

# How to avoid blackouts in Europe?

The role of Capacity Mechanisms for short and medium term challenges

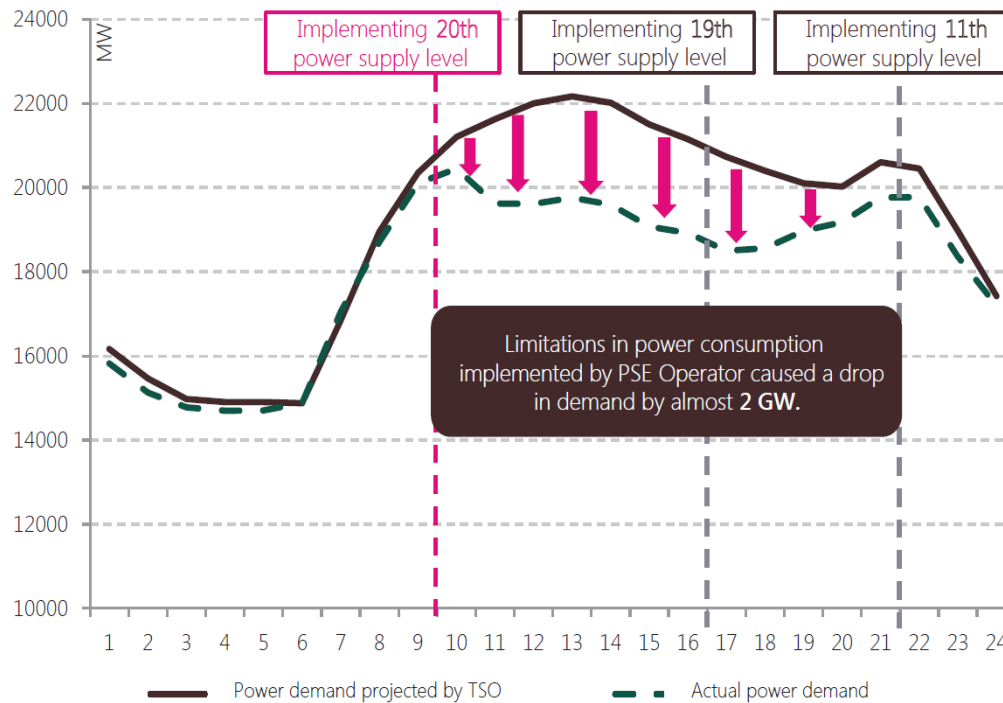
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# The rationale for a capacity mechanism in Poland

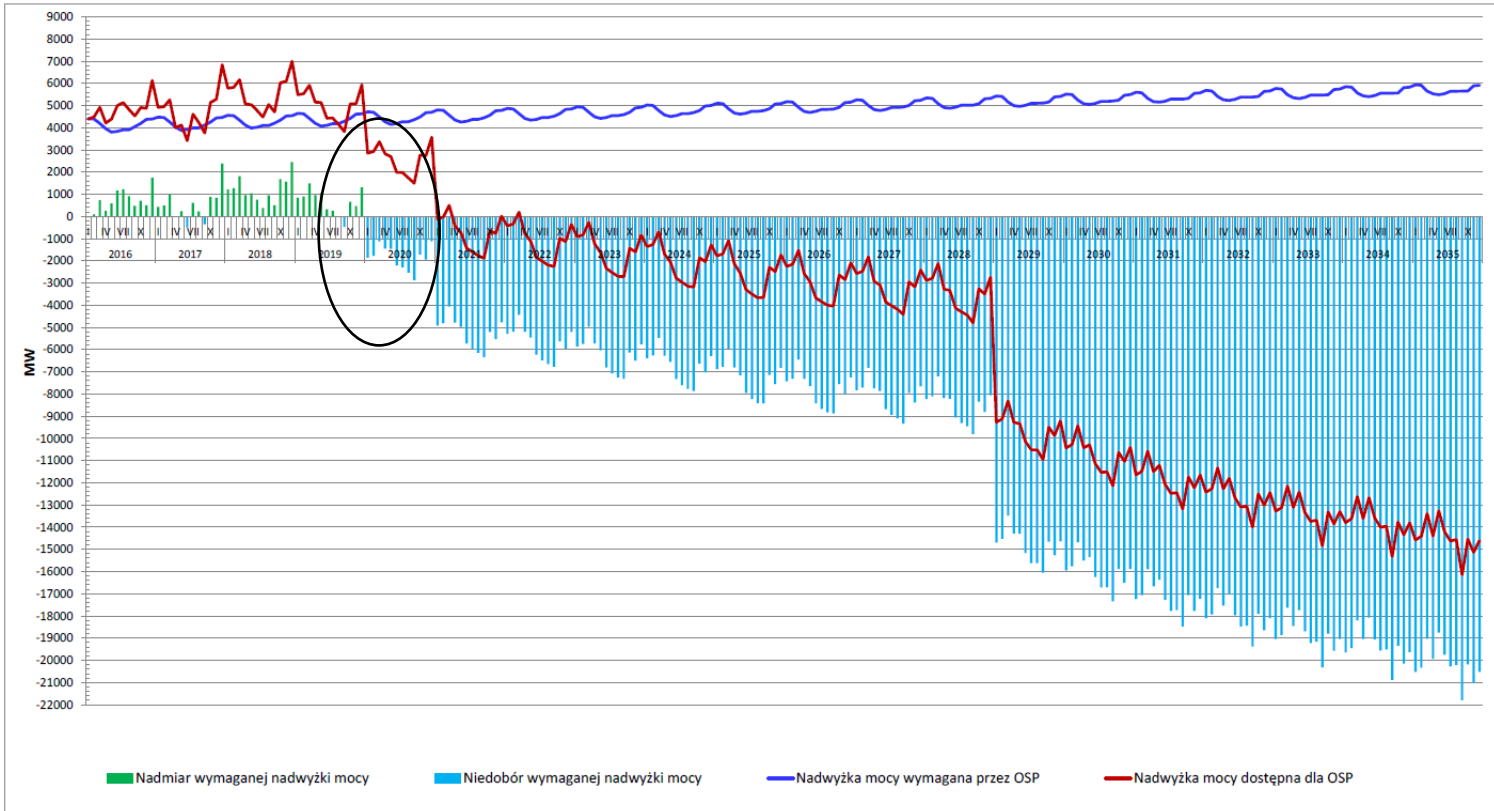
Situation in the National Energy System on 10 August, 2015 [MW]



- Shortage of generation capacity occurred in the Polish National Energy System on 10 August 2015

Source: Study of Polish Electricity Association of the introduction of a comprehensive capacity market mechanism in Poland, 2016

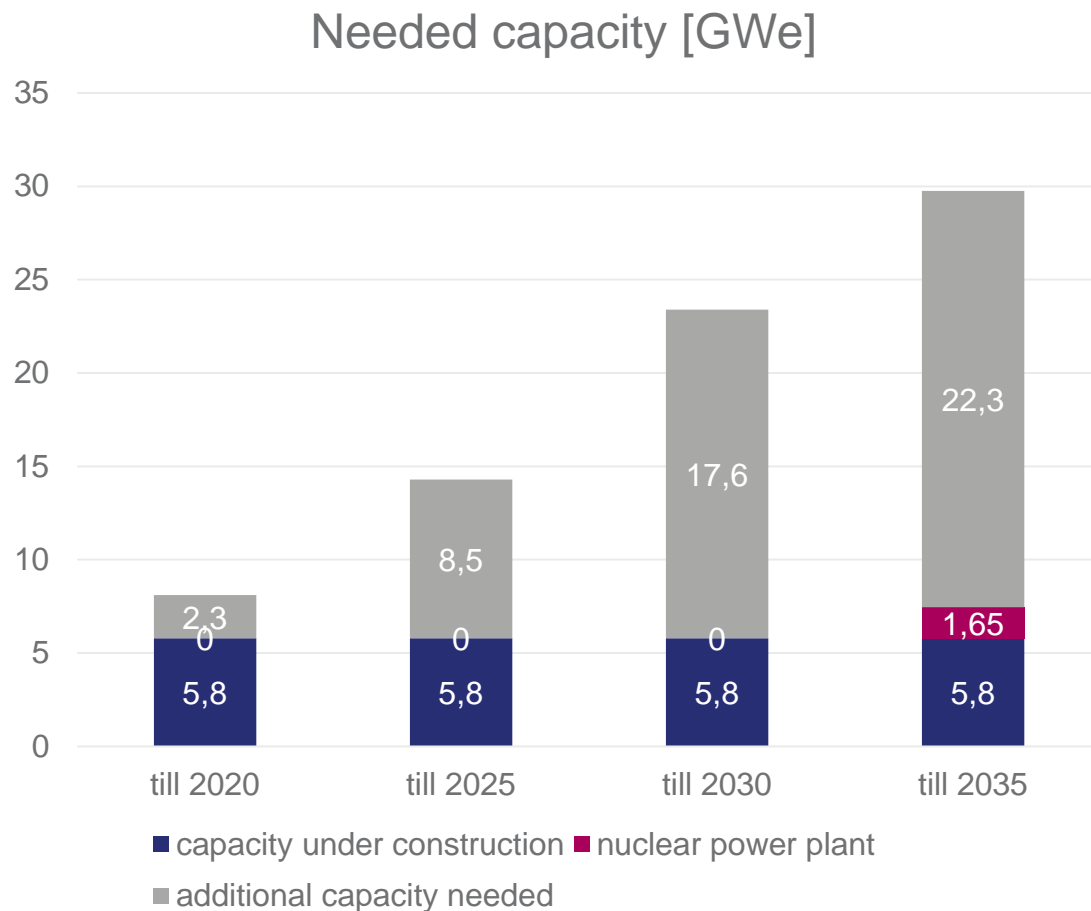
# The rationale for a capacity mechanism in Poland



- Foreseen shortage of generation capacity envisaged in Polish National Energy System due to BAT withdrawal scenario from 2020.

Source: Polish Transmission System Operator (PSE) 2016 – 2035 peak demand forecast for power generation in Poland

# The rationale for a capacity mechanism in Poland

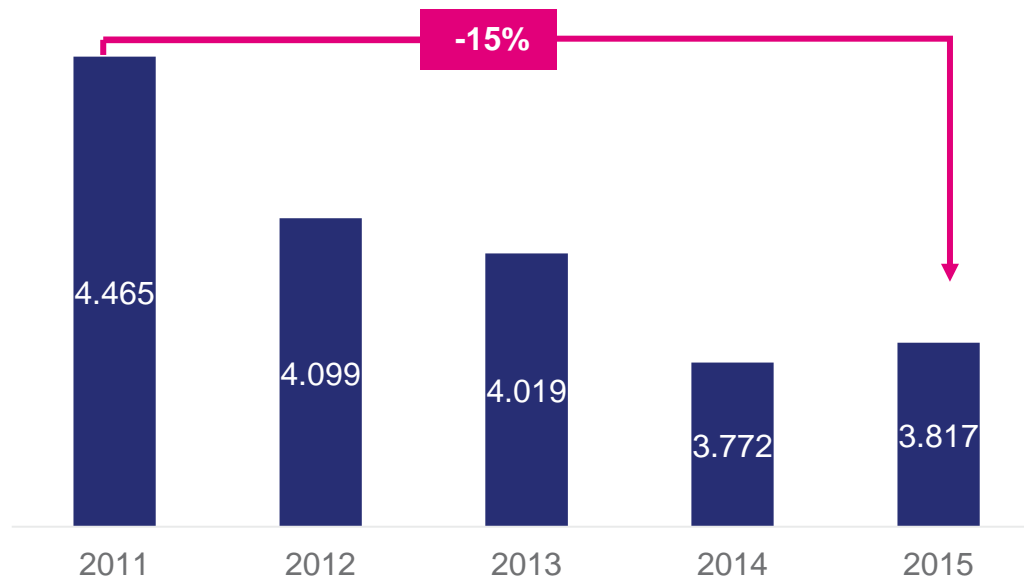


- Required capacity increase in the Polish National Energy System due to the BAT withdrawal scenario.

Source: Deloitte „Prospects for a Capacity Market in Poland”, March 2017

# The rationale for a capacity mechanism in Poland

Average working time of bituminous coal-fired units at nominal power in Poland 2011 - 2015



Source: Deloitte „Prospects for a Capacity Market in Poland”, March 2017

- Energy Only Market (EOM) is unable to incentivise long-term investments in reliable generation capacity.
- Increased energy generation from subsidised renewable energy sources has reduced both wholesale energy prices and the operating time of conventional units.
- The issue of long-lasting low profitability in the energy sector triggers a missing capacity problem. Investors refrain from developing new generation capacities despite insufficient level of reserves.

# Proposal for a capacity remuneration mechanism in Poland



- The aim is to deliver a **supply of secure, sustainable and affordable electricity** in Poland.
- **Reliable and dispatchable capacity is needed** – both on the supply and the demand side. The Transmission System Operator (TSO) must also be able to utilise the most out of the existing network assets.
- The capacity mechanism will **provide a fix payment for reliable sources of capacity**, on top of electricity revenues, to ensure they deliver energy when needed.
- **Auctions will also be open for demand-side responders** to make capacity available when it is needed most.
- And the Polish capacity market **foresees participation of the energy capacity from other EU countries.**



# Proposal for a capacity remuneration mechanism in Poland



- Potential capacity market participants can bid for contracts in auctions:
  - five years ahead of the delivery date.
  - Supplementary for a year ahead of delivery with the intention to adjust the final capacity with market demand.
- Different contract maturity will be offered:
  - Long-term agreements up to 15 years for new capacity
  - Mid-term agreements up to 5 years will be available for refurbished plant
  - Short-term 1 year agreements for existing capacity
- „Dutch Auction” to be used to minimize cost of the system (The auction will start at a maximum price, which will be progressively reduced until the amount of the capacity required is reached)
- This cut-off point produces the cleared price, which will be the basis for capacity payments to all capacity providers successful in the auction.



# Conclusions



The capacity market is to ensure that

- minimum required capacity exists in the system and stability of supply for end-customer is assured
- And that sufficient volume of dispatchable capacity is available to provide backup for intermittent and inflexible generation sources.
- Missing money issue is structurally solved at the lowest possible cost