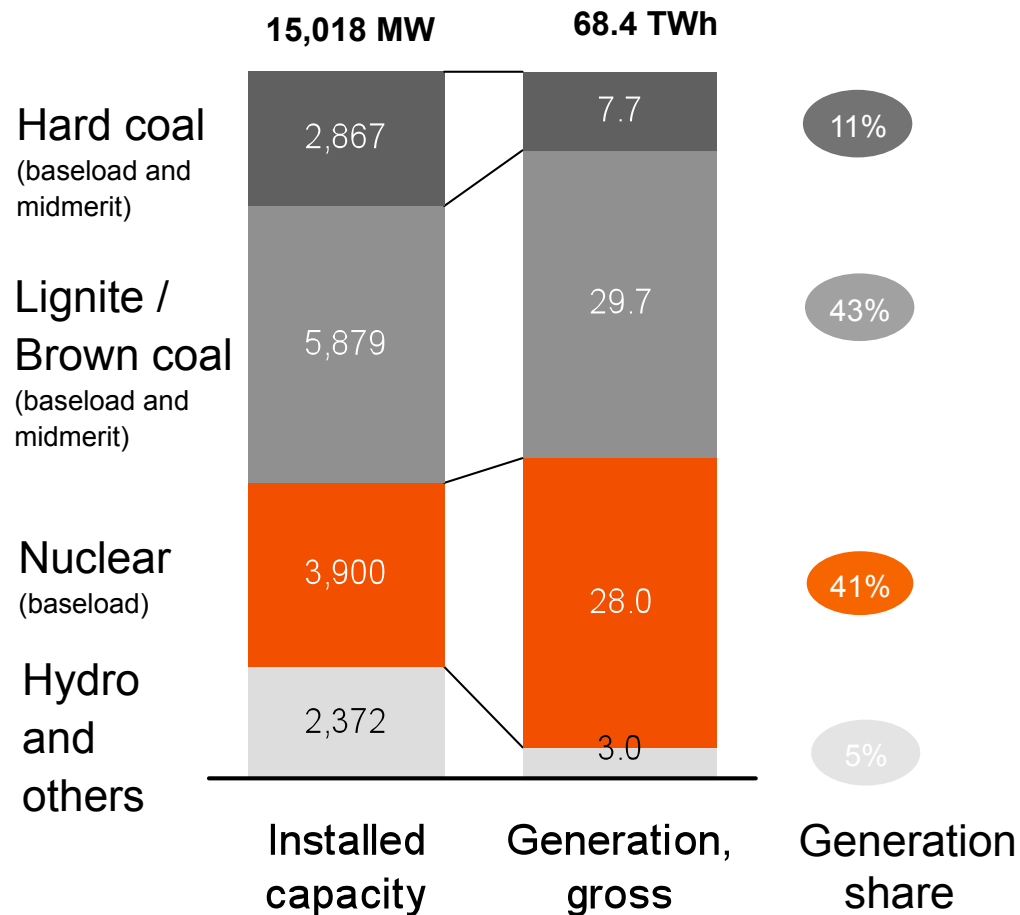




ČEZ POWER GENERATION PORTFOLIO RELIES HEAVILY ON COAL AND LIGNITE FIRED PLANTS

CEZ Group installed capacity and generation (2010)



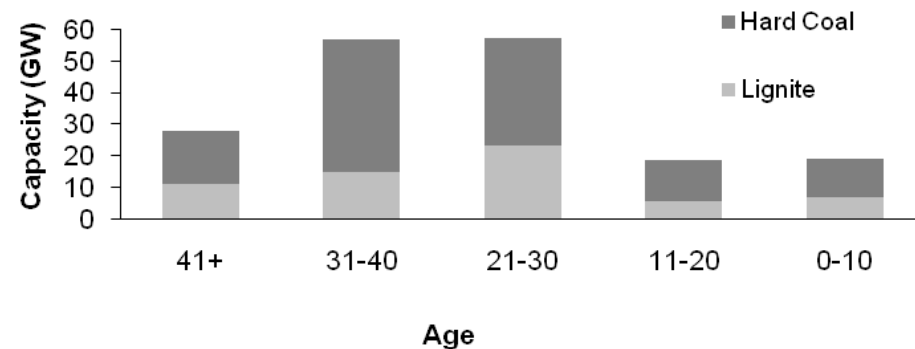
- **Coal power plants are using mostly lignite from CEZ's own mine** (60% of lignite needs sourced internally, remaining volume through medium-term supply contracts)
- **Coal/lignite plants are supplemented especially by nuclear power**



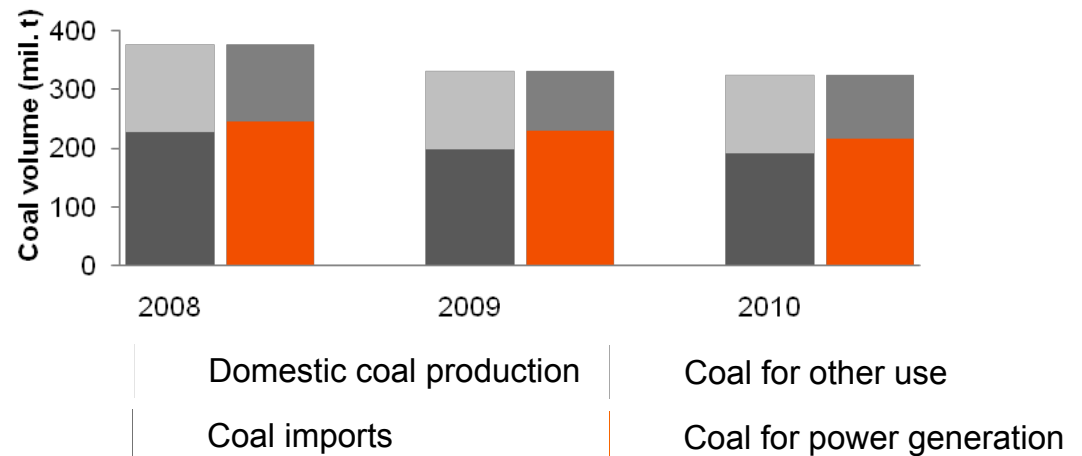
CURRENT LOW CO₂ ALLOWANCE PRICE SUPPORTS HIGH COAL IMPORTS USED TO GENERATE POWER IN OLD PLANTS WITH HIGH EMISSION FACTOR

- The European coal-fired generation portfolio is ageing
- Old low efficiency coal-fired plants largely fed by imported coal produce high CO₂ emissions
- CO₂ allowance price is not high enough to achieve emission reduction targets via the renewal of the coal-fired plant portfolio

Installed Capacity of European Coal/Lignite Plants by Age




EU Coal Volumes





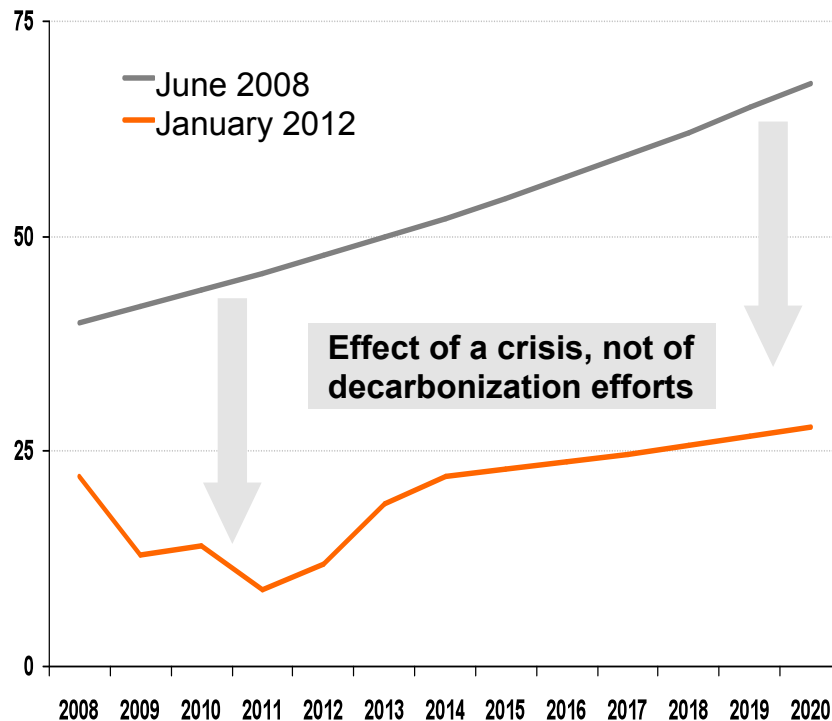
KEY STATEMENTS

- 1 Establish and maintain an efficient market-based CO₂ reduction mechanism
 - 2 Modernize plants with local coal supply that make economic sense
 - 3 Achieve additional revenues, efficiency gains and emission reductions through biomass co-firing and central heating
 - 4 Standalone plants will need greater flexibility operating at lower utilization rates and providing reserve capacity
- 
- 5 Coal plants will still have their place in the future power generation portfolio**



WHILE THE EU ETS PILLAR HAS BEEN DISBALANCED BY THE CRISIS, EU STILL PUSHES ITS AMBITIOUS TARGET FOR RENEWABLES BY REGULATIONS AND SUBSIDIES...

EUA price forecast 2008 and 2012*
EUR

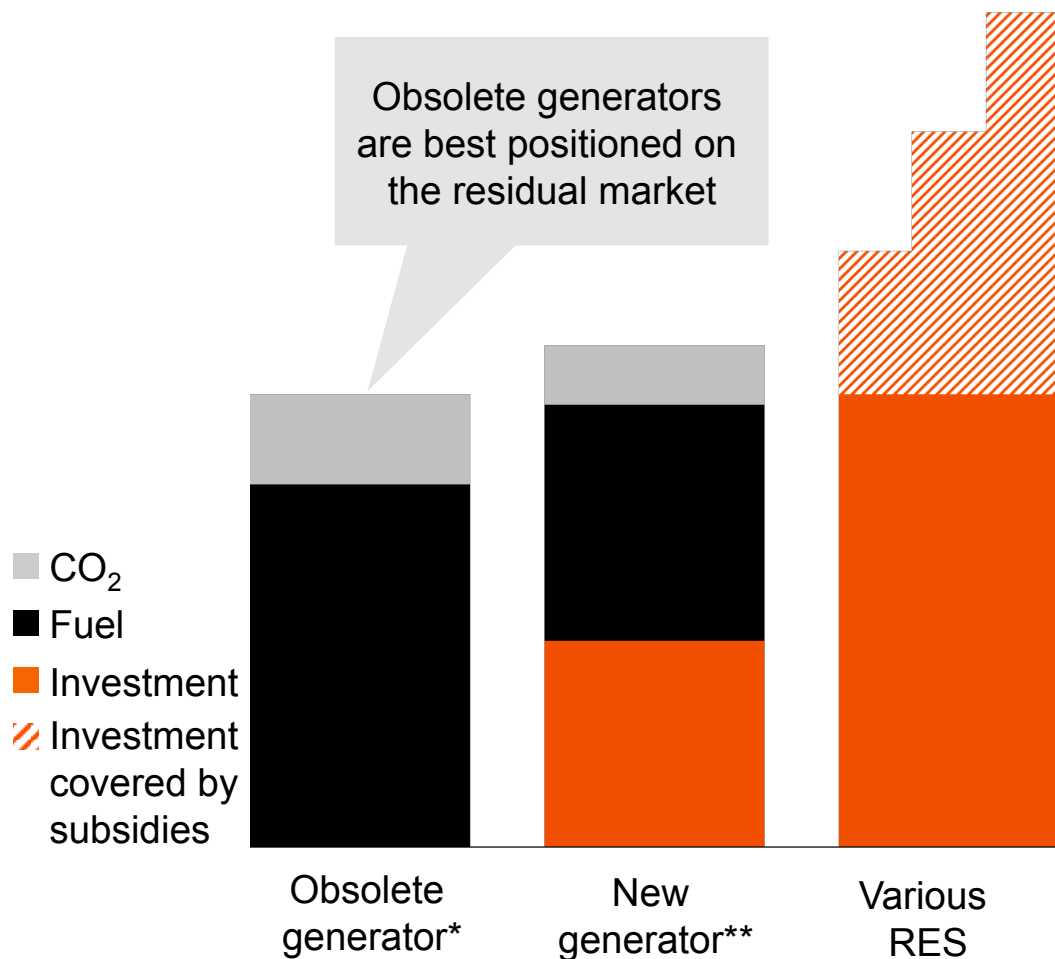


- EU-ETS was designed to use market incentives in order to reach low carbon economy in the most efficient way aiming for:
 - Decrease in CO₂ emissions
 - Growth of renewables
 - Energy savings
- By the means of:
 - Switching from CO₂ intensive sources to low CO₂ sources in the short term
 - Price incentives for investing into low carbon technologies in longer term
- But instead regulations and subsidies are used for major increases in wind, biomass and solar generation, which is not competitive at the current power prices



LOW CARBON PRICE DOES NOT INCENTIVIZE INVESTMENT TO REPLACE OBSOLETE HIGH-EMISSION COAL-FIRED PLANTS

Illustrative construction and generation full costs
EUR/MWh



Low CO₂ price
10 EUR/t

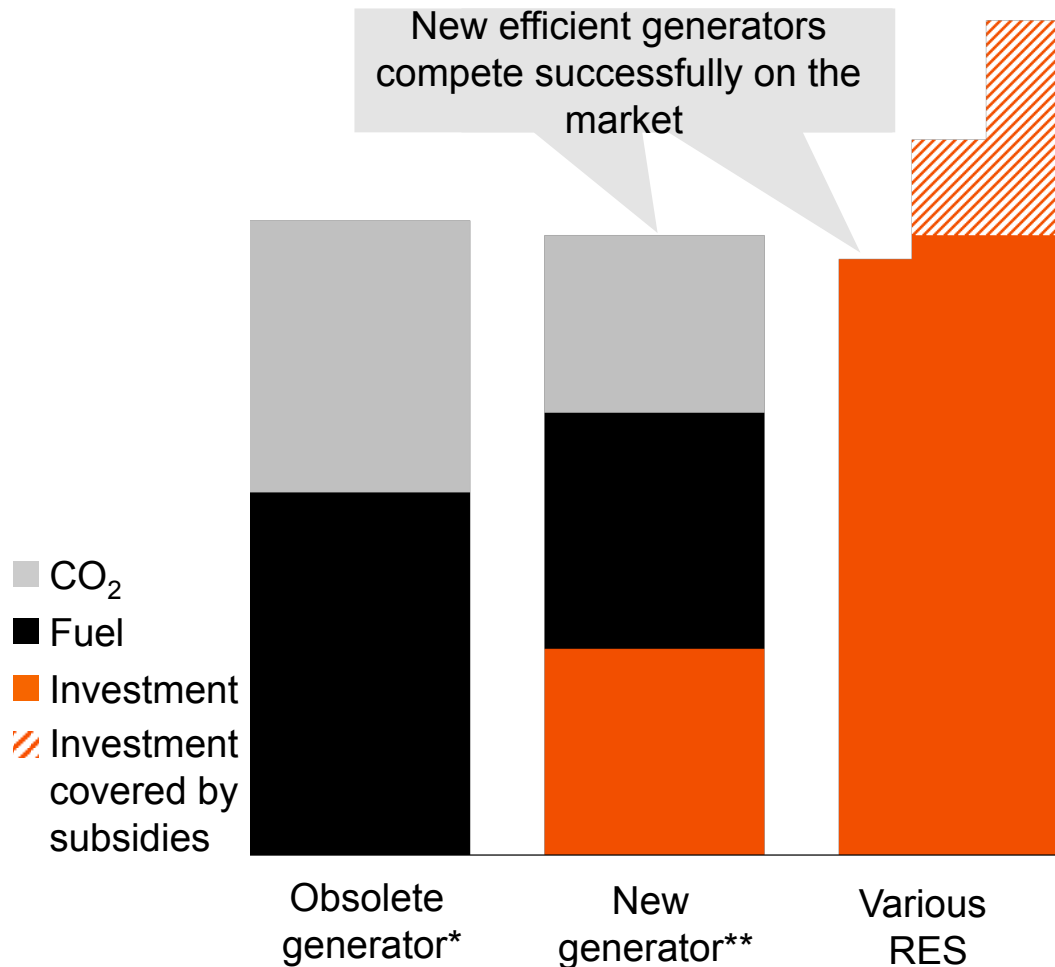
- New low-emission generators cannot compete on the market with old depreciated generators
- Construction costs disqualify RES on the market which thus need subsidies and preferential treatment
- Subsidies limit the competitive volume and inhibit further EU efforts in CO₂ emission reductions

* Hard coal generator efficiency 30% (depreciated construction cost), ** Hard coal generator efficiency 46%



HIGH EMISSION PRICE WILL SUPPORT INVESTMENT IN COAL-FIRED GENERATION AT SITES THAT MAKE ECONOMIC SENSE

Illustrative construction and generation full costs
EUR/MWh



Effective CO₂ price
30 EUR/t

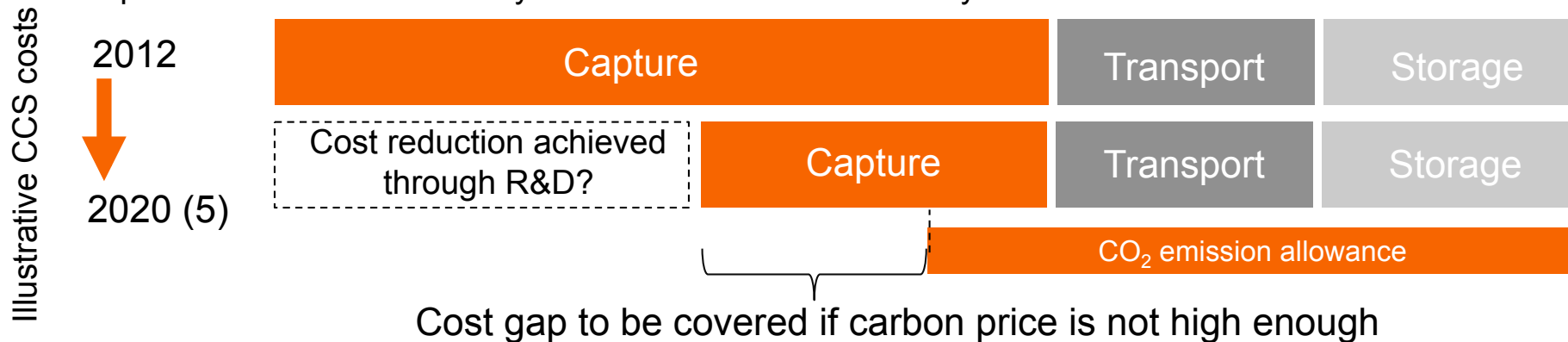
- Higher CO₂ price ensures low-emission generator portfolio renewal
- Support modernization of plants with efficient local fuel supply
- No need for local coal subsidies, power is produced only at sites that make economic sense

* Hard coal generator efficiency 30% (depreciated construction cost), ** Hard coal generator efficiency 46%



CCS TECHNOLOGY STILL HAS TO OVERCOME MANY HURDLES AND IS FAR FROM BEING ECONOMICALLY VIABLE

- EC goal: cost competitive deployment of CCS technologies in coal-fired power plants by 2020-2025 with operational demonstration by 2015 and commercial viability reached soon after 2020



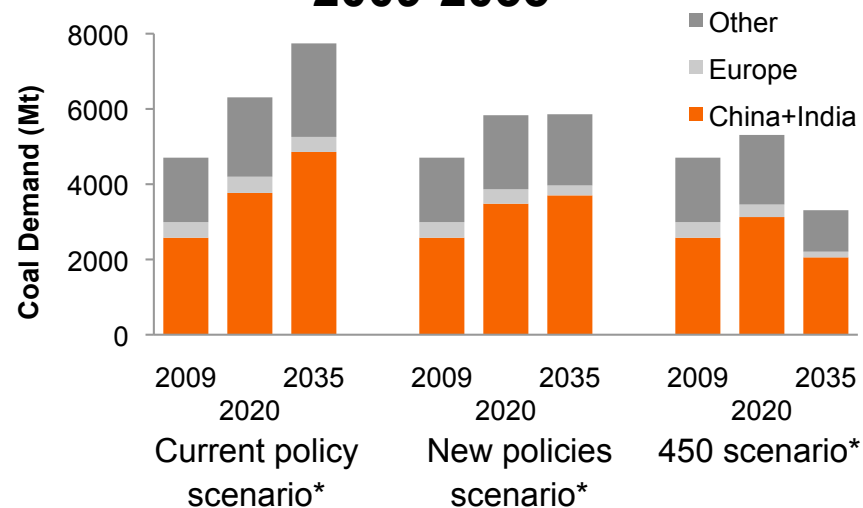
Economic	Will it make economic sense especially given the CO ₂ emission allowance price?		
Technical	Will there be a successful demonstration project by 2015?	New pipeline network in densely populated areas	Suitable geological structures
Public	Public acceptance of a chemical processing plant at the power plant site with possibly toxic substances	Public acceptance of new high pressure networks	Public acceptance of underground CO ₂ storage in densely populated areas
Legislative/political	2009 CCS directive yet not transposed by member states despite the June 2011 deadline, open infringement procedures with 19 member states. Is there sufficient political support?		



MODERNIZATION/CONSTRUCTION OF COAL FIRED PLANTS MAKES SENSE ONLY AT SITES WITH LOCAL AFFORDABLE COAL SUPPLY

- Modernize coal and lignite power plants at sites with local coal and lignite
- Reliance on coal imports is risky due to the rising global coal demand

Global Coal Demand 2009-2035*



ARA Hardcoal Price



Coal prices will be determined primarily by the import needs of China and India

*Coal demand projected by IEA in World Energy Outlook 2011 in their three investigated scenarios



BIOMASS CO-FIRING AND CHP CAN PROVIDE ADDITIONAL REVENUES FOR COAL GENERATORS

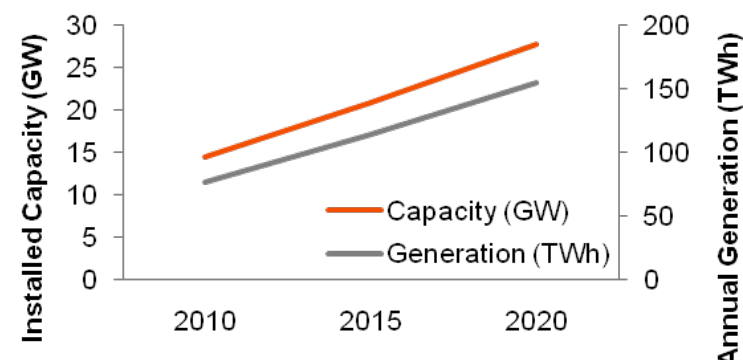
BIOMASS

- Up to 20% co-firing in existing coal plants without vast investment (especially fuel handling systems)
- Reduces CO₂ emissions that require allowances and NOx and SOx emissions
- Higher power generation efficiency than in small biomass plants
- Support schemes provide additional incentives

CHP

- Higher overall fuel utilization efficiency (up to around 90%)
- Stable and often regulated revenue
- Baseload operation regardless of the power market price
- New EU efficiency directive proposal – mandatory CHP for new/refurbished plants (although exemptions possible), priority grid access

EU Biomass Power Generation*

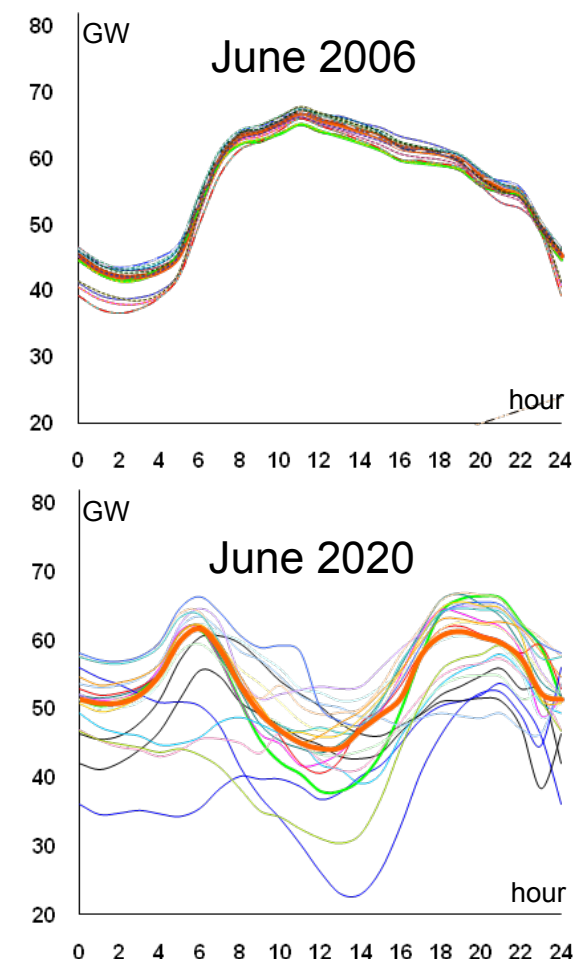




PURE POWER GENERATORS WILL HAVE TO BE MORE FLEXIBLE TO COPE WITH FLUCTUATING RES GENERATION AND WILL HAVE A LOWER UTILIZATION

- Due to higher RES penetration the demand for power from stable generators will be more volatile requiring higher generator flexibility
 - No longer baseload operation
 - Quick ramp up/down
 - Many starts each year
- Overall utilization of standalone coal-fired plants will be thus lower
- Coal plants will be often used for reserve capacity to ensure system stability (perhaps supported by capacity payment mechanisms)

German daily demand on weekdays after subtracting RES





COAL FIRED PLANTS WILL STILL HAVE THEIR PLACE IN THE FUTURE GENERATION PORTFOLIO

- Nukes as low emission baseload, gas for flexibility and peak shaving, RES as low marginal cost/low emission source
- Coal plants will continue to contribute to the generation mix but their position depends on the future development of the regulatory and economic environment



EU ETS is restored as the primary emission reduction system that incentivizes investment into new low emission coal generators

- Local coal supply
- Highly efficient (BAT standard)
- CHP: Baseload
- Pure power: flexible, lower utilization, providing reserve capacity (perhaps supported by capacity payment mechanisms)

The current situation persists and coal producers temporarily benefit from generation from old coal plants with high emissions

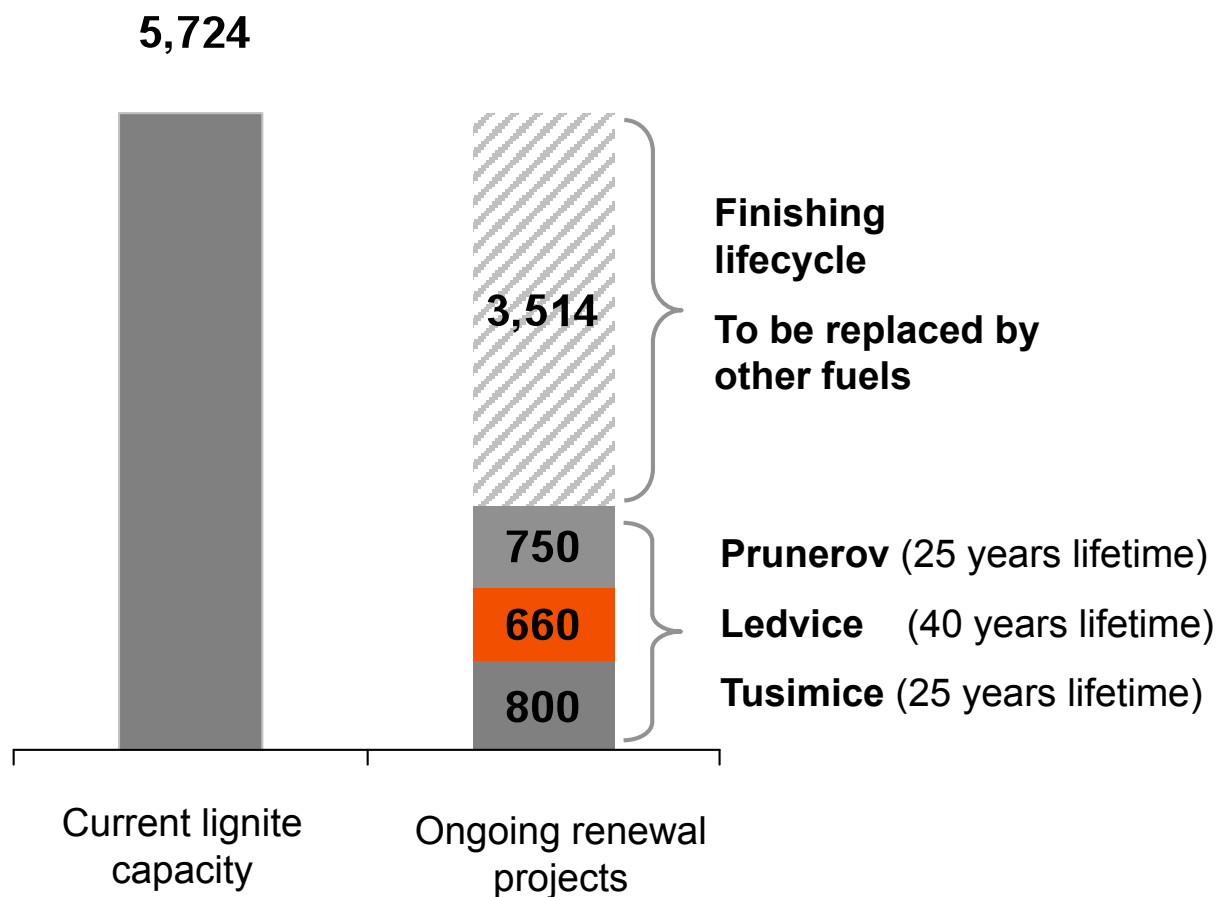
- Regulation will be used to restrict emissions
- No incentives for investment into new coal plants
- The whole coal fired power generation sector will gradually deteriorate





CEZ PREFERS ECONOMICALLY EFFICIENT RENEWAL OF COAL/LIGNITE FIRED PLANTS WITH LOCAL FUEL SUPPLY

Lignite capacity (MW)



Rationale

- Low cost of domestic lignite
- Thermal power plants next to mines – only costs of internal logistics
- Replacement of old units with more efficient new technology (20% lower CO₂ emissions, from 1t CO₂/MWh to 0.8 CO₂/MWh)
- Secured lignite supplies for the investment lifetime



COAL/LIGNITE FIRED PLANTS HAVE A DECLINING, BUT SOLID, SHARE IN THE FUTURE CEZ LOW CARBON GENERATION MIX

Expected installed capacity (GW)
(proportional*)

