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# Poland's energy efficiency policy and role of public sector

Energy Department  
Warsaw, 17 November 2015

## Energy efficiency – basic documents

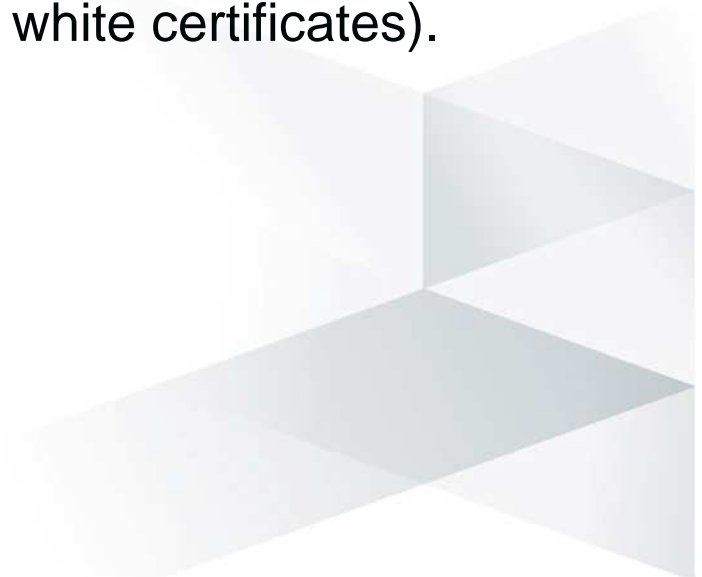


- ❑ Energy Policy for Poland until 2030 - Energy efficiency as one of six policy directions for the development of the Polish energy sector. The main targets:
  - To achieve development of Polish economy without increase in primary energy demand
  - Decreasing the energy intensity of Polish economy to the EU-15 level (in 2005).
- ❑ Energy Efficiency Law of 15 April 2011
  - Imposes task on public sector in energy efficiency field.
  - Introduces stimulation mechanism for investments.
- ❑ First, Second and Third National Energy Efficiency Action Plan (2007, 2011, 2014) – list of energy efficiency improvement measures
- ❑ Draft act on energy efficiency – implements provisions of 2012/27/EU Directive.

## First National Energy Efficiency Action Plan NEEAP (2007)



- ❑ First NEEAP approved in June 2007
- ❑ Sets national indicative energy saving target for the year 2016
  - which amounts to 53.5 TWh (4.59 Mtoe), which represents 9% of the national average final energy consumption 2001-2005,
  - Document includes measures to improve energy efficiency targeted for a specific sectors such as: buildings, public institutions / services, industry, transport and horizontal measures (campaigns and a system of white certificates).



## Energy Efficiency Act



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- ❑ adopted by the Parliament on 15 April 2011
- ❑ in force since 11 August 2011
- ❑ Defines national energy saving target,
- ❑ Imposes tasks on public sector,
- ❑ Introduces **white certificate system** as a market based mechanism favouring enhancement of energy efficiency measures.
- ❑ Introduces rules for drawing up the energy efficiency audit.

Energy savings of 9% of the annual average amount of final energy consumption from the period 2001–2005 by **2016 is 53,452 GWh (4.5 Mtoe)** in the sectors not covered by the EU-ETS.

Projects in a field of energy efficiency financed by the National Fund for Environmental Protection and Water Management (NGOSiGW)	<u>~ 0,7 Mtoe</u>	Estimation by NFOSiGW
Thermo-modernisation Fund	<u>~ 0,2 Mtoe</u>	Estimation by the Polish National Energy Conservation Agency
„Soft” measures i.e. informational campaigns, information of energy bill	<u>~ 1, 5 Mtoe</u>	Estimation by Ministry of Finance
White certificate system	<u>~ 2,2 Mtoe</u>	Estimation by Ministry of Economy

# White certificates (1)



White certificate issued for investments aimed at:

1. increase energy savings by end-users;
2. increase energy savings by generator used for own needs devices;
3. reduction of electricity, heat or natural gas in the transmission or distribution.

Projects aimed at improving energy efficiency eligible for white certificates:

- insulation of industrial installations,
- reconstruction or renovation of the building,
- modernization or replacement: home use devices , lighting, auxiliary equipment,
- modernization or replacement of equipment and installations used in industrial processes,
- modernization of district heating networks and heat sources,
- energy recovery in industrial processes,
- limit of network losses, losses in transformers and reactive power flows,
- the use of heating or cooling energy produced in their own objects or connected to the grid from renewable energy sources, heat in cogeneration or waste heat from industrial installations.

# White certificates – tender procedure

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The basic rules of the scheme are:

- Investors (or ESCOs) prepare investments and take part in a tender.
- The tender is organized by President Energy Regulatory Office and its goal is to choose the most efficient project from the ones submitted. President ERO announces foreseen amount of white certificates.
- Investor submit declaration with energy savings and an energy audit to ERO.
- Those who apply with the lowest value of white certificates in energy savings win the tender. Than are obligated to realize the project.
- Investors obtain the white certificates for themselves or may sell them.
- Energy companies buy the certificates and can present them to the ERO.

Results:

**The first tender** (announced of the President of ERO No. 1/2012 dated 31.12.2012) Results on 31.08.2013 total of 212 bids where 102 bids were selected to win white certificates covering 20 698,730 toe out of 550 000 toe (3,8%).

**Hospital in Cracow – connection to the district heating network**

**The second tender** (announced of the President of the ERO No. 1/2013 dated 27.12.2013) Results on 29.10.2014 total of 484 bids where 302 bids were selected to win white certificates covering 57 180,146 toe out of 1 368 296 toe (4,2%). **4 cities/municipalities: Częstochowa, Modlinborzyce, Rybnik and Tarnów – street lighting, building thermal-renovation**

**The third tender** (announced of the President of the ERO No. 1/2014 dated 12.19.2014). Results on 7 October 2015, total of 736 bids where 502 were selected win white certificates covering 149 886,169 toe out of 2 179 481 toe (6,9%).

## Second National Energy Efficiency Action Plan NEEAP (2011)



- ❑ Second NEEAP 2011 elaborated on a basis of Directive 2006/32/EC
- ❑ adopted by the Council of Ministers on 17 April 2012.
- ❑ Settles an intermediate target for 2010 (2%) - 11878 GWh and follows up 9% objective for 2016,
- ❑ Introduces new sectoral and horizontal actions in the field of energy efficiency:
  - Programs NFEP&WM - Green Investment Scheme - energy management in public buildings and Efficient use of energy - energy audits and financing of investment projects for enterprises,
  - White certificates system resulting from the adoption of the Energy Efficiency Act of 15 April 2011.



The obligation to prepare the NEEAP arises under Directive 2012/27 / EU, the adoption and implementation of the overall EU target of 20% in 2020. (Achievement level of primary energy consumption is not higher than 1474 Mtoe by 2020).

NEEAP 2014 includes:

- description of the measures to improve energy efficiency by sectors in the time horizon of 2020,
- calculation of final energy savings achieved in 2008-2012 and estimate savings planned to be obtained in 2016 and 2020,
- 4 appendices including: GUS data on energy consumption for 2012, the statement of final energy savings calculations (using a top-down) in various sectors of the economy and **the building's renovation strategy developed by Ministry of Development and Infrastructure > Poland have chosen alternative approach.**



## Energy efficiency target for Poland for 2020



	<b>Energy efficiency target</b>	<b>Absolute level of energy consumption in 2020</b>	
	<b>Reduction of primary energy consumption in 2010-2020</b>	<b>Final energy consumption</b>	<b>Primary energy consumption</b>
<b>2020</b>	<b>13,6 Mtoe</b>	<b>70,4 Mtoe</b>	<b>96,4 Mtoe</b>

In accordance with reference values for Poland included in a forecast prepared for the European Commission (PRIMES - Baseline 2007), primary energy consumption is forecast at a level of 110 Mtoe in 2020. Therefore, taking into account reduction of energy consumption by 13.6 Mtoe, we obtain:  $110 \text{ Mtoe} - 13.6 \text{ Mtoe} = 96.4 \text{ Mtoe}$

Estimates of primary energy savings by 2020 has been a bottom-up method for individual measures because the European Commission has not developed a harmonized method of calculating energy savings in the framework of Directive 2012/27/EU.

# Energy efficiency measures and energy savings in the division on the sub-sectors



Energy efficiency measures:

- 1) Horizontal measures
- 2) Energy efficiency in buildings
- 3) Industry and SMEs
- 4) Public institutions / services
- 5) Transport

Activities and horizontal measures:

- White certificates system
- Informational and educational campaigns,
- Support for entrepreneurs in preparing energy audit,
- Priority programme of National Fund for Environmental Protection and Water Management (NFEP&WM) - Smart Energy Networks (ISE)

## Energy efficiency measures – buildings and public institutions



Measures in the following subsectors:

- ❑ Thermo-modernization Fund, Green Investment Scheme (Part 1) - energy management in public buildings (657 million PLN)
- ❑ PL04 Operational Programme „Saving energy and promoting renewable energy sources” (232 million PLN)
- ❑ NFEP&WM programme: Green Investment Scheme (Part 5) - energy management in buildings (545 million PLN), LEMUR (Part 4) - energy efficient public buildings (30 million PLN), OWL (Part 6) - Energy-efficient street lighting (160 million PLN)
- ❑ The program OPIE (Operational Programme for Infrastructure and Environment) - Energy efficiency modernization of public buildings (Measure 9.3) (over 120 million).

## Energy efficiency measures – industry and transport



Measures in the following subsectors:

- NFEP&WM programme: support for entrepreneurs in the field of low-carbon economy - increasing energy efficiency (725 million PLN)
- OPIE programs (Actions 9.1 - 9.2): Highly efficient energy production, Efficient distribution of energy (255 million PLN).
- NFEP&WM programme: Gazelle (Part 7) - low-emission urban transport (80 million PLN)
- OPIE programmes - traffic management and optimization of the transport of goods (140 million EUR), replacement of public transport fleet (2 billion EUR).
- The program PoSEFF – financial instruments for SMEs (EUR 180 million).

## Final energy savings achieved in 2008-2012 and planned for 2016



	Energy saving objective		Actual/expected energy saving	
	absolute (GWh)	Percentage (%; based on average consumption 2001-2005)	absolute (GWh)	Percentage (%; based on average consumption 2001-2005)
<b>2008-2012</b>			<b>73 409</b>	<b>12,36</b>
<b>2016</b>	<b>53 452</b>	<b>9</b>	<b>82 398</b>	<b>13,9</b>

## Exemplary role of public sector - Minister of Economy Report



In accordance with art. 7 of the Energy Efficiency Law (EEL) ministers and provincial governors implement NEEAP and submit annual reports on its implementation.

A report prepared for the first time in 2012 - contained data and information for the year 2011. In 2015 – second report has been prepared covers data from 2012 and 2013.

The report includes:

- Information on the national energy saving target
- activities related to the implementation NEEAP
- Other activities and improvement measures applied by the public sector (art. 10 of the EEL)
- Conclusions



## Minister of Economy Report on public sector activity and its exemplary role (2)

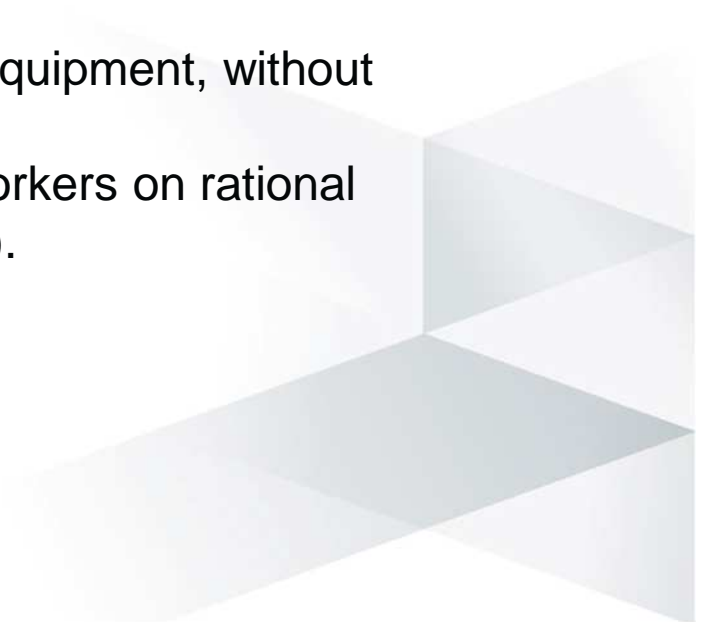


Actions taken by the ministries and province governors:

- Small acquisition measures i.e. replacing or buying appliances, electronics, IT,
- Investment: buildings insulation, replacement of windows and doors, replacement of radiators, modernization of the heating system, installing of gas boiler, or renewable energy (solar, heat pumps), retrofit of lighting systems.

Non-investment activities undertaken:

- of a legal nature (eg. an order to switch off the equipment, without leaving it on standby)
- a trainings (eg. conducting internal training of workers on rational use of energy and on green public procurement).

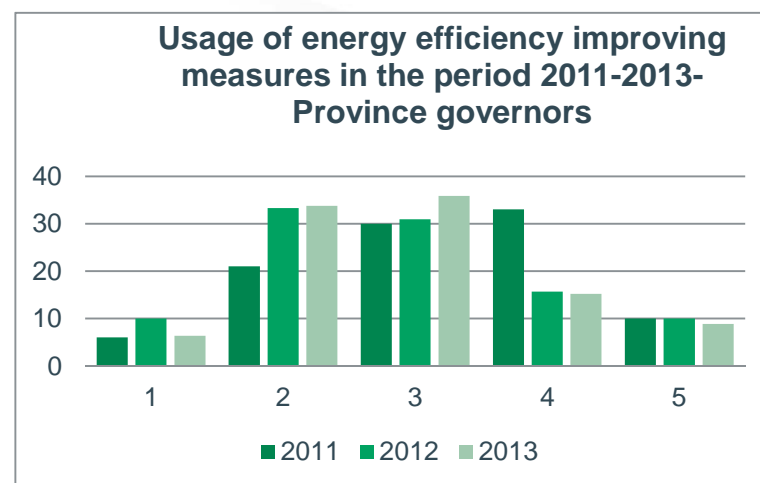
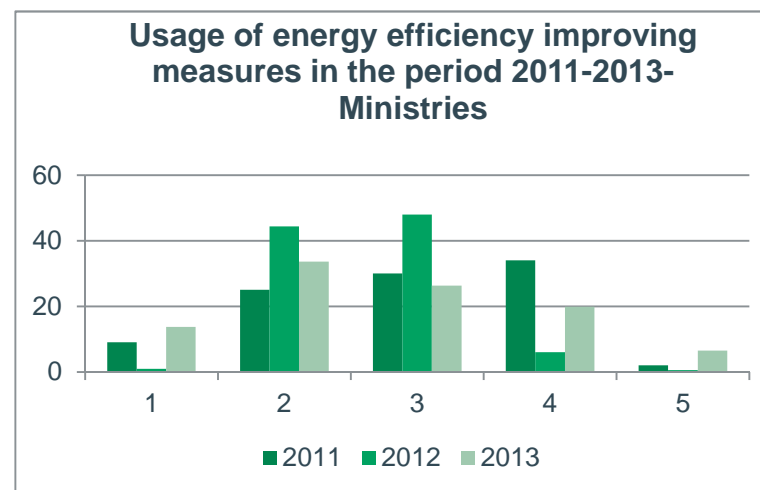


# Exemplary role – energy efficiency improving measures used by public sector (art.10)



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No	Energy efficiency improving measure	Ministries		Province governors	
		2012	2013	2012	2013
1	agreement which concerns the implementation and financing of the project aimed at improving energy efficiency	0,95%	13,74 %	10,04 %	6,33%
2	Purchase of new equipment, installations or vehicles charateriased in low energy consumption and low operating	44,41 %	33,59 %	33,33 %	33,78 %
3		48%	26,34 %	30,92 %	35,86 %
4		6,06%	19,85 %	15,66 %	15,19 %
5	Energy audit	0	6,49%	10,04	8,86%





## Minister of Economy Report – main findings



1. Still insufficient awareness (ministries, provincial governors) concerning the national energy saving target > it is advisable to conduct further informative and educational activities in the field of energy efficiency,
2. Still problems with obtaining finances for en eff activities> is advisable to further disseminate information on available funds.
3. Public sector entities rent office spaces which makes impossible to undertake investment activities related to the modernization of the building,
4. There are difficulties in estimating/calculating energy savings due to a lack of knowledge or /and equipment to monitor energy consumption,
5. Bearing in mind that public sector should by example in the public sphere, particularly in terms of investment, which have a direct impact on energy consumption, further efforts are required to expand awareness of the performance of the exemplary role of public sector units. Proceeded draft energy efficiency law can provide a further incentive for making activities in the area of solutions characterized by high energy efficiency criteria.

## Draft of energy efficiency act



The project is intended to replace the Energy Efficiency Act of 15 April 2011 - Implements the provisions of Directive 2012/27/EU.

Specifies:

- the principles for developing a national energy efficiency action plan;
- tasks of public sector in the field of energy efficiency;
- rules for obtaining and redemption of energy efficiency certificates - the continuation of the system of white certificates;
- rules for performing an energy audit of the company.



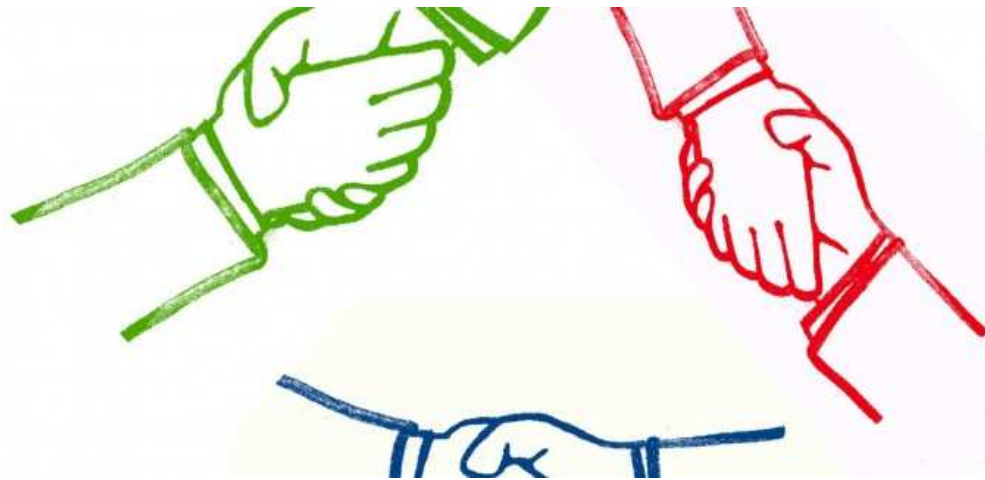
## Main activities:

- 3 brochures have been elaborated:
  - Guidebook for energy users with tips on energy labelling, appliances usage, electricity and heat tips,
  - Guidebook for sellers and producers of domestic appliances and equipment
  - ABC Colouring Book for parents and children on energy savings
  - 52 thousand CFLs was given to municipalities in order to promote energy saving behaviour at local level
- multimedia campaign aimed at changing social behaviour in energy savings addressed directly to final consumers 3 TV and 3 Radio Advertisements.
- Electronic publications - **Handbook for public sector and Handbook „White certificate scheme in Poland”** available at

<http://www.mg.gov.pl/Bezpieczenstwo+gospodarcze/Energetyka/Czas+na+oszczedzanie+energii>



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**Thank you for your attention**