Czech Republic

Energy Efficiency Action Plan

According to article 14 of the Directive of the European Parliament and Council

2006/32/EC

on energy end-use efficiency and energy services

In 2006, within the European Union, Directive of the European Parliament and of the Council 2006/32/EC on energy end-use efficiency and energy services and repealing council directive 93/76/EEC, was adopted. Article 14 imposes upon member states the duty to submit, by 30 June 2007, the first energy efficiency action plan containing a national indicative energy savings target. The aim should be a reduction in the annual consumption from the years 2002 to 2006 by 9% in the period from 2008 to 2016. The energy efficiency action plan will be amended to make it more precise in three-year periods. This document represents the draft of the first energy efficiency action plan.

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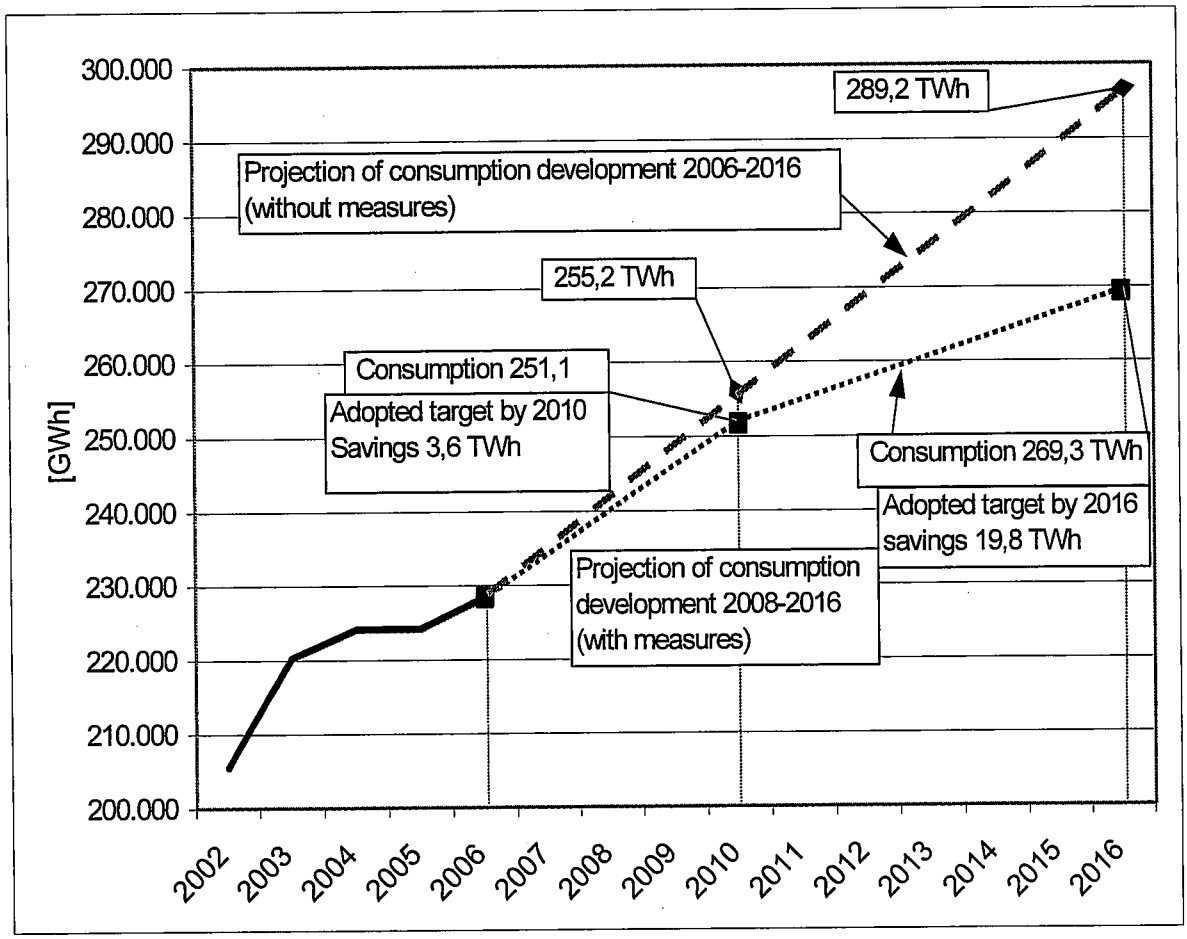
A. SUMMARY

Tab A.1

Average annual consumption from five-year period 2002 to 2006	220 462 GWh
Target 9% energy saving at end of 2016	**19 842 GWh**
Adopted target of transitional period at end of 2010	4 126 GWh
Average annual anticipated consumption 2008 – 2016 (without measures)	289 167 GWh
Average annual anticipated consumption 2008 – 2016 (with measures)	269 325 GWh

Graph 1



The national indicative target of energy saving for 2010 is designated at the level of 3 573 GWh, which is 1.6% of the relevant volume of average energy consumption.

The national indicative target of energy saving for 2016 is designated at the level of 19 842 GWh, which includes the overlaps of 9% from the relevant volume of average energy consumption.

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B. NATIONAL INDICATIVE TARGET

B.1 Designation of National Annual Indicative Target

The energy efficiency action plan designates attainable energy savings for the individual sectors of consumption.

The volume of savings corresponds to 9% from the annual average consumption in the period 2002 to 2006 pursuant to the Directive.

Tab B.1

Total energy saving (without consumption in companies included in EU ETS and consumption of armed forces)	
Year	**[GWh]**
2002	205 477
2003	220 244
2004	224 109
2005	224 125
2006	228 356
Average annual consumption for period 2002 to 2006	**220 462**
9% of average annual consumption	**19 842**

B.2 Overview of allocation of energy saving to individual sectors

Tab B.2

Annual volume of energy saving			
	Cumulatively in 2010	**Cumulatively in 2016**	**Proportion of total savings**
	[GWh]	**[GWh]**	**[%]**
Household sector	914	6 048	30.5%
Tertiary sector	865	3 142	15.8%
Industrial sector	880	4 852	24.5%
Transport sector	558	4 628	23.3%
Agricultural sector	158	1172	5.9%
Overall attainable energy savings	**3 573**	**19 842**	**-**

B.3 Input data for calculation of indicative target

The development of true final consumption PEZ, including consumption of equipment coming under the European system for emissions trading and the consumption of the armed forces, is described in table B.3.1.

Tab B.3.1

	2002	2003	2004	2005	2006
Consumption PEZ [TWh]	474	504	514	513	529

The statistics for the final consumption of fuels do not include generation losses in the conversion of fuel to energy or thermal energy. These losses are given by the technical efficiency of the generation process when converting energy, and in total these losses constitute 56.5% of the energy contained in the primary fuel.

The calculation of the cumulative energy saving in the years 2007 – 2016 is, in compliance with the directive 2006/32/EC, based on the true final consumption of primary energy sources in the year 2002 – 20061, reduced by consumption of facilities coming under the European system for trading in emissions2 and by the consumption of the armed forces. From the average annual consumption for the specified period, a proportion of 9% is calculated, which represents the indicative target pursuant to article 4 of the directive.

Tab B.3.2

2002	41 188	70 952	73 352	52 321	49 505	287 318
	37 162	**66 647**	**56 277**	**14 907**	**30 484**	**205 477**
2003	45 806	77 673	77 035	51 271	50 651	302 436
	40 759	**74 590**	**59 461**	**14 714**	**30 721**	**220 244**
2004	45 847	84 374	77 225	50 961	52 369	310 776
	40 964	**79 709**	**58 378**	**13 815**	**31 243**	**224 109**
2005	43 299	88 341	76 339	50 196	53 730	311 905
	38 656	**83 842**	**56 010**	**13 581**	**32 036**	**224 125**
2006	42 940	92 763	76 440	50 178	54 851	317 172
	38 400	**87 901**	**56 021**	**13 250**	**32 784**	**228 356**

Average consumption of primary sources of energy in the period 2002 - 2006 (without consumption in facilities coming under the EU ETS and energy consumption in the armed forces)	**220 462**

B.4 Overview of energy saving pursuant to category

In the first half of 2007, a study was prepared for the MIT concerning end-user energy efficiency and energy services. In this study there is a detailed calculation of the possible savings in the individual sectors. For reasons of the necessity of their simple and transparent monitoring, these savings are divided up in terms of proportion according to types of fuels. Table B.4. gives these calculated values.

Tab B.4

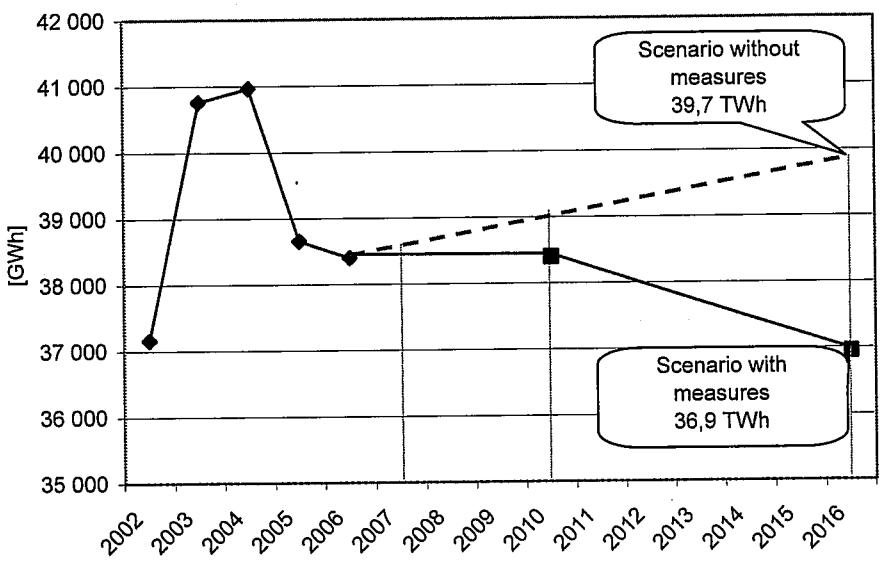
Development of end consumption according to fuels			
	Without	With measures	Savings
Type of fuel	[GWh]	[GWh]	[GWh]
Solid fuels	39 736	36 947	2 789
Liquid fuels	140 777	135 205	5 572
Gas fuels	56 050	51 074	4 976
Heat energy	12 820	9 969	2 851
Electrical energy	39 784	36 130	3 654
Total consumption according to fuels	**289 167**	**269 325**	**19 842**

B.5 Anticipated development of consumption of primary sources of energy to 2016

Solid fuels

Currently the attained savings of solid fuels are primarily in the context of the measures of the programme PANEL. There is a drop in the consumption of solid fuels in the household sector as a result of the adoption of new energy-saving measures ensuring a reduction in the energy demands of buildings, which will be valid after 2010 and will bring an effect.

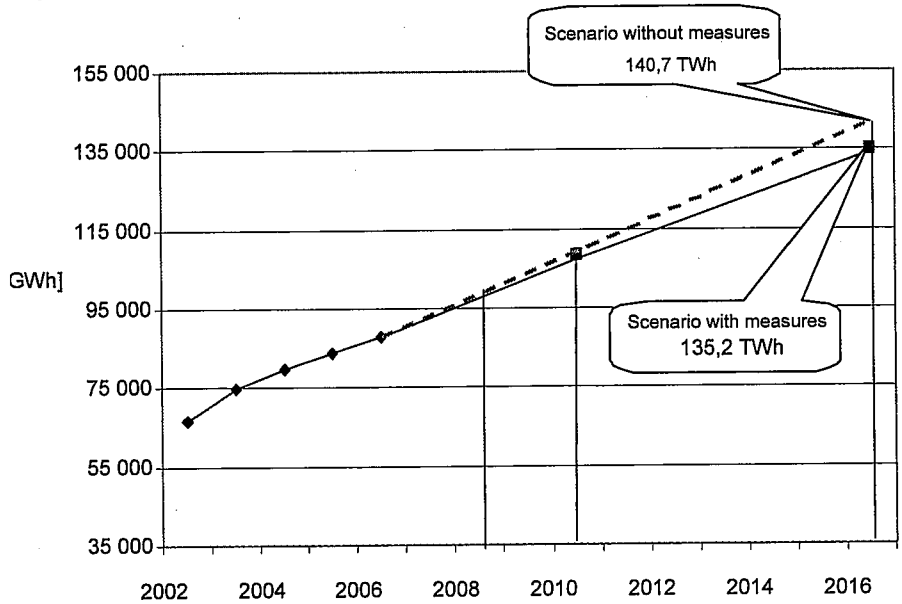
Graph 2



Liquid fuels

Amelioration in the growth trend for the consumption of liquid fuels will be achieved by gradual replacement of the vehicle fleet where new vehicles are put into operation, which have lower demands for the consumption of liquid fuels.

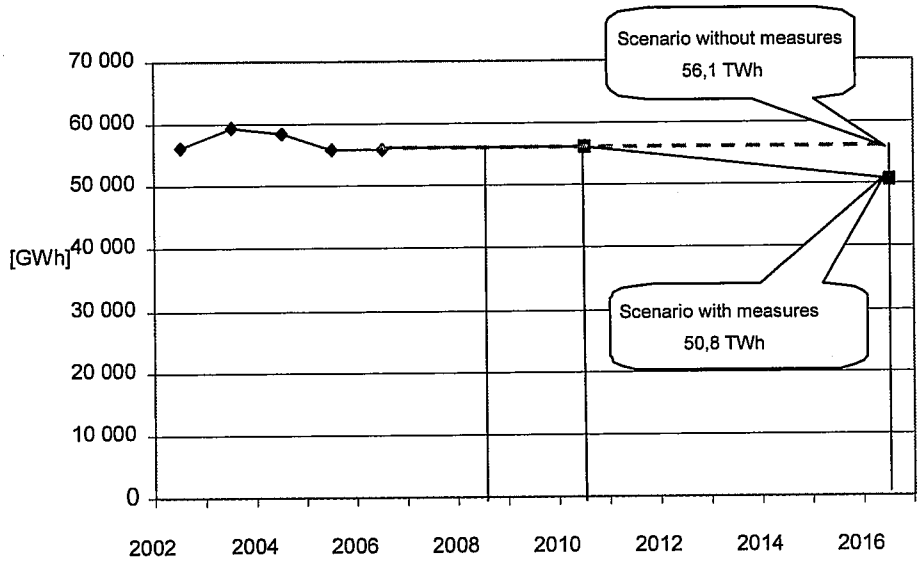
Graph 3



Gas fuels

The trend in the consumption of gas fuels is considered as being balanced in the future. A drop in the consumption of fuels will be achieved through a system for checking the efficiency of equipment for their combustion.

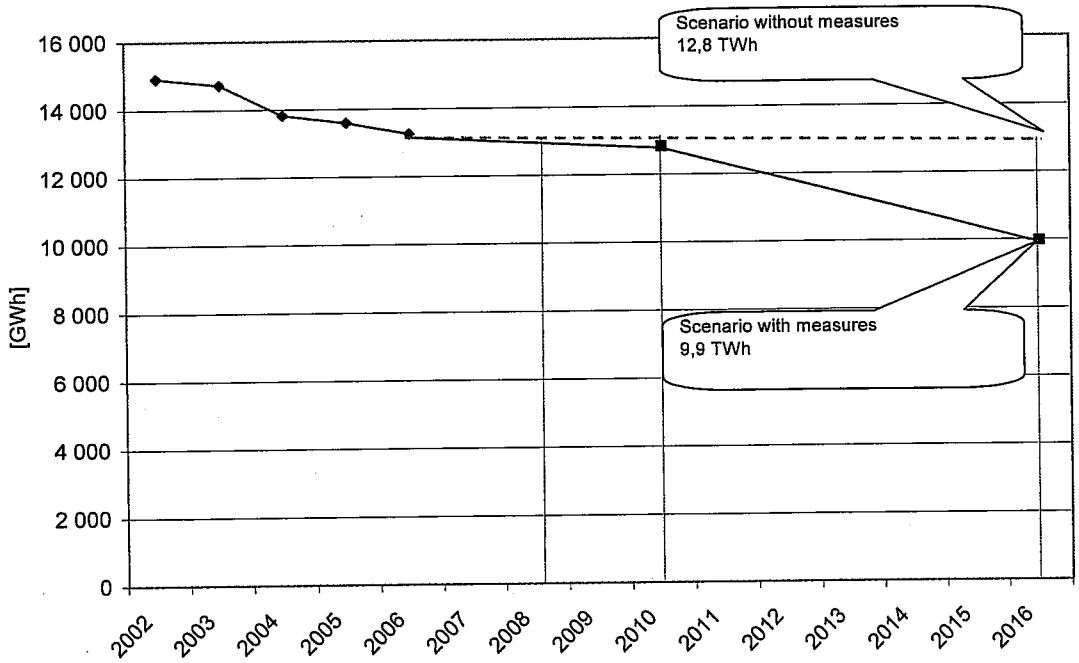
Graph 4



Heat from CZT

A drop in the consumption of heat is ensured mainly in the sector of households and tertiary sector using savings measures adopted by Act No 406/2005 Coll., concerning energy management. These measures apply primarily to buildings with high demands on energy.

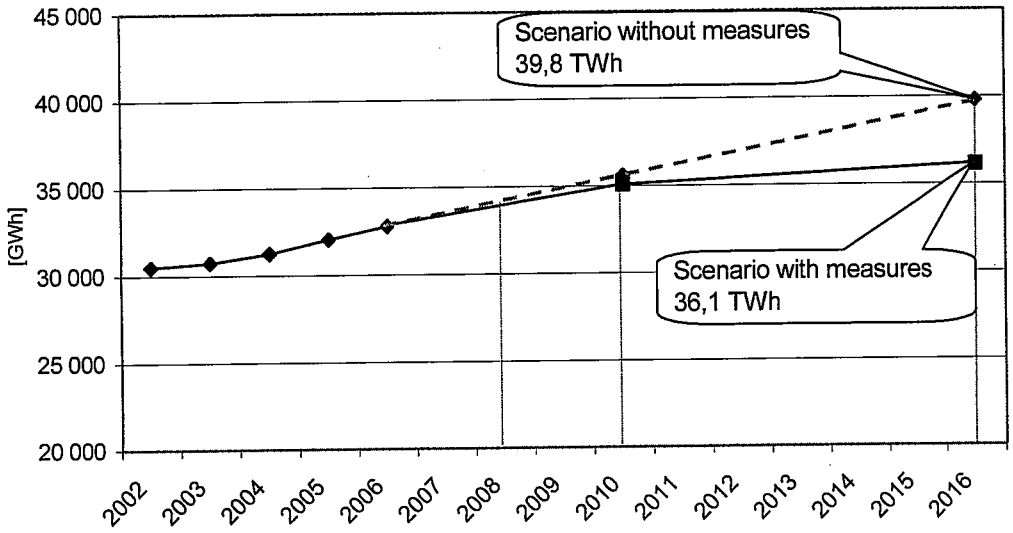
Graph 5



Electrical energy

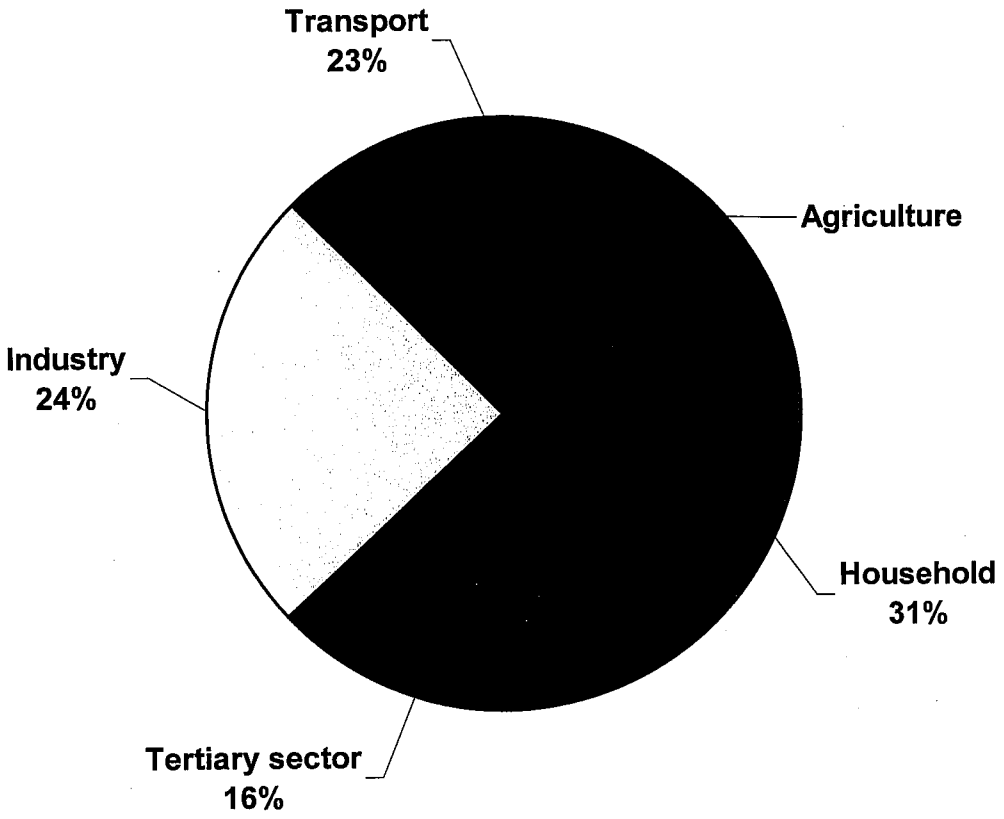
Amelioration in the current trend of the growth in consumption of electrical energy will be achieved through measures relating to energy services, the labelling of electrical appliances and measures relating to the checking of air-conditioning equipment.

Graph 6



C. SHARE OF INDIVIDUAL SECTORS IN SAVINGS OF PRIMARY ENERGY SOURCES

Graph 7



D. OVERVIEW OF MEASURES LEADING TO ENERGY SAVINGS

	Measures	Instrument	Department	State of implementation			Effectiveness of measure in sectors				
				valid	ongoing amendments	in preparation	Households	Tertiary	Industry	Transport	Agriculture
Measures leading to direct attainment of energy savings	**Duties given by legislation**										
	Minimum requirements of energy demands of new and reconstructed buildings	act 406/2000 Coll. concerning energy saving	MIT	✓	✓						
	Requirements for minimum efficiency during generation of electricity and heat	act 406/2000 Coll. concerning energy saving	MIT	✓							
	Support measures										
	Investment support of projects for saving energy in buildings and technological processes	Operational programmes TRADING AND INNOVATION and ENVIRONMENT	MIT, MoE	✓							
	Investment support for regeneration of prefabricated buildings	State programme PANEL	MoLD	✓							
	Support for preparation of projects for the provision of energy services	State programme EFFECT	MIT	✓							
	Investment support for modernisation of equipment and infrastructure in rail transport	State programme EFFECT	MD	✓							
	Support for decentralisation of energy generation in agriculture	Operational programme TRADING AND INNOVATION and EAFRD	MoE, MIT	✓							
	Support for local utilisation of renewable sources for heat generation	State programme MoE and Operational programme ENVIRONMENT	MoE	✓	✓						

	Measure	Instrument	Department	State of implementation			Effectiveness of measure in sectors				
				valid	ongoing amendments	in preparation	Households	Tertiary	Industry	Transport	Agriculture
Indirect measures creating conditions and motivation for energy saving	**Duties given by legislation**										
	Statutory energy audits of buildings	act 406/2000 Coll. concerning energy saving	MIT	✓							
	Building energy passports	act 406/2000 Coll. concerning energy saving	MIT			✓ 2009					
	Periodic checking of heating boilers	act 406/2000 Coll. concerning energy saving	MIT			✓ 2008					
	Periodic checking of air-conditioning equipment	act 406/2000 Coll. concerning energy saving	MIT			✓ 2009					
	Energy labelling of household appliances	act 406/2000 Coll. concerning energy saving	MIT	✓							
	Energy labelling of household appliances - eco design	act 406/2000 Coll. concerning energy saving	MIT			✓ 2008					
	Taxation of energy commodities	act is in legislative process	MoF			✓ 2008					
	Duty to offer energy services and information to end users	act 458/2000 Coll. Energy act	utilities			✓ 2009					
	Support measures										
	Investment support for construction of facilities for combined transport	Operational programme INFRASTRUCTURE	MoT			✓ 2008					
	Support for education about energy saving (seminars, publishing)	programme EFFECT	MIT	✓							
	Consultation in area of energy saving - activity of energy agencies and consultation centres	programme EFFECT	MIT	✓	✓						
	Support for research and development in the area of energy saving	Programmes in support of research and development	MIT, MoE, MoS	✓							
	Energy activity and new and renewable sources of energy	programme Intelligent Energy for Europe, part of the programme Competitiveness and	MIT	✓		✓ 2008					
	System for monitoring and evaluating attained savings in the public sector	State programme in support of energy saving	MIT	✓	✓						
	Measures given by natural development										
	Replacement of equipment, energy appliances and vehicles as a result of their lifespan being terminated	-	-	-							
	Growth in prices of energy commodities	-	-	-							

Legend:	
	measure does not have effect for given sector
	measure has partial effect for given sector
	measure has effect for given sector

E. MONITORING OF ENERGY SAVINGS

The monitoring of anticipated energy saving will be implemented by monitoring the end consumption of fuels, and it will be performed in compliance with Annex IV of the Directive.

For the processing of the first energy efficiency action plan of the Czech Republic, a model of the harmonisation calculation has been created. For work with the model, data processed according to the methodology EUROSTAT is used, as is data provided by the Czech Statistical Office.

The basic input data is gained on the basis of statements filled in by consumers of fuels. In general terms, the statements focus on ascertaining the generated energy or gained fuel and on information about where the energy and fuel finished up — sector of the economy, generation of electricity or heat, mechanical power, non-energy use. Statements are generally of the balance type from sources following delivery according to sectors and from the usual fuels and energy to the less frequently used fuels. Statements concerning fuel filling stations focus on ascertaining the amount and type of sold fuels, ownership structure of networks, location, equipment and services of filling stations.

Data is processed in a comprehensive computer system of energy statistics making it possible to acquire data manually or from electronic collection, basic controls according to pre-defined conditions, repair and addition of data, and it creates output data arrays according to the specified parameters.

Regular reports are compiled for various domestic and foreign institutions, as are regular quarterly reports and special reports and analyses. The results of data processing serve as the basis for the processing of annual statements of the Czech Republic for the International Energy Agency IEA (so-called Joint Questionnaires IEA/EU/UN), which are assembled jointly with the CSO and for various statements of EUROSTAT. At the same time there is also a presentation on the internet pages of the MIT in the form of brief summaries.