

7 May 2019

DSOs after the clean energy package – what does the future hold?

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Energy transition

- CE4A package puts customers at the centre of the energy transition
- Distribution networks crucial to a successful outcome
- “Business as usual” not an option
- Response to the challenges posed by the energy transition will define the DSO of the future

Energy transition – challenges

Active consumers

- prosumers, flexible customers
- Shift of generation capacity to the distribution networks,
- electrification of the heat & transport sectors

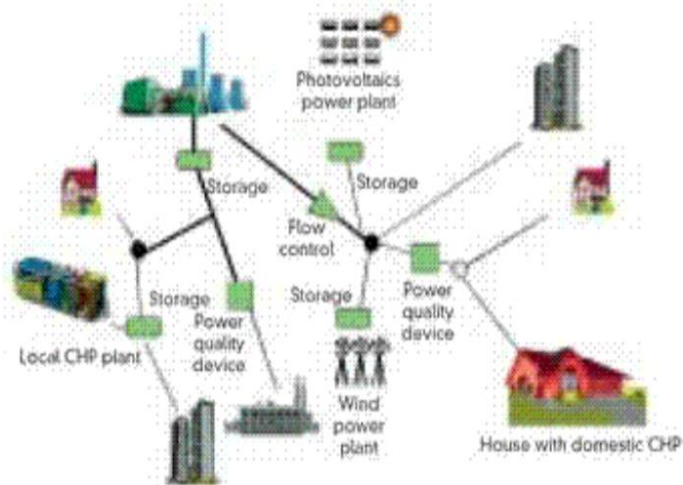
Community energy

- Energy supply,
- Local investment in renewable/low carbon,
- VPNS, microgrids

Local markets

- Energy, energy balancing,
- Constraint management & other network services

Active consumers, electrification of heat & transport



- Impact on network design & operation – connected resources integral to network security
- Developing necessary system management skills a particular challenge for smaller DSO? - emergence of IDSOs, separation of asset ownership/network operation?
- EVs & heat, importance of smart tariffs
- Network charging a critical issue, cost-reflectivity, avoid cross-subsidy

CE4A package

- Recognizes need for DSOs to utilize flexibility & requires MS to set up appropriate framework and incentives.
- Places restrictions on involvement in storage and charging infrastructure
- Requires TSOs & DSOs to cooperate
- Cost-reflective charging

Community energy



- Range of activities - advice on use & efficiency, collective switching/energy purchase, investment in local generation, VPNs, micro-grids
- Regulatory issues - customer protection & choice, fit and proper organisations, fair network charging

CE4A package

- Community energy operators should be able to operate on equal terms and not face unreasonable restrictions
- Community energy operators subject to DSO obligations.

Local markets



Network services

- DSOs contract directly with customers or via third parties, i.e. aggregators

Local energy

- Peer to peer trading, in parallel with national energy markets

National energy balancing markets

- DSOs could act as “aggregators” in parallel with third parties, or take up a “local balancing” role

Need for markets to be interoperable

- Optimize utilization by coordination or possibly via dynamic “nodal” pricing

CE4A package

- All customers are entitled to participate in energy markets, trading self-generated energy or flexibility - dynamic energy & network pricing encouraged
- TSOs & DSOs shall cooperate to achieve coordinated access to distributed resources
- Aggregators are BRPs

Summarizing – what might this mean for the future DSO?

- Distribution networks increasingly actively managed - connected resources integral to network security
- DSOs will need the skills to procure and manage necessary services
- Need for a direct customer relationship – maybe involving new services
- Complexities & cost could lead to consolidation or the emergence of independent system operators (IDSOs)
- Distributed resources will also provide services at transmission level, utilization will need to be optimized - enhanced DSO-TSO cooperation or possibly via network pricing signals?
- Micro-grids and VPNs may emerge. Need to preserve customer protections; mini-DSOs with DSO obligations
- Network charges will need to incentivize appropriate customer behaviors, be cost-reflective and avoid cross-subsidies between customer classes.