

Challenges for the EU fossil fuel fleet

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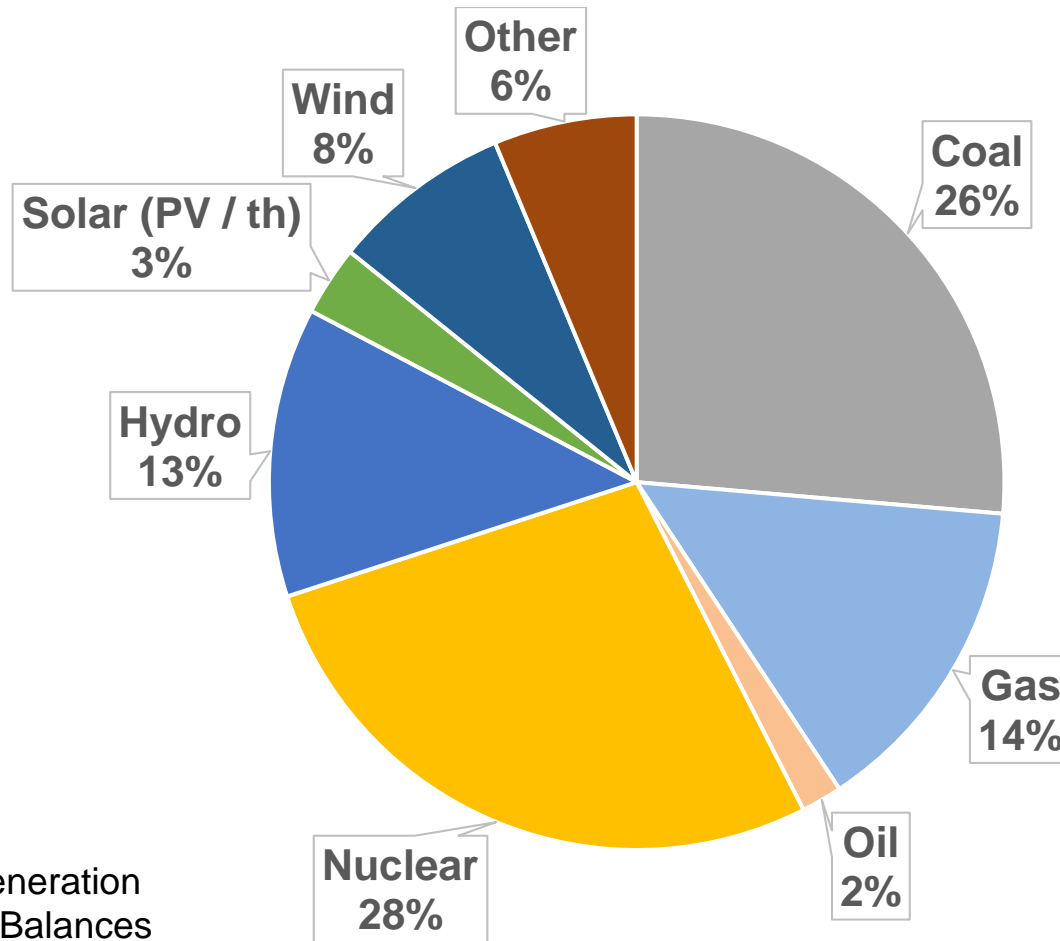
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Agenda

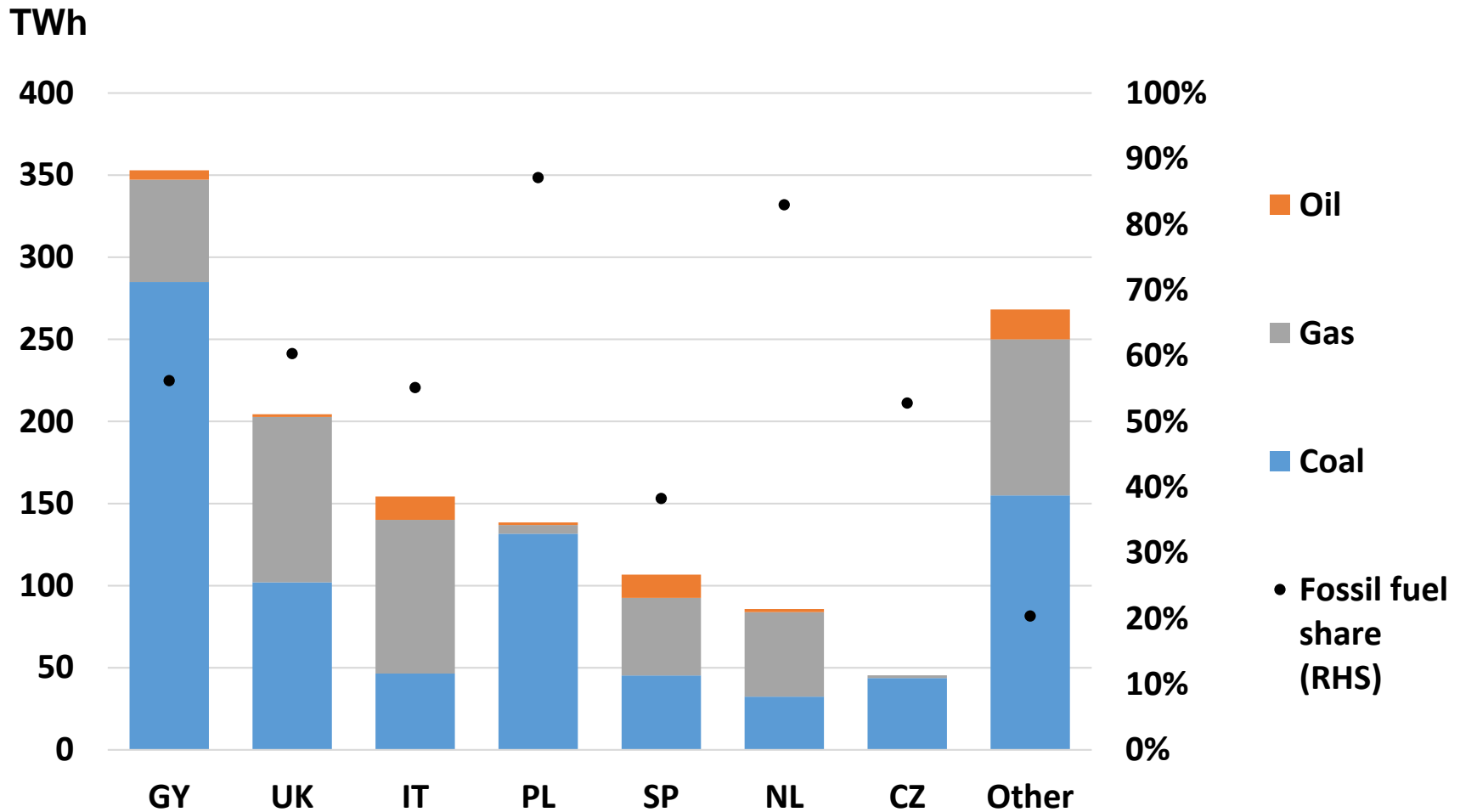
1. The current role of fossil fuels and plant profitability
2. Factors determining future use in the face of weak economics
3. Possible outcomes to 2030, challenges for operators / governments and conclusion

1. Fossil fuels – 42% of EU generation mix (2014)

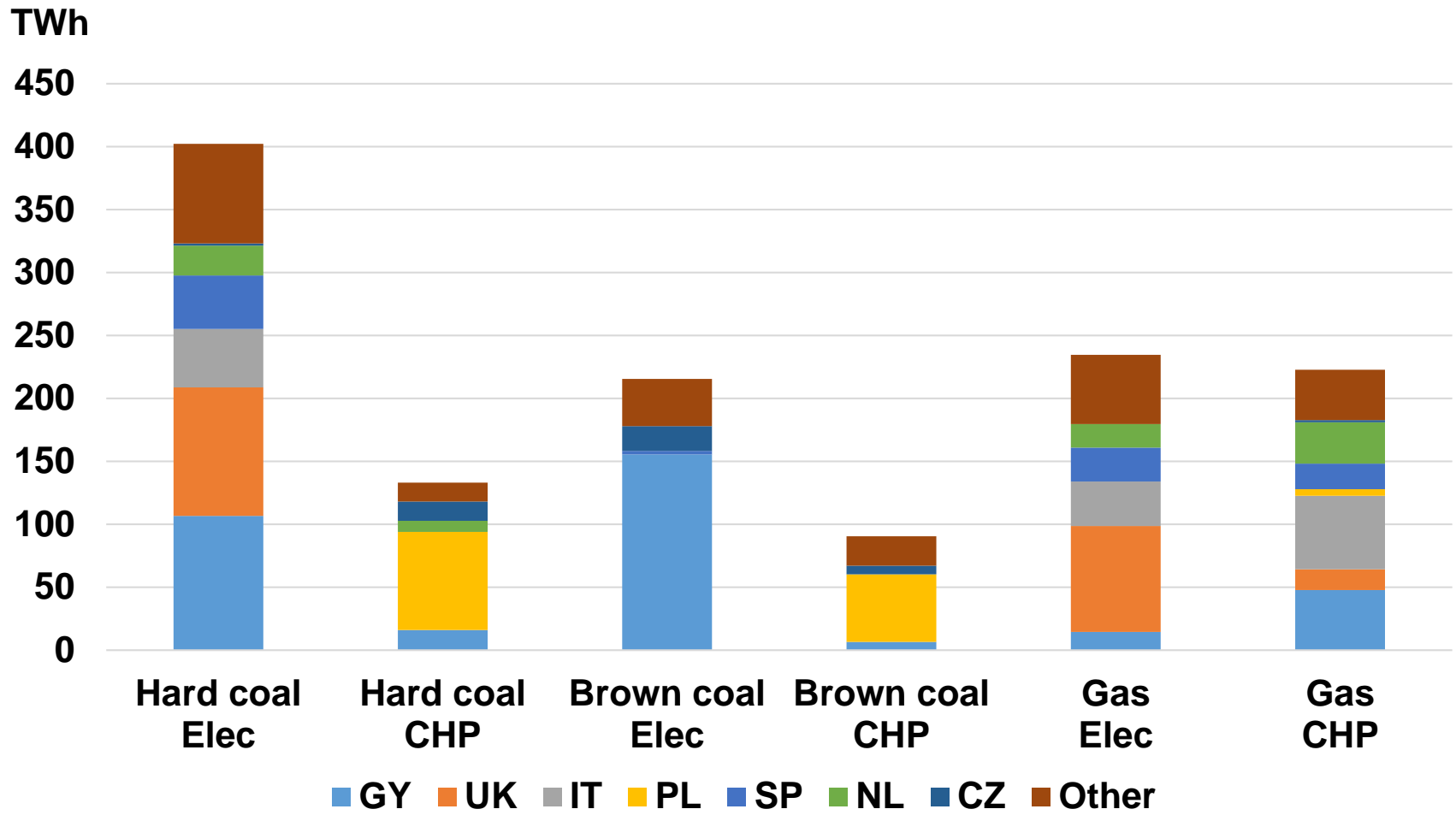


% of TWh generation
Source: IEA Balances

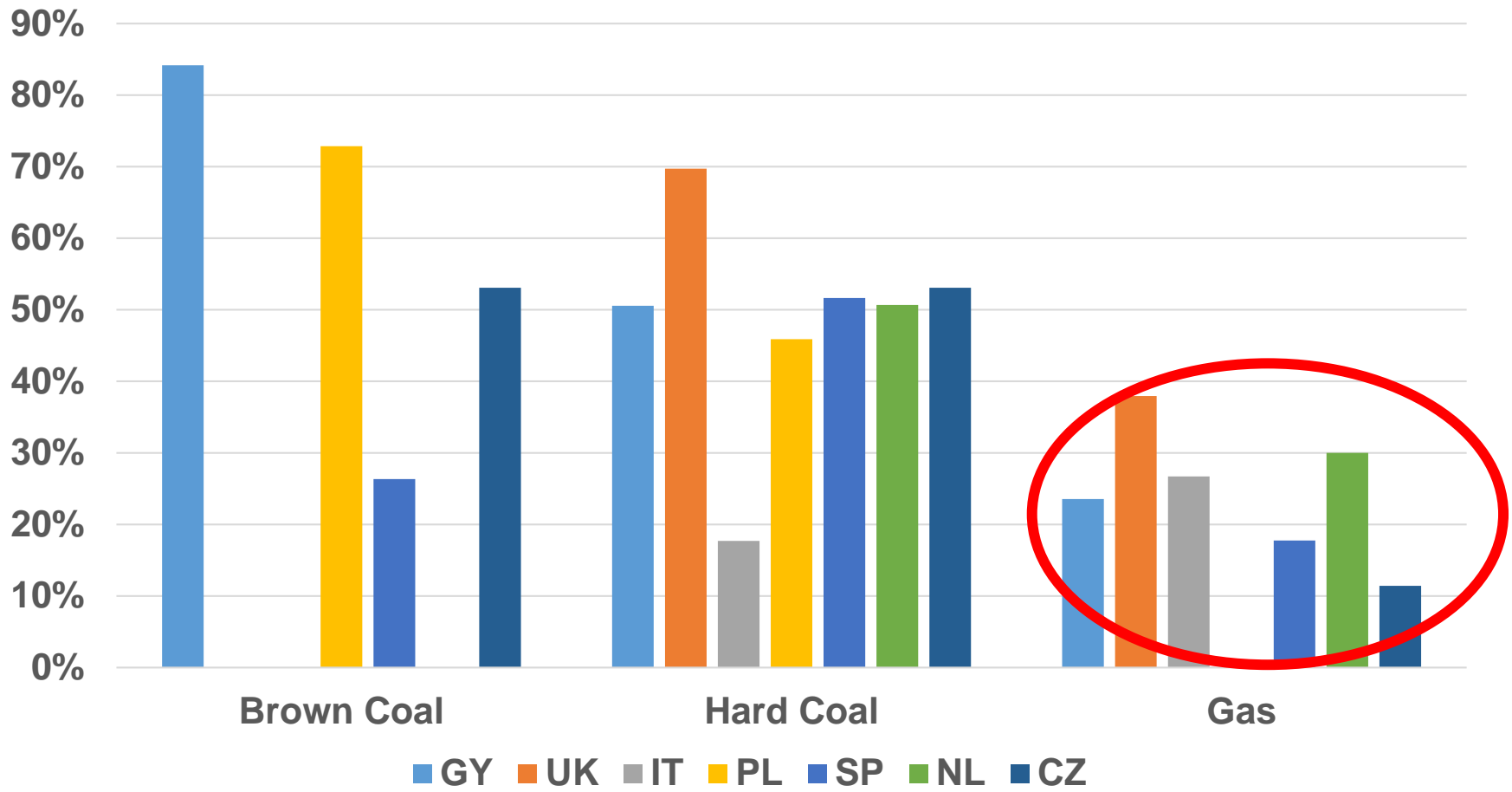
Seven EU states account for 80% of fossil fuel generation (also for 60% of total generation)



Coal is used mainly in electric plants, whilst nearly 50% of gas is used in CHP plants (2014)



Plant utilisation 2014 – coal > 50% in most countries, but gas in the doldrums



Gas and coal spreads based on year-ahead prices and compared with fixed annual costs



CSS= clean spark spread (peak load electricity price minus natural gas and CO₂ price determined for the year that follows)

CDS= clean dark spread (base load electricity price minus hard coal and CO₂ price determined for the year that follows)

2. Factors determining future use in face of weak economics

Factors leading to plant closures

1. Short-term economic factors

- Low wholesale price / utilisation = low margin / MW

2. Investment needs to remain compliant / reliable

- Various emissions directives
- Refurbishment costs, partly driven by environmental requirements

3. Other national policies

- National CO₂ targets beyond the EU ETS
- Reduced acceptance for coal plant
- Rising local air quality requirements, besides CO₂ emissions

Factors militating against closure

1. Supply security or basic capacity needs

- E.g. due to closure of nuclear plants
- Regulators put plants into strategic reserves
- Capacity markets

2. Use in CHP plants when the heat is needed

- Countries e.g. Poland refuse to buy cheap electricity (from GY)

3. Reluctance of operators to cover high closure costs

- Will increase debt and may lead to rating problems
- Prospects of plants being needed in future

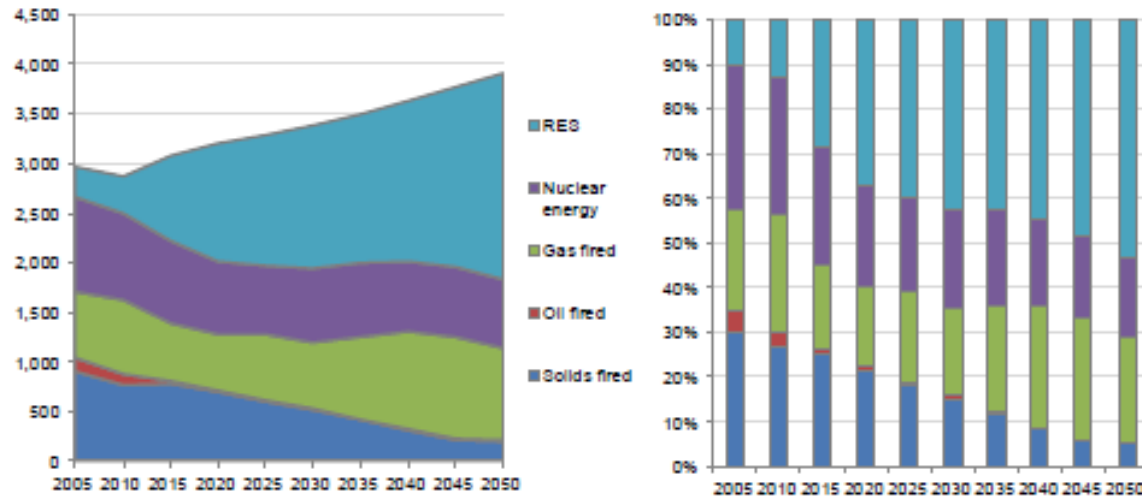
Policies affecting future of fossil-fuel plants

(Air quality issues beyond CO₂ and IED may lead to further closures)

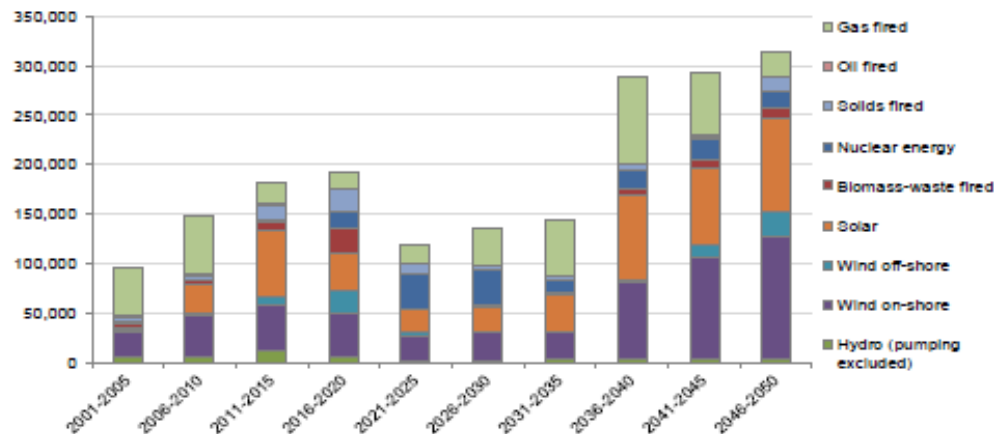
	CO ₂ policy	Other Emissions	Nat. coal closure policies	Strategic reserves	Capacity markets	Other
EU	ETS 2020/30: -20/40%	IED	No	NA	NA	
GY	2020/30: -40/50%	EU	Examining close 2035/40	Yes	No	Nuclear closure
UK	2020/30: 34/56% *	EU	Close by 2025	No	Yes	Nuclear build
IT	EU	EU	No	No	Yes	RES slowing
PL	EU	EU	No		No	
SP	EU	EU	No	No	Yes	RES slowing
NL	2020/30: -25/55% (?)	EU	Close by 2025 (?)	No	No	
CZ	EU	EU	No	No	Yes	

3. Potential outcomes to 2050 – EU Scenarios

Power generation mix and shares



Net power investment (MWh) over 5-year periods



The challenges for operators and governments

For the operators

- Continued cost-cutting without sacrificing reliability and safety
- Flexibility to respond to hourly prices
- Environmental compliance – whether it's worth investing for only limited future periods of operation
- Making the call – whether to continue operation, mothball or close
- Managing / financing the closures, including the social side
- Whether to invest in new plants against capacity prices, but limited life

For the governments

- How to manage the energy trilemma
- If capacity will become tight, whether to make concessions on environmental requirements

Conclusion

- Operators face little financial upside and must operate to cover at least the annual fixed cash costs – or swallow the closure costs
- Governments need to recognise the medium-term role of fossil fuel plants and avoid unnecessarily costly policies

THANK YOU FOR YOUR ATTENTION

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