Preferential Subject 1: THE EVOLUTION OF MARKET DESIGN AND REGULATION TO INTEGRATE DISTRIBUTED ENERGY RESOURCES

Q1. What are the biggest challenges and lessons learnt when considering market reforms in your jurisdiction (with specific reference to the integration of DERs)?

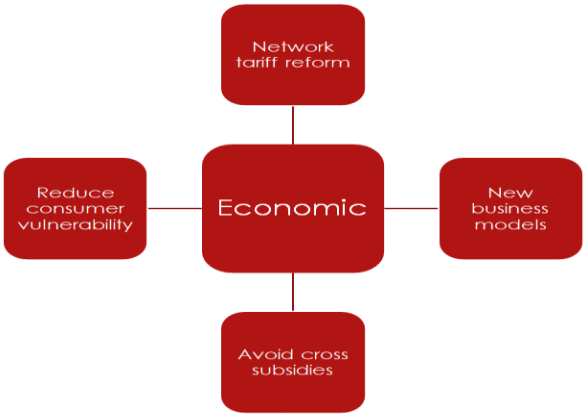
Distributed Energy Resources – DER, such as distributed generation, storage, electric vehicles, demand response, as well as microgrids, are changing the traditional centralized network expansion and maintenance planning performed by utilities so far, by inserting new roles for costumers in the market and adding complexity for its management.

DSOs will be able to: Orchestrate DER dispatch; Procurement of network services; Manage demand response programs; Manage virtual power plants; Manage community batteries and Integrate microgrids.

However, DSOs might face technical and economic challenges:

Technical	Economic
• Voltage variation • Electric losses • Grid congestion • Lower grid reliability • Cyber security	• Lower revenues • Customes off-grid • Higher O&M costs • Higher non-technical losses • Cross subsidies • Lower energy affordability • Penalties from Regulator

In order to addressing the technical challenges, there are plenty of actions and tools that could be put in place to minimize or mitigate them. On the other hand, there are regulatory reforms aiming to mitigate the economic impacts of non-orchestrated DER connections.



- DER is not the future, It's already part of the current energy system
- Consumers play a relevant role ('consumer energy resources')
- Most risks to distribution networks could be mitigated or minimized by:

  - regulatory reforms

  - new technical standards

  - Better DSO/AEMO coordination

  - consumer engagement