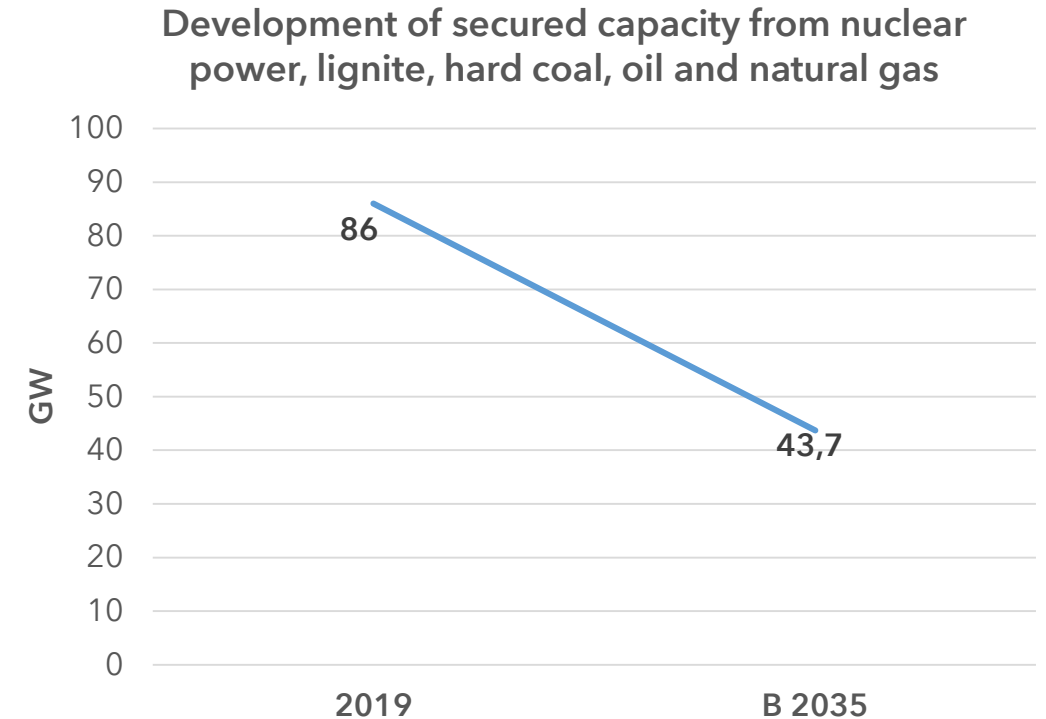
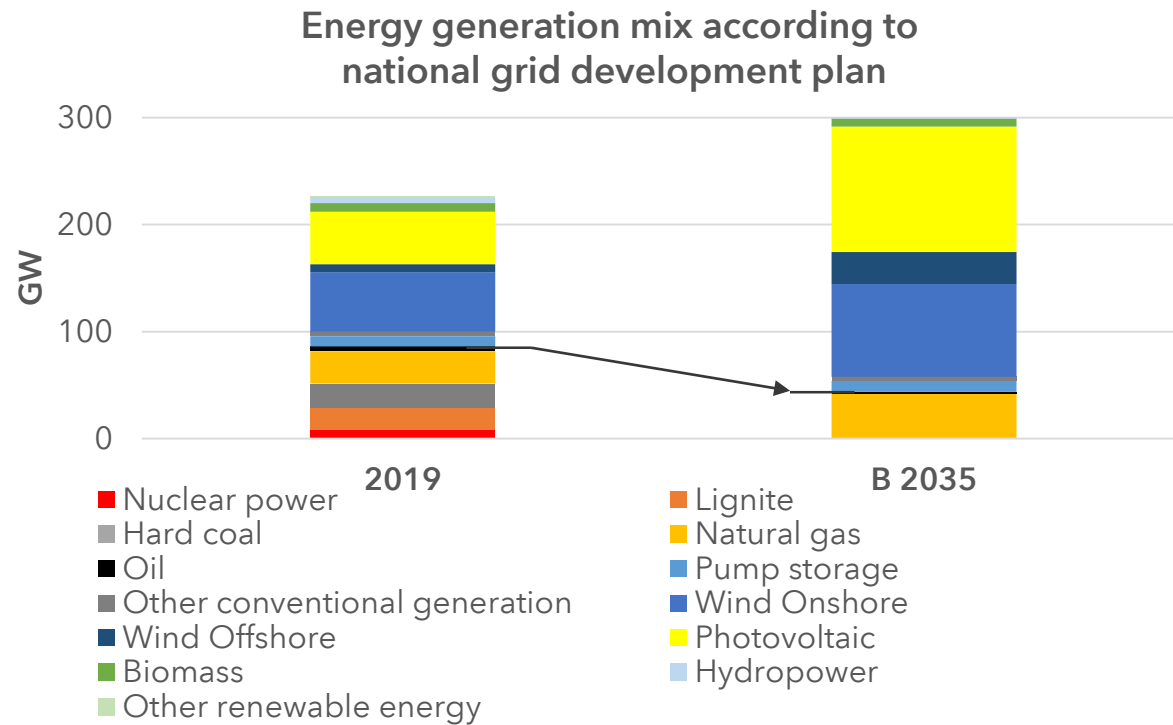


**IFRI GREEN DEAL VIRTUAL LUNCH SERIES ELECTRICITY
DECARBONIZATION, DIVERSIFICATION AND SECURITY OF
SUPPLY:
HOW TO MEET THE 2030 CHALLENGE IN NORTH-WEST
CONTINENTAL EUROPE?**

SITUATION GERMANY

NUCLEAR & COAL PHASE OUT / GERMANY



- / High increase of Renewable Energy Systems (RES)
- / Nuclear- (2022) and coal (2035/38) -phase-out; additional gas
- / Secured capacity from conventional power plants: -42GW

TODAYS RESERVE/TOOLS IN GERMANY

	Capacity Reserve	Special Network Operating Resources	Security Stand-by	Network/Grid Reserve
Description	Provision of plants outside the market to safeguard the electricity market (strategic reserve)	Construction of new special network operating resources	Lignite-fired power plants to be decommissioned must be kept ready for operation for four years (10 days lead time to establish operational readiness)	Provision of systemically relevant power plants notified for decommissioning in Germany and, if necessary, additional reserves abroad
National legal basis	§13e EnWG/KapResV	§11 (2) EnWG	§13g EnWG	§13d EnWG / NetzResV
Purpose of use	Compensation of power balance deficits; use for grid reserve possible	Create n-1 status in the event of actual failure of operating resource	Decommissioning of power plants to achieve climate protection targets	In particular, redispatch for the management of grid congestions and for voltage maintenance as well as ensuring a possible restoration of supply.
Volume	1st provision period: 1,1 GW (10/2020 - 09/2022): 2nd provision period: (10/2022 - 09/2024): expected. 2 GW	1.2 GW (as of 10/2022)	2019/2020: 2.7 GW 2021: 2.4 GW 2022: 1.8 GW 2023: 0.8 GW	2021: 5.5 GW ...
Limitation of availability	Approval under state aid law until 09/2025	Use limited to 10 years	until 09/2023; "new" security stand-by (extended decommissioning according to §50 KVBG) as of 31.12.2025	In each case dependent on system relevance classification

/ Long distances / new tool to ensure internal and external needs

/ Focus: No market distortions

NATIONAL ADEQUACY ASSESSMENT / TSO VIEW

/ MAF and national analysis by Federal Minister for Economic Affairs and Energy show rather uncritical results for the next years for, but an increase of critical situations can be seen already

LOLE/loss of load expectations in DE (h/a)	MAF 2020/ENTSO-Es Mid-term Adequacy Forecast	* Federal Minister for Economic Affairs and Energy* / 2019
2021	-	0
2025	0,04	0
2030	0,08	0



/ the phase out of coal is not yet fully integrated

/ approaches seek for improvements regarding method and input data/ new results expected

/ the energy crisis of Texas shows the possibility of highly critical situations

/ Security of supply is dependent on imports

/ Observation: Will planned investment, DSM... come?

*<https://www.bmwi.de/Redaktion/DE/Publikationen/Energie/monitoringbericht-versorgungssicherheit-2019.html>

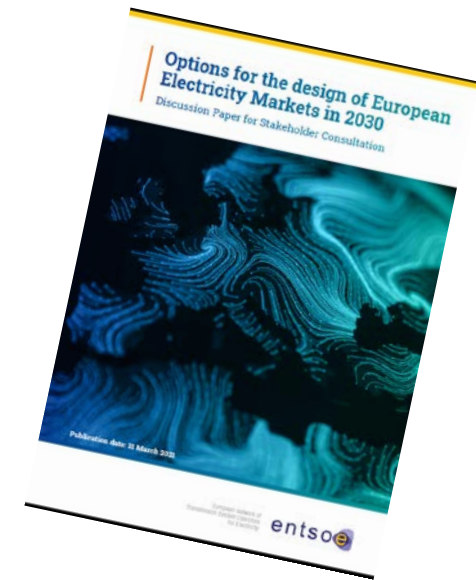
picture source: entso-e

ENTSO-E ACTIVITIES

- / European Resource Adequacy Assessment
- / Methodologies for cross-border participation to capacity mechanisms
- / Options for the design of European Electricity Markets in 2030; Stakeholder Consultation; Market Design options to ensure resource adequacy by 2030;
 - / Enhanced Energy Only Markets
 - / Capacity Mechanisms
 - / Strategic Reserves
- / not possible to recommend one option over another for all European markets

/ Pan-European & regional analysis/methodologies for resource adequacy are of fundamental / growing importance

/ Room for national solutions is needed as generation mix / markets / system conditions and political preferences... are still different at least until 2030



Market Design options differ depending on the selected criteria/interim findings of entso-e analysis, subject to public consultation

