

Ministry of Energy

Annual report drawn up in accordance with Part 1 of Annex XIV to Directive 2012/27/EU on energy efficiency

Warsaw, May 2017

Contents

1. Introduction.....	3
2. Data on energy consumption in accordance with Part 1 of Annex XIV to Directive 2012/27/EU.....	4
3. Additional information under Part 1, point (a) of Annex XIV to Directive 2012/27/EU....	6
4. Information under Part 1, point (b) of Annex XIV to Directive 2012/27/EU.....	6
5. Information under Part 1, points (c) and (d) of Annex XIV to Directive 2012/27/EU.....	7
6. Information under Part 1, point (e) of Annex XIV to Directive 2012/27/EU.....	13

1. INTRODUCTION

This report was drawn up on the basis of Article 8(10) of the Energy Efficiency Act of 20 May 2016 (Journal of Laws 2016, item 831). In accordance with Article 24(1) of and Part I of Annex XIV to Directive 2012/27/EU on energy efficiency (OJ L 315, 14.11.2012, p. 1), EU Member States are required to send the European Commission an annual report on progress towards achieving the national energy efficiency target.

This document was drawn up at the Ministry of Energy with input from the Ministry of Infrastructure and Construction and the Central Statistical Office (GUS).

The Minister for Infrastructure and Construction is responsible for the reporting on the exemplary role of public bodies' buildings (Article 5 of Directive 2012/27/EU).

2. Data on energy consumption in accordance with Part 1 of Annex XIV to Directive 2012/27/EU

Table 1. Data for 2015 (under Part 1 of Annex XIV to Directive 2012/27/EU)

Information	Unit	2015	Comments
(i) primary energy consumption	ktoe	90 318	as defined in Directive 2012/27/EU
(ii) total final energy consumption	ktoe	67 759	includes non-energy consumption
(iii) final energy consumption by sector			
- industry	ktoe	15 216	
- transport (passenger and freight transport together)	ktoe	17 252	
- households	ktoe	18 857	
- services	ktoe	7 793	
(iv) gross value added by sector			
- industry	PLN million, 2005 prices	488 069.2	total value added for industry and construction (sections B-F)
- services	PLN million, 2005 prices	772 916.0	total value added of sections G-T
(v) disposable income of households (net)	PLN million, current prices	1 029 206	
(vi) gross domestic product (GDP)	PLN million, 2005 prices	1 450 045.2	
(vii) electricity generation from thermal power generation	GWh	4 348.718	
(viii) electricity generation from combined heat and power	GWh	147 245.526	
(ix) heat generation from thermal power generation			
(x) heat production from combined heat and power plants, including industrial waste heat ¹	TJ	186 626.128	
(xi) fuel input for thermal power generation	ktoe	36 222	as defined in Directive 2012/27/EU; includes CHP plants
(xii) passenger kilometres (pkm)	Mpkm	52 584	excluding passenger cars and urban public transport
(xiii) tonne kilometres (tkm), if available	Mtkm	360 635	includes rail, road, pipeline, sea, inland waterway and air transport
(xv) population	'000	38 437	

¹ The fact that this category of thermal power plants is included separately in the list is not provided for by the Public Statistics Act of 29 June 1995 (there are only two power plants in this category). Data aggregated in the same way are sent to the IEA/Eurostat in the 'Annual Questionnaire Electricity and Heat' form.

Given that the indicators referred to in Part 1 of Annex XIV to Directive 2012/27/EU are not defined unambiguously, the above figures were determined on the basis of the experience gained under the ODYSSEE - MURE projects to monitor energy efficiency.

3. Additional information under Part 1, point (a) of Annex XIV to Directive 2012/27/EU

For the final energy consumption sectors mentioned in item (iii) of Table 1 (industry, transport, households, services) where energy consumption remains stable or is growing, Member States are to analyse the reasons and attach their appraisal to the estimates. In 2015, energy consumption grew as compared with previous years only in the transport sector.

Transport

Fuel consumption in road transport grew by 43 % over the 2005-2014 period, with growth averaging 4.3 % per year, whilst energy consumption decreased substantially (by 35 %, or 4.2 %/year) in rail transport over the same period. Overall, the average annual rate of increase of fuel consumption in transport (excluding air transport) was 3.2 % in the 2005-2014 period and consumption in 2014 was 37 % higher in 2014 than in 2004.

Fuel consumption per car equivalent has been falling since 2011; it stood at 0.428 toe in 2014. The main factors determining the level of this indicator are the economic situation of businesses and households, fuel prices and the increasing efficiency of new cars.

The increase in energy consumption in transport was due mainly to an increase in activity and structural changes. Road transport accounts for by far the greatest share of the increase in consumption. Air transport, both domestic and international, was the second significant factor behind the increase in energy consumption; here, too, there was an increase in transport activity that was very much in line with the increase in energy consumption.

4. Information under Part 1, point (b) of Annex XIV to Directive 2012/27/EU

The following legislative and non-legislative measures which contribute towards the national energy efficiency target were adopted in 2016:

1. Energy Efficiency Act of 20 May 2016 (Journal of Laws 2016, item 831);
2. Act of 22 June 2016 amending the Renewable Energy Act and certain other acts (Journal of Laws 2016, item 925);
3. Regulation of the Minister for Infrastructure of 12 April 2002 on technical criteria for buildings and the siting thereof (Journal of Laws 2015, item 1422): 1 January 2017 saw the entry into force of more stringent energy saving and thermal insulation requirements.

5. Information under Part 1, points (c) and (d) of Annex XIV to Directive 2012/27/EU

In accordance with Article 5(1) of Directive 2012/27/EU, it is necessary to ensure that, as from 1 January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by central government is renovated each year to meet at least the minimum energy performance requirements set by the country concerned in application of Article 4 of Directive 2010/31/EU on the energy performance of buildings. Article 5(6) of Directive 2012/27/EU allows an alternative approach to implementation of Article 5(1)-(5). In this connection, a report on adoption of that approach in Poland is set out below.

Lists of data on buildings not meeting the minimum energy performance requirements set in accordance with Article 4 of Directive 2010/31/EU, taken into account in the context of the alternative approach to implementation of Article 5(1)-(5) of Directive 2012/27/EU

Table 2 contains a list of data for the buildings with a useful floor area over 500 m² owned and occupied by central government that, on 1 January 2015, did not meet the minimum energy performance requirements laid down in the Regulation of the Minister for Infrastructure of 12 April 2002 on technical criteria for buildings and the siting thereof (Journal of Laws 2015, item 1422), and for the buildings with a useful floor area over 250 m² owned and occupied by central government that, on 9 July 2015, did not meet the minimum energy performance requirements laid down in the aforementioned Regulation, in accordance with Article 4 of Directive 2010/31/EU.

Table 2. List of data for the buildings with a useful floor area over 500 m² owned and occupied by central government that, on 1 January 2015, did not meet the minimum energy performance requirements laid down in accordance with Article 4 of Directive 2010/31/EU (buildings which did not comply with the maximum permissible value for the heat transfer coefficient^{*)}) and for the buildings with a useful floor area over 250 m² owned and occupied by central government that, on 9 July 2015, did not meet the minimum energy performance requirements laid down in accordance with Article 4 of Directive 2010/31/EU (buildings which did not comply with the maximum permissible value for the heat transfer coefficient^{*)})

Building use	Number of buildings	Building cooled? YES/NO	Total useful floor area	Indicator of demand for non-renewable primary energy		Energy saving
				average	under the rules on new buildings ^{*) **)}	
-	pcs		m ²	kWh/(m ² ·year)	kWh/(m ² ·year)	MWh/year
collective residential	6	YES	16 080.20	431.95	220.00	3 408.20
	15	NO	38 494.31	304.78	195.00	4 225.91
multi-family residential	4	YES	3 271.15	155.41	115.00	132.19
	15	NO	16 628.56	160.98	105.00	930.87
	9	no data	2 577.36	no data	no data	no data
public building	98	YES	615 551.68	276.98	190.00	53 540.69
	68	NO	278 032.37	459.03	165.00	77 667.00
	38	no data	51 756.99	no data	no data	no data
storage, industrial, outbuildings	2	YES	1 932.50	371.68	235.00	264.13
	21	NO	73 644.50	272.89	210.00	4 631.50
	5	no data	3 880.35	no data	no data	no data
TOTAL	281	-	1 087 964.1	-	-	144 800.49

^{*)} The maximum value of the heat transfer coefficient and the indicator of demand for non-renewable primary energy are defined in the Regulation of the Minister for Infrastructure on technical criteria for buildings and the siting thereof. This requirement was established in accordance with Article 4 of Directive 2010/31/EU.

^{**)} The requirements on the maximum value of the indicator of demand for non-renewable primary energy differ according to the type of building, how long they are lit for (except for residential buildings) and whether they are cooled.

It was estimated on the basis of the above that the annual energy savings target in 2015 should be **3 % x 144 800.49 = 4 344.01 MWh.**

Total building floor area of the buildings with a total useful floor area over 250 m², owned and occupied by central government that, on 1 January 2016, did not meet the energy performance requirements referred to in Article 5(1) of Directive 2010/31/EU

Table 3 contains a list of buildings with a total useful floor area over 250 m², owned and occupied by central government that, on 1 January 2016, did not meet the energy performance requirements referred to in Article 5(1) of Directive 2010/31/EU. These buildings did not meet the requirements as regards the heat transfer coefficient U_c [W/(m²K)].

Table 3. List of buildings with a useful floor area over 250 m² owned and occupied by central government that, on 1 January 2016, did not meet the minimum energy performance requirements laid down in accordance with Article 4 of Directive 2010/31/EU (buildings which did not comply with the maximum permissible value for the heat transfer coefficient*)

Building use	Number of buildings	Total useful floor area
-	pcs	m ²
collective residential	21	54 574.51
multi-family residential	28	22 477.07
public building	204	931 455.17
storage, industrial, outbuildings	28	79 457.35
TOTAL	281	1 087 964.1

*) The maximum value of the heat transfer coefficient is defined in the Regulation of the Minister for Infrastructure on technical criteria for buildings and the siting thereof. This requirement was established in accordance with Article 4 of Directive 2010/31/EU.

Even though some of the buildings underwent energy renovation in preceding years and achieved the energy saving required in 2015, they have not been removed from Table 3 because the energy renovation works were planned several years in advance and the building permits were obtained before the amendment to the Regulation of the Minister for Infrastructure on technical criteria for buildings and the siting thereof that entered into force on 1 January 2014. The energy renovation made it possible to achieve a heat transfer coefficient for windows of 1.5 W/(m²K) (the current requirement is 1.3 W/(m²K)) and for flat roofs of 0.22 W/(m²K) (the current requirement is 0.20 W/(m²K)).

Energy savings resulting from the actions taken in buildings owned and occupied by central government achieved under the alternative approach referred to in Article 5(6) of Directive 2012/27/EU

The alternative approach adopted to implement Article 5 of Directive 2012/27/EU was published in December 2013, and an amended version was published in July 2014. It was decided that energy savings would be achieved through the energy renovation of buildings and information/educational activities to promote energy saving.

Table 4 lists the actions taken in 2016 and the energy savings achieved in buildings with a useful floor area over 250 m² owned and occupied by central government.

Table 4. List of actions taken in 2016 in respect of buildings with a useful floor area over 250 m² owned and occupied by central government that, on 9 July 2015, did not meet the minimum energy performance requirements laid down in accordance with Article 4 of Directive 2010/31/EU (buildings which did not comply with the maximum permissible value for the heat transfer coefficient)

No	Type of building	Useful floor area m ²	Activity	Energy saving (MWh/year)
	1	2	-	4
1	public building	4 813	Insulation of external walls. Replacing lighting with energy-efficient lighting.	230.9
2	public building	73 789.53	Insulation of external walls. Replacing fan coil units. Replacing lighting with energy-efficient lighting. Periodic switching off of lights. Energy efficiency training for employees.	438.71
3	public building	16 960.2	Transfer of some tasks to a building with better energy performance. Energy efficiency training for employees.	1 409.77
4	public building	2 731.5	Modernisation of the heating system. Energy efficiency training for employees.	91.42
5	public building	2 633	Thorough energy renovation comprising insulation of external walls, insulation of flat roof, replacement of window and door frames, modernisation of the central heating system and replacement of the heat exchanger.	659.5
6	public building	4 959.5	Systematic training for employees on energy efficiency.	35.56
7	public building	24 899.25	Systematic training for employees on energy efficiency.	6.64
8	public building	264	Systematic training for employees on energy efficiency.	4.77

No	Type of building	Useful floor area m ²	Activity	Energy saving (MWh/year)
	1	2	-	4
9	public building	1 110	Replacing lighting with energy-efficient lighting.	4.5
10	public building	10 522.6	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	46.39
11	public building	3 778.38	Replacing window frames.	no data
12	public building	1 322	Replacing window frames and radiators.	no data
13	public building	1 596	Replacing lighting with energy-efficient lighting.	1.65
14	public building	1 814	Replacing lighting with energy-efficient lighting.	2.0
15	public building	902	Replacing window frames and radiators. Replacing lighting with energy-efficient lighting.	0.8
16	public building	2 126	Replacing radiators. Replacing lighting with energy-efficient lighting.	1.1
17	public building	416	Replacing radiators. Replacing lighting with energy-efficient lighting.	4.2
18	Complex of public buildings	32 355.0	Thorough energy renovation comprising replacement of window and door frames, installation of ventilation with heat recovery, replacement of the central heating system, replacement of lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	592.03
19	public building	6 385.5	Systematic training for employees on energy efficiency.	59.72
20	public building	318.5	Systematic training for employees on energy efficiency.	2.7
21	public building	600	Systematic training for employees on energy efficiency.	4.9
22	public building	737.62	Systematic training for employees on energy efficiency.	6.11
23	public building	909.85	Systematic training for employees on energy efficiency.	1.9
24	public building	953.9	Systematic training for employees on energy efficiency.	2.9
25	collective residential	2 001	Systematic training for employees on energy efficiency.	23.0
26	public building	7 401.03	Systematic training for employees on energy efficiency.	7.23

No	Type of building	Useful floor area m ²	Activity	Energy saving (MWh/year)
	1	2	-	4
27	residential building	2 339.5	Comprehensive energy renovation comprising insulation of ceilings and external walls, replacement of roof decking, replacement of window and door frames.	228.0
28	public building	32 861.5	Comprehensive replacement of central heating system. Systematic training for employees on energy efficiency.	389.1
29	public building	7 401.03	Systematic training for employees on energy efficiency.	7.2
30	public building	2 000	Modernisation of central heating system.	22.3
31	public building	12 424	Replacing lighting with energy-efficient lighting.	39.9
32	public building	6 459.99	Replacing lighting with energy-efficient lighting.	18.4
33	public building	10 263.6	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	677.4
34	public building	682.9	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	62.96
35	public building	552.2	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	109.13
36	public building	1 442.45	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	132.1
37	public building	1 098.8	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	91.9
38	public building	14 530.6	Replacing lighting with energy-efficient lighting. Systematic training for employees on energy efficiency.	29.4
	TOTAL	298 355.9	-	5 446.24

This part of the report was drawn up on the basis of data submitted by the central government bodies referred to in Article 5(1) of Directive 2012/27/EU.

6. Information under Part 1, point (e) of Annex XIV to Directive 2012/27/EU

An energy efficiency obligation scheme (white certificate scheme) was introduced on the basis of the Energy Efficiency Act of 15 April 2011 (Journal of Laws 2015, items 2167 and 2359; Journal of Laws 2016, item 266) and functioned in accordance with that Act from 1 January 2013 until 30 September 2016. A new act was passed in 2016, namely the Energy Efficiency Act of 20 May 2016 (Journal of Laws 2016, item 831) and extended operation of the scheme until 2020.

The Act imposes a requirement on energy companies selling electricity, heat or natural gas to final consumers to obtain energy efficiency certificates (white certificates) and submit them to the President of the Energy Regulatory Office (URE) for redemption, or to pay a substitution charge.

Under the energy efficiency certificate scheme, the President of the URE has to date concluded four tender procedures to select projects improving energy efficiency. The value of the energy efficiency certificates for which successful tenderers apply is increasing. On 21 September 2016 the President of the URE announced another tender procedure, the fifth, to select projects to improve energy efficiency for which energy efficiency certificates could be obtained.

Although the results of the fifth tender procedure have not yet been published, it is expected that the number of energy efficiency certificates issued will double as compared to the fourth tender procedure.

The results of the tender procedures to date are set out in Table 5.

Table 5. Results of tender procedures

Tender procedure	Value of the energy efficiency certificates for which successful tenderers applied (toe)
First	20 698.73
Second	57 180.15
Third	149 886.17
Fourth	495 023.30
Total	722 788.35

Table 6 sets out aggregated data concerning energy efficiency certificates issued and the total declared final and primary energy savings achieved.

Table 6. Aggregated data as at end 2016 concerning energy efficiency certificates issued and final and primary energy savings achieved

Cumulative data at month's end	Number of energy efficiency certificates issued (pcs)	Value of energy efficiency certificates issued (toe)	Total declared final energy savings in the energy saving period (toe)	Total declared final primary savings in the energy saving period (toe)
July 2016	1 112	381 052.80	1 924 656.06	3 726 606.24
August 2016	1 516	566 552.88	2 718 048.58	4 886 701.37
September 2016	1 755	677 899.15	3 174 555.83	5 556 198.01
October 2016	1 789	689 639.55	3 206 188.75	5 604 179.36
November 2016	1 800	691 741.37	3 215 270.19	5 617 482.78
December 2016	1 842	702 742.02	3 268 126.00	5 692 200.50

Table 7 sets out the cumulative primary and final energy savings achieved under the white certificate scheme up to the end of 2015.

Table 7. Energy savings under the white certificate scheme

Year	2014	2015
Cumulative primary energy saving [toe]	348 062	2 472 441
Cumulative final energy saving [toe]	218 235	1 550 220

The data in the above table concerning the cumulative energy savings achieved under the white certificate scheme were prepared on the basis of the database of the National Energy Conservation Agency (KAPE). That database contains data from the record sheets of energy efficiency audits, which are an annex to the Declaration on issuing of an energy efficiency certificate. The audit

record sheets are available on a publicly accessible web page on the Public Information Bulletin of the URE. The audit record sheet made available features basic information such as the annual average final energy saving [MWh/year or GJ/year] and the annual average primary energy saving [MWh/year or GJ/year]. The audit record sheet also features the energy savings converted from the above units to tonnes of oil equivalent [toe/year]. The database (which currently has 895 entries) will in future be updated on the basis of energy audit record sheets as and when new energy efficiency certificates (white certificates) are issued.