



Status of European and German Energy Politics

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vgbe energy e.V. – Who We Are

- 439 members in 34 countries around the globe
- Members represent an installed renewable and conventional capacity of 296 GW



- > 300 vgbe standards
> 20 new releases/updates
per year
- > 900 unit data on
availability/ reliability
/damages
- > 20 Mil. EUR / year of
R&D projects
- >20 events / year with
> 1.500 participants
- > 100 consulting orders
> 1.000 lab analysis on
materials/water/oil

vgbe is the International Technical Association of power plant and energy plant operators. Founded in 1920, the association covers a wide range of technologies: from renewable and conventional power and heat generation to energy storage and P2X.

The EU and Germany have set themselves ambitious mid- and long-term energy and climate targets

Targets	 Germany				 EU	
	2030	2040	2045	2050	2030	2050
Climate						
Greenhouse gas emissions (GHG) reduction Reduction compared to 1990 levels, including all sectors.	65%	88%	GHG neutral	GHG net sink	55%	GHG neutral
Renewable energy sources (RES)						
RES share in gross final energy consumption	30%	45%		60%	>42.5%	
Energy efficiency						
Primary energy consumption reduction	30%			50%	32.5%	
	Increase in energy efficiency compared to 2008.				Increase in energy efficiency compared to PRIMES business-as-usual scenario.	

Source: Guidehouse 2023 based on BMWK 2022, Federal Government 2022 & EC 2022

Power generation in Europe 2023: Low-carbon generation achieves a share of >62 %

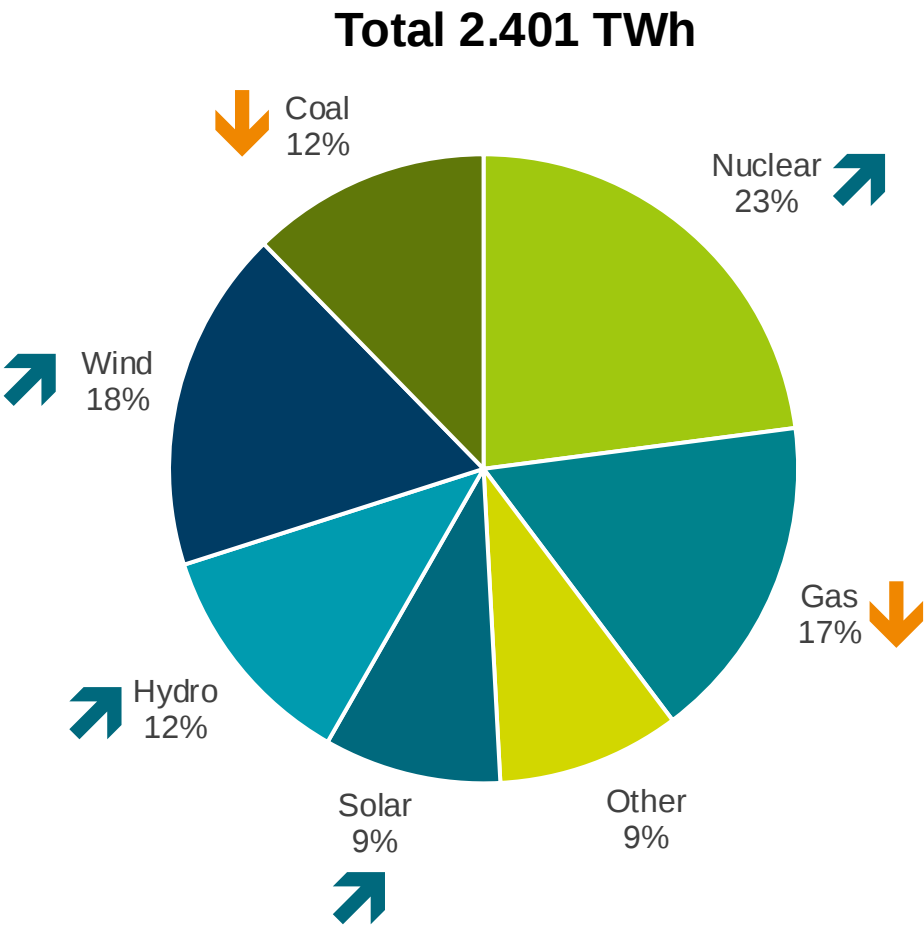
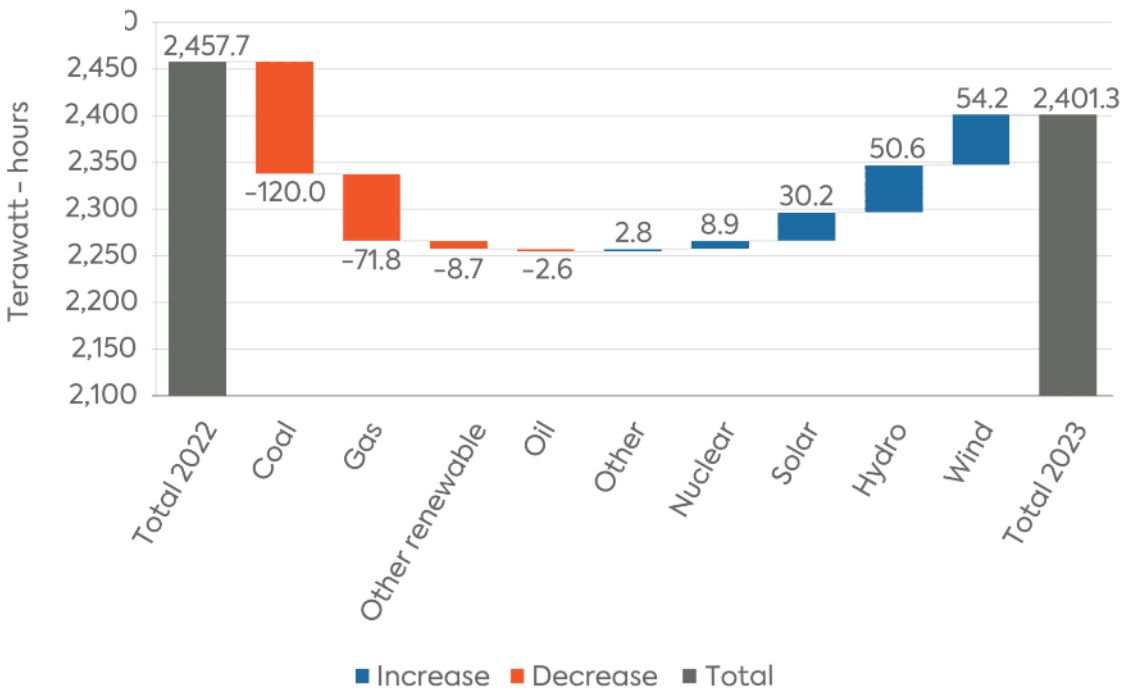


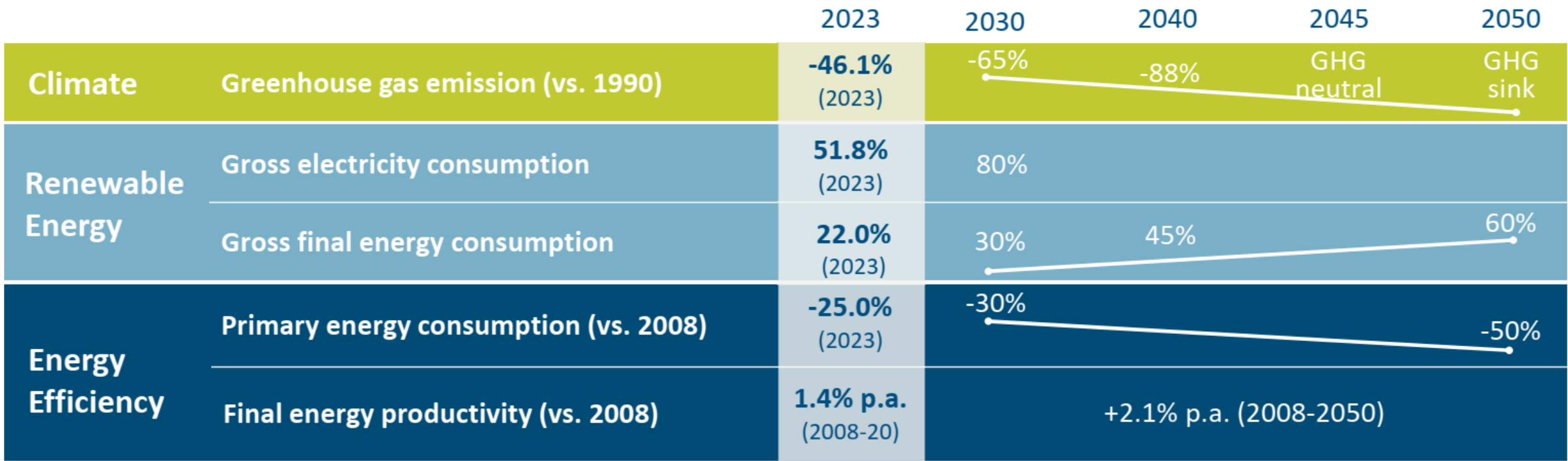
Figure 2: Power generation change in all EU countries, 2023 vs. 2022



Note: Geothermal, biomass, waste, and marine are included in "other renewable" category.

Source: European Network of Transmission System Operators for Electricity Transparency Platform.

The “Energy Transition” is Germany’s long-term energy and climate strategy



30 GW
wind offshore
until 2030

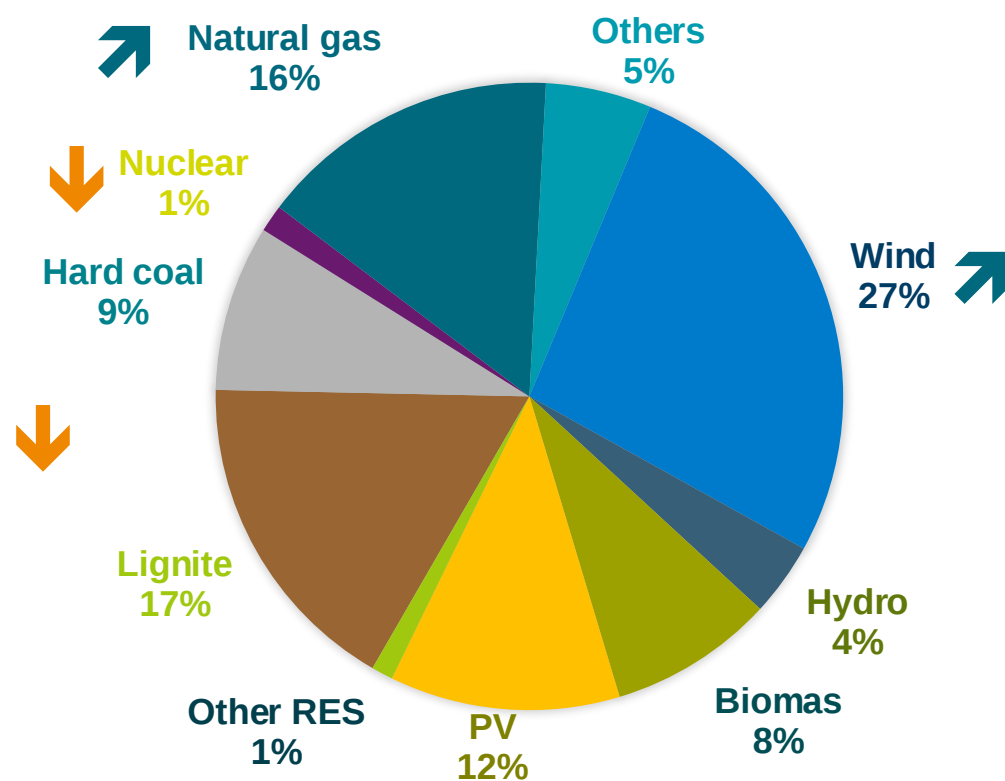
10 GW
electrolysis
capacity
until 2030

Source: Guidehouse April 2024, based on UBA 2024 & BMWK 2021

Germany's Electricity Mix in 2023: Renewables account for >53 % of the total power generation

Gross generation: 513,7 TWh – **53,6 %** share of RES

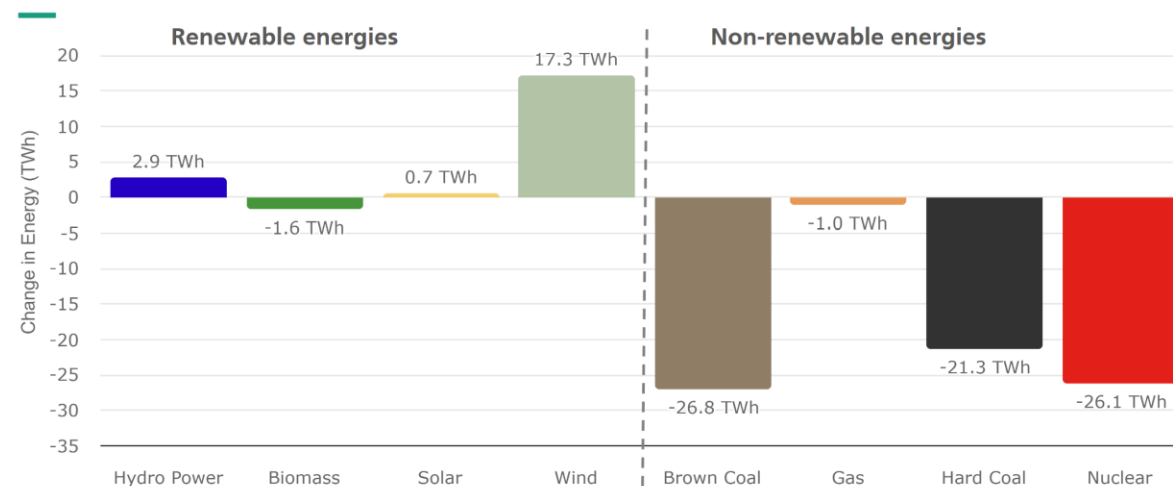
Import/Export: 70,3 TWh/58,5 TWh



Source: AG Energiebilanzen

Absolute change in total net electricity generation

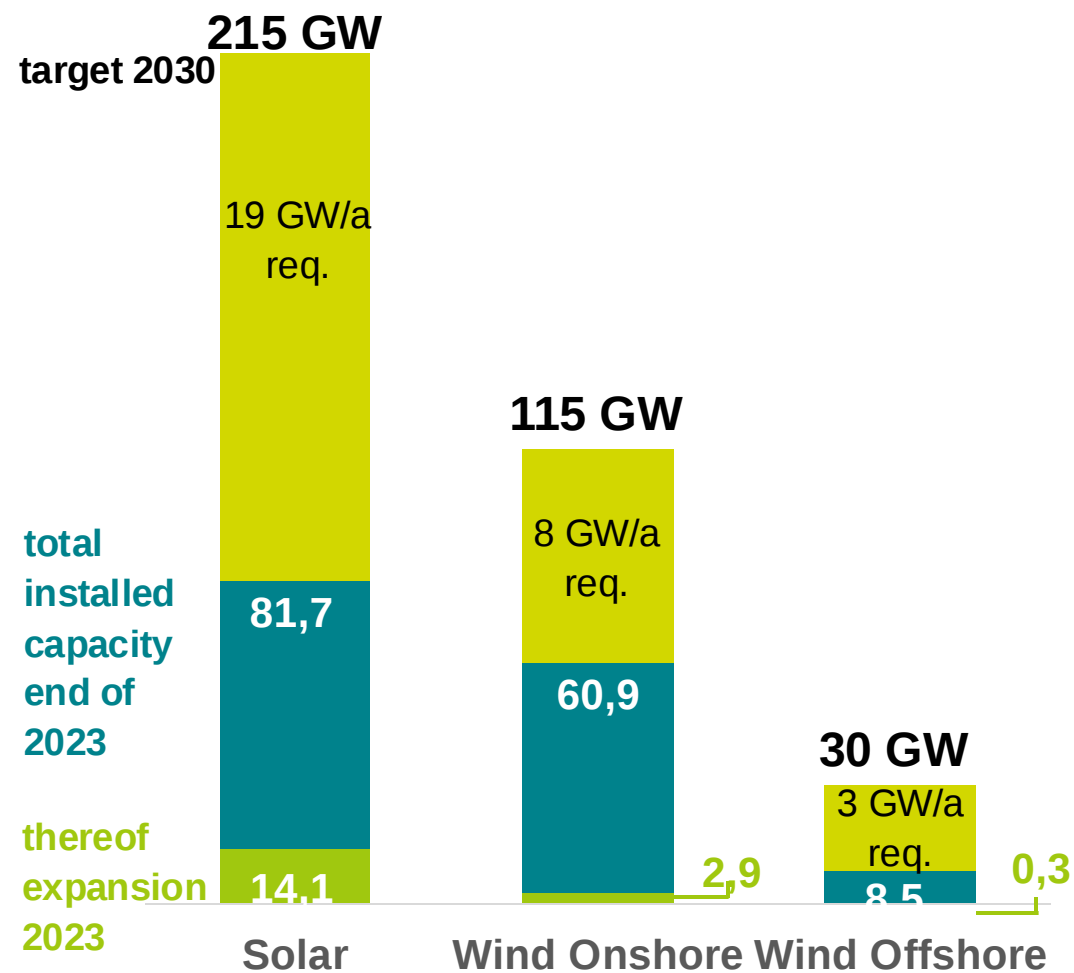
Year 2023 compared to year 2022



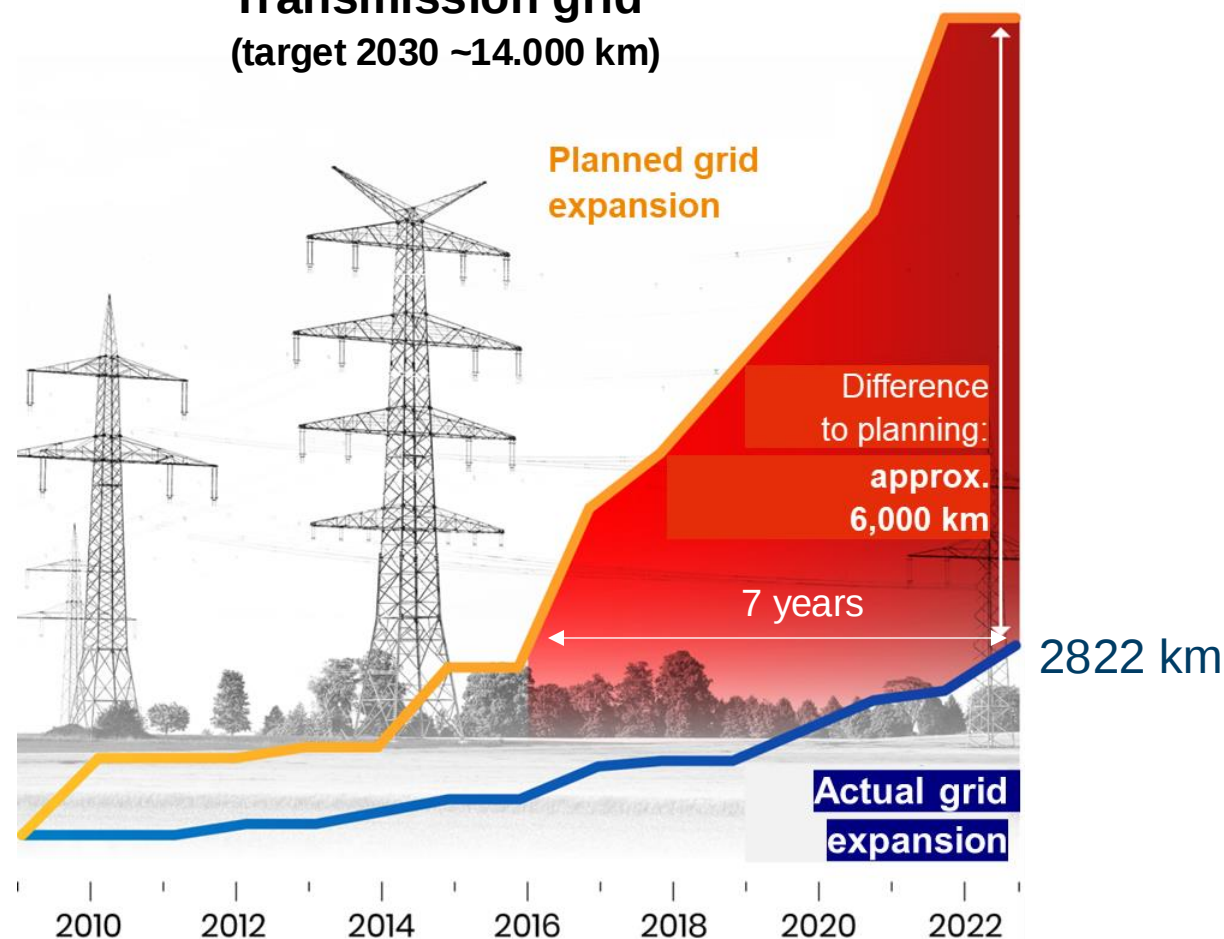
Graphic: B. Burger, Fraunhofer ISE; Data: DESTATIS and Leipzig Electricity Exchange EEX, energy-corrected values

Germany has set ambitious capacity targets for renewable energies and expansion of the transmission grid

RES generation capacity
(target 2030)



Transmission grid
(target 2030 ~14.000 km)



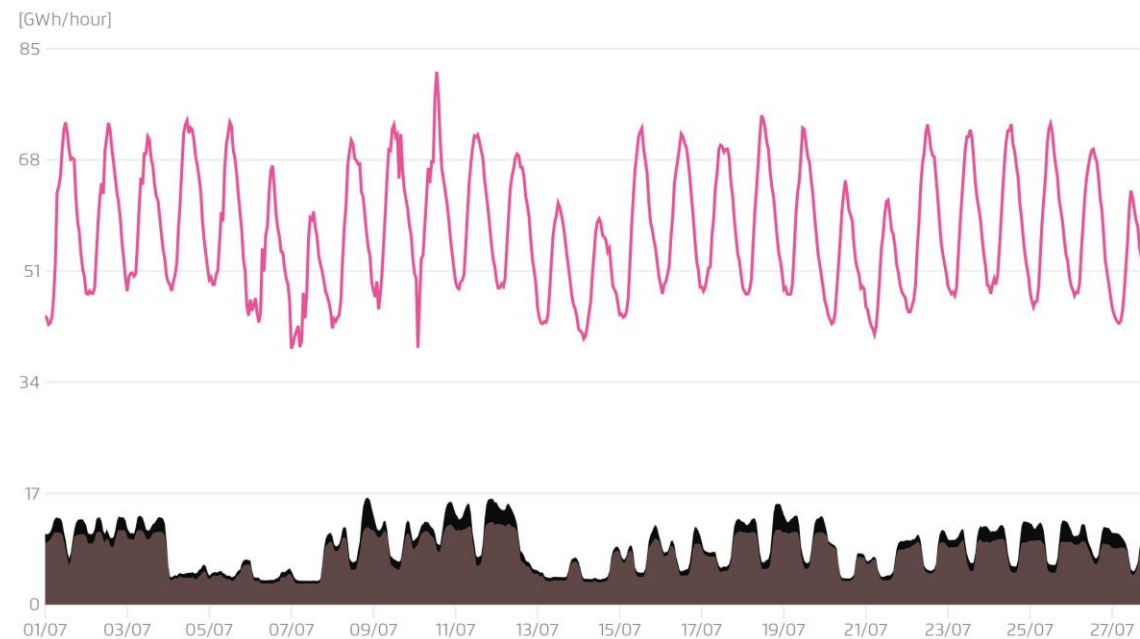
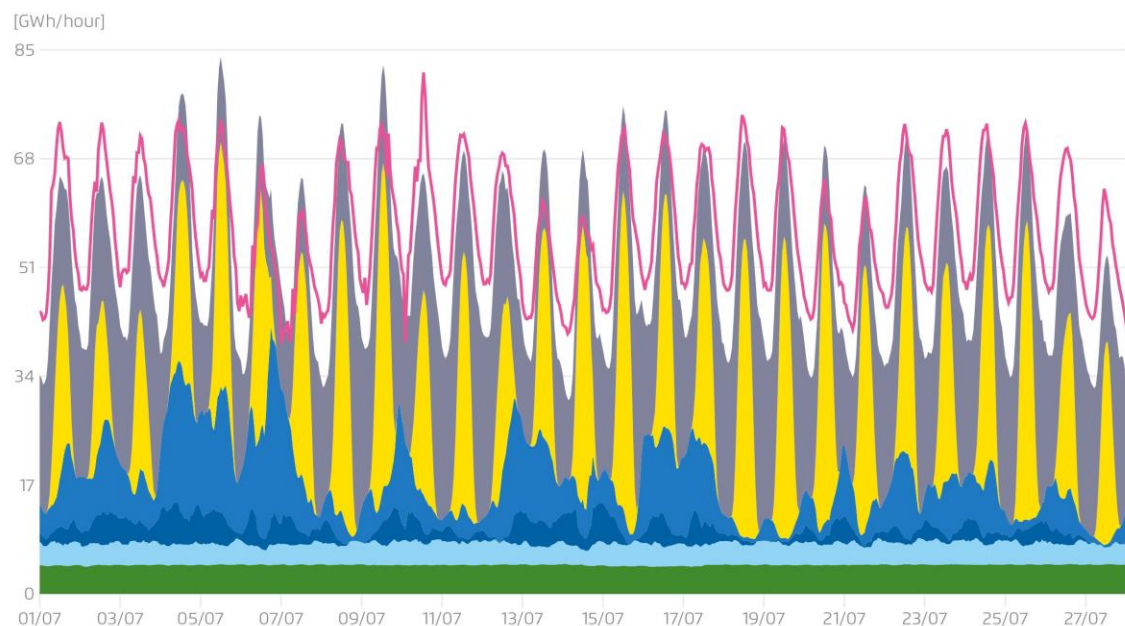
ThePioneer

Source: Federal Audit Office /
Federal Network Agency

powered by
statista

Flexibility is a key requirement in RES dominated energy systems

Typical Load Profiles: Germany July 2024



Total electricity demand
 Biomass
 Wind offshore
 Wind onshore
 Conventional
 Hard Coal
 Hydro
 Solar
 Nuclear
 Lignite
 Pumped storage generation

Total electricity demand
 Biomass
 Wind offshore
 Wind onshore
 Conventional (remaining)
 Hard Coal
 Hydro
 Solar
 Nuclear
 Lignite
 Pumped storage generation

Source: AG Agora Energiewende

Flexibility options in energy systems



Storage and
sector coupling

Dispatchable Generation

- Hydro, gas, biomass, nuclear, coal



Dispatchable
generation

Storage

- Pumped storage
- Sector coupling
- Batteries

Flexibility options

Demand-Side Management

- Demand-side response of consumers
- Demand-side response by industries



Grid

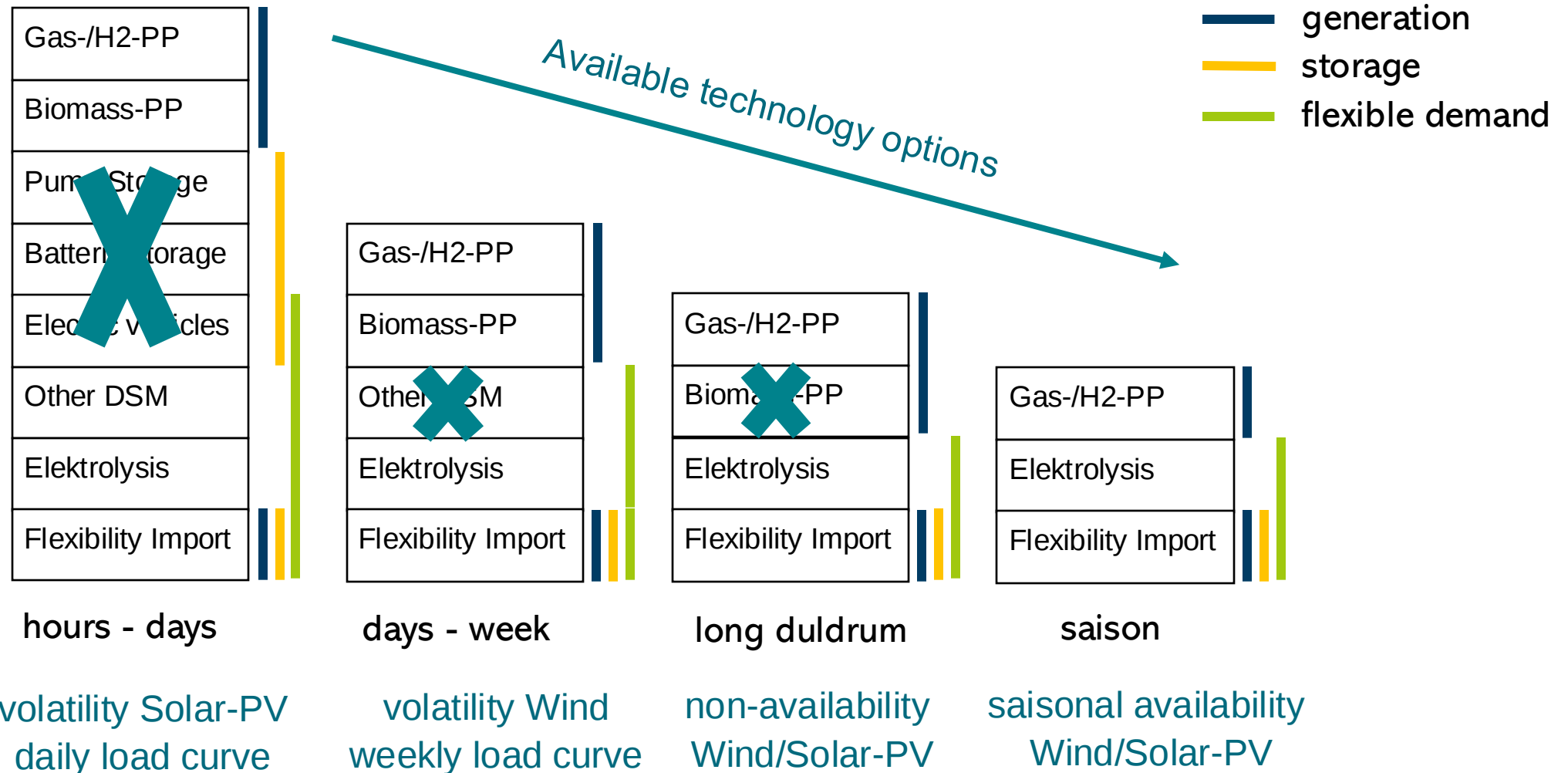
Grid

- Interconnections



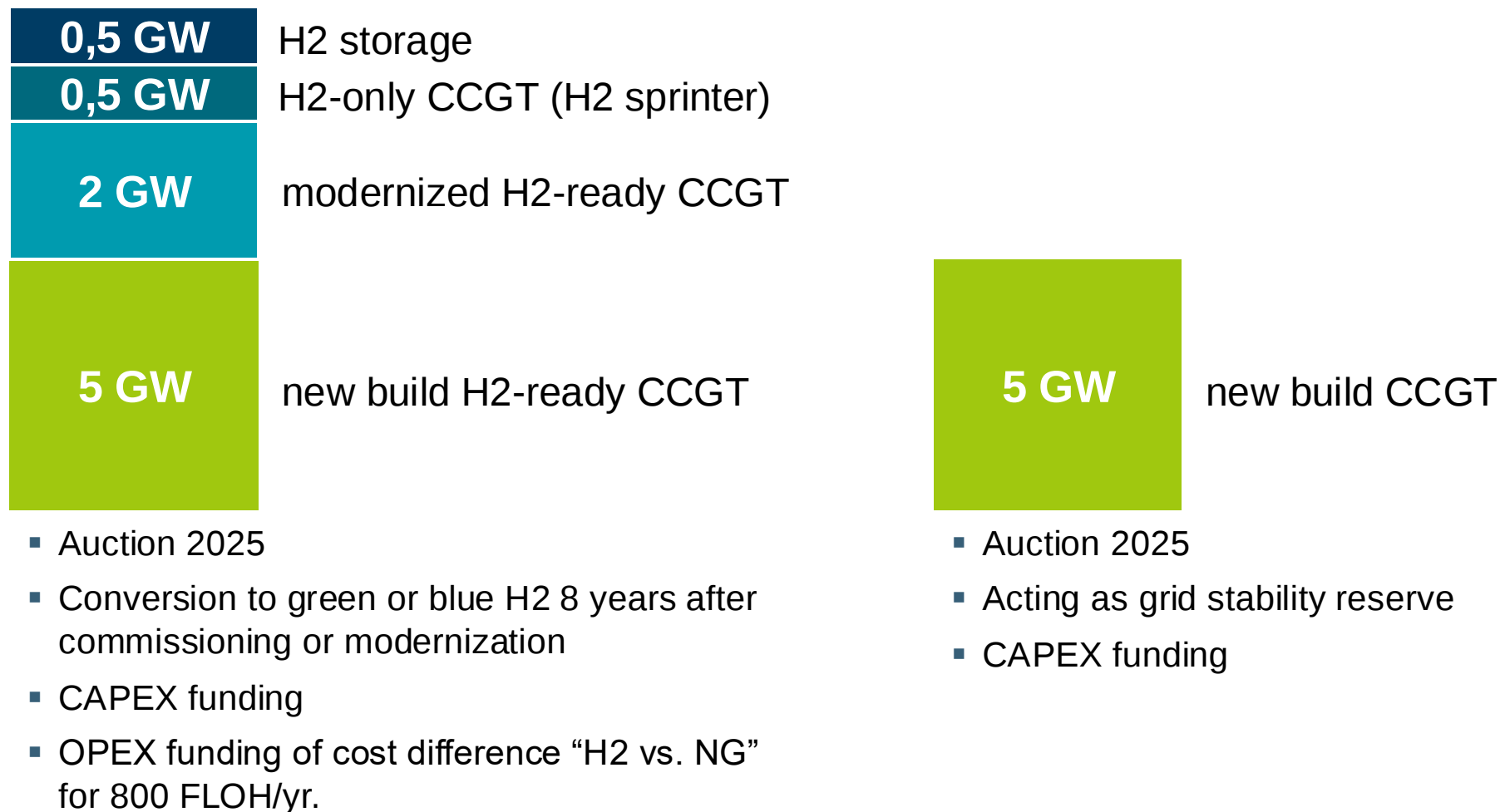
Demand-side
Management

Dispatchable generation is required for different time spans and tasks - but volume depending on various influences



source: BMWK

Main pillars of the German “Power Plant Strategy 2026”: new capacities in gas and new market design until 2028



Joint activities – Individual benefits

be energised
be inspired
be connected
be informed

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