DSO Views on the Demand Connection Code

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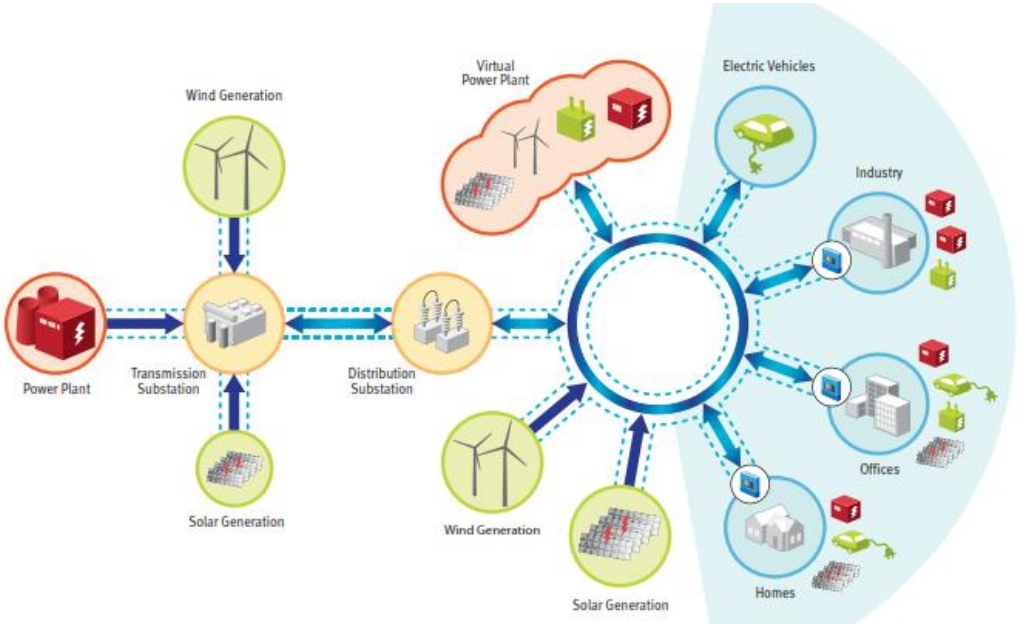
The DSO is the key facilitator of the flexibility market



- <u>DSOs are in the driving seat</u> of the smart grids development – major investments are needed for security of supply and to facilitate the market
- <u>DSOs should take on the role of the market facilitators</u> – for all users connected to the grid; consumers, generators, suppliers, aggregators, …

Evolutionary approach towards distribution networks rather than one single EU plan & coherent network codes

- **'3rd Package': Network codes should define common binding minimum requirements needed for Internal Electricity Market, security of supply and RES integration**

- **Flexibility is needed – technical capabilities and needs vary among European distribution networks and their users**
  - **Evolution of requirements by forward-looking approach and/or case-by-case approach at national level → achieve the most cost-efficient solutions**
  - **Network codes should provide framework methodology → ensure that similar situations are treated in the same way**

- **Coherence between the numerous codes must be ensured**
  - **Unclear overlaps must be eliminated**
  - **Interactions between codes must be visible for stakeholders in order to prevent legal disputes in implementation phase**

Drafting process has improved but number of concerns remain

Smoother drafting process than for the RfG code:

- Progressive engagement of stakeholders
- Regular interractions between the dedicated DSO TEG & the drafting team
- Discussion between ENTSO-E and the DSO associations

However, number of DSOs concerns about the final draft prevail:

- Requirements specific for TSO-connected DSOs
- Requirements for connection of consumers with DSR related functionalities

Reactive power requirements for TSO-connected DSOs (art 16.1a) (1)

The draft code introduces a general requirement expressed through a maximum admissible value for load factor

- **In most EU countries, reactive power management is addressed at national level either via provisions in the TSO-DSO connection contracts or via tariff schemes.**
- **This new requirement deprives the DSO in cooperation with the TSO from adopting the most efficient strategy from the system point of view and is likely to trigger inefficient investments**
- **Capabilities for reactive power mangement should be addressed at national level or in geographical areas of a synchronous system via contracts between TSOs and DSOs for each TSO/DSO connection point.**

Requirements specific for TSO-connected DSOs (art 16.1a) (2)

A completely new requirement for no reactive power injection when the active transit is low (25% of import capacity).

- **Requirements relating to connection points are not adequate to solve problems caused by a shortage of reactive power in a control area locally.**
- **An industrial solution for reactive power absorption on distribution network currently does not exist**
- **Compensation at the connection points too inflexible in case of changing grid situation and in emergency situations**

This problem must be assessed and solved on a case by case basis, between operators, to ensure the most economically efficient solution.

DSOs propose the following wording for art. 16

[...] ***For Transmission Connected Distribution Networks,*** ***the relevant TSO and the DSO shall analyse jointly the efficient technical and financially possible solutions and jointly agree on the optimal solution for reactive power exchange between their networks taking adequately in consideration the specific network characteristics, variable structure of power exchange and bidirectional flows and the reactive capabilities from generators in the distribution grid. In case the agreement between the relevant TSO and the DSO is not reached,*** ***the actual Reactive Power range shall not be wider than 0.9 Power Factor of the larger of their Maximum Import Capability or Maximum Export Capability in import to 0.9 Power Factor of their Maximum Export Capability in export while respecting provisions of art 9.3. [...]***

Connection of consumers with DSR related functionalities

A survey conducted among European DSOs confirms that the DSR requirements are absolutely new.

- **Compliance with DSR requirements must not be a precondition for connecting customers to the network or for maintaining their connection.**

- **to make sure that distributed DSR activation will not create local peaks and network constrains, DSOs must be able to check possible impact of a customer on network security or quality of service to able to take needed measures to maintain prescribed levels of service and safety**

- **The code should only contain requirements pertinent to determine connection granting.**

DSR compliance testing & monitoring: the code should not create unnecessary bureaucracy

- **Proposed operational notification procedure and compliance monitoring will represent a huge administrative burden for all involved parties and for the society.**
  - **-> High costs**
  - **Experiences from existing procedures of connecting heat pumps shows that these procedures proposed for DSR will most likely not work in practice**

- **The network code should not regulate DSR compliance monitoring:**
  - **Instead, compliance testing and monitoring for mass demand-side participation should be set via appropriate market design and/or European standards eg within the CE standard**

Major investments are needed at distribution level – DSOs fully support ENTSO-E views on cost recovery

- **New and increased requirements of the DCC will lead to added capital expenditure (i.e. reactive power management) and high administrative costs (i.e. compliance monitoring)**

- **Recovery of these costs in a timely manner is an absolute necessity for DSOs**
  - **Current national regulatory frameworks do not allow for most cost-effective investments and adequate rate-of-return for DSOs**
  - **Flexibility tools to be enabled for DSOs**

- **Requirements for recovery of reasonable and proportionate costs in a timely manner via network tariffs should stay in the codes – not to leave DSOs with a number of new obligations without the relevant means to pay for them**

Summary/ Recommendations

1. Reactive power management should continue to be addressed at national level/ via contracts between TSOs and DSOs.
2. Problem caused by reactive power exchanges must be addressed on a case by case basis
3. Compliance with DSR requirements must not be a precondition for connecting network customers/ for maintaining connection
4. Compliance testing and monitoring for mass demand-side participation should be set via appropriate market design and/or European standards
5. Recovery of reasonable and proportionate costs should stay in the code

Thank You For Your Attention!