

Energy efficiency on the government's policy agenda

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Scope of the presentation

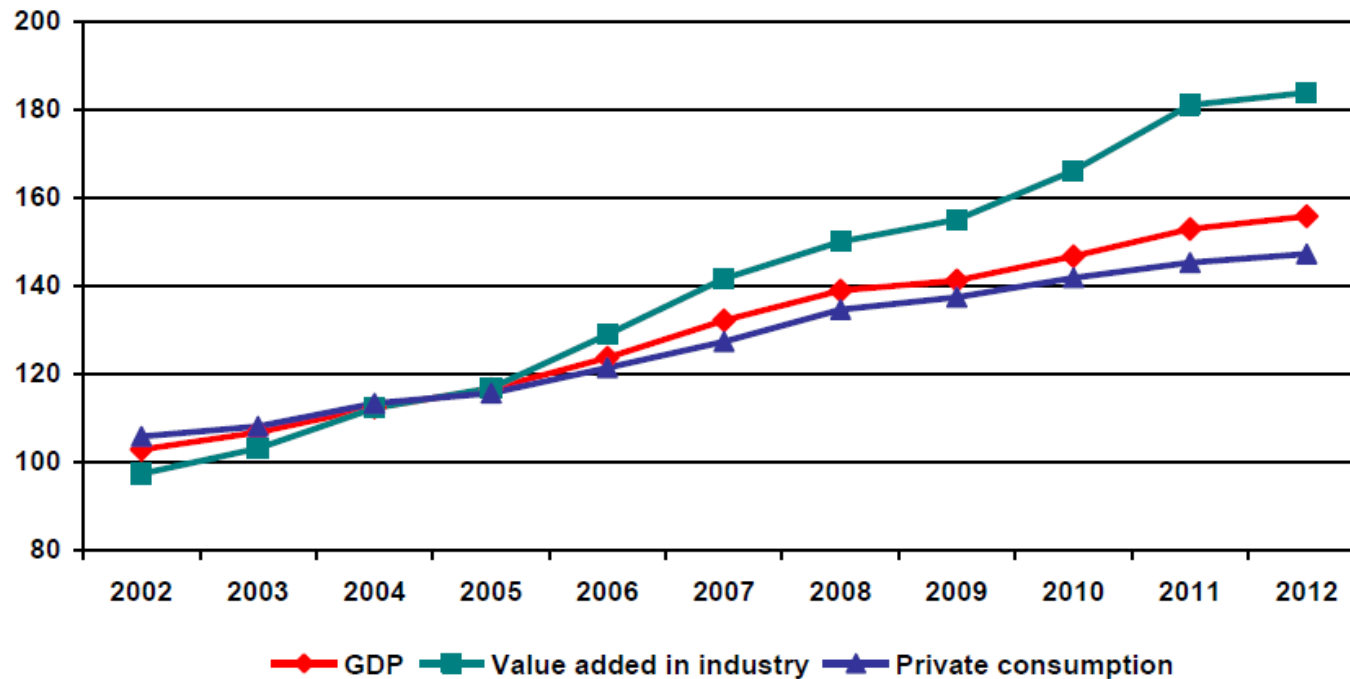
- development of the economy
- energy mix
- electricity generation
- coherence with EU energy acquis
- challenges

development of the economy

- development of the economy 2003 – 2013:
 - steady growth of GDP, reaching in 2013 49% higher value than in 2003
 - sector with the fastest rate of growth: industry
 - energy consumption in 2003 – 2013:
 - primary energy consumption increased by 0,7 %/year (91 Mtoe to 98 Mtoe)
 - ✓ 2009 and 2012–2013: decrease (economic slowdown)
 - final energy consumption
 - average annual growth by 1,4% (54 Mtoe to 63 Mtoe)

development of the economy

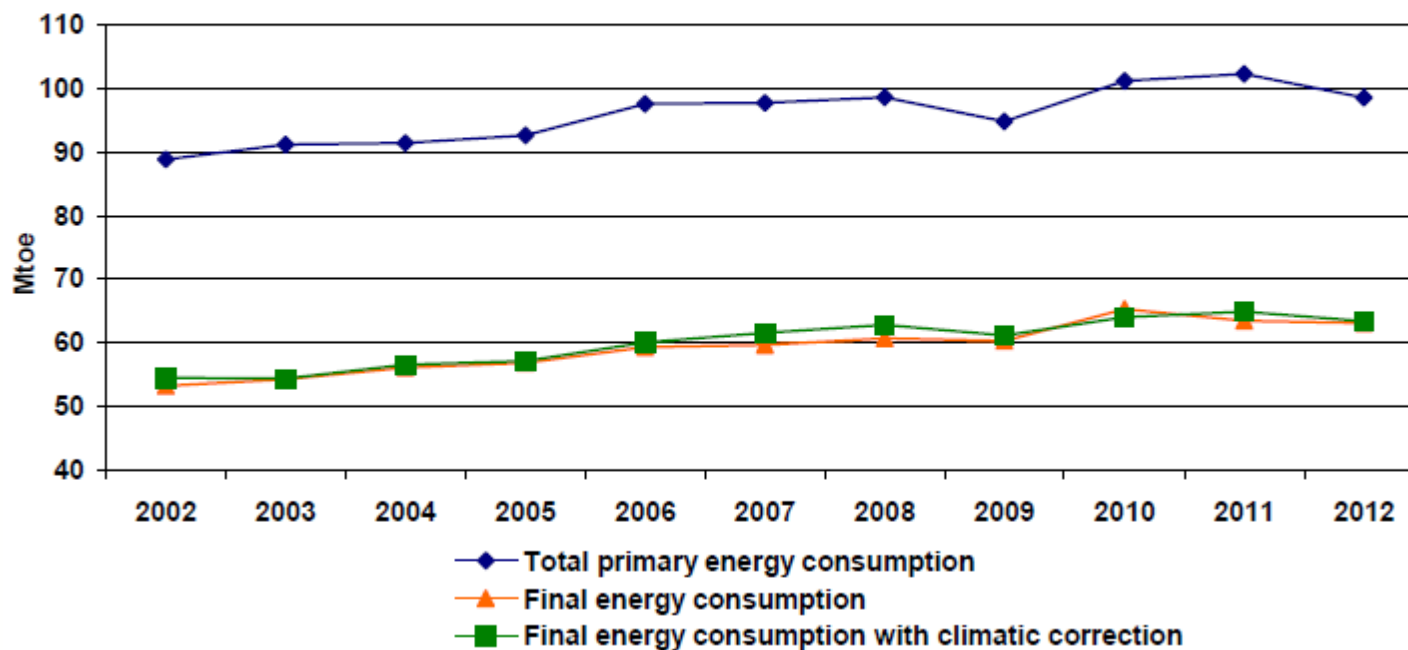
Figure 1. Dynamics of basic macro-economic indicators (2000=100)



source: Central Statistical Office, *Energy Efficiency in Poland in years 2002-2012*, Warsaw 2014

development of the economy

Figure 2. Total primary and final energy consumption



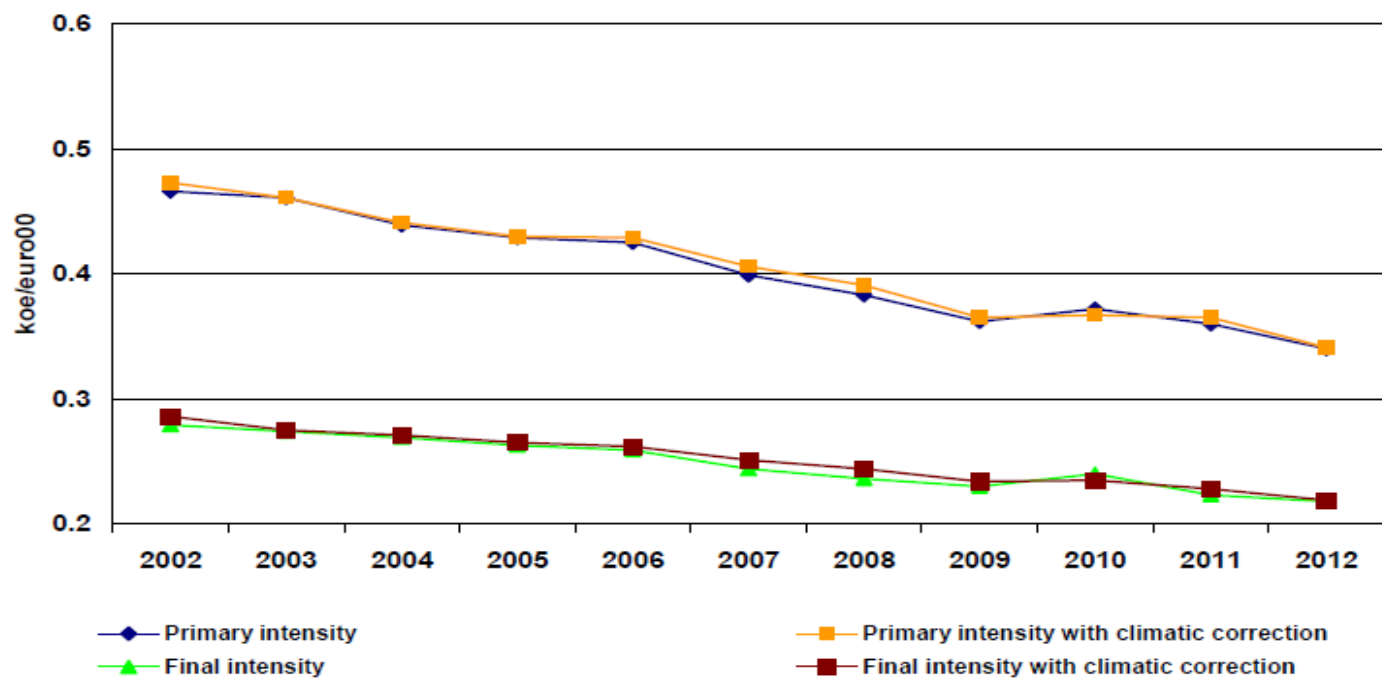
source: Central Statistical Office, *Energy Efficiency in Poland in years 2002-2012*, Warsaw 2014

development of the economy

- conclusions:
 - growth rate of economy > growth rate of energy consumption
 - → decline in primary and final energy intensity of GDP
 - (–) 3,22% (primary) and (–) 2,58% (final)/year in period 2004 – 2013
 - fastest rate of decrease: 2007 – 2009

development of the economy

Figure 8. Energy intensity of GDP



source: Central Statistical Office, *Energy Efficiency in Poland in years 2002-2012*, Warsaw 2014

structure of energy carriers in the final energy consumption

2003

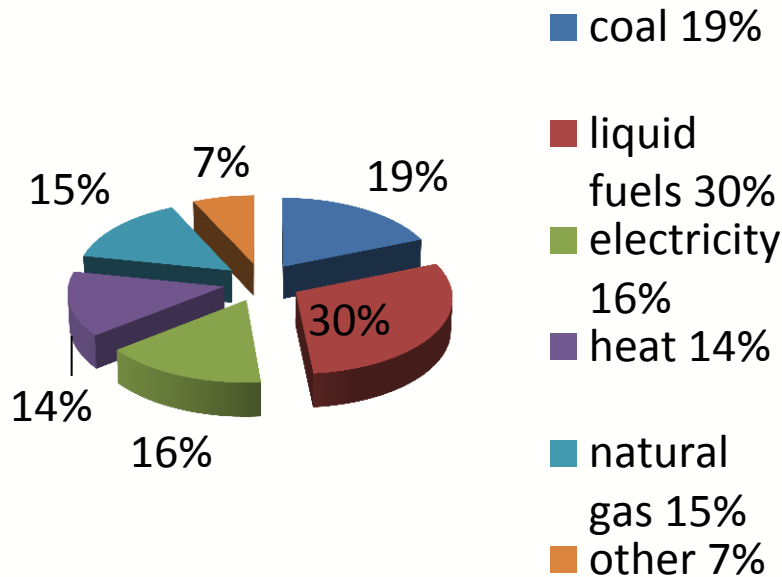
- coal: 19%
- liquid fuels: 30%
- electricity: 16%
- heat: 14%
- natural gas: 15%
- other: 7%

2013

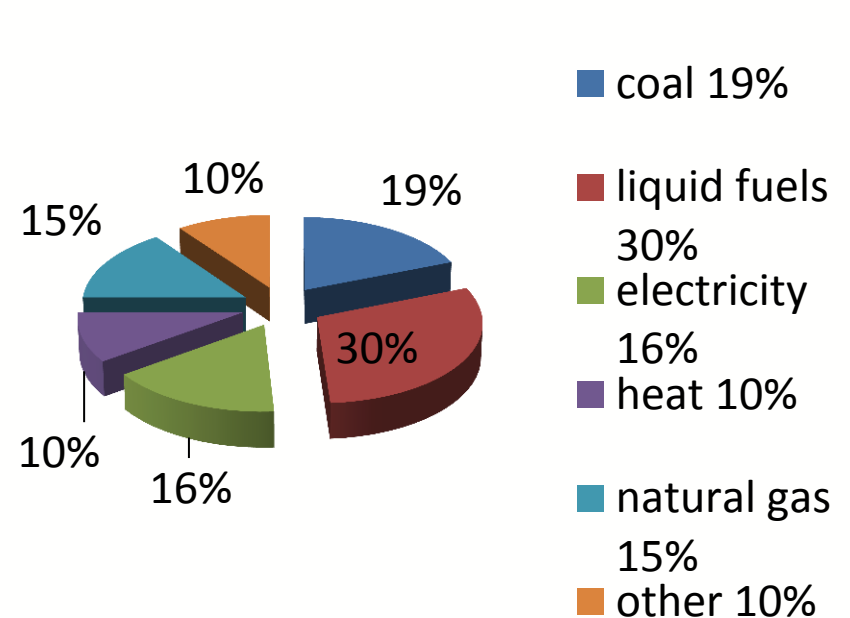
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structure of energy carriers in the final energy consumption

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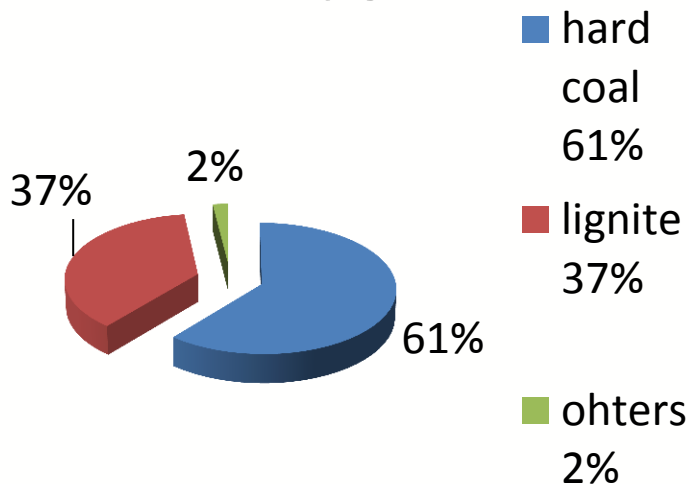
structure of energy carriers in the final energy consumption

- energy mix in terms of final energy consumption prior and after EU accession – conclusions:
 - coal, liquid fuels, natural gas: no change between 2003 and 2013
 - heat less important: (14% to 10%)
 - larger share of other carriers (7% to 10%), due to increase in renewable sources?
 - decrease in utilization of coal started before the accession (23% in 2000 to 19% in 2003)

electricity generation from coal and renewables

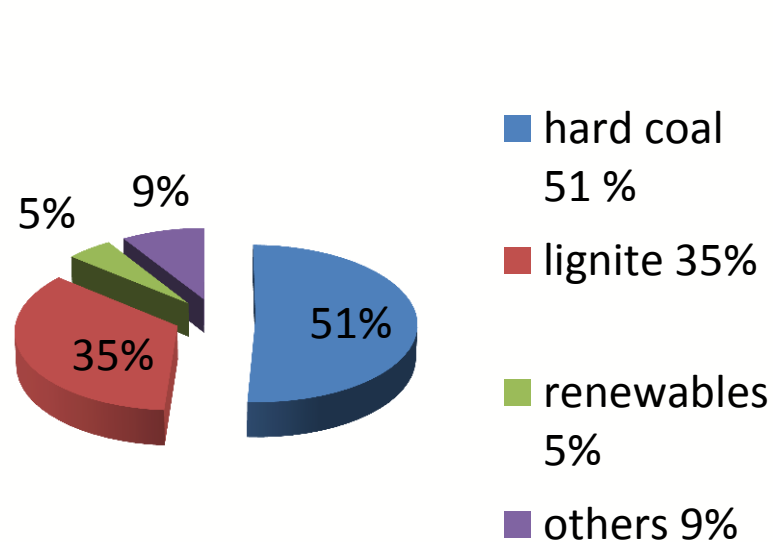
2004

electricity generation



2014

electricity generation



source: Reports of ERO

electricity generation

- conclusions:
 - coal still important factor of energy security in PL, situation unlikely to change in nearest future, though 12% decrease:
 - 98% in 2004
 - 86 % in 2014
 - slow path of increase of renewables
 - consequences of climate policy (?)

coherence with EU energy acquis

- directive 2012/27/EU of 25 October 2012 on energy efficiency
 - art. 3 par. 1: indicative national energy efficiency target set by each MS, based on:
 - primary or final energy consumption
 - primary or final energy savings
 - energy intensity
- energy efficiency targets expressed in terms of an absolute level of primary energy consumption and final energy consumption in 2020

coherence with EU energy acquis

- directive 2012/27/EU of 25 October 2012 on energy efficiency
 - art. 7 par. 1: energy efficiency obligation scheme set up by each MS;
 - obligated parties achieve a cumulative end-use energy savings target by 2020
 - obligated parties: energy distributors , retail energy sales companies

coherence with EU energy acquis

- directive 2012/27/EU of 25 October 2012 on energy efficiency
 - art. 7 par. 9: alternative to energy efficiency obligation scheme
 - other policy measures aiming to achieve energy savings among final customers:
 - ❖ taxes, standards, regulations, labelling schemes or voluntary agreements
 - meeting applicable criteria and generating the required new energy savings

coherence with EU energy acquis

- National Energy Efficiency Action Plan (2014):
 - national energy efficiency targets for 2020
 - primary and final energy savings
 - measures to increase energy efficiency
 - horizontal
 - ❖ energy efficiency support mechanism (white certificates)
 - building sector
 - public institutions
 - industry & SMEs
 - transport
 - generation & supply

coherence with EU energy acquis

- National Energy Efficiency Action Plan (2014):
 - national energy efficiency targets for 2020
 - reduction of primary energy consumption in 2010-2020: 13.6 Mtoe
 - absolute level of end-use energy consumption: 71.6 Mtoe
 - absolute level of primary energy consumption: 96.4 Mtoe
 - ❖ primary energy consumption in 2020 is forecast at a level of 110 Mtoe

coherence with EU energy acquis

- National Energy Efficiency Action Plan (2014):
 - cumulative target in end-use energy savings, to be achieved in the years 2014-2020 (art. 7 of 2012/27 directive)
 - average end-use energy consumption (excluding transport) in years 2010–2012: 47,04 Mtoe (64.02 with transport)
 - standard energy savings: 1.5 % annual savings until 2020, i.e. a total of 10.5 %
 - corresponds to end–use energy savings by 2020 amounting to 3.675 Mtoe

coherence with EU energy acquis

- white certificates
 - Act on energy efficiency (2011)
 - obligation to obtain a sufficient number of energy efficiency certificates (white certificates) by energy sales companies selling:
 - ❖ electricity, heat or natural gas to final customers connected to the grid or network
 - alternatively: payment of substitution fee

coherence with EU energy acquis

- white certificates
 - Act on energy efficiency (2011)
 - operational from 1 January 2013 until 31 December 2016
 - energy efficiency certificates:
 - ❖ property rights considered as a commodity that are subject to trading on the Commodity Exchange Market
 - ❖ obtained primarily for investments with the highest economic efficiency that are selected through tender by the President of the ERO
 - Budget app. PLN 0.7 m/y from funds of President of the ERO

coherence with EU energy acquis

- white certificates system: effects
 - ERO so far organised 3 tenders
 - three areas:
 - 1) increase of energy savings by final consumers,
 - 2) increase of energy savings by facilities using energy for own needs,
 - 3) reduction of losses of electricity, heat or natural gas in transmission or distribution

coherence with EU energy acquis

- white certificates system: effects
 - ERO so far organised 3 tenders (2012, 2013, 2014)
 - first tender (2012):
 - ❖ of 212 bids submitted, 102 were accepted
 - ❖ app. 75 % of applications were submitted by companies professionally involved in the production or distribution of heat
 - ❖ certificates were awarded for a total value of 20.5 ktoe were awarded which constitutes less than 4 % of the available pool of 550 ktoe

coherence with EU energy acquis

- white certificates system: effects
 - ERO so far organised 3 tenders
 - 2nd and 3rd tender: 4,2% and 6,9% of available pool of certificates
 - reasons of poor result
 - ❖ short deadline for the submission of tendering documents which was due to the legal regulations in force (30 days)
 - ❖ low quality of documents submitted during the tendering procedures

coherence with EU energy acquis

- white certificates system
 - ineffective
 - low amount of certificates on the market
 - obligation realized by payment of substitute fee to NFOŚiGW
 - money go to NFOŚiGW instead (as presumed) to enterprises
 - need to reform (?)

coherence with EU energy acquis

- energy efficiency measures in public institutions
 - directive 2012/27: which approach?
 - standard: renovation of 3% of floor area of heated and/or cooled buildings owned and occupied by their central government bodies – to meet min. energy performance standards set in dir. 2010/31
 - alternative: other cost-effective measures, including deep renovations and measures for behavioural change of occupants in eligible – to achieve equivalent amount of energy savings by 2020
 - alternative approach was chosen:
 - the target value of annual energy savings was estimated at 3% x 70738.45 = 2122 MWh

coherence with EU energy acquis

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coherence with EU energy acquis

- energy efficiency measures in public institutions
 - public institutions: measures to implement alternative approach
 - minimum energy performance requirements were adopted for buildings both new or under construction (but this concerns not only public buildings)
 - ❖ heat protection and energy efficiency
 - "access path" to meeting requirements set for 2021 (near-zero buildings)

coherence with EU energy acquis

- energy efficiency measures in public institutions
 - Act on energy efficiency:
 - public institutions, should apply at least two energy efficiency improvement measures:
 - ❖ contract with ESCO
 - ❖ purchase of energy efficient equipment
 - ❖ using energy efficient buildings
 - ❖ energy audits

**Thank you,
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