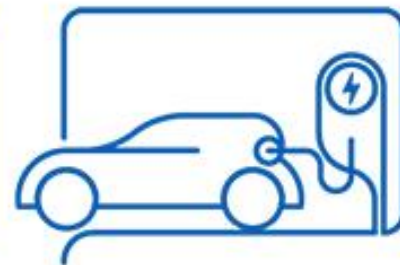




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# ENERGY POLICY OF POLAND UNTIL 2040

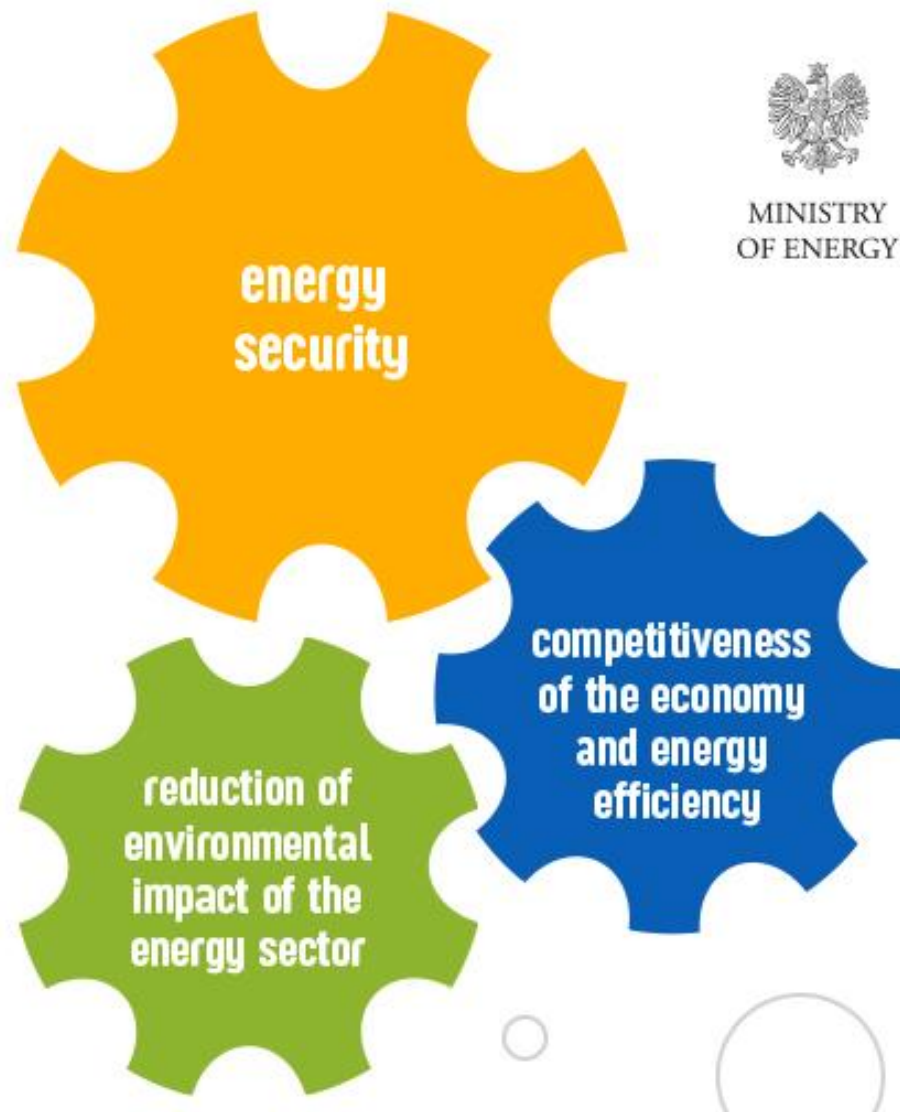


# THE MAIN OBJECTIVE OF THE ENERGY POLICY OF POLAND IS:

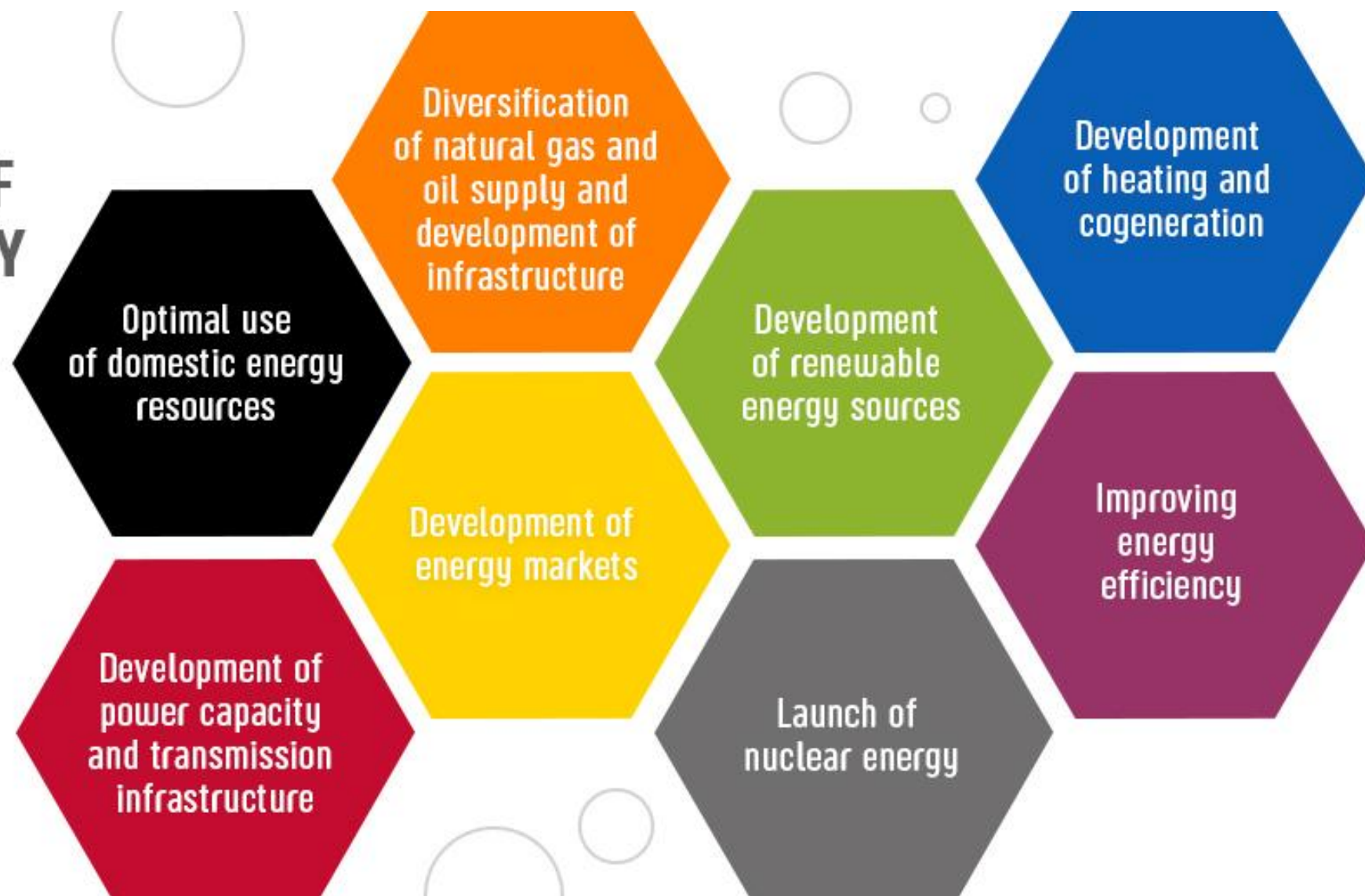
to provide **energy security**, while ensuring **competitiveness of the economy**, energy efficiency and **reduction of environmental impact of the energy sector**, and with optimum use of Poland's domestic energy resources



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# STRATEGIC DIRECTIONS OF ENERGY POLICY OF POLAND UNTIL 2040





# OPTIMAL USE of domestic energy resources

## Coal

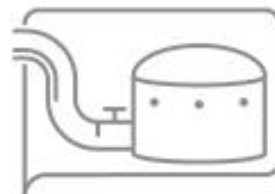


- sector profitability and innovation in coal sector
- rational exploitation, utilisation and distribution of coal



## Natural gas and crude oil

- exploration of new domestic deposits of natural gas and crude oil
- diversified supplies, routes and directions of natural gas and crude oil



## Biomass and non-agricultural waste

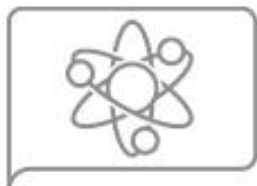
- sustainable usage of renewable sources



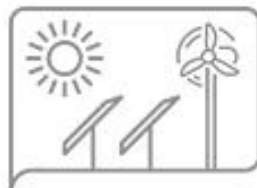
# DEVELOPMENT OF POWER CAPACITY and transmission infrastructure



**60%** share of coal in electricity  
production in 2030



first nuclear  
unit **in 2033**

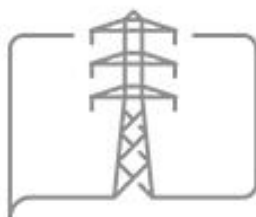


**increasing**  
role of RES



natural gas mainly  
as reserve capacity

## Transmission infrastructure



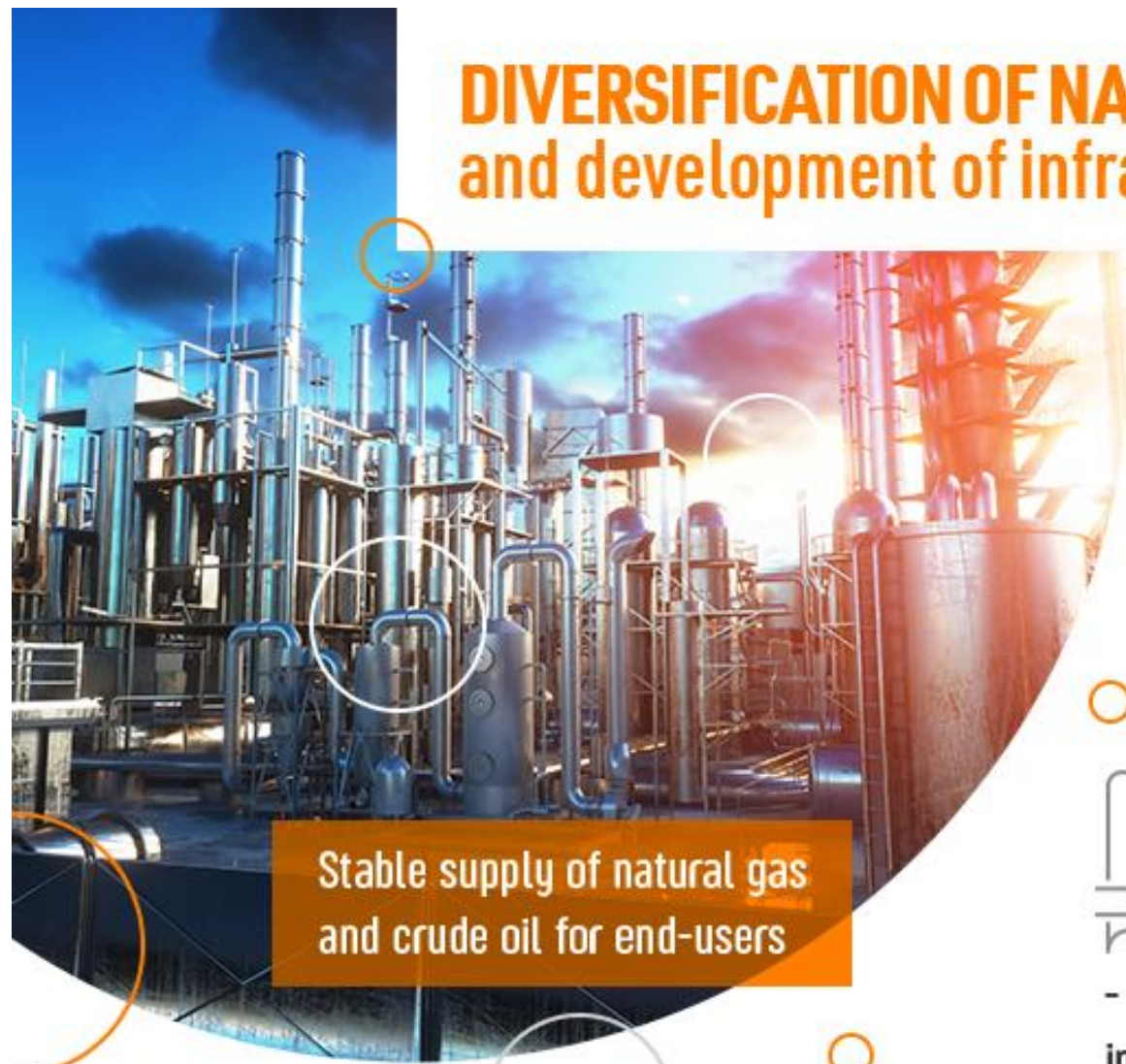
- expansion of the transmission and distribution grids
- secure cross-border connections
- higher quality of energy distribution
- effective measures in emergency situations
- development of energy storage
- development of smart grids

Stable supply of electricity

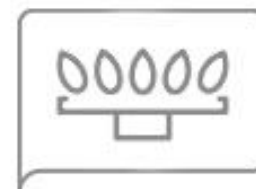




# DIVERSIFICATION OF NATURAL GAS AND OIL SUPPLY and development of infrastructure

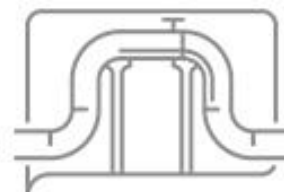


Stable supply of natural gas  
and crude oil for end-users



Natural gas


- ability to receive imports (*Baltic Pipe, LNG terminal*)
- efficient cross-border connections
- development of gas transmission, distribution and storage infrastructure



Crude oil and liquid fuels

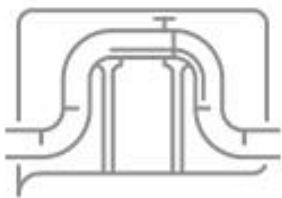
- development of crude oil and liquid fuel transmission infrastructure and storage

# DEVELOPMENT OF ENERGY MARKETS

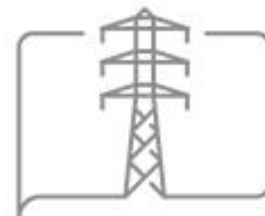
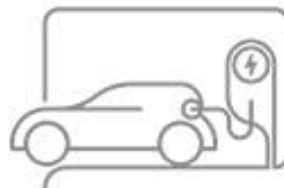


## Fully competitive energy market

### Petroleum products



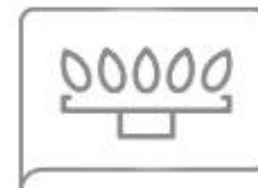
- optimization ownership structure in the sector
- increasing the role of biocomponents, alternative fuels, e-mobility



### Electricity

- strengthening the consumer's position and role of prosumers
- development of demand side response (DSR)
- flattening the electricity demand curve
- reform of electricity trade

### Natural gas



- market liberalisation
- Poland as a regional trade centre
- new segments for gas use





# DEVELOPMENT OF RENEWABLE ENERGY SOURCES

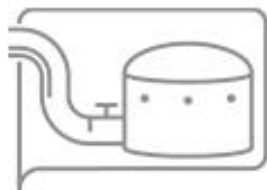


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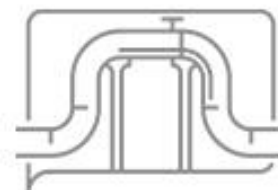
21% RES in gross final energy  
consumption in 2030



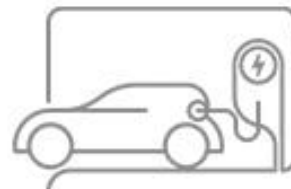
ability to balance RES



development of distributed generation,  
**energy clusters** and energy cooperatives



in heating and cooling  
- **1-1.3 pp.** annual increase



in transport - **10% RES in 2020**  
**and 14% in 2030**



in power generation - maintain  
**PV growth** and implementation of  
**offshore wind energy**



support for  
**dispatchable** RES





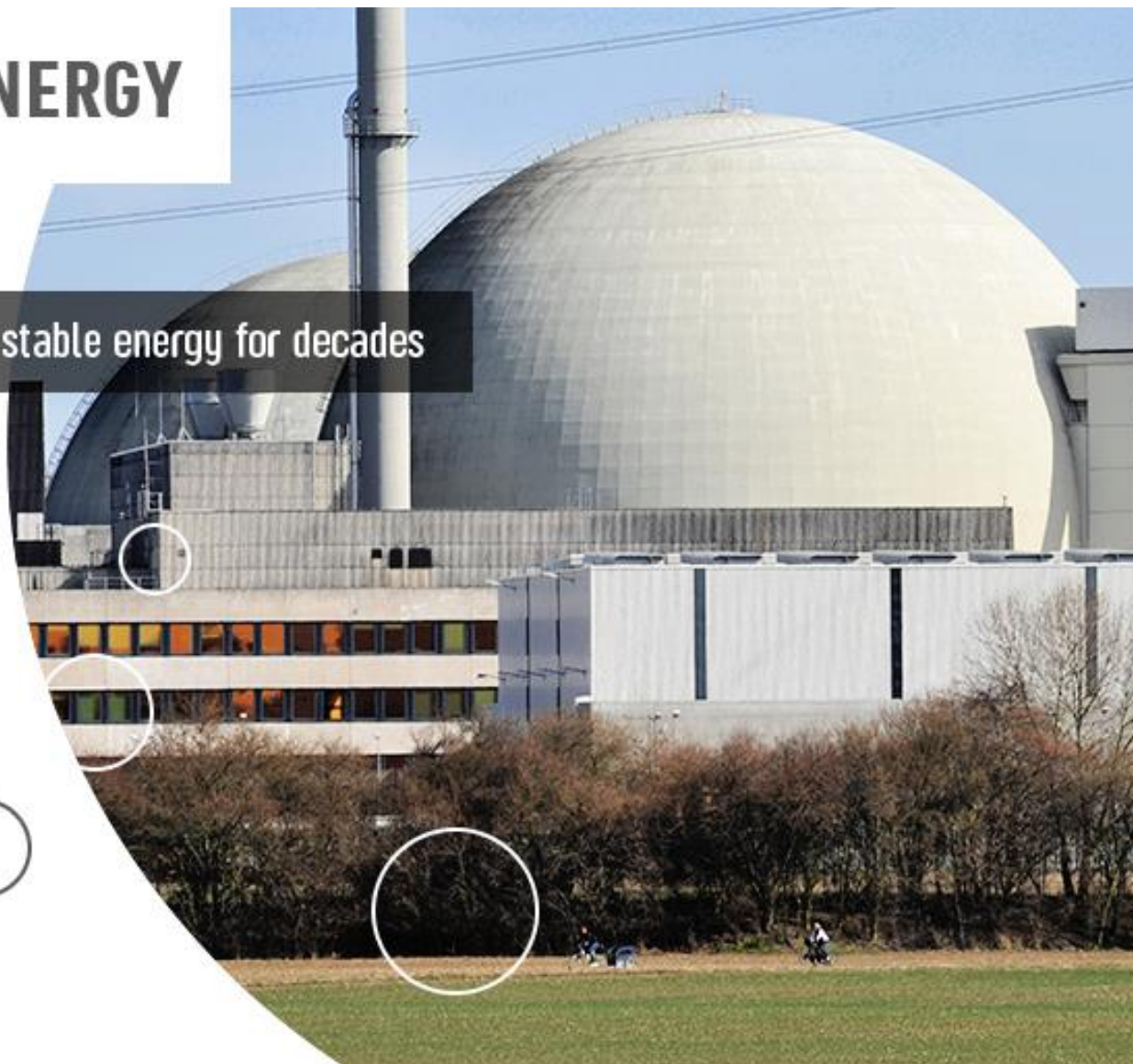
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# LAUNCH OF NUCLEAR ENERGY

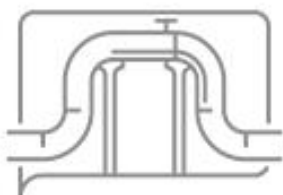


Clean, safe and stable energy for decades

- first nuclear unit with a capacity of 1-1.5 GW by 2033
- 6 nuclear units by 2043 (total 6-9 GW)
- ensuring formal, legal and financial conditions for the construction and operation of nuclear energy
- development of human resources
- effective nuclear regulatory system
- perspective role of small nuclear units (HTR, SMR)



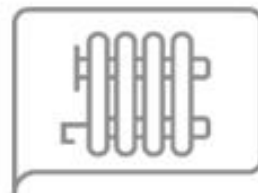
# DEVELOPMENT OF HEATING and cogeneration



## Development of district heating

- development of effective heat and cooling supply systems  
*(increased use of high-efficient CHP, RES and waste)*
- more customers connected to the district heating (DH) systems
- competitiveness of DH (compared to individual heating sources)

## Cleaner individual heating



## Low-emission heat generation at the local level



- decreasing the use of solid fuels
- increasing the role of low-emission fuels  
*(gas, non-combustible RES, electricity)*
- effective monitoring of pollutant emissions





improving environmental  
awareness



exemplary role of public sector  
entities

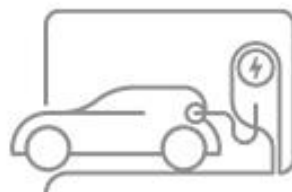
## IMPROVING ENERGY EFFICIENCY of the economy



legal and financial incentives for  
pro-efficiency actions



intensive thermomodernisation  
of housing



improving air quality  
(*e-mobility, district heating systems*)



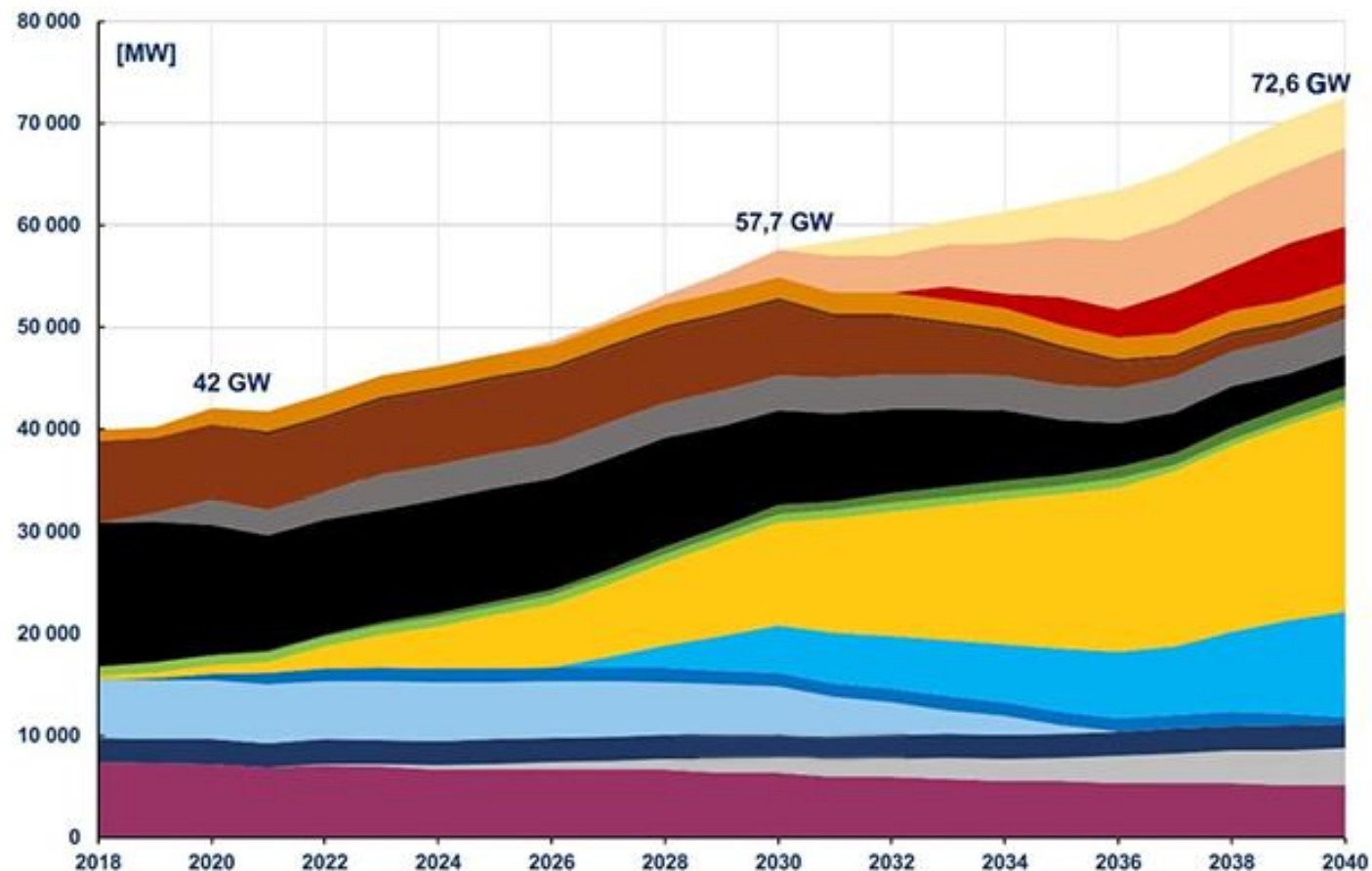
reduction of energy poverty





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## INSTALLED NET CAPACITY BY TECHNOLOGY until 2040 [MW]

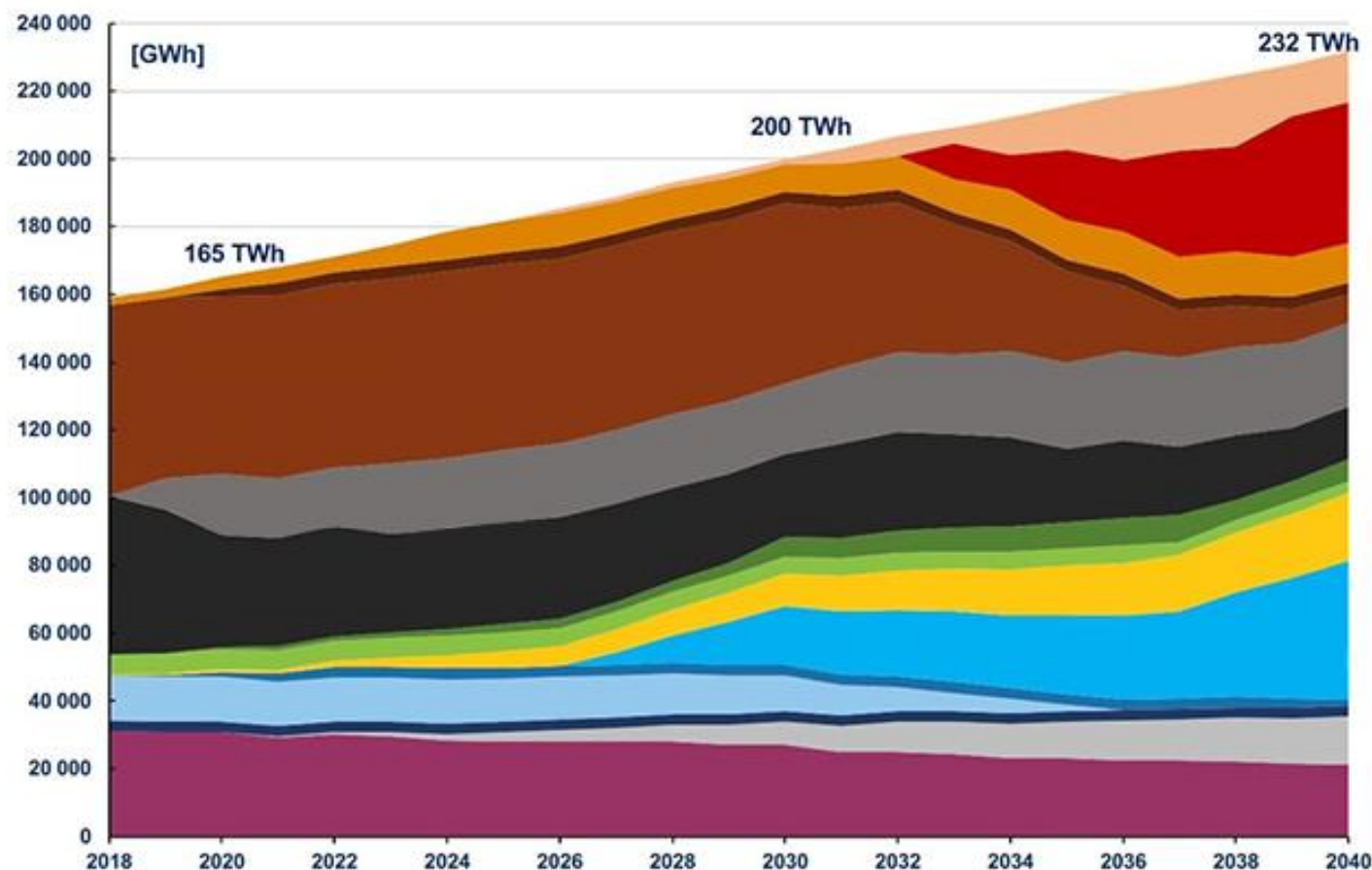


- new diesel engines or simple cycle gas turbines
- new combined cycle gas turbines
- new nuclear units
- combined cycle gas turbines: Płock, Żerań, Stalowa Wola, Włocławek
- lignite power plants - under construction (Turów)
- lignite power plants - existing
- hard coal power plants - planned and under construction (Jaworzno, Opole, Ostrołęka)
- coal power plants - existing
- biogas power plants
- biomass power plants
- photovoltaic power plants
- offshore wind power plants
- new wind power plants - as part of the RES auction in 2018
- onshore wind power plants - existing
- hydropower plants
- new combined heat and power plants and condensing units
- CHP plants



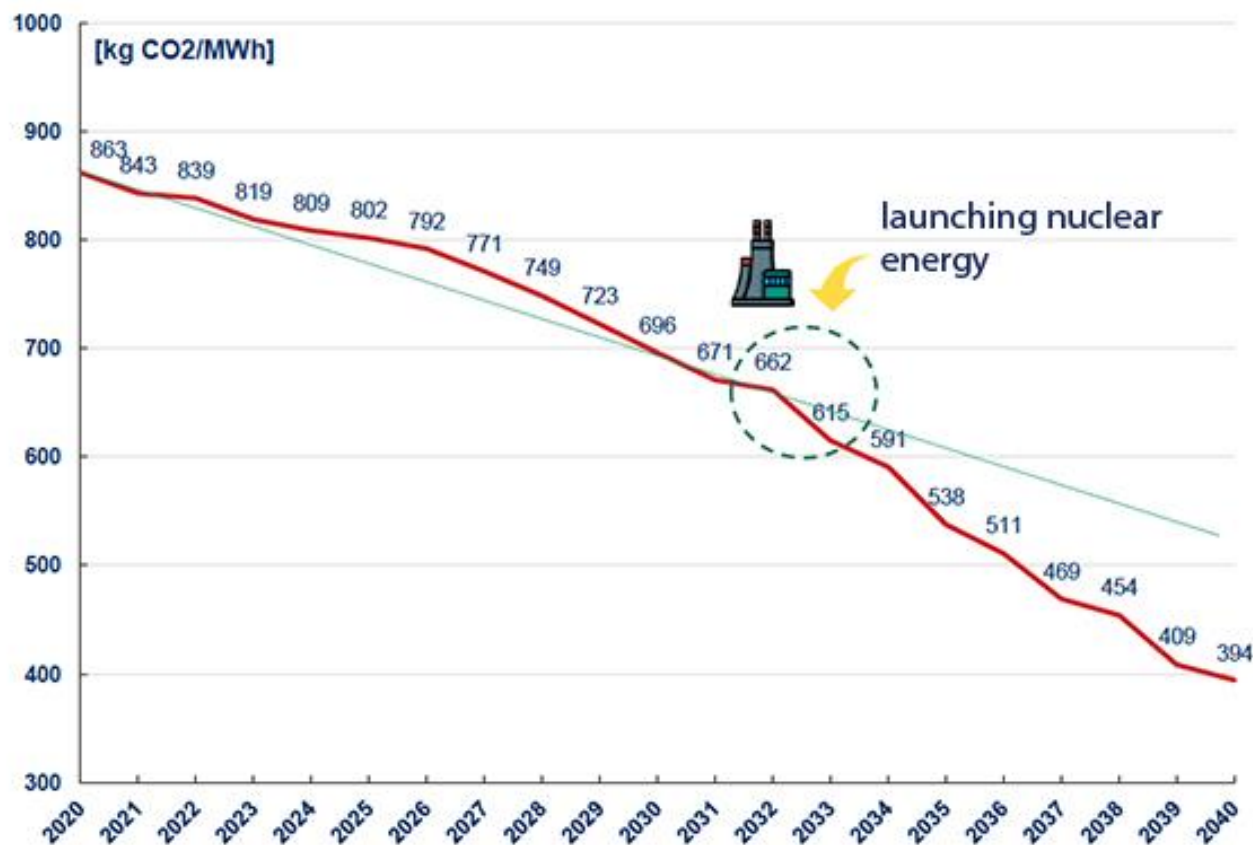
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# ELECTRICITY GENERATION BY TECHNOLOGY until 2040 [GWh]



- new diesel engines or simple cycle gas turbines
- new combined cycle gas turbines
- new nuclear units
- combined cycle gas turbines: Płock, Żerań, Stalowa Wola, Włocławek
- lignite power plants - under construction (Turów)
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- new combined heat and power plants and condensing units
- CHP plants

## AVERAGE EMISSIONS IN THE POWER SECTOR – power plants and CHP plants



Decrease of CO2 emissions results from launching nuclear energy, increasing the role of RES and gas, as well as decommissioning of old, low-efficient lignite and hard coal fired units.





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# ENERGY POLICY OF POLAND UNTIL 2040

