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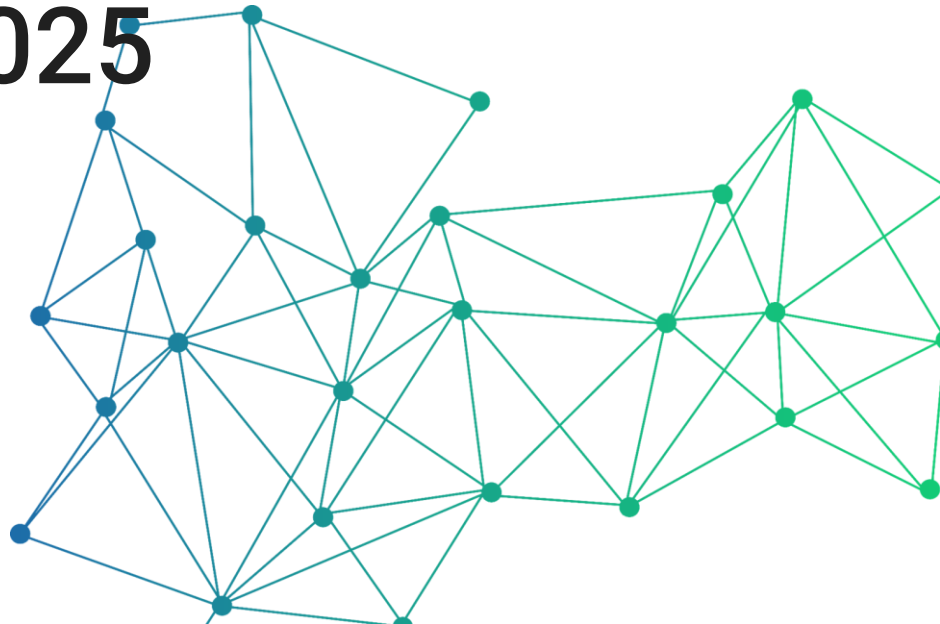
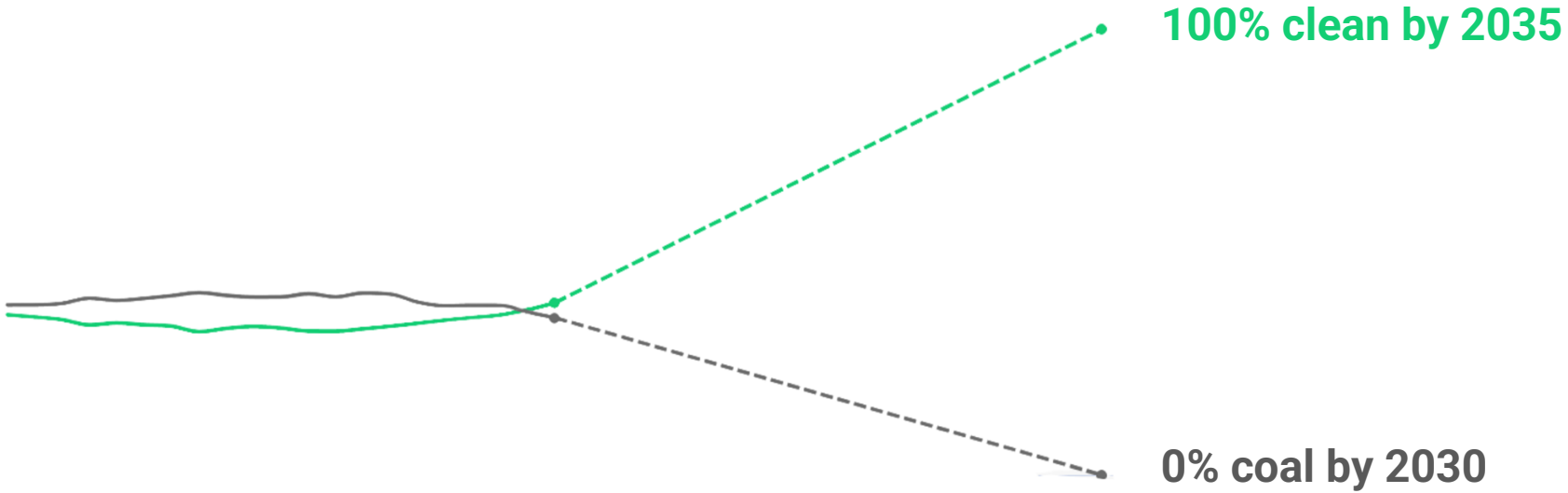
COAL TO CLEAN ENERGY POLICY

Poland’s energy mix and power prices by 2025

Paweł Czyżak, 8.12.2022



Ember is an energy think tank that uses data-driven insights to shift the world from coal to clean electricity.



Key messages

01 Poland’s gas power expansion is a major threat

02 Coal plant closures in 2025 will cause capacity crunch

03 RES would help close the gap, but if policy barriers are lifted

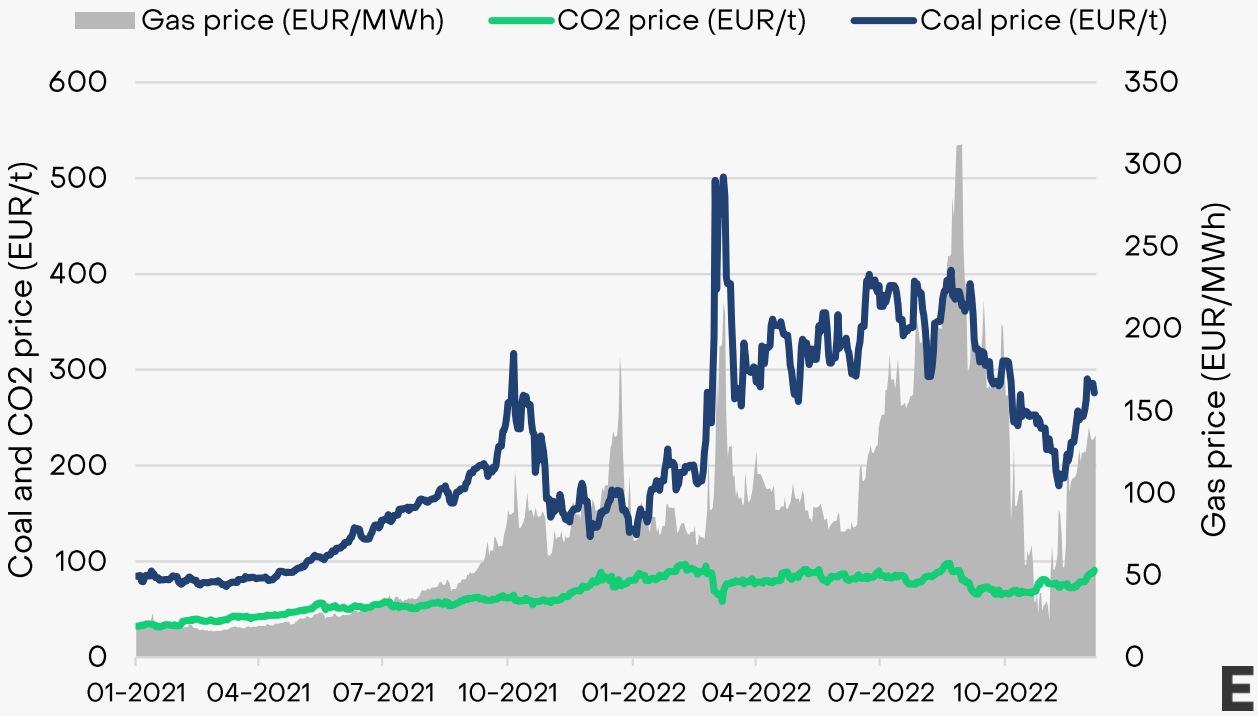
04 Power prices could remain at 3x 2021 levels due to coal and gas

Context

- High coal and gas prices globally
- Fossil fuel supply crunch
- Investment uncertainty, cost of capital, inflation
- Multiple market interventions
  - Power exchange
  - Tariffs for households, SMEs
  - NABE?
  - Gas price caps

Price volatility is at an all time high

Gas (TTF DA), coal (API2 MA) and CO2 prices (EU ETS December contract)



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Yet Poland is still planning the largest gas power expansion in the EU

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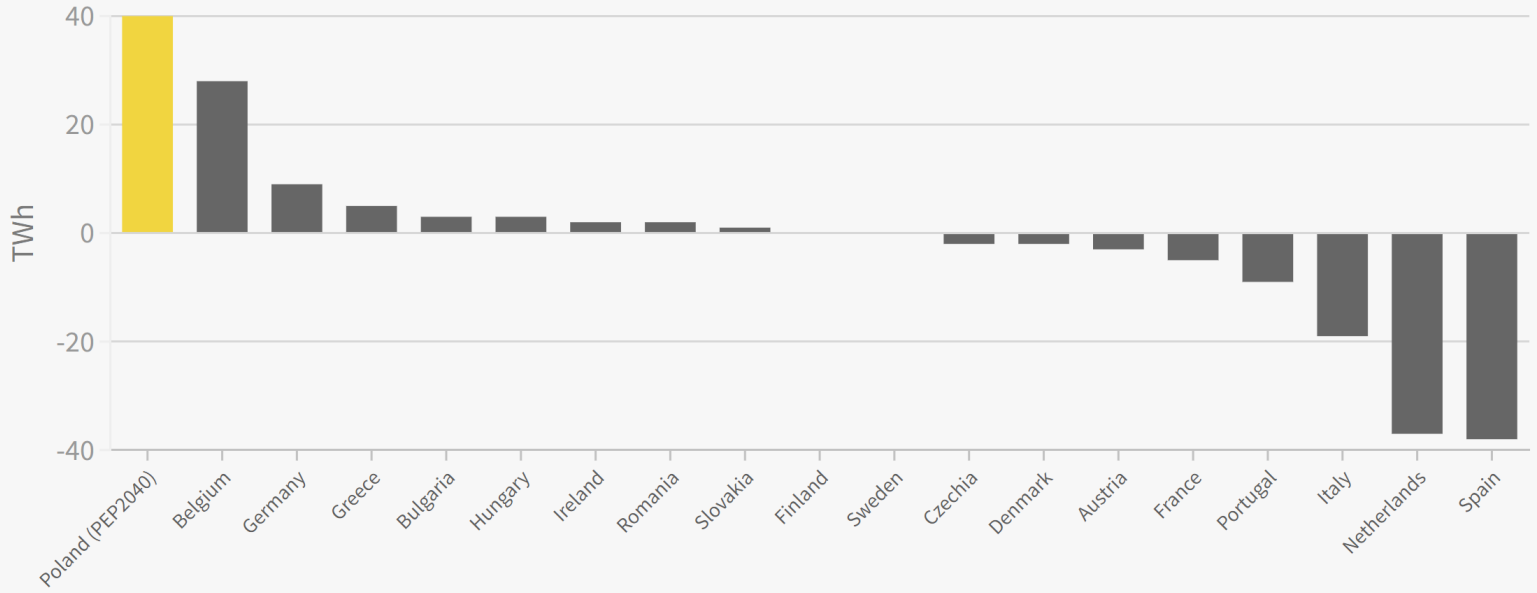
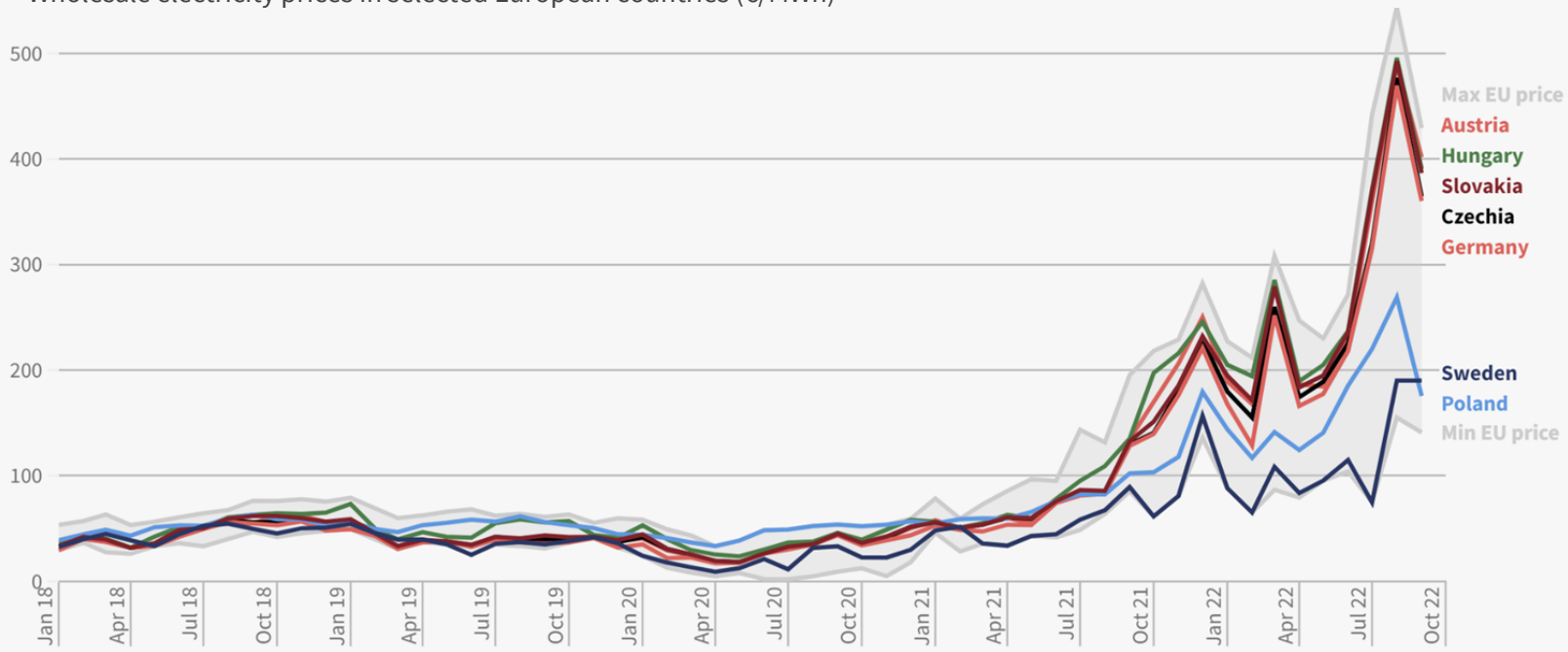
Expected change in electricity generation from fossil gas from 2019 to 2030 [TWh]



Source: Poland's Energy Policy until 2040 and National Energy & Climate Plans (NECPs), Ember calculations.
The 19 countries displayed account for > 97% of EU-27 electricity consumption.

Across Europe power prices are surging due to the high gas costs

Wholesale electricity prices in selected European countries (€/MWh)



Source: ENTSO-e • Prices are average day-ahead spot prices per MWh sold per time period
Max and min prices refer to the highest and lowest average values of any country in the EU in that period

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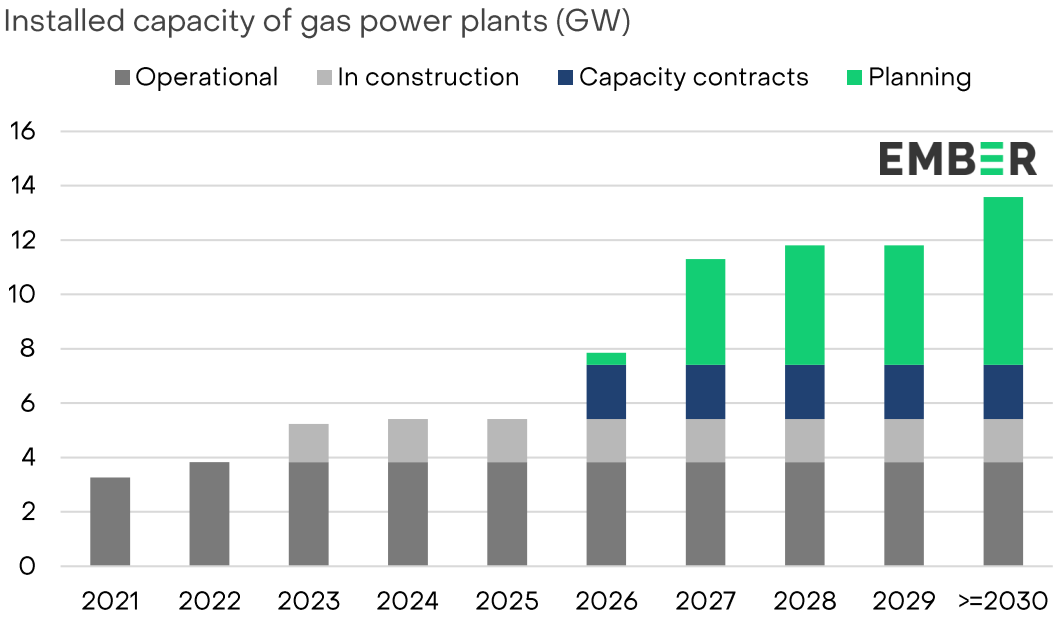
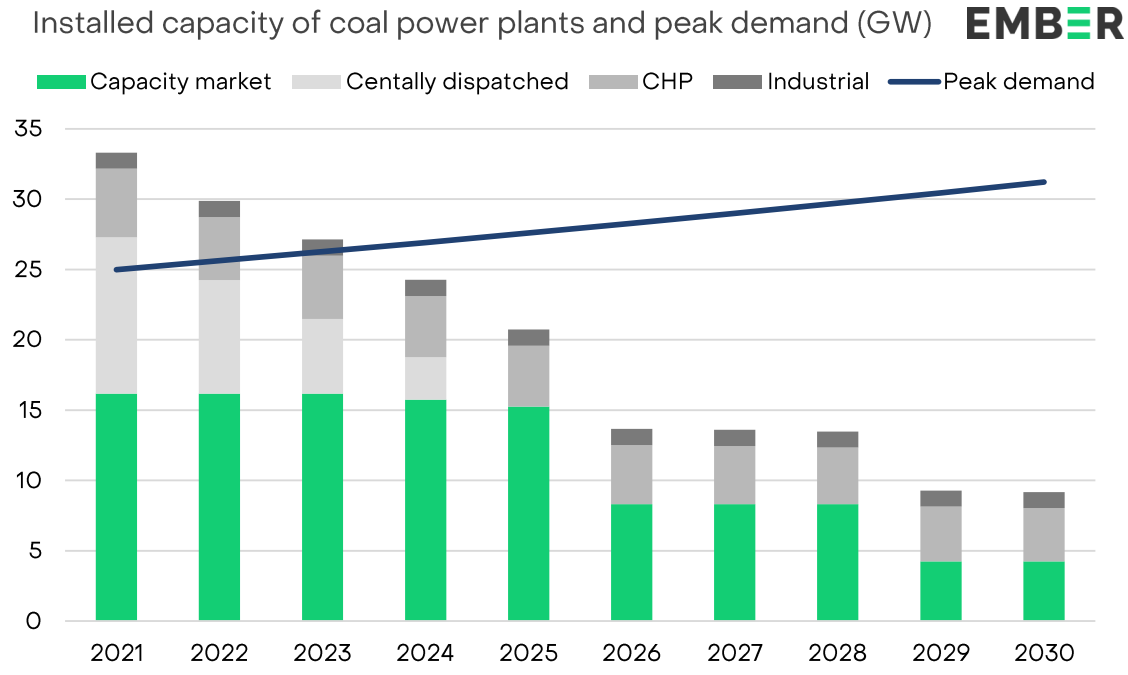
Around 10 GW of new gas plants are planned in Poland until 2030

- They will likely become operational too late to replace coal plants…
- …and will have extremely high running costs



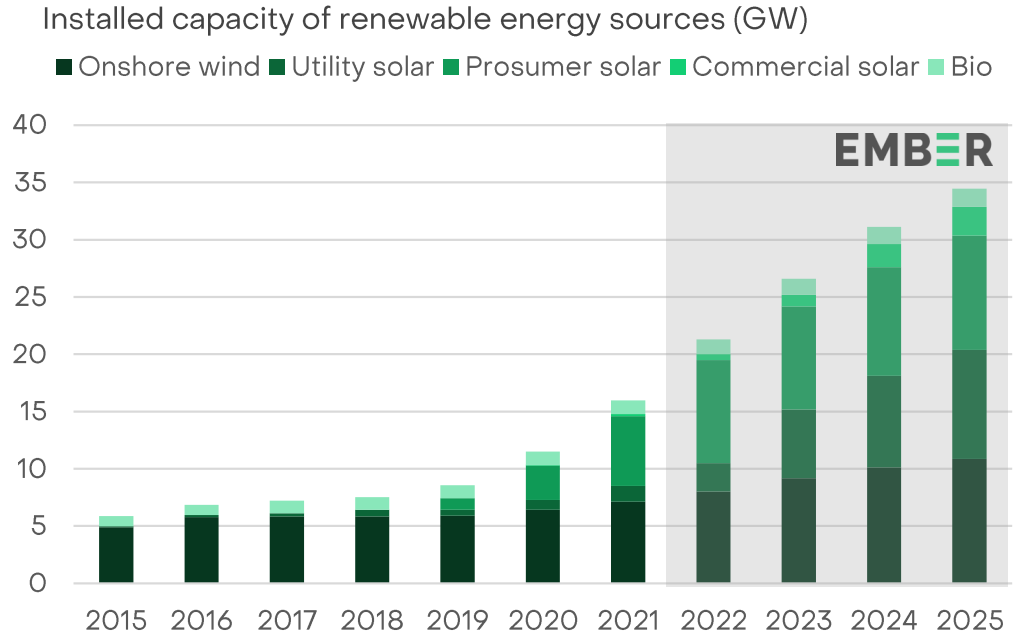
Coal plant closures in 2025 will cause a capacity crunch

- Around 7 GW expected to close in 2025
- Current peak demand is 25 GW, projected to reach 30 GW in 2030



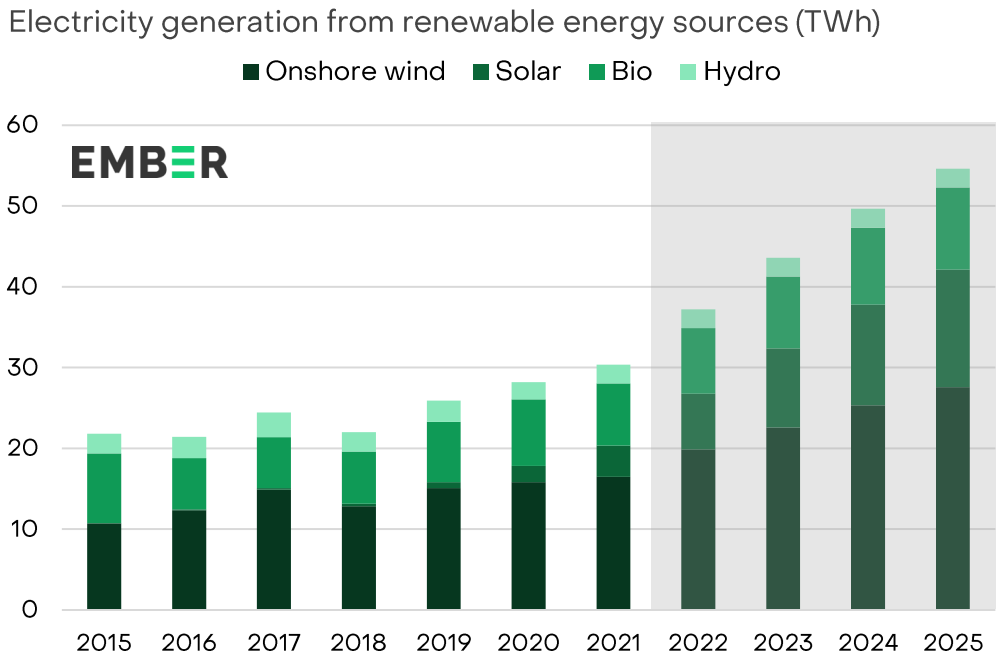
Rapid renewables deployment could help close the capacity gap

- RES capacity expected to surpass 30 GW in 2025, on track for 50 GW in 2030
- Increase driven mainly by utility solar, assuming grids are not a bottleneck



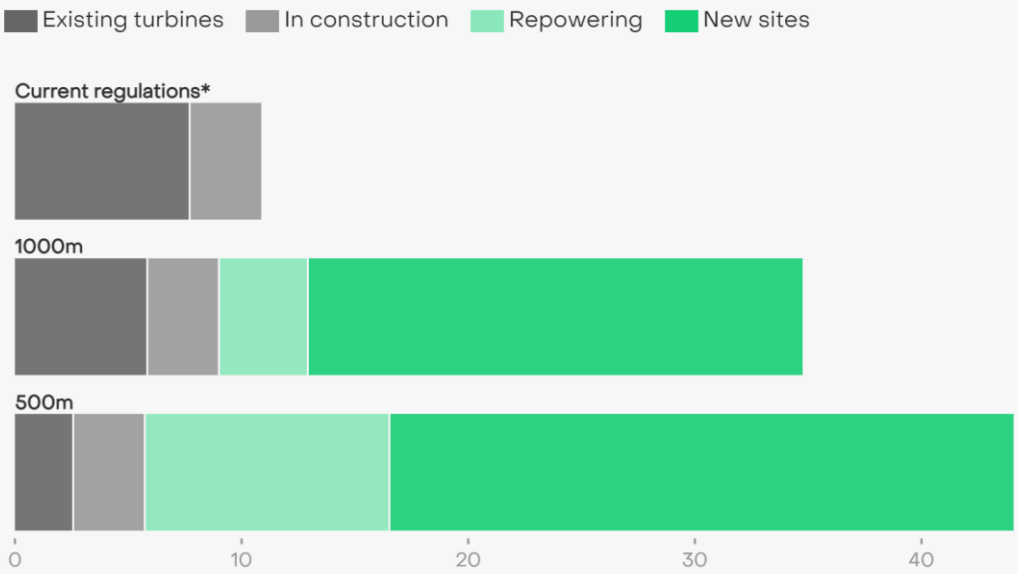
RES would cover 33% of power demand by 2025…

- Current government plan (PEP2040) aims for 32% by **2030**



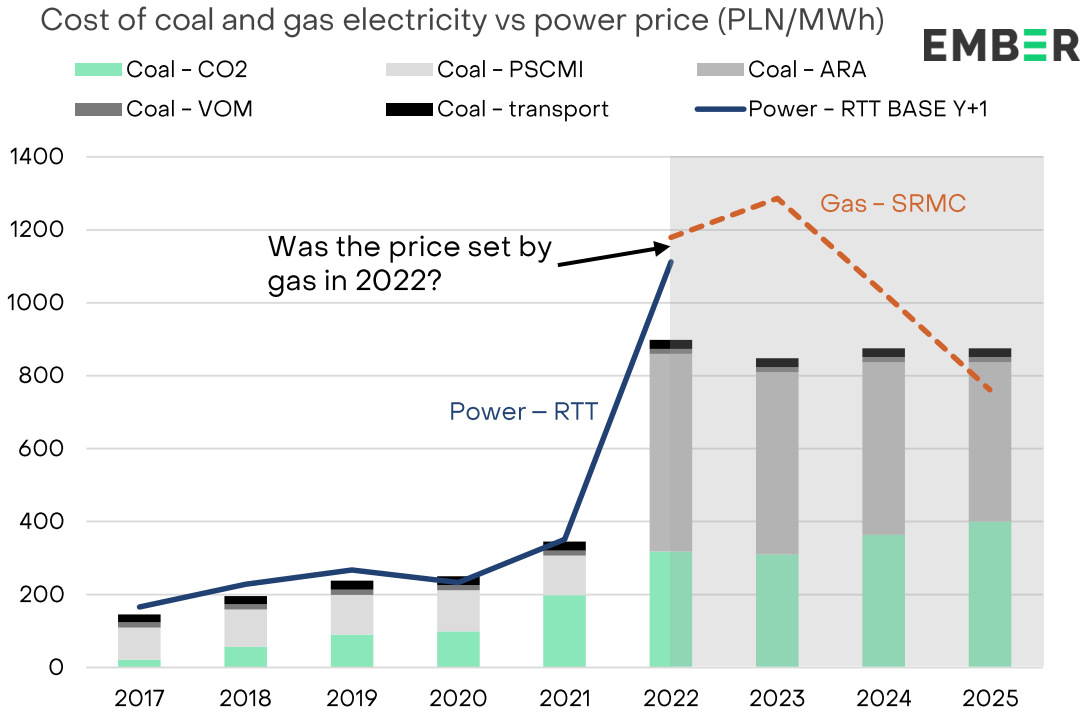
…but only if policy barriers are lifted

- 10H rule blocking onshore wind
- Grids blocking solar



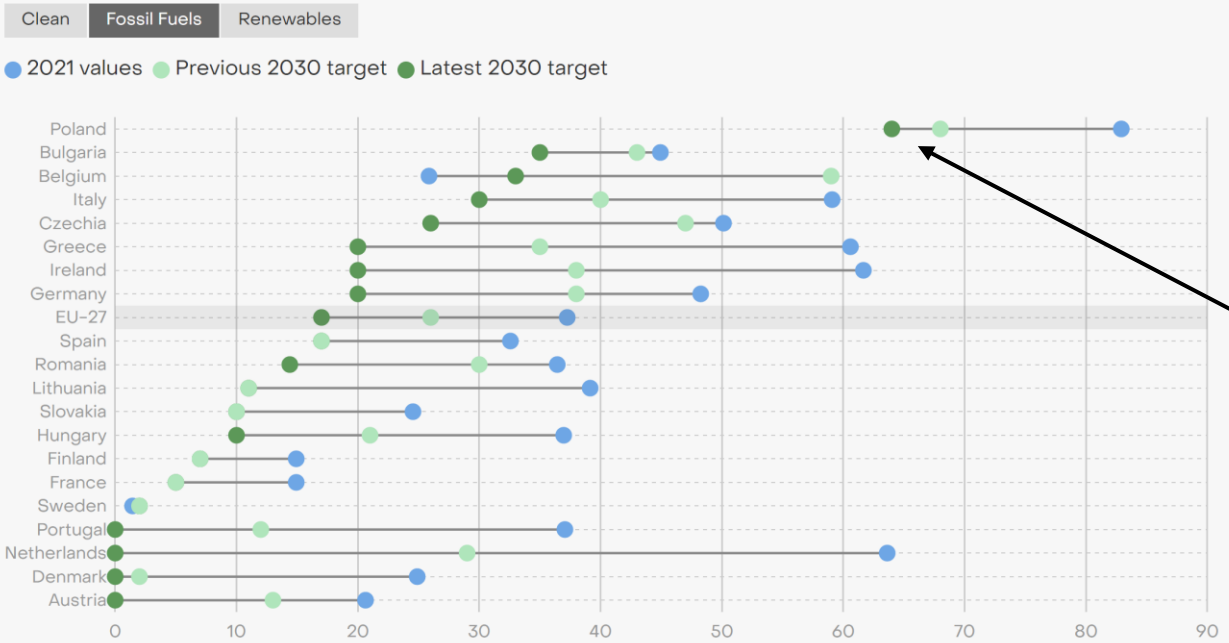
Prices are expected to increase

- The increase in gas and coal prices alone will drive 3x increases in power prices compared to 2021
- The increases could be higher due to capacity shortages and emergency imports
- Huge uncertainty regarding PL coal prices and power trading – **will there be a market in 2025?**



Poland's economy will suffer if it doesn't move away from coal and gas

Current (2021) and 2030 planned share in EU-27 electricity generation



By 2030 Poland will be the last EU economy generating over 50% of electricity from fossil fuels

Source: Ember research
Previous = National Energy and Climate Plans (NECPs) from 2019; Latest = latest national policy announcements. The countries displayed account for >97% of EU-27 electricity consumption. Updated: 18/10/2022

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Thank you

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