

DONG/Elsam/E2 etc.

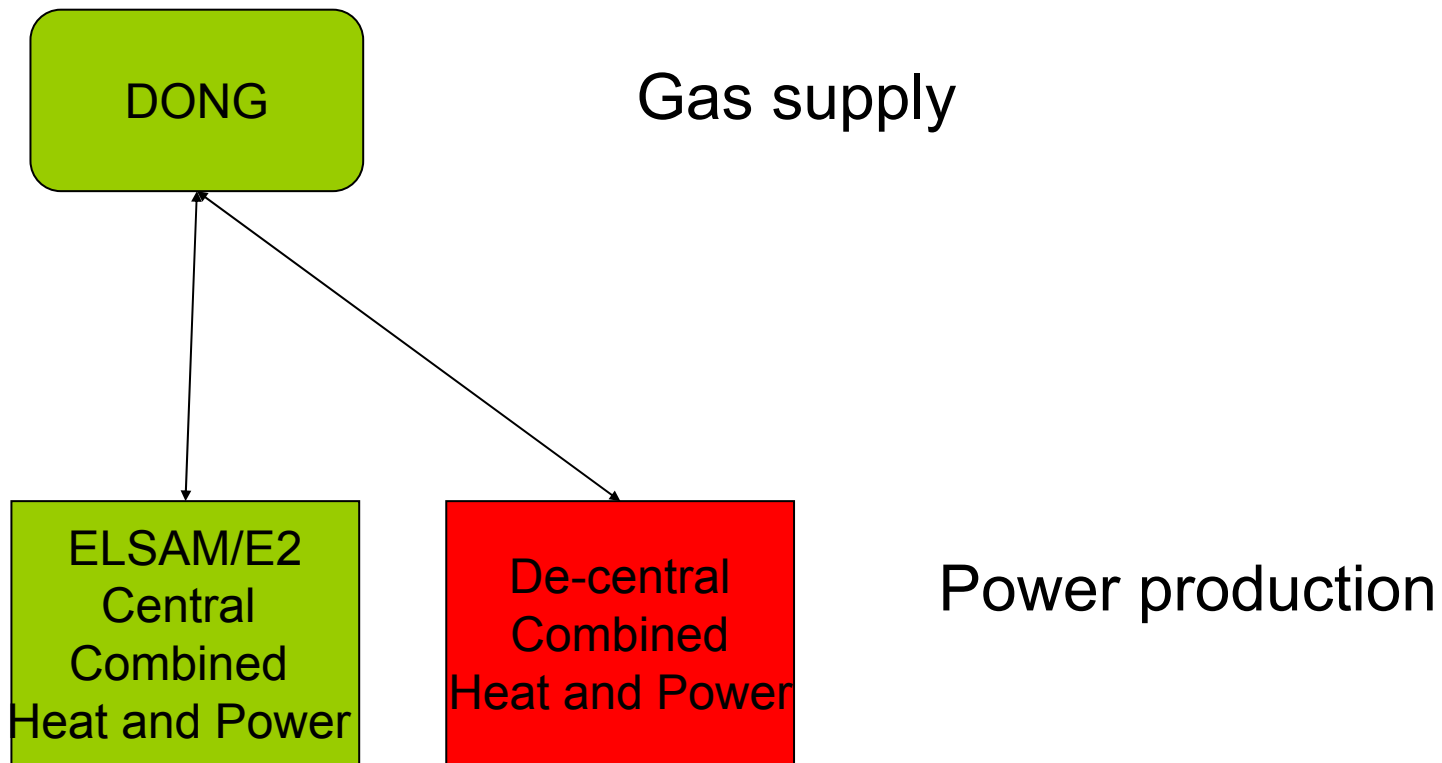
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*The views expressed in this presentation are personal and do not necessarily reflect those of the Chief Economist, the Commissioner for Competition or the European Commission.

Background

- DONG: state-owned gas incumbent. Exploration, production, off-shore transport, storage and distribution of gas
- Elsam and E2: (owned in part by local governments) power producers in West and East Denmark respectively.
- Vattenfall: Swedish state owned power producer active inter alia in Sweden, Denmark and Germany

Raising rivals cost I



Ability and incentive

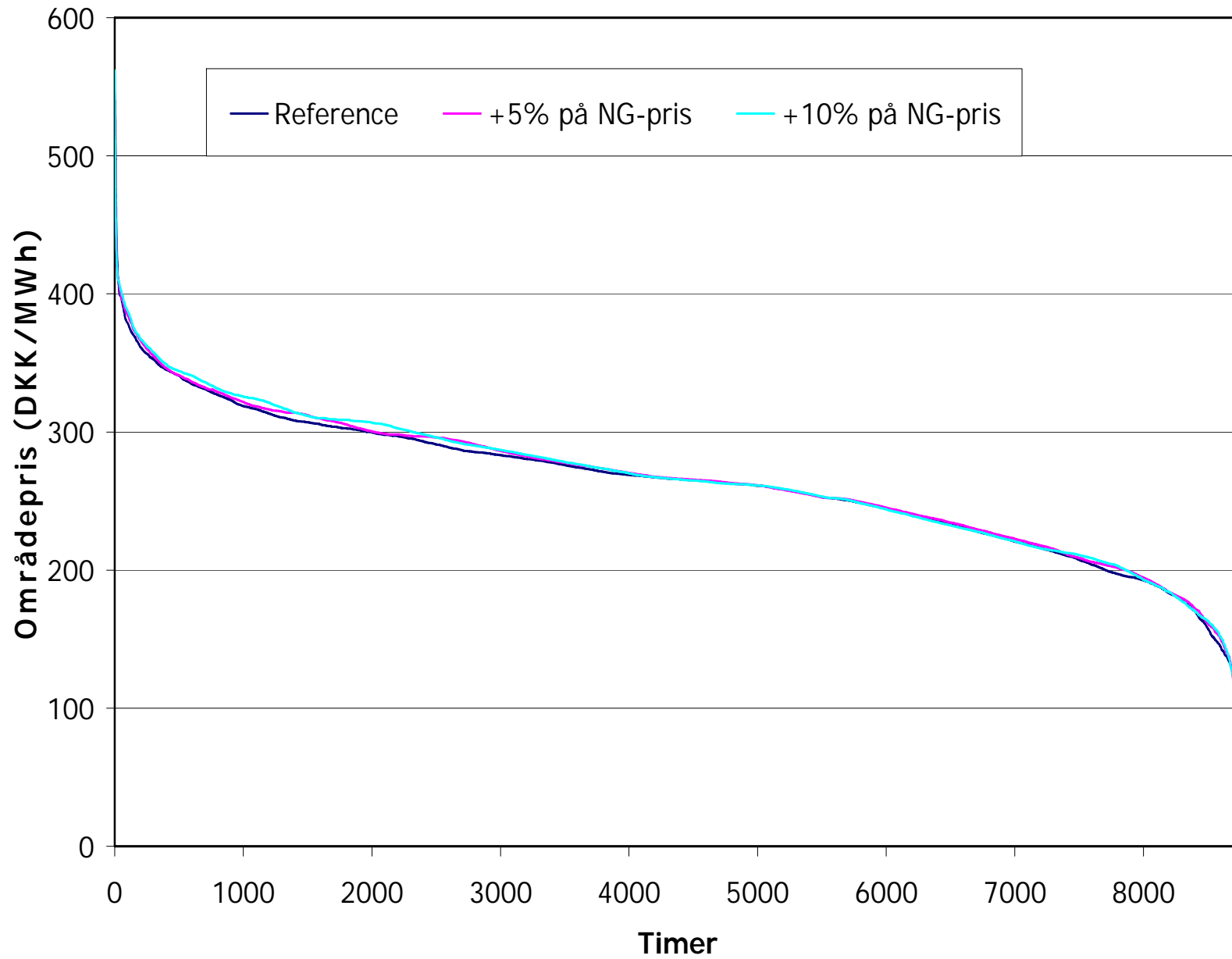
- Roughly $\frac{1}{4}$ wind, $\frac{1}{4}$ DCHP, $\frac{1}{2}$ CHP

	Heat	Power	Heat and power
CHP	✓	✓	✓
DCHP	✓		✓

Model of Heat and Power production

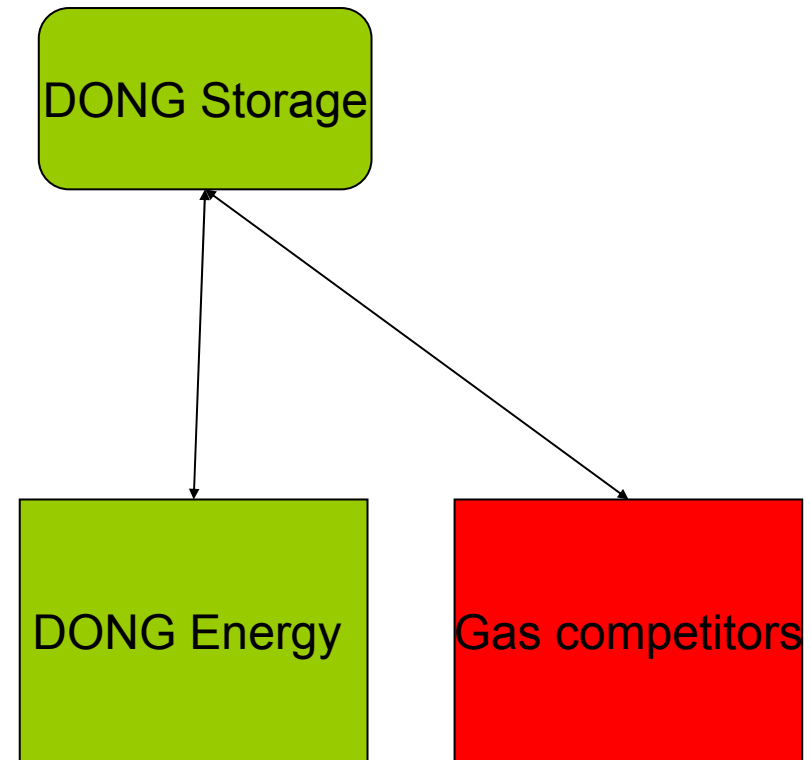
- Covers only western Denmark
- Non-strategic price-taking behavior
- Exogenous vectors of temperatures, heat demand etc.
- Predicts output per hour over a calendar year
- Result: 10 % increase in price of gas result in less than 3% decrease in output and less than 1% increase in electricity prices

Varighedskurver for områdepriser



Raising rivals cost II

- Flexibility sources:
 - Flexible upstream contracts
 - Line pack
 - Storage
 - ”Countercyclical” customers
 - Some CHPs are multi-fuel units, (not sold to Vattenfall)
 - Internal docs showed plans to use CHPs as virtual storage by using gas in the summer and coal in the winter



Regulatory regime

- Access to storage is regulated
- Revenue cap
 - Usage ↓: unit price ↑
- Non-discriminatory access
- Remedies
 - Divestiture of one of the two storages
 - Gas release program of flexible gas