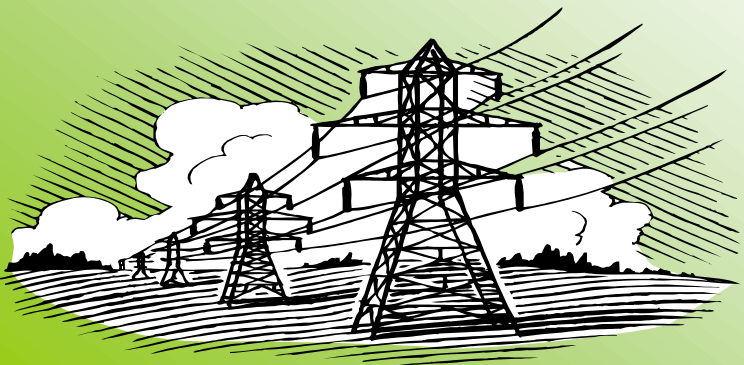
MINISTRY OF ECONOMY

Energy Policy of Poland until 2030



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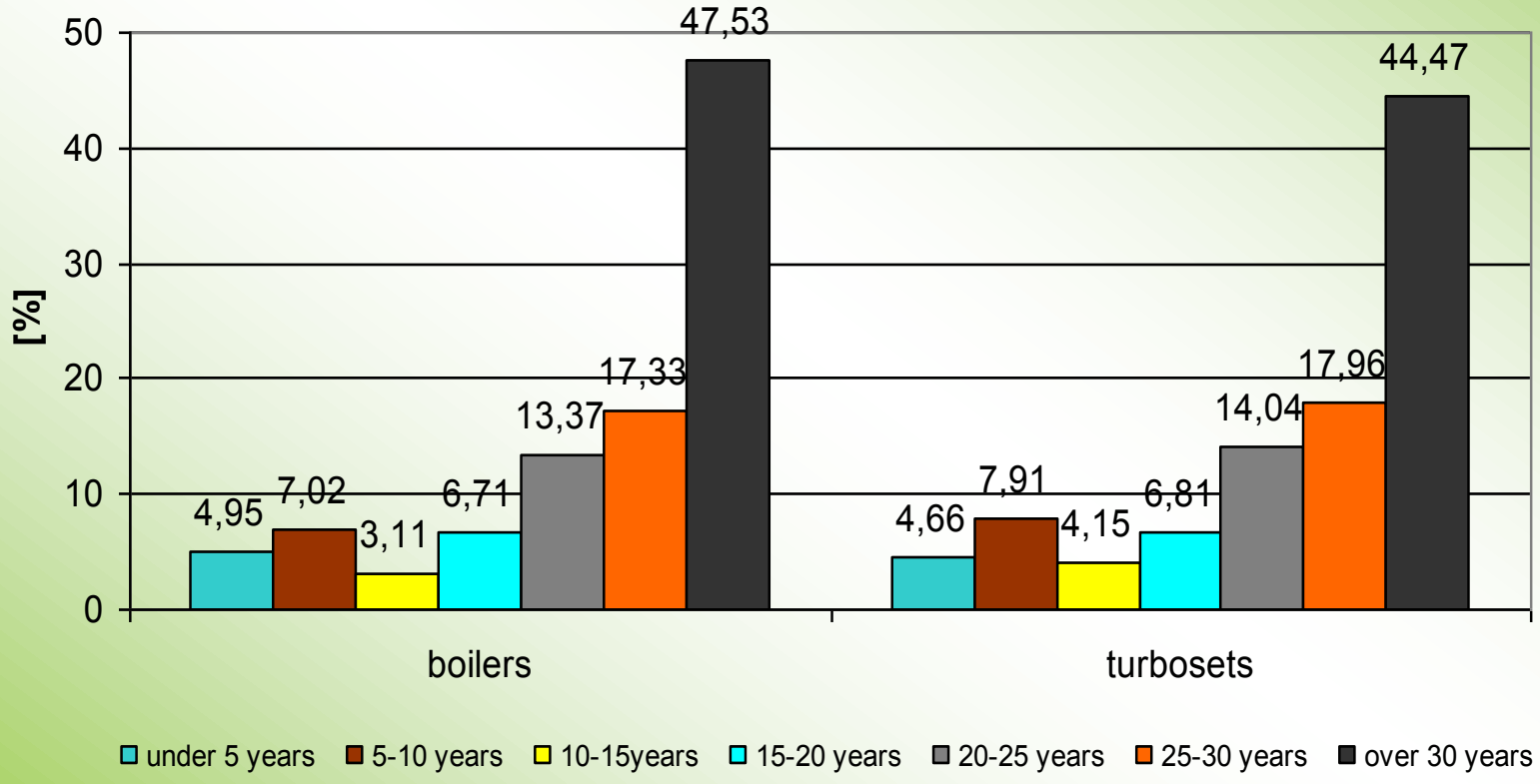
Poland

Parameters of Polish Power System in 2008

- Installed capacity: 35,8 GW
- Maximum power demand: 25,1 GW
- Gross electricity generation: 154,6 TWh
- Electricity imports: 8,5 TWh
- Electricity exports: 9,7 TWh
- Domestic consumption of electricity: 153,4 TWh

Age structure of electricity generation appliances



Parameters of Polish Power System in 2008

Electric lines length total:	**770 100 km**
High voltages (HV) total:	45 700 km
- *750, 400, 220 kV:*	*13 200 km*
- *110 kV:*	*32 500 km*
Medium voltages (MV) total:	300 500 km
Low voltage (LV) total:	423 900 km
Network transformers capacity:	135 000 MVA

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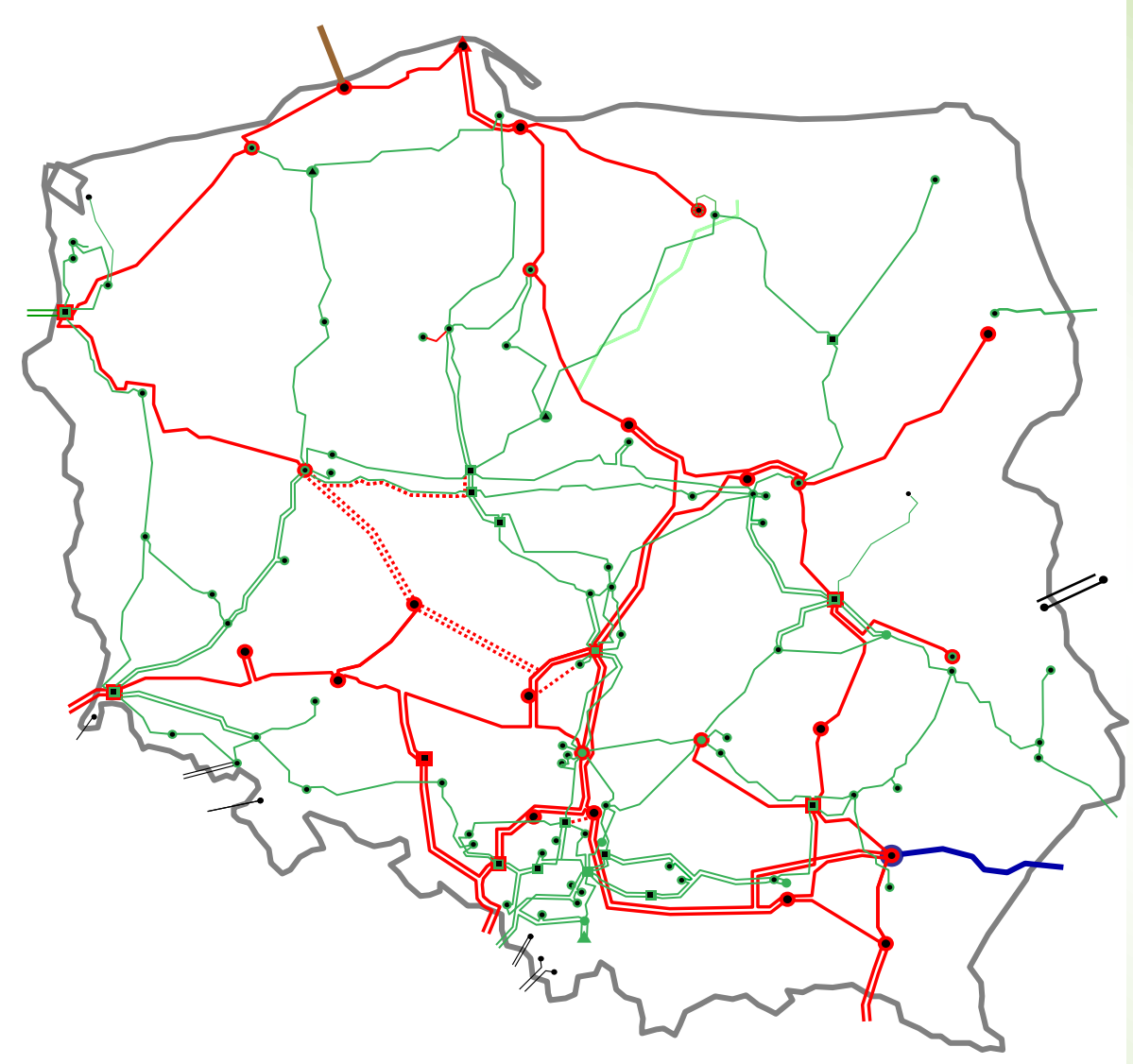

110 kV
220 kV
400 kV
450 kV
750 kV

Data source:
PSE-Operator S.A.

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Polish transmission grid – planned investments

planned 400 kV lines before 2013

planned 400 kV lines after 2013

Data source:
PSE-Operator S.A.

Energy policy of Poland…

- … is consistent with the energy policy of the European Union and its objectives.

- ... answers on the main challenges facing the Polish energy sector.

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Main challenges for energy policy

High demand
for final energy

Inadequate generation and transmission infrastructure

Significant dependence on external supplies of natural gas

Commitments on environment and climate protection compel us to take decisive actions

Almost full dependence on external supplies of crude oil

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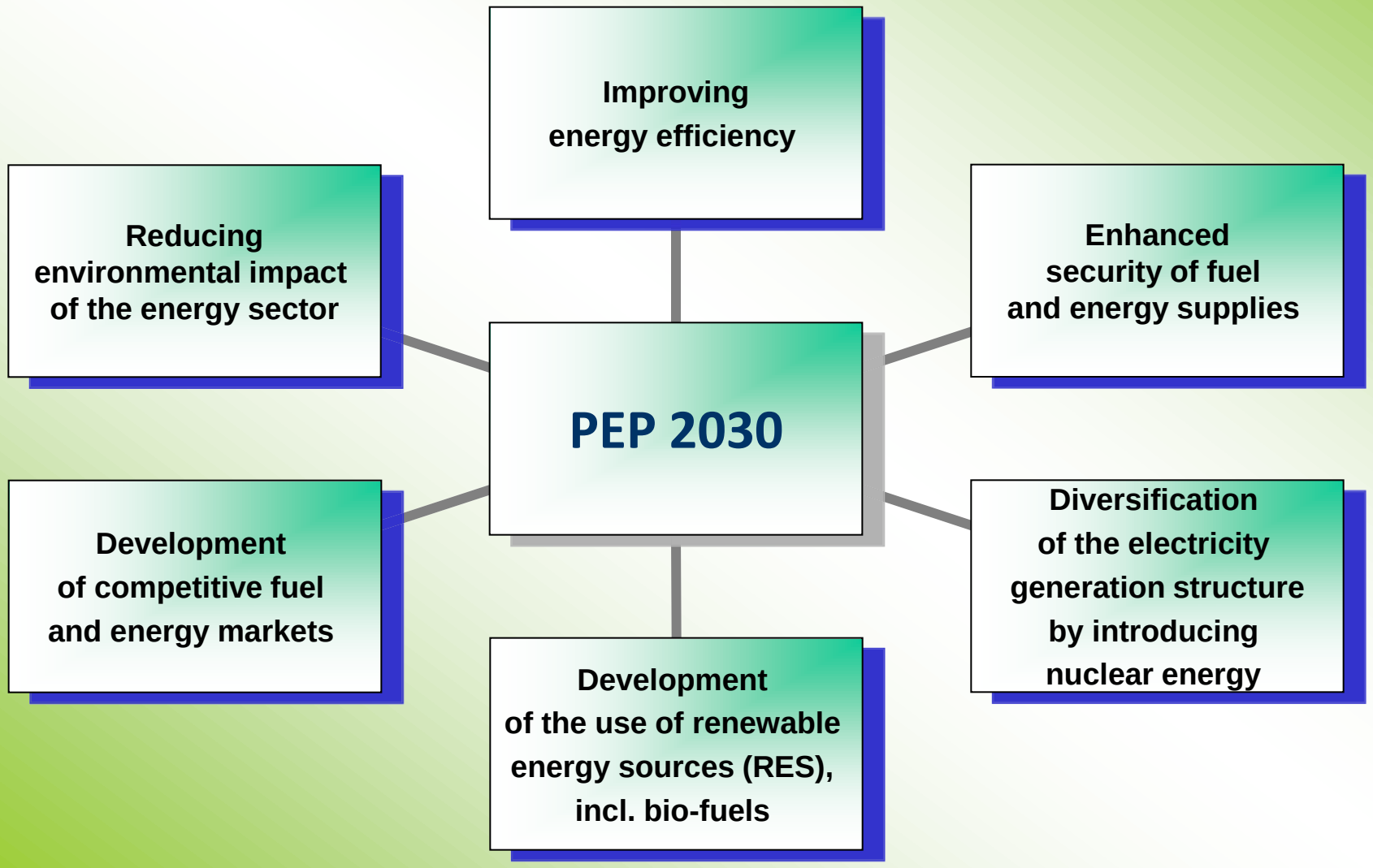
Priorities of Polish energy policy



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Energy efficiency

The main targets:

- To achieve zero-energy economic growth, i.e. economic growth with no extra demand for primary energy
- Reducing the energy intensity of Polish economy to the EU-15 level (in 2005)

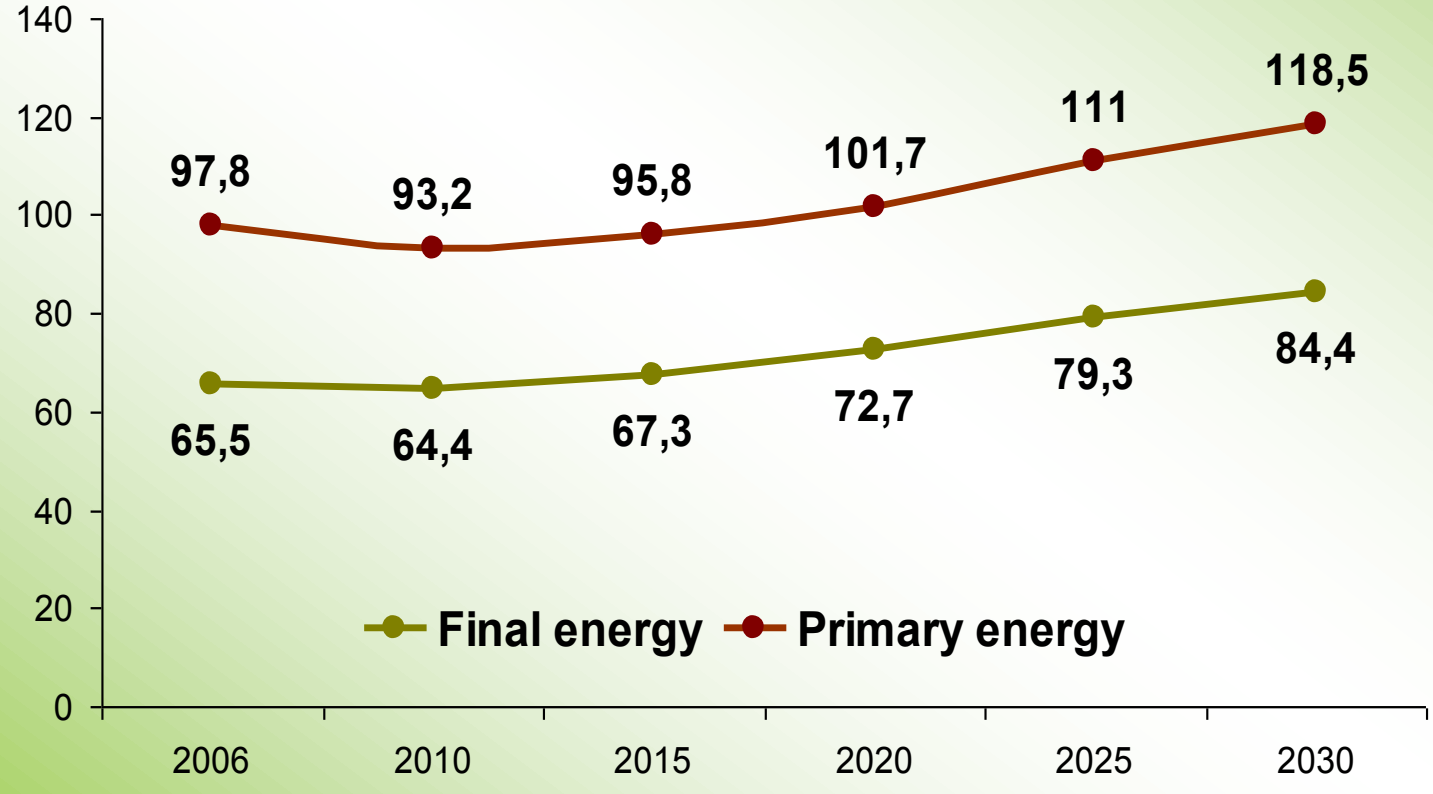
The above targets will be realized through:

- Reducing energy consumption
- Enhancing the efficiency of generation
- Decreasing transmission losses

Main measures:

- Setting the national energy efficency action plan
- Introducing a mechanism to support for investment in energy saving (*white certificates*)
- Stimulating development of cogeneration through support mechanisms (*yellow and red certificates*)
- Introducing energy performance certificates for buildings and apartments
- Model role of public sector in energy saving activities
- Supporting investments and research in new solutions and technologies
- Informational and educational campaigns

The demand for primary and final energy until 2030 [Mtoe]



Source: Projection of demand for fuels and energy until 2030

Energy security

Polish energy security should be based on:

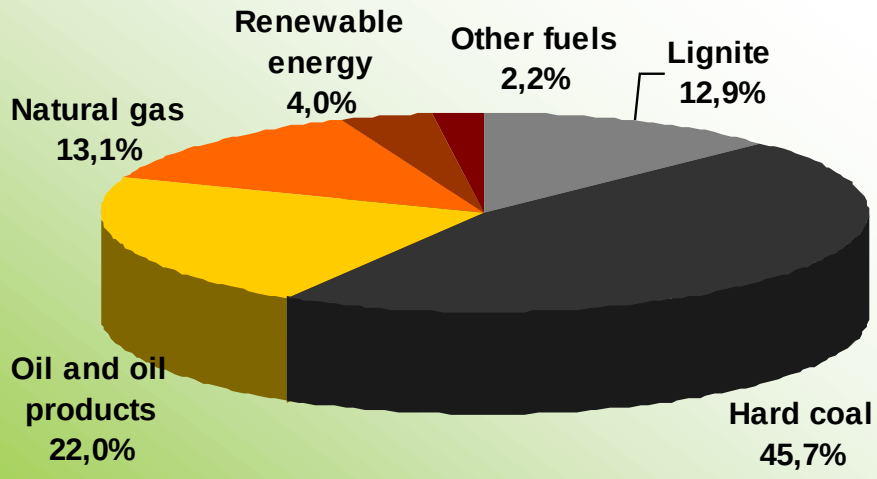
- Domestic energy resources
- Diversification of oil and gas supplies
- Development of electricity generation capacity
- Development of transmission infrastructure

Main measures:

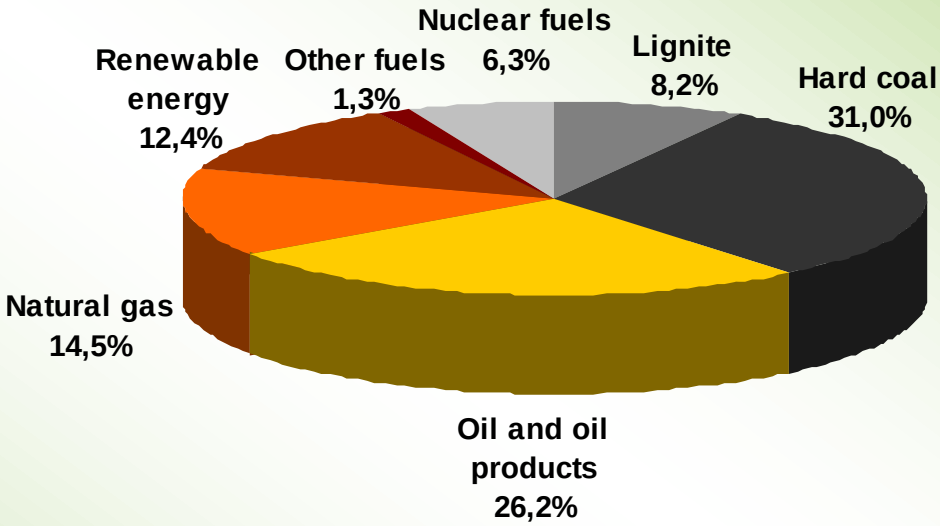
- Retaining sufficient level of mining capacity
- Extending the natural gas and crude oil transmission system and storage capacities
- Reconstruction and reinforcement of the existing power grids
- Construction of new power grids
- Supporting research and development of technologies providing to use coal for liquid and gas fuels production
- Support from European Funds

The demand for primary energy by carriers (%)

2009

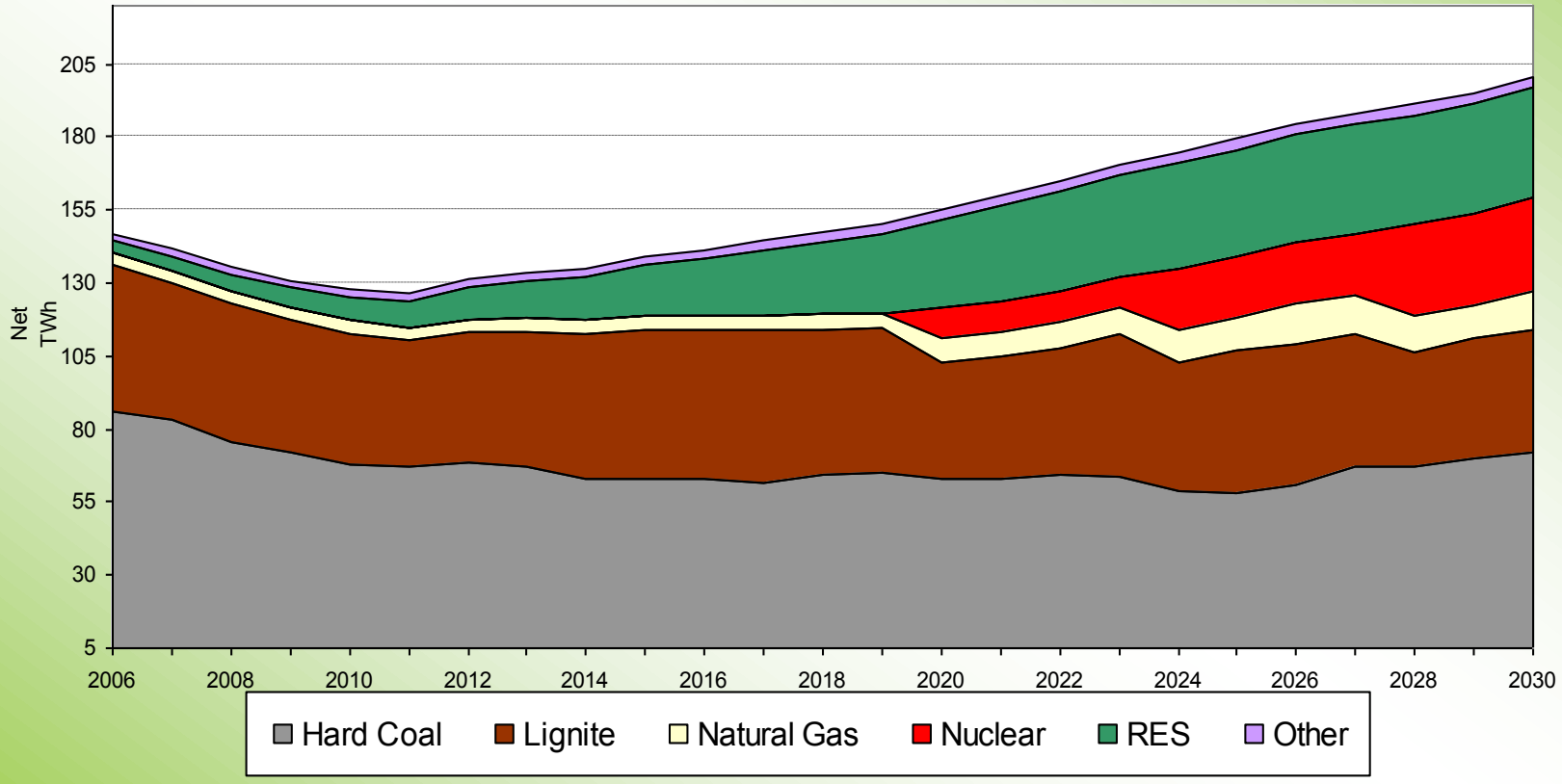


2030



Source: Projection of demand for fuels and energy until 2030, ARE

Electricity generation by sources (TWh)



Nuclear energy

Energy Policy of Poland until 2030 assumes diversification of the electricity generation structure by introducing nuclear energy.

Main objectives:

- preparing infrastructure for nuclear energy,
- ensuring appropriate conditions for investors interested in building and launching nuclear power plants,
- gaining public support for nuclear energy.

Renewable Energy Sources

Main goals:

- **15% share in final energy consumption in 2020**
- **10% share of bio fuels in fuel market in 2020**

Main measures:

- Additional support mechanism for RES
- Effective use of biomass (agricultural biogas installations, second generation of biofuels)
- Support from European Funds

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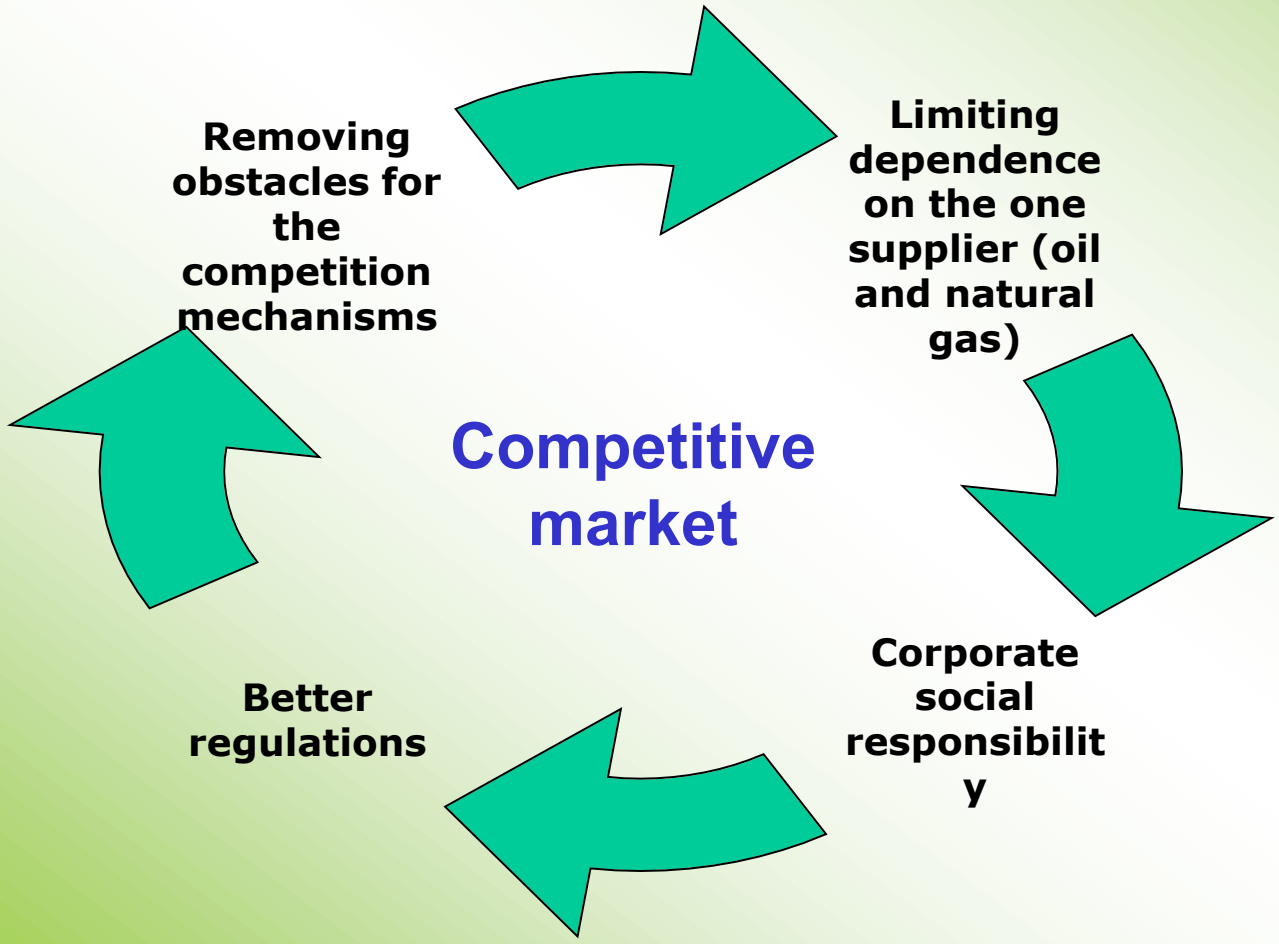
Development of competitive fuel and energy markets



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Reducing the environmental impact of power industry

The main targets:

- Reducing emission of CO_2, SO_2, NO_X and dust
- Development of low-emission technologies

The main actions:

- Development of technologies which reduce the emission of pollutants, ex.: RES, high efficiency cogeneration, nuclear energy
- Development of clean coal technologies, including CCS installations and gasification of coal
  - Use all reasonable efforts to locate in Poland two CCS demonstrative power plants
  - Using the CCS technology to support crude oil and natural gas extraction
  - Intensifying research and development of the CCS technology
- Utilization of methane from mining sector for energy generation

Thank you!!!