

DSO Technical Expert Group Views on Demand Connection Code

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- **General remarks**
 - Scope
 - Roles & responsibilities
 - Classification of users
- **Demand side participation/ management**

General Remarks on Scope

- Demand is passive & often not frequency dependent (unless made so)
 - Very limited direct cross-border impact due to their frequency response
 - If made frequency dependent (DSR) where is the right place for requirements?
 - In connection code or in a code for DSR ?
- Requirements must be based on the technical necessities & neutral to possible market designs

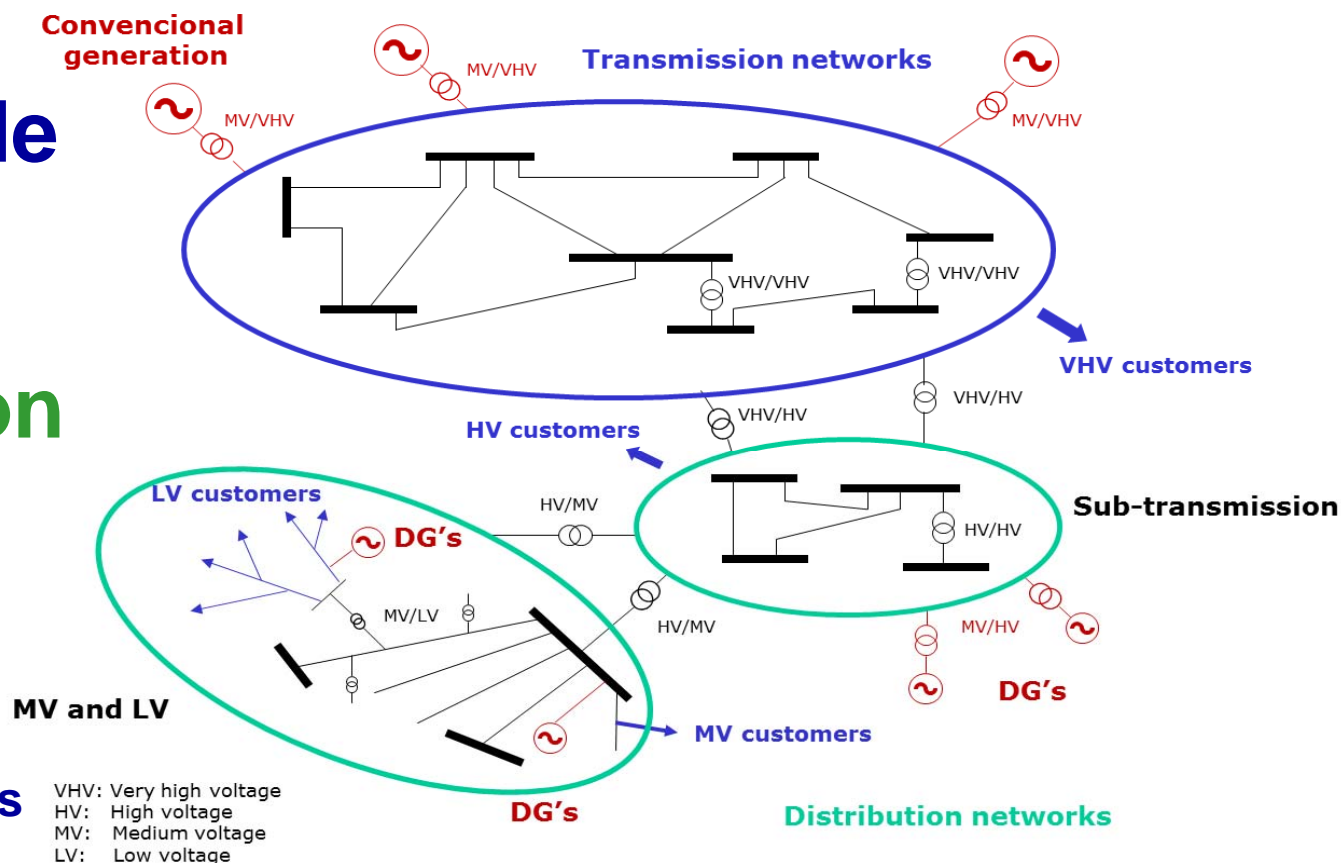
Roles & Responsibilities

- Requirements necessary for system security towards final customers will largely be **implemented by DSOs**
- NC must distinguish when DSOs are concerned as
 - **Grid users**
 - **Network operators implementing connection requirements**
- Responsibilities of Network Operators towards each other and vis-à-vis the customers should be clearly described in the code
- **The area of responsibilities must be respected – do not use the code for transfer of responsibilities!**

Roles & Responsibilities (ctnd)

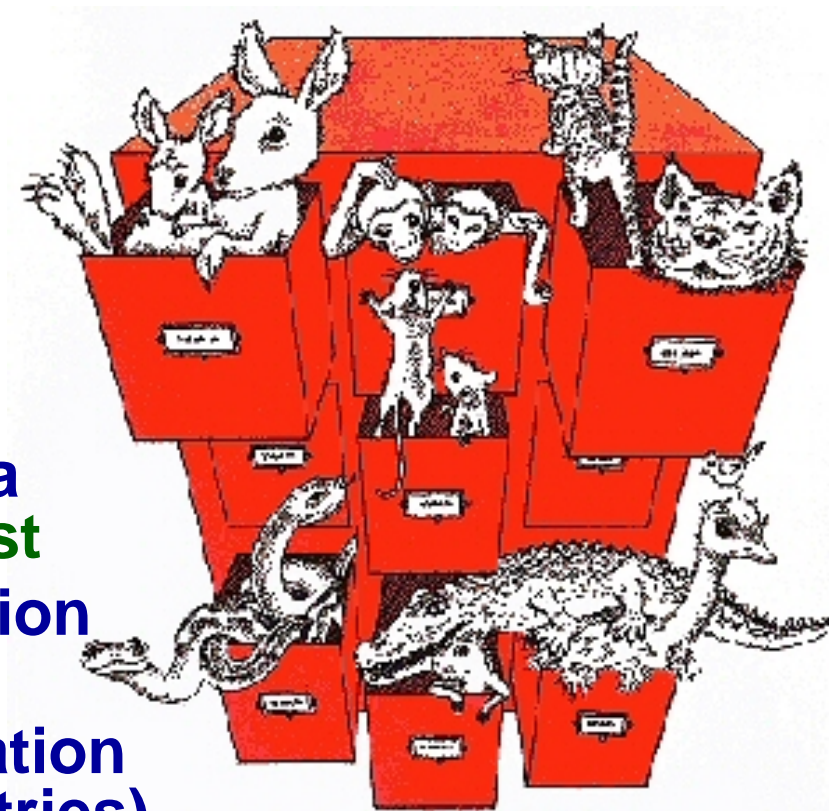
EU network code requirements should be set at the connection point between TSO & DSO!

(°) or towards customers directly connected to TSOs



Classification of Users

- The 'GenCode' discussion demonstrated importance of users' classification
- The DCC should include:
 - A definition of significance and a methodology for significance test
 - A classification based on definition of significance
 - To be adaptable to existing situation (DSOs/TSOs vary between countries)



Cost Benefit Analysis is KEY

- **DCC requirements related to DSR have costs implications, they must be assessed economically**
 - Fast evolution on the generation side (RES development)
 - Different possible outcomes of DSR development
 - DSR implemented for years provides excellent value for electric system to be protected
 - Only connection requirement shall be part of the DCC

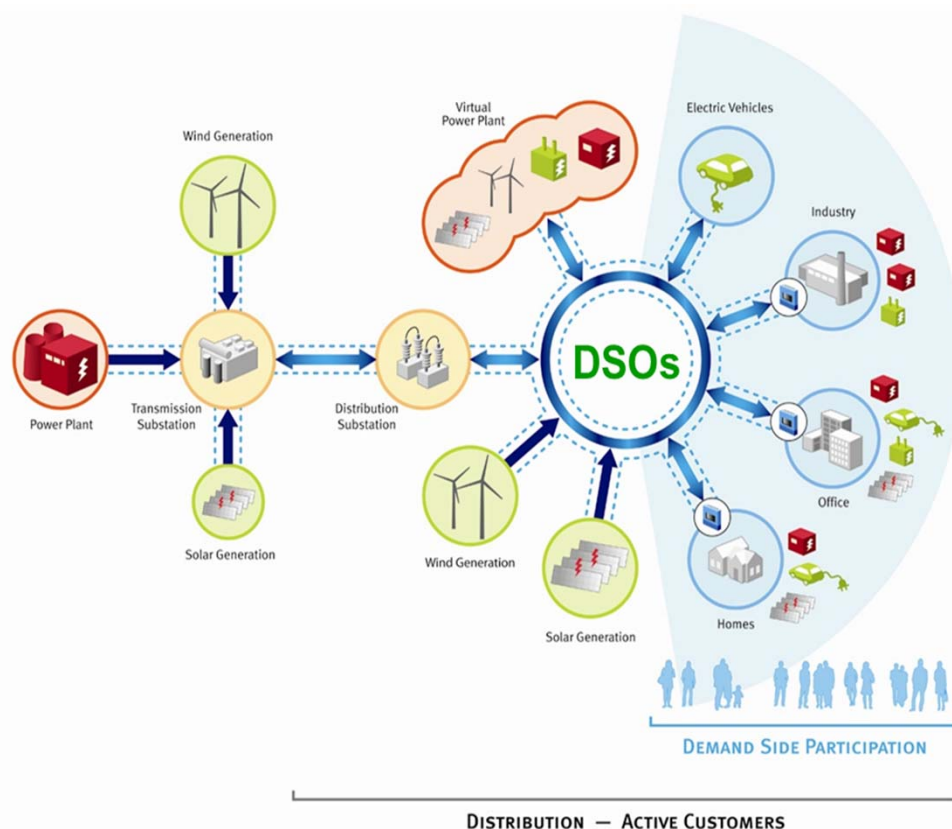
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Demand Side Participation: General Vision

- **Customers** will increasingly manage and adjust their consumption throughout the day, responding to more dynamic price signals. **They will rely on several feedback devices** (e.g. displays, internet)
- **Market models** are under development
- **DCC** must ensure that there will be **no adverse effects on Quality of Supply, individual safety and system security**



DSOs as Neutral Market Facilitators



- Most of the demand side flexibility has been/will be developed on distribution networks
- Provide information to market actors in a transparent, non-discriminatory and efficient way
- Ensure security of supply in their networks
- Perform load management actions only when grid stability is at risk

Source: EURELECTRIC 10 Steps to Smart Grids

Recommendations for DSR in the DCC

- The supporting services to be delivered as new products and remunerated through market-based mechanisms whenever possible
- Grid access rules will assist in dealing with technical issues to make commercial development compatible with QoS, security and safety
- The EU network code (DCC) must address cross border related requirement
 - Describe only the necessary technical requirements
- All the orders arranged with demand connected to distribution networks should be agreed between TSO and DSO before being implemented

To Conclude... Requirements MUST BE

1. Based on technical necessity
2. Proportionate to users significance
3. Set at DSO-TSO interface
4. Respect areas of responsibility
5. Assessed through a relevant CBA
6. Limited to connection issues
7. DSR requirements are sensitive

Thank You For Your Attention!

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