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# The German Power Market 2.0

Session 2: Adapting liberalised power markets
– Minor tweak or major overhaul?

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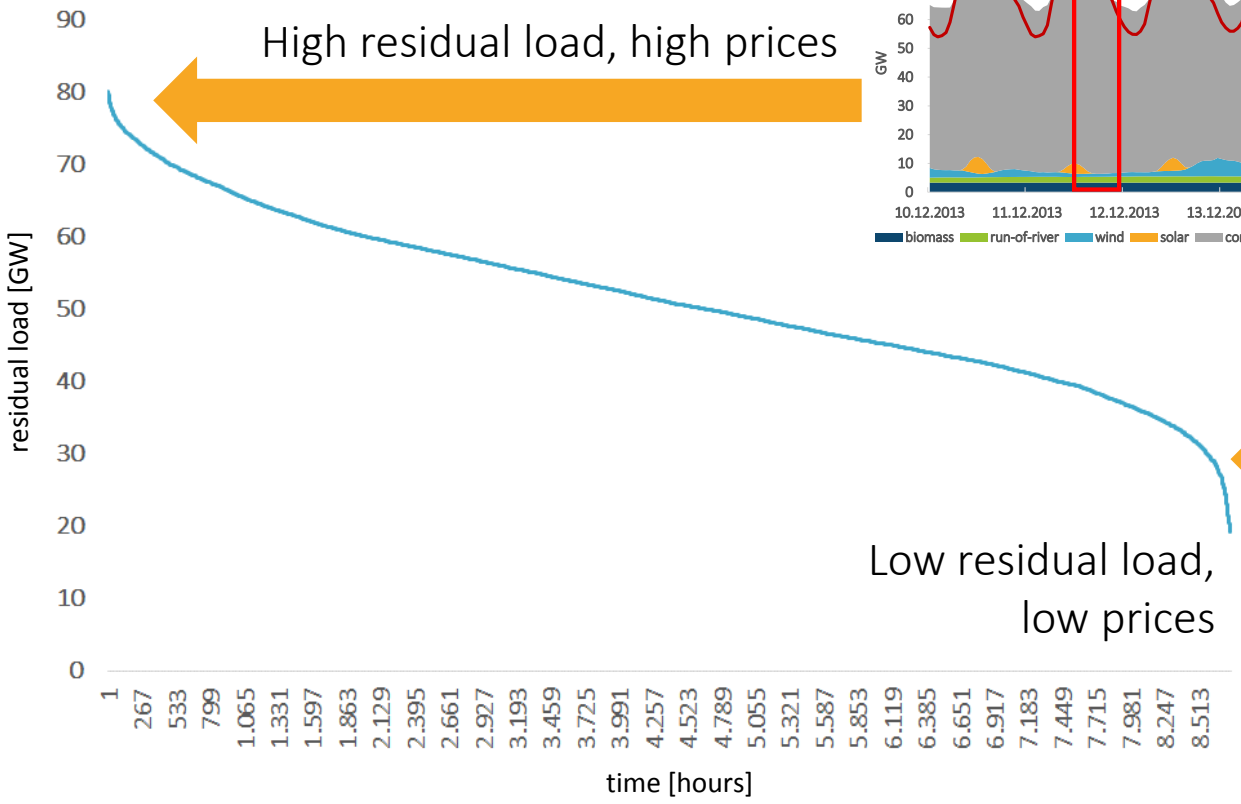
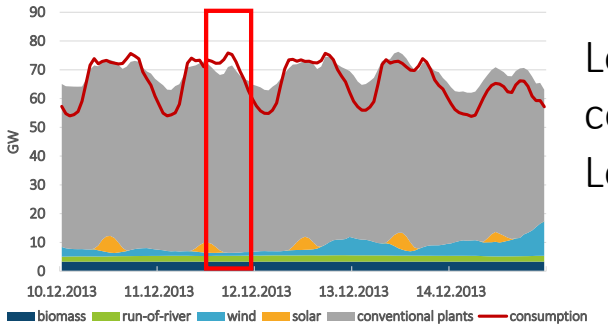
# Take-aways

- A flexible power market can guarantee security of supply and support renewable integration simultaneously
- Some flexibility options can increase the market value of variable renewables
- To achieve a level-playing-field for flexibility options, barriers and price distortions need to be removed
- A capacity reserve can secure the transition period until the market is sufficiently flexible

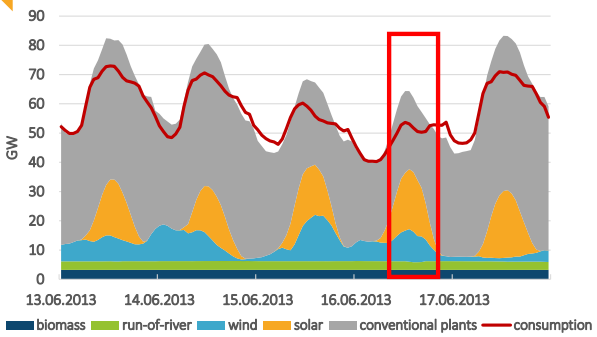
# Two sides of the challenge




Low wind feed-in,
cold winter evening:
Low RES, high load

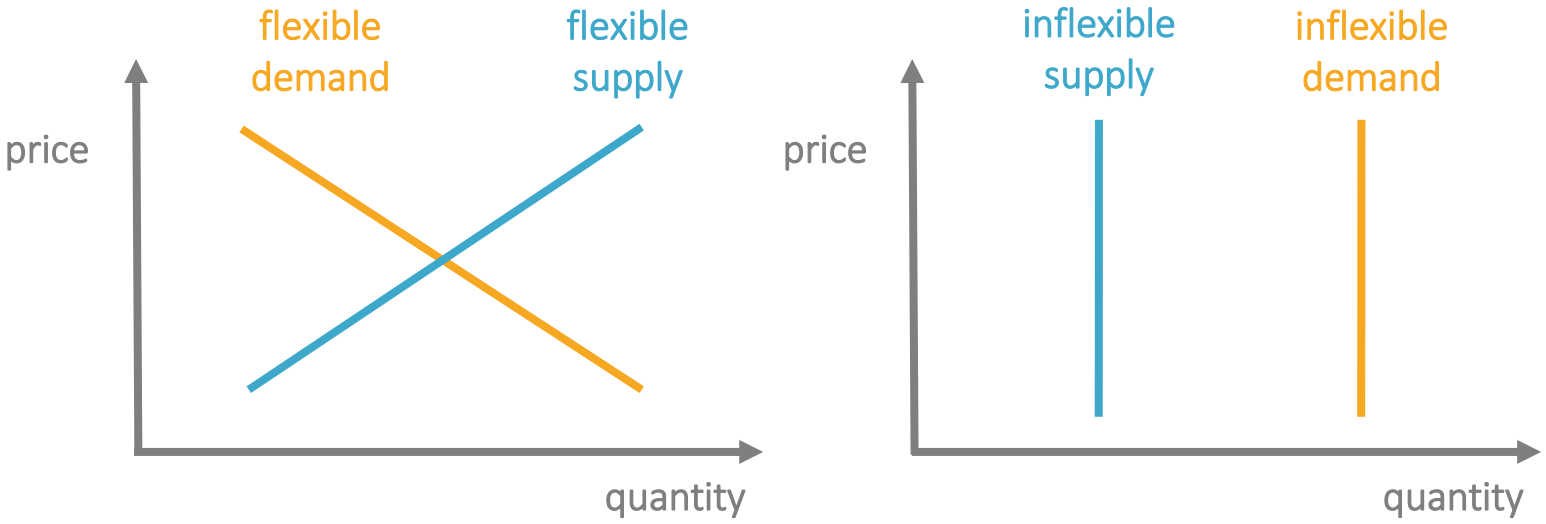
Windy, sunny
Sunday noon:
High RES, low load




Source: Data from Entso-e (2013) and EEX (2013)

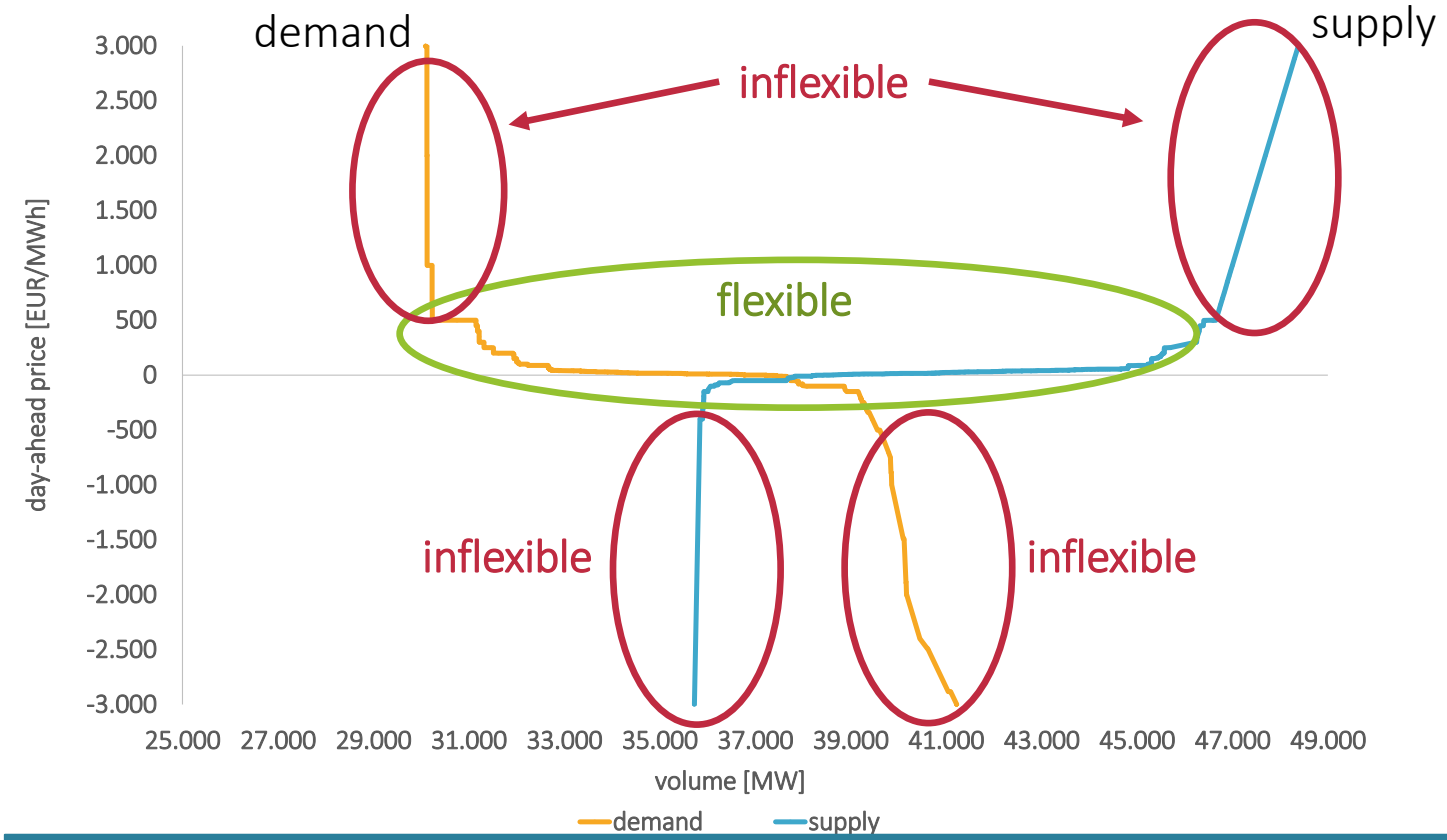
# Definition of flexibility

- Finding a match between demand and supply requires ‘flexibility’
- Flexibility adds the time dimension to the static concept of the economic term ‘elasticity’




Sufficient flexibility in relevant areas of the supply and demand curve guarantees security of supply

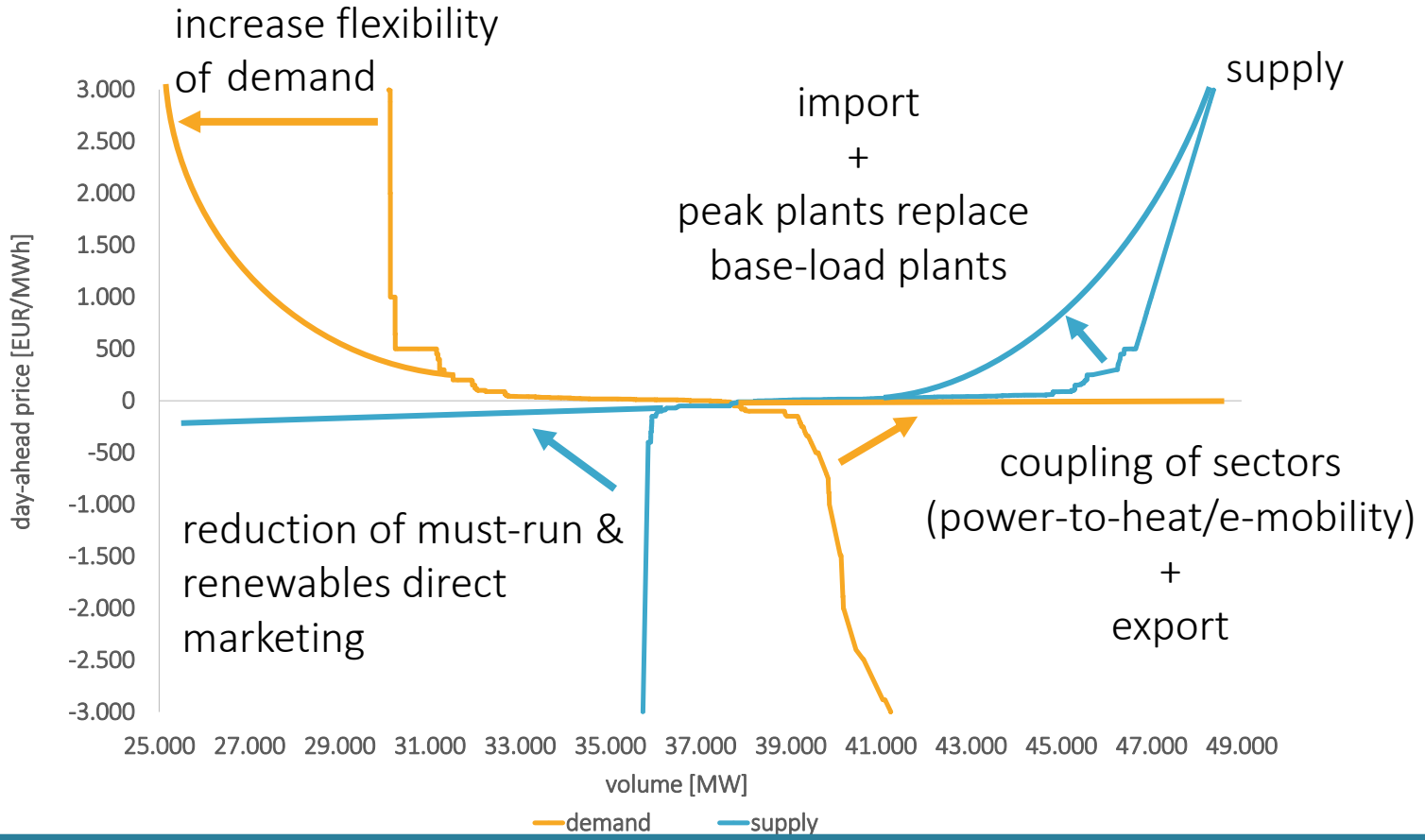
# Flexibility supports security of supply and renewables integration I




- Some areas of the supply and demand curve are inflexible
- Inflexible areas could (theoretically) lead to a mismatch

Source: Own illustration, Data from EEX (2013).

# Flexibility supports security of supply and renewables integration II



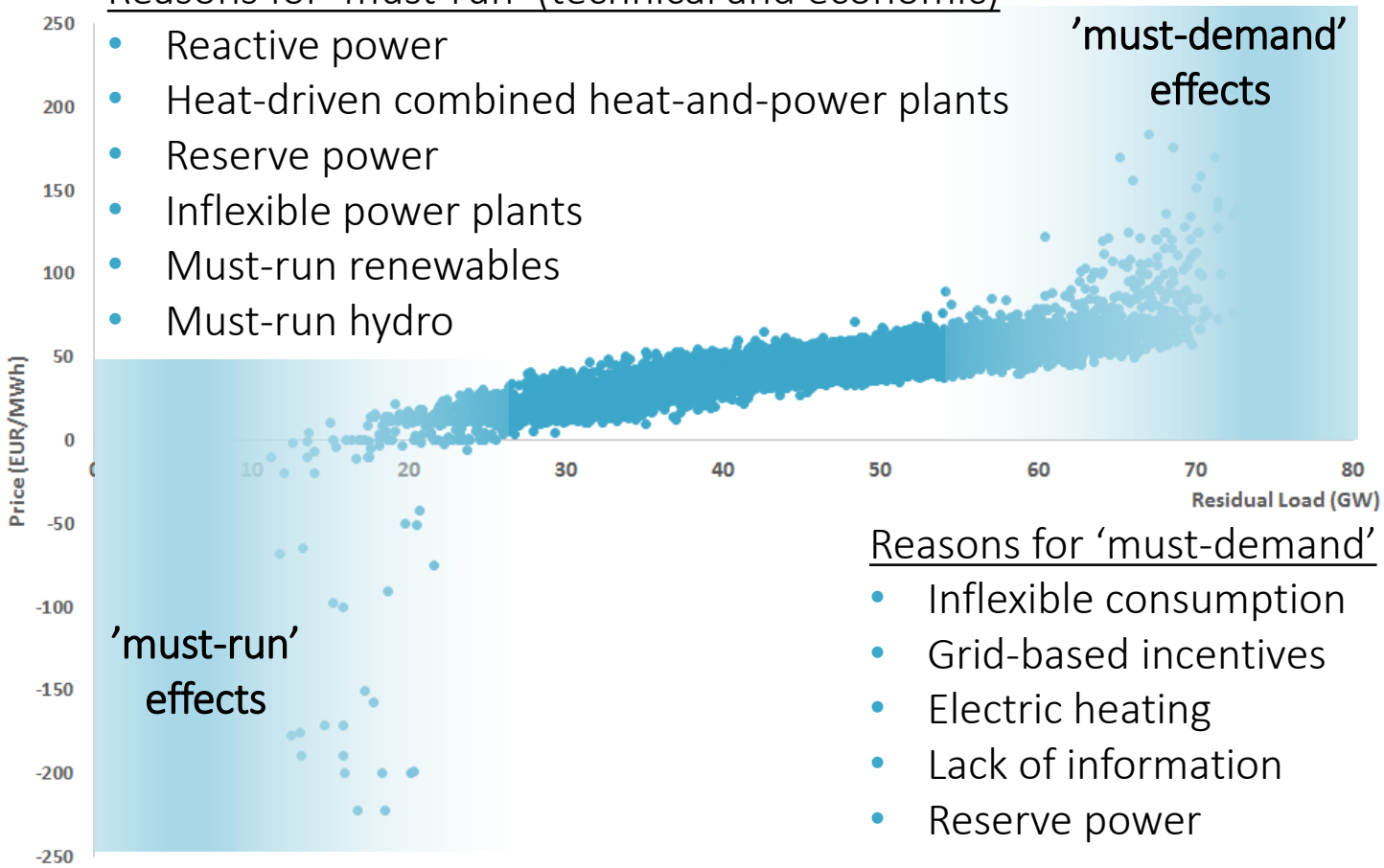

- An increase in flexibility leads to security and more meaningful price signals
- More flexibility options are available than the energy transition requires

Source: Own illustration, Data from EEX (2013).

# Market effects of barriers

Reasons for ‘must-run’ (technical and economic)

- Reactive power
- Heat-driven combined heat-and-power plants
- Reserve power
- Inflexible power plants
- Must-run renewables
- Must-run hydro




Reasons for ‘must-demand’

- Inflexible consumption
- Grid-based incentives
- Electric heating
- Lack of information
- Reserve power

# Reduce barriers to flexibility

## Market design

- Open reserve power markets
  - Short-term auctions & products
  - prequalification
- Improve balancing responsibility
- Avoid price caps
- Competitive wholesale markets
- Enable efficient cross-border trade
- Avoid explicit capacity remuneration, which weakens price signal

## Regulatory design

- Adjust implicit incentives for privileged consumers (e.g. grid tariffs & RES support) to react on wholesale power price
- Increase combined heat-and-power flexibility
- Avoid price distortions in all policies
- Enable renewable market access
- Provide reactive power must-run-free

# In a nutshell

- Security of supply and RES-integration require flexibility
- Sufficient flexibility potential is available to allow for market-based competition
- Competitive and well connected markets are a great and efficient source of flexibility
- The EOM incentivises the optimal flexibility mix on the basis of reduced market and regulatory barriers
- Capacity markets are likely to create path dependencies and regulatory uncertainty, while reserve mechanisms are reversible, once the market is sufficiently flexible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