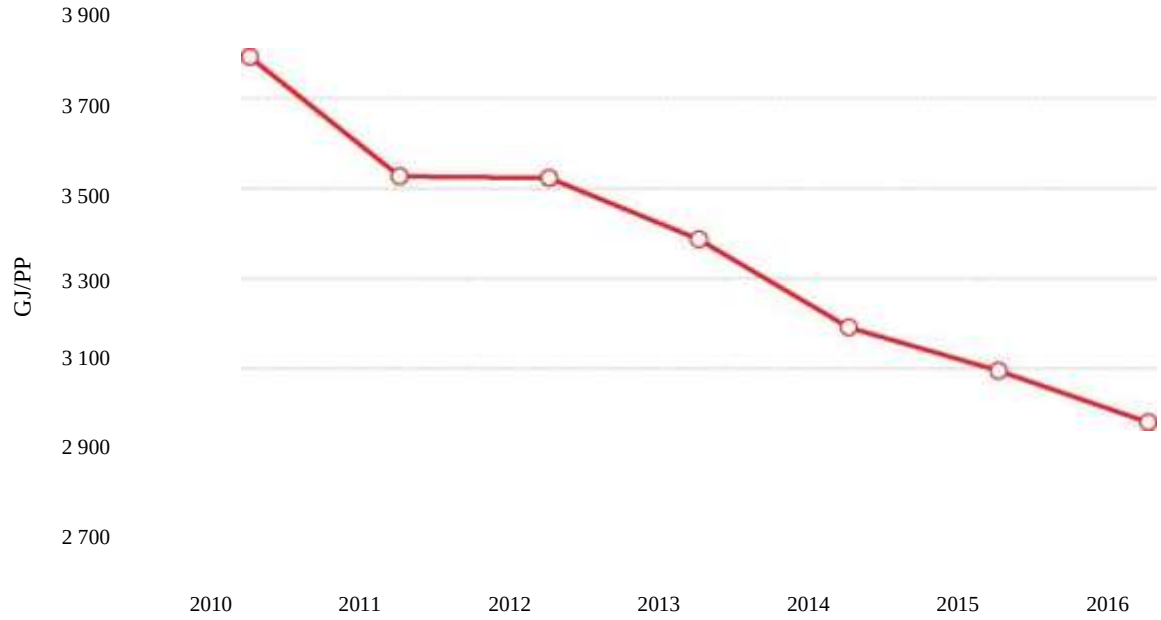
Figure 5: Development of energy intensity in industry in the Czech Republic, 2010-2016



Source: Eurostat

[10] The industrial production index (IPI) measures own output from industries, price-adjusted. The index is primarily calculated as a monthly basic index, currently for an average month in 2015.

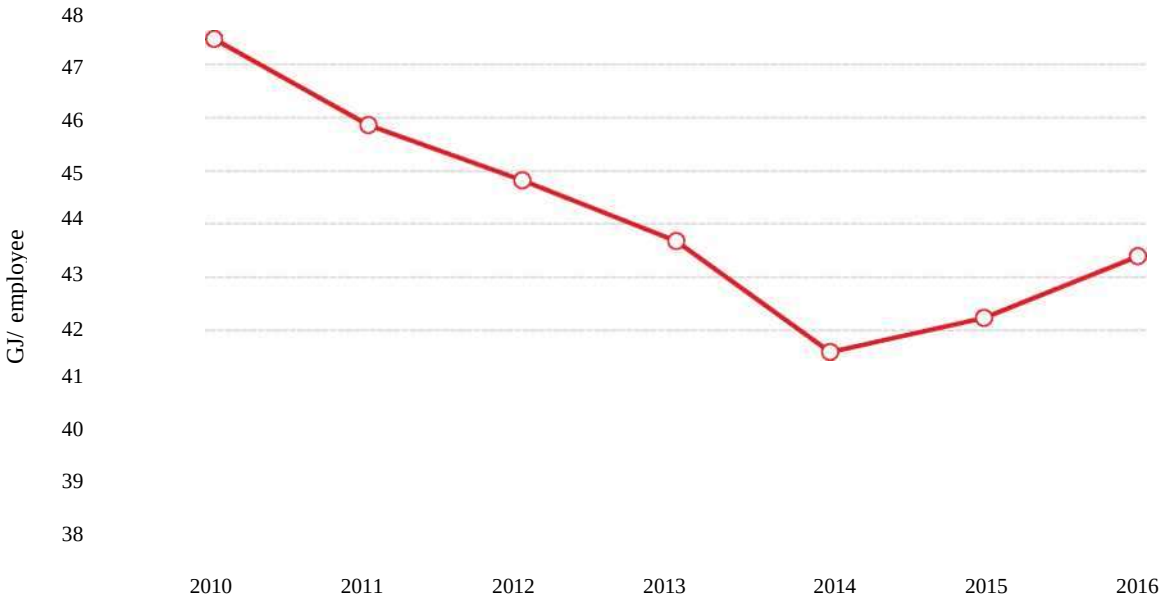
Figure 6: Energy consumption in relation to industrial production, 2010-2016



Source: Czech Statistical Office, Eurostat

On the other hand, final energy consumption in the service sector grew year-on-year by approximately 3.5 %, representing approx. 4.5 PJ. Increased consumption in the sector was due in particular to its increased economic performance and the increased number of employees. On average, from 2014 energy consumption per employee also increased in this sector, and in 2016 reached approximately the same level as in 2013.

Figure 7: Energy intensity in the service sector per employee, 2010-2016



Source: Czech Statistical Office, Eurostat

Table 1: Statistics for CR - EUROSTAT data

	unit	2012	2013	2014	2015	2016
Primary energy consumption	TJ	1 821 390	1 822 045	1 768 524	1 778 490	1 748 832
Total final energy consumption	TJ	1 027 160	1 016 942	988 934	1 013 060	1 036 268
Final energy consumption by sector:						
industry	TJ	322 037	309 255	305 929	309 439	308 205
transport	TJ	254 667	252 132	261 317	271 722	281 919
households	TJ	295 993	302 129	271721	280 197	289 792
services	TJ	126 994	124 667	121 140	123 224	127 743
Gross value added by sector – 2005 prices:						
Industry	CZK million	1 382 926	1 331 526	1 393 856	1 451 040	1 509 416
Services	CZK million	1 954 295	1 983 183	2 033 796	2 142 527	2 172 730
Gross value added by sector – current prices:						
Industry	CZK million	1 346 426	1 346 252	1 477 294	1 562 192	1 614 104
Services	CZK million	2 206 690	2 223 576	2 314 585	2 470 997	2 572 985
Disposable household income	CZK million	2 205 828	2 207 679	2 284 609	2 383 321	2 463 541
Gross domestic product (GDP) – 2005 prices	CZK million	3 718 662	3 700 676	3 801 154	4 002 966	4 106 776
Gross domestic product (GDP) - current prices	CZK million	4 059 912	4 098 128	4 313 789	4 595 783	4 773 240
Electricity generation from thermal power generation	GWh	81 993	80 760	80 587	77 984	77 479
Electricity generation from combined heat and power	GWh	42 305	42 052	42 680	42 424	42 904
Heat generation from thermal power generation	TJ	136 203	137 305	119 747	121 307	128 439
Heat generation from combined heat and power plants, including industrial waste heat	TJ	106 180	107 005	94 380	95 794	100 759
Fuel input for thermal power generation	TJ	972 982	955 940	934 323	900 297	886 649
Number of person-kilometres - Ministry of Transport	pkm million	107 794	107 172	110 114	113 814	118 957
Number of tonne-kilometres - Ministry of Transport	tkm million	68 087	71 509	71 421	76 613	68 172
Population (mean) – ČSÚ	persons	10 509 286	10 510 719	10 524 783	10 542 942	10 565 284

4. Implementing the tools for meeting the targets of the Energy Efficiency Directive in 2017

4.1. Legislative measures

The Directive was already fully transposed in 2015, as part of amendments to three pieces of legislation, namely, Act No 458/2000 on the conditions for business activities and the performance of State administration in energy sectors, as amended, Act No 406/2000 on energy management, as amended (the Energy Management Act), and Act No 165/2012 on subsidised resources, as amended.

No new legislative measures were applied in 2017 to support the implementation of energy-saving measures, nor was existing legislation updated, whether directly or indirectly connected with increasing energy efficiency.

In 2017, data in the ENEX database, containing documents drawn up by energy specialists, and specifically data obtained on the basis of energy audits drawn up as required under the Energy Management Act, were assessed. The analysis showed that over 1 900 energy audits were drawn up in 2016. The energy saving from the proposed energy-saving measures averages 14 % of the energy consumption of an audited body. The majority of projects focus on heating. More than 50 % of projects focused on combining heating measures with other sources of consumption, in particular lighting.
By comparison, approximately 20 % of projects contained measures relating to an undertaking's technical or production process.

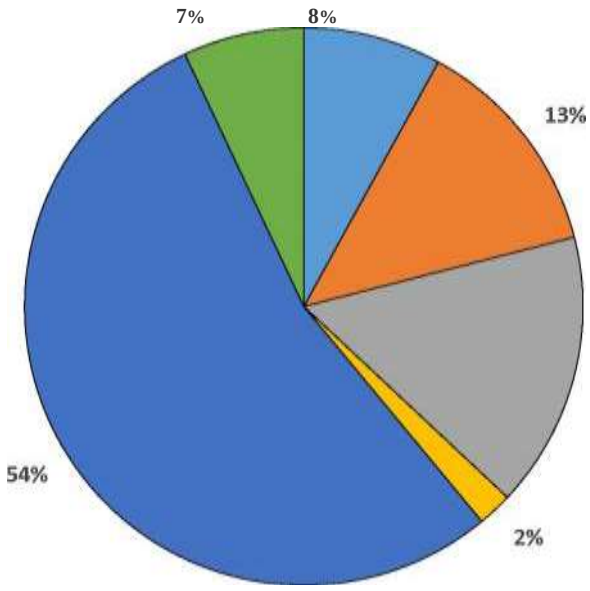
In 2017, state authorities continued to focus on more effective monitoring of the provisions of Act No 406/2000 on energy management, as amended (the Energy Management Act), which transposes a significant part of the Directives on energy efficiency and on the energy performance of buildings.

Pursuant to Article 13a of the Energy Management Act, as amended, compliance with the Act is monitored by the State Energy Inspectorate (SEI). Inspections carried out in 2017. In all, 721 inspections of compliance with the obligations linked to energy management were carried out in 2017.

Monitoring under Act No 406/2000 can be divided into six groups:

1. regular monitoring of boilers and relevant thermal energy distribution systems and monitoring of air-conditioning systems;
2. regulatory equipment, heating rules, efficiency of facilities in terms of heat loss, etc.;
3. obligations linked to energy performance certificates for buildings;
4. drawing up of energy audits and assessments;
5. obligations of energy specialists;
6. labelling and eco-design.

Figure 8: Proportion of individual groups in the overall number of SEI inspections (see original)



Source: SEI

Apart from the above, under Article 13 of Act No 406/2000 the SEI is the competent authority for defending the interests protected by this Act in certain proceedings conducted by the construction authorities, and it issues binding opinions in those proceedings. A total of 126 binding opinions were issued in 2017. The SEI is also the competent authority for acquiring a territorial development policy and territorial planning documentation, and will issue an opinion in selected cases.

4.2. Non-legislative measures

In 2017, two strategy documents were updated and then discussed and agreed by the Czech government. The updates were to:

- the National Energy Efficiency Action Plan of the Czech Republic;
- the renovation plan within the scope of Article 5 of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency.

The National Energy Efficiency Action Plan was updated in 2017 in accordance with Article 24 of the Directive. As part of the update, new targets for energy savings were reviewed under Article 7 and additional policy measures for an alternative scheme to strengthen the trend towards increased energy efficiency were proposed. The update reflects progress in implementing the instruments under the Directive since 2014. In particular, legislative measures (amendments to energy-related acts in 2015 and their implementing legislation) and fiscal measures (approval and announcement of the ENERG programme, approval of new programming documents for the EFEKT 2 programme and its approval for 2017-2021, continuous announcement of calls for aid programmes for energy efficiency funded from the Structural Funds) have been adopted. The document also contains mandatory annexes, i.e. the Updated Building Renovation Strategy pursuant to Article 4 of the Directive and the assessment of the potential for high-efficiency cogeneration and efficient district heating and cooling for the Czech Republic pursuant to Article 14 of the Directive.

The Reconstruction Plan update under Article 5 of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency was drawn up in response to the Commission's statement of 11 April 2016 (ENER.C.3/RH/ener.c.3.dir(2016)2073584) on the refusal of exemptions for buildings of the Czech Prison Service. This update took longer to draw up owing to the scale of the building stock owned by this central institution. Based on the analyses carried out, there was not only a review of the building stock owned by central institutions which was subject to compulsory renovation under Article 5 of the Directive, but in particular an update of the amount of the annual commitment and its implementation over the preceding period. The document also contains an investment plan for the renovation of buildings owned and used by central institutions; see Chapter 5, *Exemplary role of public bodies' buildings (Article 5).*

2017 saw the launch of the following measures contained in the Czech Republic's alternative scheme for the application of Article 7 of the Directive (reflected in the National Energy Efficiency Action Plan update):

- State programme for the promotion of energy-saving 2017-2021 (EFEKT 2);
- financial instruments for increasing energy efficiency;
    - first call for a financial instrument – Energy savings for OPEIC;
    - first call for the ENERG programme;
- the Reasonable Energy Savings Programme.

In connection with the end of the programming period for the EFEKT programme, a new 'State programme for the promotion of energy-saving 2017-2021' was launched in 2017 with the working title EFEKT 2. **The EFEKT 2 programme** emphasises soft measures focused on increasing awareness of the benefits of energy savings, providing energy advice and supporting EPC projects and the introduction of energy management. Despite this, the programme also supports the actual implementation of energy-saving

measures, particularly the renovation of street lighting. Compared to the EFEKT programme, EFEKT 2 increased the amounts allocated for 2017-2021 to CZK 750 million, representing a maximum annual budget of CZK 150 million (in 2015, EFEKT had an annual allocation of CZK 30 million) and expanded the activities supported and the types of applicants for those activities already supported, e.g. support for the introduction of energy management in the business sector and for energy-saving measures implemented in buildings using EPC methods.

In relation to investment support for increasing energy efficiency, the Czech Republic is striving in the long term to increase the cost-effectiveness of the aid system and focus on providing reimbursable aid through the financial instruments. On this basis, 2017 saw the **launch of pilot calls for financial instruments** under the ENERG and Energy Savings for the Operational Programme 'Entrepreneurship and Innovations for Competitiveness' programmes.

On 12 June 2017, the **first call for the ENERG programme was announced,** administered by the Ministry of Industry and Trade, which will grant preferential loans for energy-saving projects in businesses in the Prague area. The preferential loan is supplemented by a financial contribution in order to achieve the target for energy savings and a financial contribution for drawing up an energy assessment. The programme is one of the pilot projects for developing financial instruments in the Czech Republic and fills the current gap in funding for energy-saving projects for businesses operating in the Prague area. It is funded from revenues from the sale of emission allowances from 2014 and administered by the Czech-Moravian Guarantee and Development Bank.

In addition, on 19 September 2017 the **first call for the financial instrument 'Energy savings for OPEIC'**, also administered by the Czech-Moravian Guarantee and Development Bank, was approved. The financial instrument aims to provide part of the funding for the OPEIC in the form of preferential loans in combination with an interest rate subsidy and a financial contribution for drawing up an energy assessment. A financial instrument is a simpler and more cost-effective alternative to grant aid for energy-saving measures in the business sector under the OPEIC.

In 2017, the **Reasonable Energy Savings Programme** was launched, aimed at promoting examples of good practice by recording high-quality energy-saving projects. Another part of the programme is the provision of a quality label to verified energy service providers, consultancy companies, designers, energy specialists and others involved in implementing high-quality, verified energy-saving projects. This is an instrument for providing potential investors with the motivation and guidance to draw up new high-quality projects with a high level of energy-saving. The programme is linked to new activity under the EFEKT 2 programme, supporting a feasibility study with a proposal for an optimal combination of measures for savings. The aid is focused on the housing, public and business sectors.

5. Exemplary role of public bodies' buildings (Article 5)

In 2015, the Ministry of Industry and Trade, in cooperation with other stakeholders and following on from previous documents relating to Article 5 of the Directive, drew up an investment plan for the renovation of buildings owned by central institutions under the rules set out in Article 5 of the Directive. The document included a list of the institutions subject to the commitment under Article 5 of the Directive and their renovation plans, quantifying the expected energy savings in buildings they own and occupy with an energy reference area of over 250 m^2 not meeting the energy performance requirements under Section 7 of Act No 406/2000 on energy management.

As part of the *Reconstruction Plan Update under Article 5 of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency*, drawn up with a view to 2020, the exemptions applied to the buildings of the Czech National Bank were reviewed in 2017-18. This institution was included among those subject to the obligation under Article 5 of the Directive. However, it should be noted that all the buildings they own and use meet the energy performance requirements under the Energy Management Act. The amount of the commitment resulting from the alternative approach to fulfilling

the obligation under Article 5 of the Directive was also revised, owing to the reintegration of buildings owned and used by the Czech Prison Service (a total of 447 buildings, of which 389 do not meet energy performance requirements).

In accordance with Annex IV to the Public Procurement Directive (2004/18/EC), the following 42 institutions were identified in the Czech Republic:

Table 2: Institutions identified in accordance with Annex IV to the Directive

1.	Academy of Sciences of the Czech Republic	*22.*	Ministry of Foreign Affairs
2.	Security Information Service	*23.*	Ministry of Health
3.	Czech National Bank	*24.*	Ministry of Agriculture
4.	Czech Mining Authority	*25.*	Ministry of the Environment
5.	Czech Statistical Office	*26.*	National Security Authority
6.	Czech Telecommunications Office	*27.*	Supreme Audit Office
7.	Czech Surveying and Land Registry Office	*28.*	Supreme Court
8.	Energy Regulatory Office	*29.*	Supreme Administrative Court
9.	Grant Agency of the Czech Republic	*30.*	Supreme Public Prosecutor's Office
10.	Office of the President	*31.*	Chamber of Deputies of the Parliament of the Czech Republic
11.	Office of the Public Defender of Rights	*32.*	Senate of the Parliament of the Czech Republic
12.	Ministry of Transport	*33.*	Administration of the State Material Reserves
13.	Ministry of Finance	*34.*	State Labour Inspection Office
14.	Ministry of Culture	*35.*	State Office for Nuclear Safety
15.	Ministry of Defence	*36.*	Office for the Protection of Competition
16.	Ministry of Labour and Social Affairs	*37.*	Office for Personal Data Protection
17.	Ministry of Regional Development	*38.*	Office for Government Representation in Property Affairs[11]
18.	Ministry of Industry and Trade	*39.*	Industrial Property Office
19.	Ministry of Justice	*40.*	Office of the Government of the Czech Republic
20.	Ministry of Education, Youth and Sports	*41.*	Constitutional Court
21.	Ministry of the Interior	*42.*	Prison Service

Under Article 5(1) of the Directive, the obligation to renovate applies to buildings that are both owned and occupied by central government institutions. Furthermore, Article 5(2) of the Directive allows for the exemption of buildings:

- owned by the armed forces or central government institutions and serving national defence purposes (the main reason for the current decrease in the number of buildings);
- used as places of worship and for religious activities.

In view of the above, the obligation to renovate the buildings owned and occupied by central government institutions applies to 37 out of the 42 institutions, i.e. five central government institutions from the main list do not satisfy both conditions at the same time (building is owned and occupied), or are exempt under Article 5(2) of the Directive.

The institutions are as follows:

- the Academy of Sciences of the Czech Republic – does not own any buildings;
- the Security Information Service (BIS) – the premises were exempted due to their nature and at the request of the BIS;
- the Grant Agency of the Czech Republic – does not own any buildings;
- the Office of the President – does not own any buildings;
- the Ministry of the Interior – does not own any buildings.

The buildings within the scope of Article 5 of the Directive exclude selected buildings of the Ministry of Defence which qualify

[11] A non-obligated institution, included at its own request.

for exemption under Article 5(2) of the Directive, i.e. they are owned by the armed forces or central government institutions serving national defence purposes.

The above-mentioned 37 central government institutions own and occupy 775 buildings with an energy reference area of over 250 m^2 and with a total energy reference area of 2 431 918 m^2. **Of these, 586 buildings with a total non-compliant energy reference area of 1 593 682 m^2 do not meet energy performance rating C (energy-efficient building).**

Figure 9: Energy reference area of central government institution buildings covered by Article 5 of the Directive (see original)

ERA compliant 34%
ERA non-compliant 66 %

Following the procedures described in the Commission staff working document *Guidance note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC – Article 5: ' Exemplary role of public bodies' buildings – accompanying the Communication from the Commission to the European Parliament and the Council – Implementing the Energy Efficiency Directive***'** and in light of the choice of an alternative approach to meeting the requirement of Article 5 of the Directive, a determination was made of the annual energy saving to be achieved as a result of energy-saving measures, which should be equivalent to the renovation of 3 % of the energy reference area of those buildings that do not meet the required energy performance of buildings.

During 2017 there was a gradual review of the commitment by the Prison Service due to the later inclusion of buildings subject to the commitment under Article 5 of the Directive. The amount of the commitment reported in the 2016 progress report was amended on the basis of recent data on Prison Service buildings. A later update of the data required for establishing the commitment was due to the significant number of buildings owned and used by the Prison Service.

The target for savings to be achieved by energy saving measures in the buildings of central government institutions was calculated at 14.1 TJ/year.

Table 3: Summary of and progress towards the annual commitment under Article 5 of the Directive

	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**total**
Annual energy savings commitment [TJ]	14.1	14.1	14.1	14.1	14.1	14.1	14.1	**98.5**
Annual energy savings commitment, cumulative [TJ]	14.1	28.2	42.2	56.3	70.4	84.5	98.5	
	Actual				**Planned**			
Annual energy savings [TJ]	4.1	10.5	7.1	24.8	14.9	74.3	7.9	**143.7**
Annual energy savings, cumulative [TJ]	4.1	14.6	21.8	46.6	61.5	135.8	143.7	
Progress towards the commitment (plan – commitment) [TJ]	-10	-3.5	-6.9	10.7	0.9	60.3	-6.2	**45.2**
Cost of renovations [CZK million]	31.2	183.6	102.1	164.4	471.1	825.8	795.2	**2 573.5**

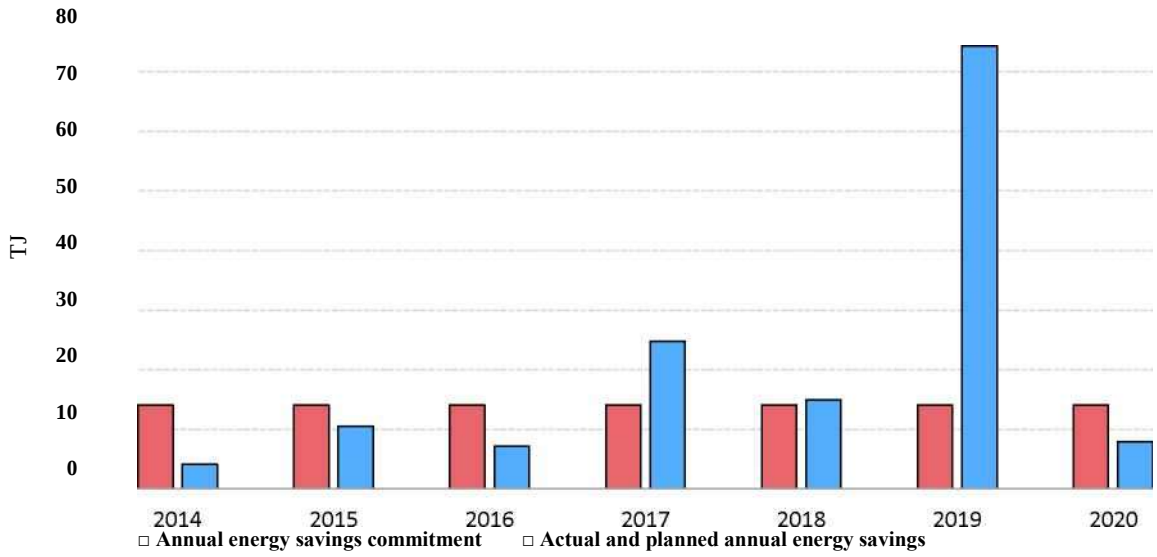
The 2017 commitment was assessed in March 2018 on the basis of data collected as part of regular monitoring under Section 9b(3) of

Act No 406/2000 on energy management, as amended. **In 2017, energy-saving measures were implemented in 16 central government buildings and on 15 Prison Service sites, resulting in savings for 2017 of 24.8 TJ. In particular these were construction measures such as replacing windows, insulating the building envelope and renovating the heating system.**

In addition to the saving measures set out in table 3, consumption monitoring of central institutions identified a further 50 projects totalling CZK 340.2 million which they could implement by 2020 provided that they could be funded and administered. Based on the cost of measures already implemented, the expected benefit from these 'potential' projects is 32.9 TJ in energy savings. Given that these projects are not currently set out in the investment plans of individual institutions, **they have not been considered in terms of meeting the Czech Republic's commitment at this stage.**

The analysis shows that between 2014 and 2017 there was a shortfall of 9.7 TJ in meeting the commitment. It is clear from the following illustration that in 2018-2020 the organisations concerned will have a significantly increased interest in renovation. Achievement of these objectives should compensate for the lack of fulfilment in previous years, with the Czech Republic exceeding the overall annual energy-saving commitment under Article 5 of the Directive by approximately 45 TJ.

Figure 10: Progress towards the commitment under Article 5, 2014–2020



6. Energy efficiency obligation scheme

6.1. New energy savings target under Article 7 of the Directive

As part of the National Energy Efficiency Action Plan update, new targets for energy savings were reviewed under Article 7 of the Directive. In January 2017, Eurostat published a review of data on energy consumption in the Czech Republic (Statistical data of the Czech Republic and analysis of trends in energy consumption). The changes included increased values for final energy consumption in the reference period determined for calculating new energy savings targets under Article 7 of the Directive, and therefore increased the target. **The Czech Republic's target under Article 7 of the Directive was set at 51.10 PJ of new energy savings (i.e. an annual average of 7.3 PJ), or a total of 204.39 PJ cumulative energy savings by 2020.**

6.2. Methodology for counting savings from soft measures

In 2017, a methodology was drawn up for counting savings from soft measures implemented under the Czech Republic's alternative scheme. It was drawn up by the Czech Technical University in Prague, with the title **'***Impact assessment of soft instruments in meeting energy efficiency targets***'.** The methodology was based on research aimed at proposing a suitable instrument for

calculating the energy savings achieved from soft measures supported by the EFEKT or EFEKT 2 programmes, and specifically the following:

- energy advice through Energy Consulting and Information Centres;
- support for projects implemented in buildings using EPC methods;
- education activities (experts).

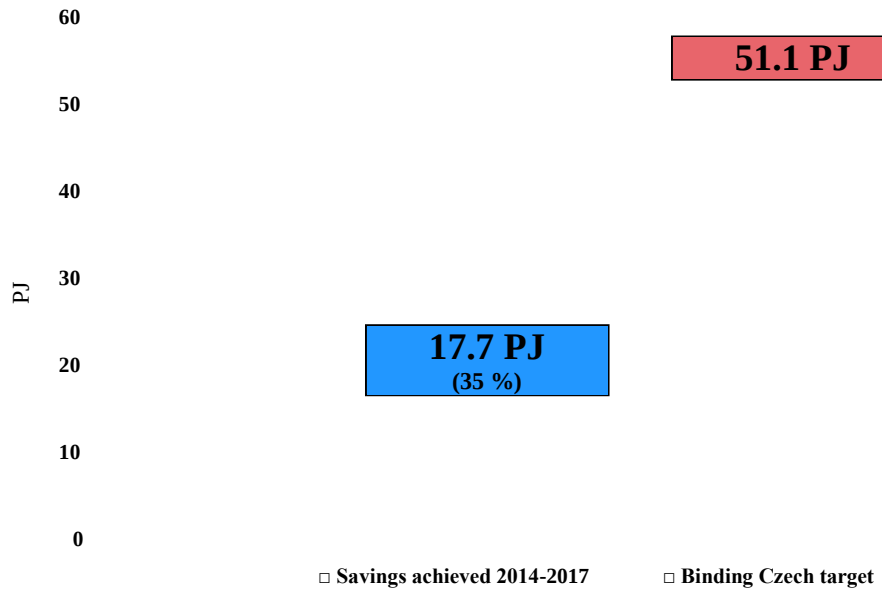
Based on the methodology drawn up for including savings from soft measures, the methodology for recording energy savings from alternative policy measures according to Article 7(9) of the Directive[12] was reviewed, and now contains a uniform approach to the method for determining and recording energy savings from non-investment (soft) measures. With a view to amending the methodology, there was a reassessment of the energy savings achieved from soft measures during 2014-2016. The Czech Republic therefore reviewed the savings achieved from policy measures over the preceding period. It has set out the review of savings achieved during 2014-2016 in this progress report.[13]

6.3. Current state of implementation of tools for achieving energy savings

The current analysis of fulfilment of the commitment, carried out as at 30 March 2018, shows that 17.7 PJ of new energy savings were achieved in 2014-2017. Between 2014 and 2017, therefore, the Czech Republic achieved 39.5 PJ in cumulative energy savings.

In fulfilling the annual energy savings commitment, a deficit of 11.5 PJ arose due to a shortfall in fulfilment in 2014, 2015 and 2016; the cumulative savings deficit for 2014-2017 is 33.5 PJ. This deficit must be made good by accelerating progress towards fulfilling the commitment in the forthcoming 2018-2020 period.

Figure 11: Fulfilment of all new energy savings under Article 7 of the Directive (see original)



[12] The methodology is attached to the National Energy Efficiency Action Plan update. The updated methodology for recording energy savings from alternative policy measures according to Article 7(9) of the Energy Efficiency Directive is attached to this progress report.

[13] See Chapter 6.3 Current state of implementation of tools for achieving energy savings.

The benefits of individual policy measures for 2014-2017 are shown in the table below.

Table 4: Compliance with the commitment under Article 7 of the Directive

	Measure	**2014 [TJ]**	**2015 [TJ]**	**2016 [TJ]**	**2017 [TJ]**
1.1	Regeneration of pre-fabricated concrete buildings – programmes PANEL/NEW PANEL (MoRD)/PANEL 2013+	22.4	39.0	43.0	17.9
1.2	Green Savings Programme (MoE)	terminated	-	-	-
1.3	New Green Savings Programme 2013 (MoE)	63.7	148.8	98.9	0.0
1.4	New Green Savings Programme 2014-2020 (MoE)	19.1	230.9	637.0	926.0
1.5	JESSICA Programme (MoRD)	14.4	40.3	19.2	0.0
1.6	Integrated Regional Operational Programme (MoRD)	-	-	0.0	67.5
1.7	Joint Boiler Replacement Scheme (MoE)	49.6	0.0	terminated	-
1.9	Operational programme Environment 2014–2020 (MoE) (Priority Axis 2 – SO 2.1)	-	0.0	817.2	178.8
1.8	Operational Programme Environment 2007-2013 (MoE)	84.7	864.1	1 111.2	0.0
1.9	Operational Programme Environment 2014–2020 (MoE) (Priority Axis 5 – SO 5.1)	-	0.0	90.2	35.2
1.10	State programmes to promote energy savings and the use of renewable energy sources (EFEKT) (MIT)	344.4	274.2	279.1	1.3
1.11	State programme to promote energy savings (EFEKT 2) (MIT)[14]	-	-	0.0	378.2
1.12	OP Prague Growth Pole – Buildings section (City of Prague)	-	-	0.0	12.8
1.13	Operational Programme Enterprise and Innovation 2007–2013 (MIT)	441.8	1 096.0	561.0	0.0
1.14	Operational Programme Enterprise and Innovation for Competitiveness 2014–2020 (MIT)	-	0.0	19.0	451.2
1.15	ENERG Programme (ČMZRB)	-	-	-	0.0
1.16	Reasonable Energy Savings Programme (MIT)	-	-	-	Programme in preparation
1.17	Alternative measures for increasing energy efficiency in Czech industry and in municipalities and regions	-	-	32.4	61.3
1.18	Transport Operational Programme (MoT)	-	-	-	Programme in preparation
1.19	Sustainable Development Strategic Framework	1 064.5	1 916.1	2 554.8	2 554.8
TOTAL		**2 104.5**	**4 609.4**	**6 262.9**	**4 685.1**

In 2014, 2 104.5 TJ of final energy savings were achieved due to the gradual implementation of projects supported by operational and national programmes from the 2007–2013 programming period. The Operational Programmes under the 2014–2020 programming period were in preparation and therefore did not bring any final energy savings. In 2015, 4 609.4 TJ of final energy savings were achieved. This increase was similar to that for 2014, thanks to the effective take-up of Operational Programme 'Enterprise and Innovation' and Operational Programme 'Environment' from the 2007–2013 programming period.

[14] The savings under the State programme to promote energy savings (EFEKT 2) are achieved from both investment and non-investment activities. These include reducing the energy intensity of street lighting, energy advice through Energy Consulting and Information Centres and actions focused on education in energy-saving.

In 2016, 6 262.9 TJ of final energy savings were achieved. This increase over 2014 and 2015 is due both to the final take-up of Operational Programme 'Enterprise and Innovation' and Operational Programme 'Environment', and to the take-up of operational and national programmes from the programming period 2014–2020. **In 2017, 4 685.1 TJ of final energy savings were achieved.** The national New Green Savings Programme, together with the State programme to promote energy savings (EFEKT 2) and the Operational Programme 'Entrepreneurship and Innovations for Competitiveness', played a major part in achieving these energy savings.

List of tables:

Illustrations: