

5. REPORT ON PROGRESS TOWARDS NATIONAL ENERGY EFFICIENCY TARGETS IN THE CZECH REPUBLIC

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

Introduction

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 (hereinafter 'the Directive') establishes a common framework of measures to promote energy efficiency in the EU to achieve the EU's 20 % energy efficiency target by 2020 and to create the conditions for further energy efficiency improvements beyond that date. The Directive lays down rules designed to remove barriers in the energy market and overcome market failures that impede efficiency in the supply and use of energy, and provides for the establishment of indicative national energy efficiency targets for 2020.

National indicative energy efficiency target of the Czech Republic for 2020

The national indicative energy efficiency target, the 'national contribution' to achievement of the Union's 2020 20 % headline target for energy efficiency, was set in line with the requirements of Article 3 of Directive 2012/27/EU. 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 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. The Update is a strategic document outlining the State's objectives in energy management in line with economic and social development needs, including environmental protection, serving also to develop territorial energy policies. It is a key document by which the Czech Government formulates the political, legislative and administrative framework for reliable, affordable and sustainable energy supply.

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 2020 20 % headline target for energy efficiency. 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. Under this scenario, the final energy consumption of the Czech Republic in 2020 would be 1 324.87 PJ, i.e. 31.644 Mtoe, without taking into account the effect of savings from the implementation of the Directive.

The national indicative target, i.e. the maximum level of final energy consumption to be achieved by the Czech Republic, was determined on the basis of the 20 % reduction in line with the EU target. **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 primary energy coefficient of 1.75¹.

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

The key statistics in Table 1 were prepared in line with the requirements of Annex XIV to the Directive for the period 2011–2015 based on EUROSTAT data. The Czech Republic has historically compiled its energy balance in accordance with the methodology of the International Energy Agency (IEA), which is also the basis for the Update. However, following the requirement resulting from EU Pilot No 7553/15/ENER, the approach to calculating energy efficiency targets under the Directive in accordance with EUROSTAT methodology was changed in 2015 as part of the NAPEE update. As a result of this change, the target set out in Article 7 of the Directive was recalculated in 2015 and increased. Furthermore, the Czech Statistical Office carried out a detailed revision of the methodology and reporting forms in 2016, which led to further adjustments to the reports, resulting in an increase in the final energy consumption level for the previous period and the commitment under Article 7 of the Directive (see below). The updated data was published by EUROSTAT in February 2017.

Analysis of trends in energy consumption shows a long-term decline in final energy consumption and primary energy consumption. The year-on-year increase in energy consumption in 2015 must be viewed in relation to the external influences affecting energy consumption, especially climatic conditions. Energy consumption in 2014 was affected by above-average temperatures in the heating season², which resulted in reduced consumption of heating energy. For this reason, 2014 should be regarded as a statistical outlier, and the latest developments in energy consumption in 2015 should be compared with 2013. In this sense, the increase in energy consumption in 2015 means a return to the long-term trend of decreasing energy consumption and the overall decline in the energy intensity of the economy.

Energy consumption by sector should be viewed in light of the above-mentioned trend in final energy consumption. In the industrial sector, the Czech Republic posted an increase in final energy consumption in 2015 compared to 2013. This increase was due to an increase in the performance of Czech industry and an increase in the gross added value of the sector. In 2015, final energy consumption in industry increased by 0.3 % compared to 2013. By contrast, an increase of more than 9 % was seen in gross value added. Overall, it is possible to conclude that, despite an increase in final energy consumption in the industrial sector, the sector's energy intensity per unit of gross added value declined by 8 %.

¹ The coefficient was determined on the basis of developments in the primary energy coefficient in 2010–2015 with an assumption of increasing energy conversion efficiency.

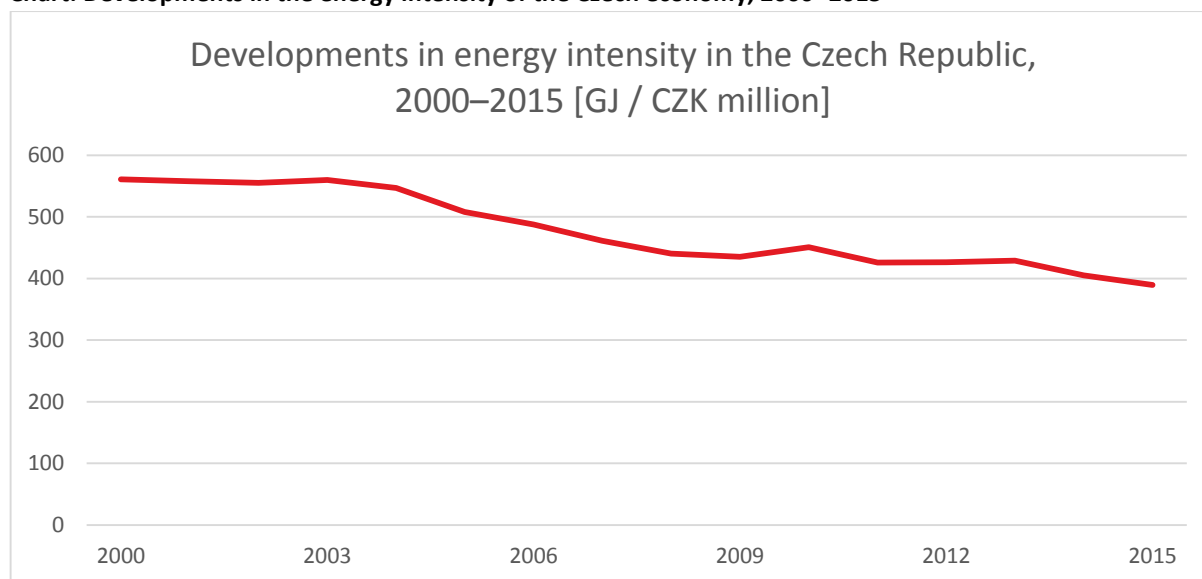
² According to data from the Czech Hydrometeorological Institute, the value for degree-days in the heating season in 2014 was up 36 % compared to 2013 and up 10 % compared to 2015.

The energy consumption in transport increased year-on year in 2013–2015. This increase was due to the increase in industrial production over the period, the consequent increase of 20 % in exports of manufactured goods and the resulting increase in freight and rail transport requirements. In addition to the impact of industry on energy consumption in the transport sector, account must also be taken of the fact that the transport sector itself increased its contribution to gross domestic product creation over the period 2013–2015, which explains the increased energy consumption.

Table 1: Statistical data of the Czech Republic – EUROSTAT data

| | unit | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|-------------|------------|------------|------------|------------|------------|
| Consumption of primary energy sources | TJ | 1 833 224 | 1 821 390 | 1 822 045 | 1 768 524 | 1 776 965 |
| Total final energy consumption | TJ | 1 023 686 | 1 021 906 | 1 017 008 | 983 664 | 1 010 197 |
| Final energy consumption by sector: | | | | | | |
| Industry | TJ | 328 057 | 325 326 | 314 616 | 310 381 | 315 639 |
| Transport | TJ | 261 499 | 254 664 | 252 131 | 261 311 | 271 674 |
| Households | TJ | 280 865 | 291 686 | 300 750 | 266 179 | 275 194 |
| Services | TJ | 126 817 | 122 820 | 120 764 | 117 035 | 119 279 |
| Gross added value by sector – 2005 prices: | | | | | | |
| Industry | CZK | 1 423 234 | 1 382 570 | 1 331 184 | 1 393 498 | 1 452 971 |
| Services | CZK | 1 949 223 | 1 952 089 | 1 980 866 | 2 031 438 | 2 106 200 |
| Gross added value by sector – Current prices: | | | | | | |
| Industry | CZK million | 1 347 606 | 1 346 426 | 1 346 252 | 1 477 294 | 1 546 848 |
| Services | CZK million | 2 206 097 | 2 206 690 | 2 223 576 | 2 314 585 | 2 444 995 |
| Disposable income of households | CZK million | 2 184 176 | 2 205 828 | 2 207 679 | 2 284 609 | 2 362 047 |
| Gross domestic product (GDP) – 2005 prices | CZK million | 3 747 492 | 3 717 518 | 3 699 537 | 3 799 984 | 3 972 337 |
| Gross domestic product (GDP) – current prices | CZK million | 4 033 755 | 4 059 912 | 4 098 128 | 4 313 789 | 4 554 615 |
| Electricity generation by thermal power plants | GWh | 82 157 | 81 925 | 80 692 | 80 514 | 77 912 |
| Electricity generation from co-generation | GWh | 43 540 | 42 234 | 41 981 | 42 605 | 42 349 |
| Heat generation by thermal power plants | TJ | 134 971 | 134 926 | 136 074 | 118 429 | 119 876 |
| Heat generation from co-generation, including industrial waste heat | TJ | 104 012 | 106 180 | 106 985 | 94 327 | 95 704 |
| Fuel consumption for thermal power generation | TJ | 979 417 | 980 243 | 970 058 | 933 577 | 898 486 |
| Number of passenger-km – Ministry of Transport | pkm million | 108 353 | 107 794 | 107 172 | 110 114 | 113 814 |
| Number of tonne-km – Ministry of Transport | tkm million | 71 817 | 68 087 | 71 509 | 71 421 | 76 613 |
| Population (mean) – CSO | person | 10 496 672 | 10 509 286 | 10 510 719 | 10 524 783 | 10 542 942 |

Chart: Developments in the energy intensity of the Czech economy, 2000–2015



Source: EUROSTAT

Implementing the tools for meeting the targets of the Energy Efficiency Directive in 2016

Legislative measures:

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

In 2016, Decree No 480/2012 on the energy audit and energy review was amended. Decree No 309/2016 amending Decree No 480/2012 on the energy audit and energy review was drawn up in response to the adoption of Act No 103/2015 amending Act No 406/2000 on energy management as amended, and Act No 634/2004 on administrative fees as amended (hereinafter 'Act No 103/2015') and came into effect on 1 July 2015. The amendment to the Decree on the energy audit and energy review reflected the fundamental change introduced by Act No 103/2015, namely the introduction of an obligation to draw up a cost-benefit analysis in the cases defined in Section 9a of the Act identifying the potential for high-efficiency co-generation and the options for utilising waste heat, and a cost-benefit analysis of waste heat recovery and utilization in the case of the construction of new thermal power plants with a thermal input of more than 20 MW or substantial renovation of existing industrial operations and heat supply systems at such plants.

An amendment to the Energy Management Act was also drawn up in 2016. The legislative process was launched in January 2017; in March 2017 the amendment was approved by the Government of the Czech Republic and submitted to the Parliament of the Czech Republic for discussion. The main reason for this amendment to the Energy Management Act is to correct the method of transposing Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy

performance of buildings (hereinafter 'Energy Efficiency Directive'). In addition to this key reason for submitting the legislative proposal, the amendment to the Act also clarifies certain provisions in order to create a legal environment in the field of energy efficiency that will enable and support the achievement of the Czech Republic's energy efficiency targets.

Measures of a non-legislative nature

The following non-legislative documents were drafted and approved by the Government of the Czech Republic in 2016:

- Update of NAPEE (NAPEE-IV)
- The 2015 Report on implementation of the 'Plan for the reconstruction of buildings within the scope of Article 5 of Directive 2012/27/EU of the European Parliament and of the Council on Energy Efficiency in 2016 with a view to 2020'

The NAPEE update in 2016 was drawn up following the late approval of operational programmes by the European Commission and the subsequent delay in introducing mandatory energy efficiency measures. In addition, NAPEE-IV responds to some complaints following from EU Pilot No 7553/15/ENER and the fact that the mandatory increase in energy savings by final customers under Article 7 of the Directive by 2020 was at risk in the Czech Republic. For this reason, new intersectoral policy measures have been added as part of the update in order to increase the synergies between the policy measures proposed in NAPEE-III in 2014 and to promote the effects of maximizing energy efficiency across the economic sectors of the Czech Republic more effectively.

In the context of this update, the Government of the Czech Republic issued Resolution No 215 of 16 March 2016 requiring the administrators of energy efficiency support programmes to periodically evaluate these programmes in relation to progress towards the alternative scheme under Article 7 of the Directive, and to provide these evaluations to the relevant department of the Ministry of Industry and Trade responsible for setting the strategies and announcing progress in energy savings, the deadlines for compliance with these requirements being 31 March and 30 September. In response to the evaluation made on 30 September 2016, the Report on Progress Towards National Energy Efficiency Targets (hereinafter 'Report') was drawn up. This Report was subsequently submitted to the Government of the Czech Republic for information, and appropriate measures were taken to promote the improvement of energy efficiency, some of which are included in the NAPEE Update submitted in 2017.

The following policy measures were implemented in 2016 to promote energy efficiency improvements and progress towards the Czech Republic's target under Article 7 of the Directive:

- State programme to promote energy savings – EFEKT 2
- The 'ENERG' programme
- The 'Reasonable Energy Savings' programme
- Alternative measures for increasing energy efficiency in the Czech industry and in municipalities and regions
- Operational Programme Transport

- Sustainable Development Strategic Framework

An assessment of the benefits of these measures is provided in the chapter ‘System of mandatory energy efficiency improvements’.

In addition to the above-mentioned non-legislative measures, the Building Renovation Strategy under Article 4 of the Energy Efficiency Directive has been updated.

Exemplary role of public bodies’ buildings (Article 5)

Article 5 of the Directive, ‘Exemplary role of public bodies’ buildings’, is based on the premise that the public sector is supposed to lead energy efficiency improvements by example. In 2013, the Czech Republic opted for the ‘alternative’ method for meeting the target under Article 5 of the Directive. The Czech Republic decided on the alternative approach mainly due to the state of the stock of buildings owned and occupied by central government institutions (many of which are historical and listed buildings), where complex renovations can sometimes be very difficult to carry out. This approach allows combinations of different ways of reducing energy consumption in the buildings of central government institutions.

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, with a quantification of the expected energy savings in buildings they own and occupy with an energy reference area of over 250 m² and not meeting the energy performance requirements under Section 7 of Act No 406/2000 on energy management.

When 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 late 2016 and early 2017 with a view to 2020, the building stock was revised (increased), along with the amount of the commitment resulting from the alternative approach to fulfilling the obligation under Article 5 of the Directive. During this review, buildings owned and occupied by the Prison Service of the Czech Republic were re-included in response to the European Commission’s rejection of a request to exempt these buildings from the obligation to renovate. Central government institutions are defined in Annex IV to the Public Procurement Directive (2004/18/EC), which lists the central government authorities in all Member States. These authorities include the following 42 institutions:

| | | | |
|----|---|-----|------------------------------------|
| 1. | Security Information Service | 22. | Ministry of Foreign Affairs |
| 2. | Academy of Sciences of the Czech Republic | 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 for Regional Development | 38. | Industrial Property Office |
| 18. | Ministry of Industry and Trade | 39. | Office of the Government of the Czech Republic |
| 19. | Ministry of Justice | 40. | Constitutional Court |
| 20. | Ministry of Education, Youth and Sports | 41. | Prison Service |
| 21. | Ministry of the Interior | 42. | Office for Government Representation in Property Affairs ³ |

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 36 out of the 42 central government institutions, i.e. six 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 six institutions are:

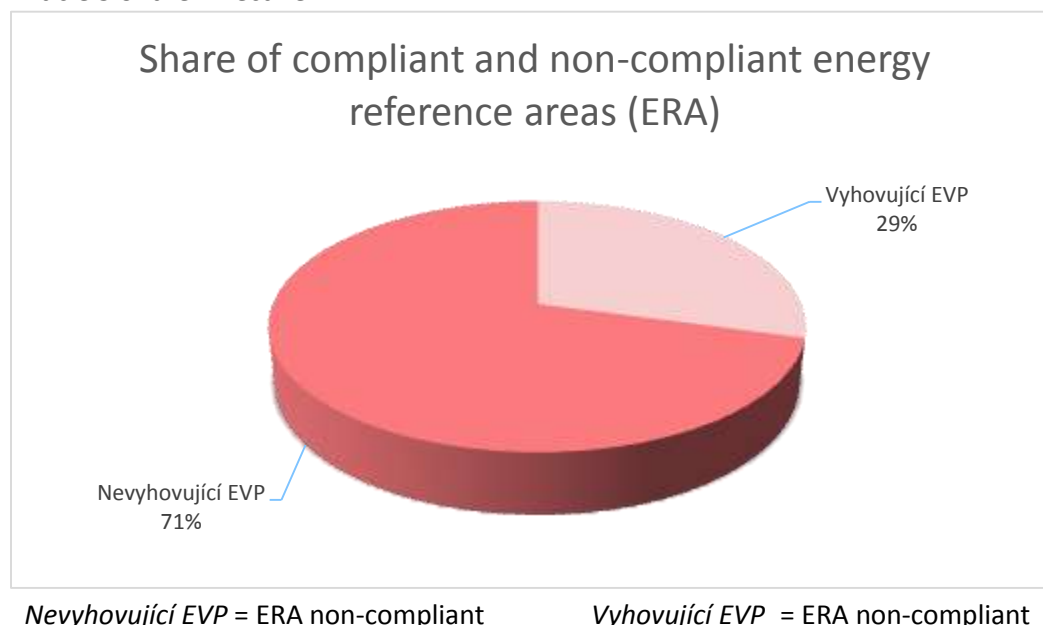
- The Office of the President – does not own any buildings;
- BIS – the objects were exempted due to their nature and at the request of the BIS;
- Academy of Sciences of the Czech Republic – does not own any buildings;
- The Czech National Bank – according to the guidelines on Directive 2012/27/EC, the CNB falls within the obligated entities under Annex IV of the Public Procurement Directive (2004/18/EC). From a substantive perspective, the obligation does not in practice apply under Czech law to the Czech National Bank and the buildings it owns;
- Grant Agency of the Czech Republic – does not own any buildings;
- 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 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.

³ A non-obligated institution, included at its own request.

The above-mentioned 36 central government institutions own and occupy 781 buildings with an energy reference area of over 250 m² and with a total energy reference area of 2 211 344 m². **Of these buildings, 561 buildings with a total non-compliant energy reference area of 1 563 941 m² do not meet the energy performance rating C – energy efficient building.**

Chart: Energy reference area of central government institution buildings covered by Article 5 of the Directive



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 document 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, and it should be equivalent to the renovation of 3 % of the energy reference area of the buildings that do not meet the required energy performance of buildings.

The target for savings to be achieved by energy saving measures in the buildings of central government institutions was calculated at 23.8 TJ/year.

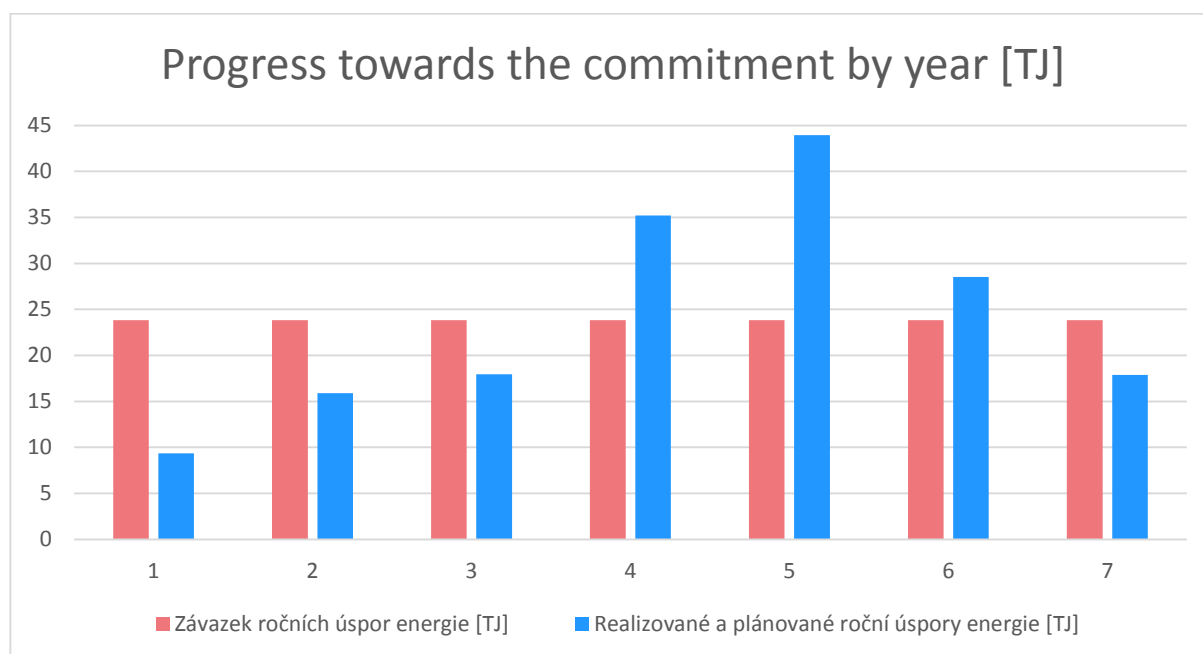
Table 4: Summary of and progress towards the annual commitment under Article 5 of the Directive

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | total |
|---|--------|------|------|---------|-------|-------|-------|-------|
| Annual energy savings commitment [TJ] | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 166.8 |
| Annual energy savings commitment, cumulative [TJ] | 23.8 | 47.7 | 71.5 | 95.3 | 119.2 | 143.0 | 166.8 | |
| | Actual | | | Planned | | | | |
| Annual energy savings [TJ] | 9.4 | 15.9 | 17.9 | 35.2 | 43.9 | 28.5 | 17.9 | 168.8 |

| | | | | | | | | |
|--|-------|------|------|------|-------|-------|-------|--------------|
| Annual energy savings, cumulative [TJ] | 9.4 | 25.3 | 43.2 | 78.4 | 122.4 | 150.9 | 168.8 | |
| Progress towards the commitment (plan – commitment) [TJ] | -14.5 | -7.9 | -5.9 | 11.4 | 20.1 | 4.7 | -6.0 | 2.0 |
| Cost of renovations [CZK million] | 139 | 277 | 346 | 394 | 755 | 897 | 505 | 3 312 |

The 2016 commitment was assessed in February 2017 on the basis of data gathered during regular monitoring under Section 9b(3) of Act No 406/2000 on energy management as amended. In 2016, energy-saving measures were implemented at 13 buildings of central government institutions and 35 Prison Service sites, resulting in 17.9 TJ of energy savings in 2016. These measures mainly included building alterations such as window replacement, modifying the cladding, renovating the heating system, etc.

Chart: Progress towards the commitment under Article 5 of the Directive, 2014–2020



Závazek ročních úspor energie (TJ)

Annual energy savings commitment

Realizované a plánované roční úspory energie (TJ)

Actual and planned annual energy savings (TJ)

Energy efficiency obligation scheme

New energy savings target under Article 7 of the Directive

The Czech Republic has historically compiled its energy balance according to the IEA methodology, which is also the basis for the State Energy Policy. Based on complaints from the European Commission regarding the update of the Czech National Action Plan for Energy Efficiency 2014, the method for calculating this target was changed. The target of the Czech Republic for 2020 is now

calculated on the basis of the EUROSTAT methodology. As a result of this change, the target increased in 2015 due to a difference of 2.89 PJ between the value calculated according to the IEA methodology (47.78 PJ) and the value according to the EUROSTAT methodology (50.67 PJ). In addition to the change in methodology, EUROSTAT revised the data on energy consumption in the Czech Republic in January 2017 - see the above Statistical data of the Czech Republic and analysis of trends in energy consumption. This change led to an increase in the final energy consumption values in the reference period for the calculation of the new energy savings target, and the target therefore increased. **Based on analyses carried out in the drafting of NAPEE-V, the Czech Republic's target under Article 7 of the Directive is set at 51.10 PJ (14.20 TWh) of new energy savings, i.e. a total of 204.39 PJ (56.78 TWh) of cumulated energy savings by 2020.**

Current state of implementation of tools for achieving energy savings

According to the NAPEE measures from 2014, the fulfilment of commitments under the energy efficiency obligation was dependent on the effective use of European Structural and Investment Funds and proceeds from the sale of emission allowances. The interim evaluation under this scheme of progress towards the commitment under Article 7 of the Directive proved to be inadequate. The risk of over-reliance on subsidy programmes was confirmed when the delayed approval of operational programmes by the European Commission caused delays in the implementation of energy efficiency measures in 2014 and 2015 and led to a failure to meet the predicted savings in the 2014–2016 period.

The data collected in 2016 confirmed this fact. Based on an analysis of progress towards national energy efficiency targets, the NAPEE updates of 2016 and 2017 reflected the risk of insufficient progress towards the commitment under Article 7 of the Directive. For this reason, efforts to propose additional energy-saving measures were intensified during preparation of the last two NAPEE updates⁴.

In 2016, the following additional policy measures were implemented:

- **State programme to promote energy savings (EFEKT 2)** – the new version of the programme aims to increase energy savings through investment aid for public lighting, renovation of heating systems and heat sources, energy saving measures using the EPC method and other projects related to energy savings. An important part of the programme is also the non-investment support for soft measures in the field of energy consultancy and education with a focus on raising awareness among the general public and the professional community about the economical use of energy and the possibilities for energy saving.
- **ENERG** is a programme designed as a pilot financial instrument aimed at achieving energy savings by providing concessional loans. The objective of the programme is to facilitate access to finance for final energy saving projects for small and medium-sized enterprises in

⁴ The individual measures are described in more detail in the 2017 Update of the National Action Plan for Energy Efficiency of the Czech Republic (NAPEE-V)

the capital city of Prague, thereby contributing to increasing their competitiveness in line with the European Union’s environmental policy for sustainable development.

- **Reasonable energy saving** is a programme focused on the promotion of successful energy-saving projects, and it thus has the potential to help raise awareness about energy saving. The programme also aims to stimulate the development and preparation of quality energy-saving measures without the use of investment funds in the public and private sectors. The programme will record the energy-saving measures implemented and their benefits where aid from operational and national grant programmes for energy efficiency improvement has not been used.
- **Energy efficiency in Czech industry and in municipalities and regions** – the measure aims to promote the implementation of additional alternative measures aimed at reducing energy consumption and related emissions or at improving energy efficiency in industry, services and the public sector. The main advantage of possible alternative measures lies in promoting an active approach of the industry to improving energy efficiency and addressing environmental issues. The key tools under this measure include voluntary agreements.
- **Operational Programme Transport**, under which projects to promote energy savings in rail transport will be supported. In this respect, the operational programme will focus mainly on the financing of a long-term project to reduce power losses as a result of the transition from the direct-current system to an alternating-current single-phase system. The transition to an alternating-current single-phase system will allow energy savings to be achieved both during system operation and through power recovery to the grid.
- **Sustainable Development Strategic Framework** – the aim of the measure is to provide a long-term stimulating framework for political decision-making at the national, regional and local levels by minimizing the negative impacts of economic activities on human health and natural ecosystems. The measure promotes the interdependence of sectoral and territorial measures to maximize synergies between the social, environmental and economic areas in order to accelerate the parameters of sustainable development. This framework includes a combination of instruments ranging from reinforced regulation to subsidy measures which, on a cross-cutting basis, make it possible to find and implement appropriate measures in accordance with established priorities, priority axes, objectives and calls at the level of national, regional and local decision-making.

Table 5: New policy measures for compliance with the commitment under Article 7 of the Directive

| | New policy measures | Estimated benefits in 2014–2020 (PJ) |
|------|---|---|
| 1.11 | State programme to promote energy savings (EFEKT 2) | 0.4 |
| 1.15 | The ‘ENERG’ programme | 0.04 |
| 1.16 | The ‘Reasonable Energy Savings’ programme | - |
| 1.17 | Alternative measures for increasing energy efficiency in Czech industry and in municipalities and regions | 0.5 |

| | | |
|--------------|---|---------------|
| 1.18 | Operational Programme Transport | 0.021 |
| 1.19 | Sustainable Development Strategic Framework | 15.845 |
| TOTAL | | 16.806 |

The NAPEE-V update proposes additional measures, the implementation or method of which in the 2017–2020 period is currently in the stakeholder discussion phase, and which should generate additional savings, thereby creating a certain reserve in case of non-compliance with the energy savings predicted under measures already implemented which are largely dependent on the effective drawdown of funds from support programmes.

- **Promoting the ecodriving of cars** – the measure addresses the improvement of car driving habits, leading to energy-efficient driving and thus energy savings. The measure will be implemented by an economic driving (ecodriving) manual and the introduction of periodic free training for car drivers (under the auspices of the Ministry of Transport), which will also include ecodriving.
- **Organisation of ecodriving training for lorry and bus drivers** – this is an extension of the periodic training of drivers of vehicle groups C1, C1+E, C, C+E, D1, D1+E, D or D+E under Act No 247/2000 on the introduction of training in the principles and practice of ecodriving.
- **Support for the installation of cogeneration units** – the measure is aimed at investment support for cogeneration units. The measure will, among other things, contribute to an increase in the gas connections as yet unused, the development of a decentralized energy sector and, in some cases, improvements in air quality.
- **Energy Savings Fund** – initial analysis is currently under way in respect of the options for establishing and utilising an Energy Savings Fund. The aim of the Fund should be to develop financial instruments (in the form of concessional loans, guarantees for bank loans) and technical assistance. Multi-source financing is envisaged for the Fund. The Fund could be financed from multiple sources. The specific sources, however, are still a matter of debate. One option is to involve obligated parties who could use the Fund to meet their obligations under Article 7(1) by contributing each year to a national energy efficiency fund. However, the mechanisms and options must be specified after discussion with all potential stakeholders.
- **Promoting construction in the Czech Republic in relation to increasing energy efficiency and protecting the environment in accordance with the EU 2020 environmental strategy** – the measure is intended to make it possible, within private construction, to give preference to energy-saving construction measures and increase support for these from the financial service providers that provide funding for private construction. Primarily, the measures may involve, for example, provision of better credit conditions for projects that increase energy efficiency (possibly in combination with the EPC), support for the preparation of energy assessments, or commitments from construction companies and developers to carry out construction using more energy efficient technologies and materials.

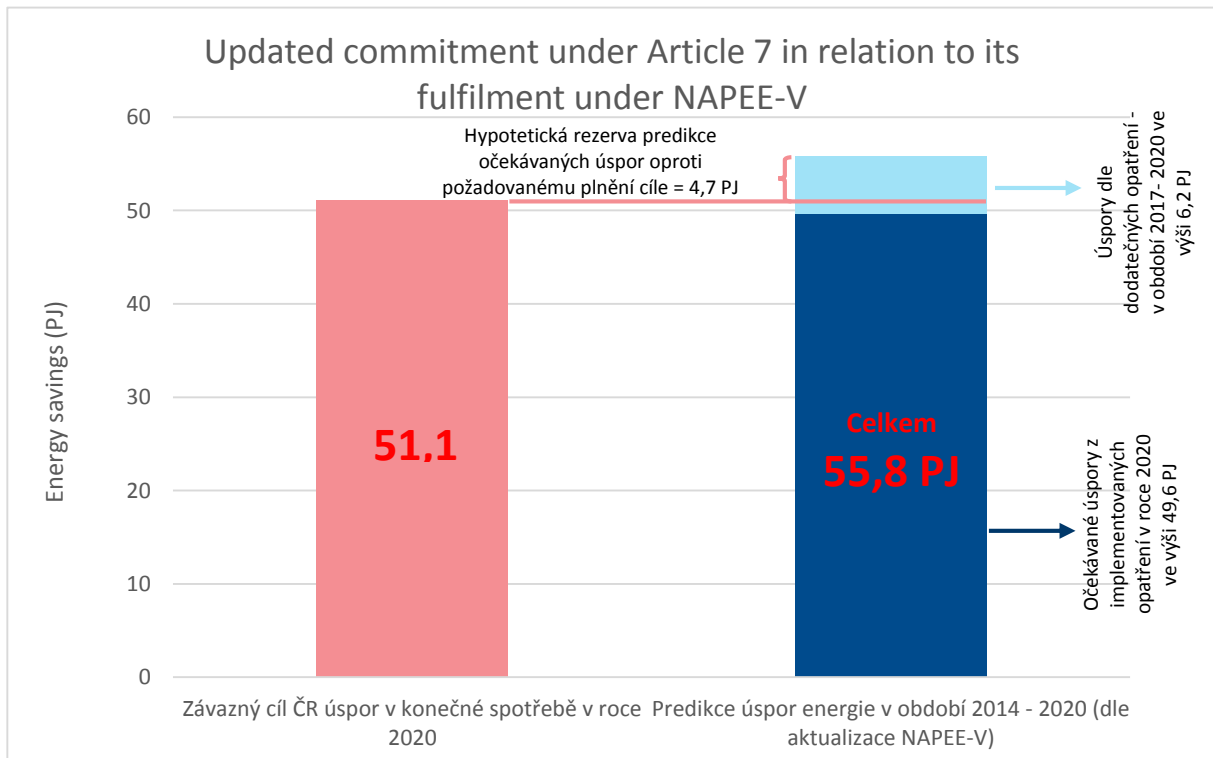
- **Programmes to support research and development** – the aim of the measure is to increase energy savings through support for projects under research and development programmes for reducing the energy intensity of production. The measure includes support for applied research, experimental developments and innovation that contribute directly or indirectly to energy saving.
- **Summary of the measure to increase the energy efficiency of agricultural establishments** – the measure combines both legislative instruments and grants. Energy savings can be achieved by the reconstruction and construction of buildings with low energy consumption, by the use of cogeneration for local production of electricity and heat, the purchasing of more efficient technologies, operation of more energy-saving road and non-road machinery, etc.

After updating the size of commitment following the revision of data by EUROSTAT and the simultaneous update of predicted progress towards savings under the individual policy measures, it can be expected that the measures implemented in the 2014–2016 period will not be sufficient to meet the commitment for new energy savings of 51.1 PJ. To meet the commitment, it will be necessary to take additional measures in the 2017–2020 period. This creates a hypothetical reserve equivalent to 4.7 PJ in respect of progress towards energy savings compared to the commitment. If all the additional measures are implemented and the anticipated potential is fulfilled, we can expect energy savings of 55.8 PJ in 2020.

Table 6: Additional policy measures for compliance with the commitment under Article 7 of the Directive

| | New additional policy measures | Estimated benefits in 2017–2020 (PJ) |
|--------------|---|---|
| 1.20 | Promoting the ecodriving of cars | 0.2 |
| 1.21 | Organisation of ecodriving training for lorry and bus drivers | 1.8 |
| 1.22 | Support for the installation of cogeneration units | 0,6 |
| 1.23 | Energy savings fund | 2.6 |
| 1.24 | Support for the construction sector in the Czech Republic in improving energy efficiency and environmental protection in line with the EU 2020 environmental strategy | 1 |
| 1.25 | Programmes supporting research and development | - |
| 1.26 | Summary of measures to increase the energy efficiency of agricultural establishments | - |
| TOTAL | | 6.2 |

Chart: Updated commitment under Article 7 in relation to its fulfilment



key:

Hypothetical reserve in predicted savings compared to required target = 4.7 PJ

51.1 PJ

**Total
55.8 PJ**

Savings based on additional measures – 6.2 PJ in 2017–2020

Binding 2020 target of the Czech Republic for final consumption savings

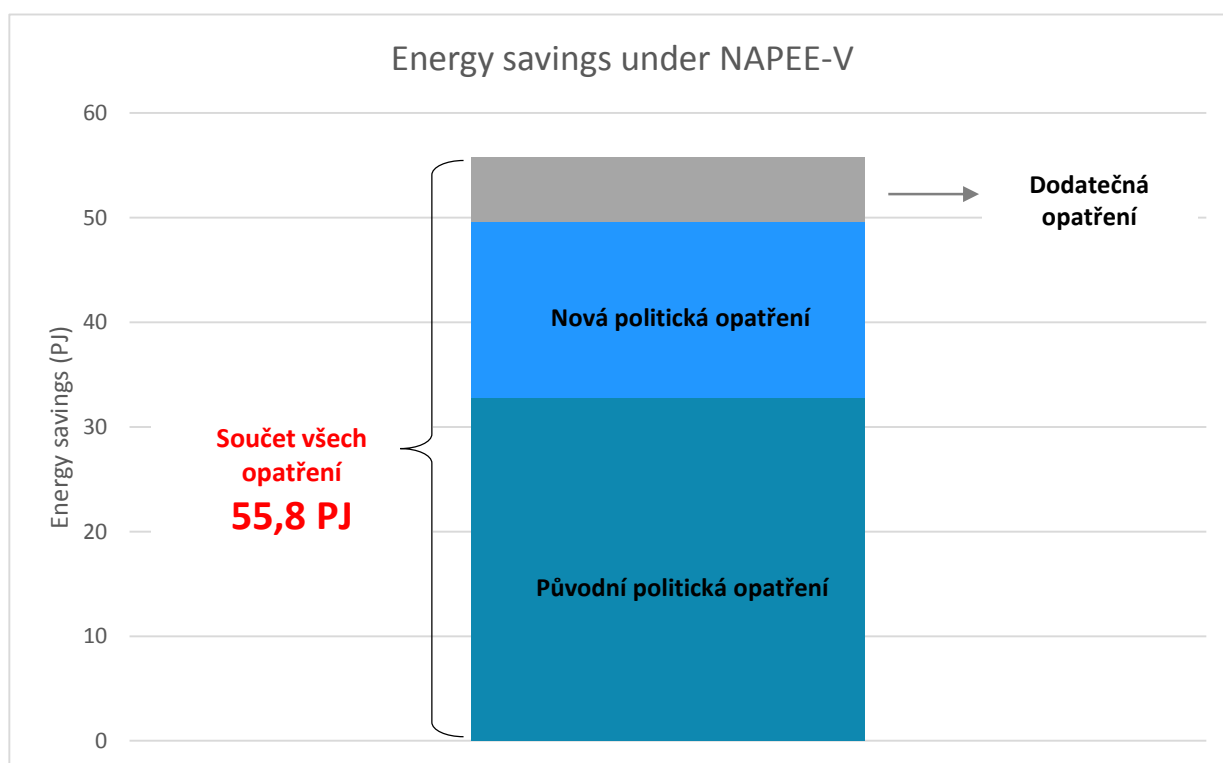
Predicted energy savings in 2014–2020 (according to NAPEE-V update)

Expected savings from the measures implemented of 49.6 PJ in 2020

In the 2017–2020 period, under NAPEE Update (NAPEE-V), savings from the measures implemented are expected to be 32.57 PJ. This should be amended to include savings of approximately 6.2 PJ from planned additional measures.

The individual measures, including the expected benefits thereof, are described in more detail in the Update of the National Action Plan for Energy Efficiency.

Chart: Energy savings from policy measures



Key:

All measures, total
55.8 PJ

New policy measures
Original policy measures

Additional measures

Assessment of progress towards the new savings target under Article 7

From the current analysis of progress towards the commitment carried out on 30 March 2017, it is clear that 157 % of the projected savings target under NAPEE-2016 were achieved over the 2014–2016 period. **Over the 2014–2016 period, 17.04 PJ of new energy savings were achieved. As a consequence of the adoption of additional measures in industry, a surplus of 6.2 PJ was created in annual savings.**

With regard to the annual energy savings commitment, a deficit of 4.86 PJ was incurred in 2014 and 2015 as a result of insufficient progress towards the commitment, representing a deficit of 23 PJ in cumulative savings over 2014–2016. This deficit must be made good by accelerating progress towards the commitment in the forthcoming 2017–2020 period.

The benefits of individual policy measures for 2016 are shown in the table below.

Table: Progress towards the commitment under Article 7 of the Directive

| | Measure | 2016 [TJ] |
|--------------|---|-------------------------------|
| 1.1 | Regeneration of pre-fabricated concrete buildings – programmes PANEL/NEW PANEL (MoRD)/PANEL 2013+ | 43 |
| 1.2 | Green Savings Programme (MoE) | Terminated |
| 1.3 | New Green Savings Programme 2013 (MoE) | 99 |
| 1.4 | New Green Savings Programme 2014–2020 (MoE) | 555 |
| 1.5 | JESSICA Programme (MoRD) | 19 |
| 1.6 | Integrated Regional Operational Programme (MoRD) | Projects under implementation |
| 1.7 | Joint Boiler Replacement Scheme (MoE) | Terminated |
| 1.9 | Operational programme Environment 2014–2020 (MoE) (Priority Axis 2 – SO 2.1) | 817 |
| 1.8 | Operational Programme Environment 2007–2013 (MoE) | 1 111 |
| 1.9 | Operational programme Environment 2014–2020 (MoE) (Priority Axis 5 – SO 5.1) | 0 |
| 1.10 | State programmes to promote energy savings and the use of renewable energy sources (EFEKT) (MIT) | 14 |
| 1.11 | State programme to promote energy savings (EFEKT 2) (MIT) | Projects under implementation |
| 1.12 | OP Prague Growth Pole – part Buildings (City of Prague) | Projects under implementation |
| 1.13 | Operational Programme Enterprise and Innovation 2007–2013 (MIT) | 561 |
| 1.14 | Operational Programme Enterprise and Innovation for Competitiveness 2014–2020 (MIT) | 19 |
| 1.15 | ENERG Programme (ČMZRB) | Under preparation |
| 1.16 | Reasonable Energy Savings Programme (MIT) | Under preparation |
| 1.17 | Alternative measures for increasing energy efficiency in the Czech industry and in municipalities and regions | 100 |
| 1.18 | Operational Programme Transport (MoT) | Under preparation |
| 1.19 | Sustainable Development Strategic Framework | 10 645 |
| TOTAL | | 13 983 |

In 2014, 693.7 TJ of final energy savings were achieved from the gradual take-up of Operational Programmes and National Programmes from the programming period 2007–2013. The Operational programmes under the 2014–2020 programming period were in preparation and therefore did not bring any final energy savings. In 2015, 2 367.8 TJ of final energy savings were achieved. This increase was due to the effective take-up of Operational Programme Entrepreneurship and Innovation under the responsibility of the Ministry of Industry and Trade (in 2015, 1 096 TJ of energy savings were achieved) and Operational Programme Environment (energy savings of 864 TJ achieved).

In 2016, 13 983.4 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 in the programming period 2014–2020.