Flexibility and adequacy needs - the grid perspective -

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“How can the increased need for flexibility of generation and demand of energy, generation adequacy as well as storage be provided at least cost?”
Flexibility ➔ because of volatility

Volatile flows ➔ System operation „dynamics“
1) Common Grid Model & Operational Planning

European TSOs with Common Grid Model, Day-Ahead and Intraday Operational Planning (TSC, Coreso, ...)

AUSTRIAN POWER GRID AG

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2) European framework for stability & security

• In coming years, ENTSO-E network codes for system and market operation and for grid connection, will become part of EU legislation, binding for every actor in each Member State

• Key provisions on security of operation:
  – Ensuring system stability and minimum inertia required for that, at all times (Article 15, Operational Security NC)
  – Utilizing all means, within own responsibility and through cooperation with other stakeholders, to prevent disturbances (Article 32, OS NC)
3) Non-discriminatory treatment ...

... of all grid users, including Power Generating Facilities

In terms of:

• Ancillary services
• Congestion management
• Balancing markets’ participation
• Physical connection to the grid
4) Market based integration

- Incentives for storage - prevent negative prices

4) Market based integration (cont’d)

- Integration of ancillary services, most notably manually and automatically activated reserves
- An essential „feature“ for flexibility and adequacy in the grid, with market based instruments
Thank you for your attention!

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