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WG 1 - Pan European Network How To Cope With The New Challenges Of The Network ?

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Topics to discuss

q **Tasks of the future PAN European Network**

q **Problems to deal with**

q **Key deliverables - „PAN European Network“**

q **Enablers - „PAN European Network“**



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Tasks of the future PAN European Network

- q **Integrate the mixture of future generation**
 - Self-controlling (smart) grids with increasing amounts of Distributed Generation
 - Renewable bulk power injections (e.g. offshore wind generation)
 - Conventional large-scale centralized power plants

- q **Fulfill control functions that cannot be decentralized (frequency control)**

- q **Serve the future market situation in Europe as a stable and reliable backbone**

- q **Be cost efficient**



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Problems to deal with

- q **Differences between renewable bulk power injections (e. g. offshore wind) and conventional power plants / Integration of virtual power plants**
- q **Congestion**
- q **Regulatory frameworks / organisation / responsibilities**
- q **Data exchange formats between European TSOs**
- q **Transition of the nowadays systems into the PAN European Network**



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Key Deliverables

- q **Blueprint for a future power system (including time frame, responsible parties, economic vs. ecological aspects)**
- q **More intelligent devices to control power flows that can economically compete with today's solutions**
- q **Harmonization of market rules and grid codes**
- q **New scientific models and methods (simulation tools, forecasting tools for load and RES power production, etc.)**
- q **Improved information and communication infrastructure**



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Enablers

- q **Coordinated asset management**
 - q **Integration of power electronic devices in transmission systems**
 - q **International cooperation on congestion management methods**
 - q **Availability and sharing of information on a European Level**
 - q **European market for balancing energy**
 - q **Storage devices and opportunities**
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