

Remarks to the Clean Energy Package

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The operating regime is not optimised for a least cost solution...



Key elements of current European energy policy

I. RES development

- **Ensuring security of supply** via renewable generation
- **Reduction of GHG emission**
- Governmental **subsidies to support green investments**
- **Transmission system development** to bring RES generation to the customers

Primary source free RES generation provides independent energy source for the continent's industry

II. Energy only market

- **Pure energy is traded** on power markets
- Bottlenecks minimized with integrated **transmission system operation and (cross border capacity) development**
- Active regulatory framework to create the single EU energy market (**market couplings**)
- **Short term operated balancing markets** to liberate resources

Market prices send necessary signals to investors and create a favorable environment

III. Customer integration

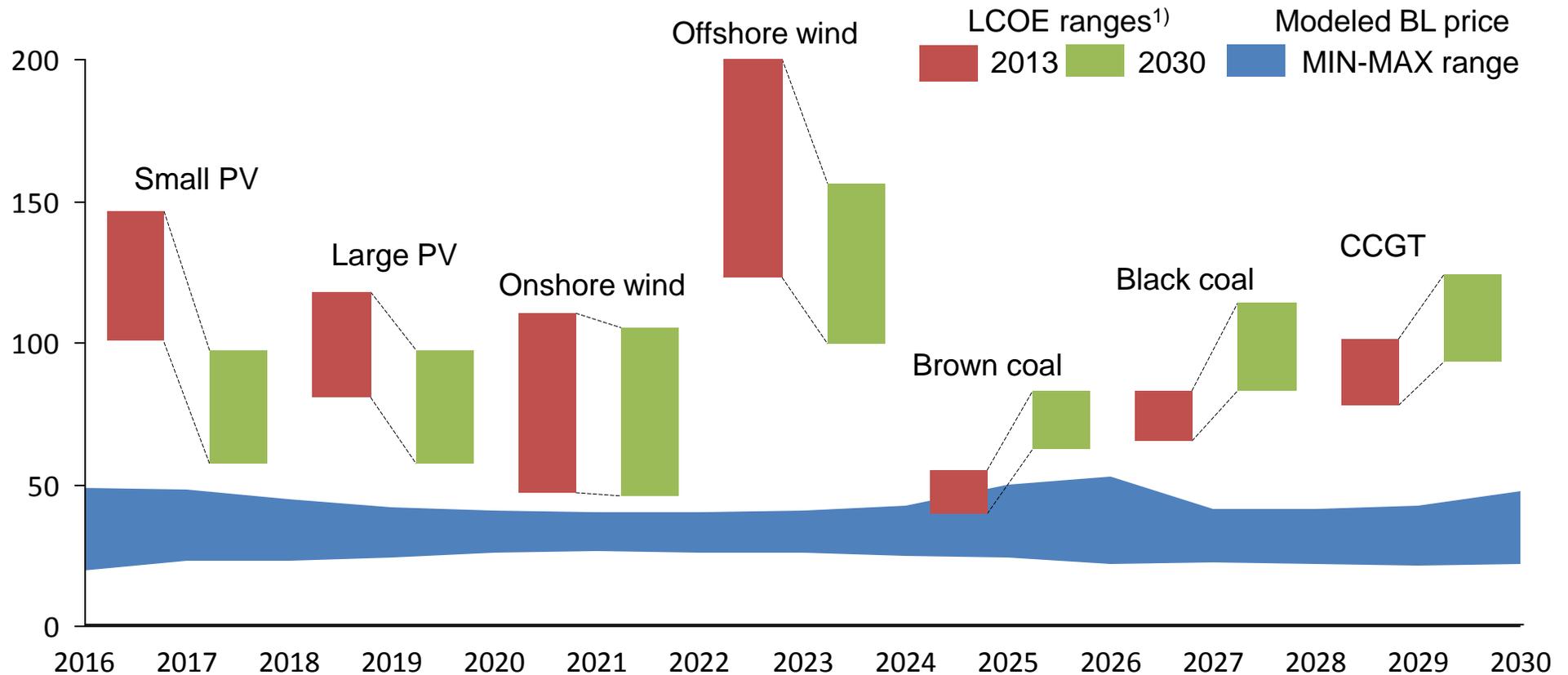
- Provide **opportunity for customers to choose supplier**
- Support **response possibilities to market signals** of consumers via **smart systems**
- **Integrate customer's investments to support system operation** (with rooftop solar, batteries, smart homes)

Customers involved actively in system operation and become a „prosumer” on the power market

No capacity investments are expected within the current market framework



EU BL curve compared with German LCOE ranges (2013, 2030) [EUR/MWh]

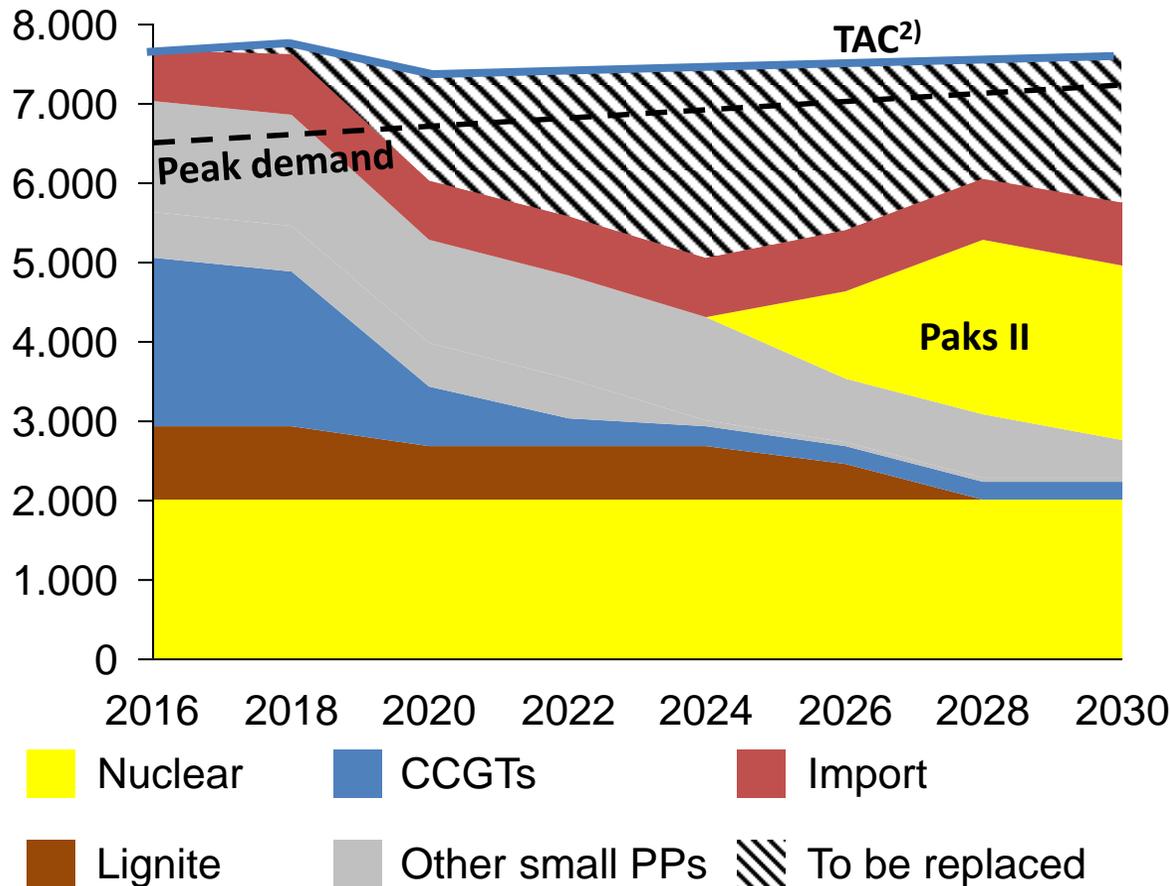


1) LCOE calculated to Germany with typical load factors

Security of supply will become tighter year to year with continuous decrease of generation capacities



Evolution of the Hungarian installed capacity curve [MW]



- Taking into account a slight increase in demand and applicable reserve obligations, the Hungarian power system will need **~7800 MW available capacity in the mid-term.**
- To meet this need and **provide back-up capacities beside RES generation, ~1700-1800 MW new capacity is required** in the following 10-15 years
- **Capacity scarcity is not primarily caused by the increase in demand, rather the retirement of obsolete and non-competitive plants**

1) Import is fixed at 10% (~ the 2016 level) as an acceptable risk level

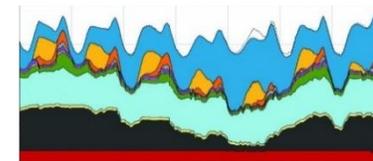
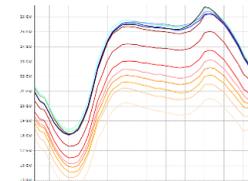
2) Total Available Capacity: Based on ENTOS-E expectations, the R3 reserve obligation is optional from 2020

Optimum shall include all potential solutions in order to achieve sustainable development



Issues of present EU energy policy

- Investment **decisions** are **not based** on short term **price signals**
- Governmental support mechanisms (**subsidies**) **accelerated renewable** capacity **developments**
- Partly available **RES capacities** can **not guarantee** **system stability**
- **Consumers** are **not willing to participate** in power system **operation** and **taking significant operational risks** just because
- **Extreme weather** conditions with high peak demands appear in **complete regions**, not only in single countries



The solution is on the table: more than 25 capacity mechanism introduced in 14 EU countries



Remarks about current power generation situation

- **Increase of weather dependent renewable portfolio requires more flexible balancing sources**
- **PP shutdowns from the existing generation portfolio are still expected which will decrease the systems' reliability**
- **Decision makers do not make CAPEX investments without an expectable return**
- **The energy only markets (as the current situation presents) are unable to stimulate investments in merchant generation**



■ Countries that have already introduced or are evaluating capacity mechanism



Thank you!

