



# The Future Role of European DSOs

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# Main differences among DSOs in EU Member States

- **DSO size and number**  
(in some countries only one DSO, in other local fragmentation)
- **DSO activity profile**  
(in some countries metering and data management activities are not carried out by DSOs)
- **Characteristics of distribution networks**  
(in some countries high-voltage, meshed electricity networks are not included in distribution)
- **Level of RES penetration**  
(still very different among MSs)
- **Tariff design**  
(in some countries regulator does not approve tariffs applied to customers but only allowed revenues)

**NO one-size-fits-all model for the regulation of DSOs**

# Three principles for DSOs

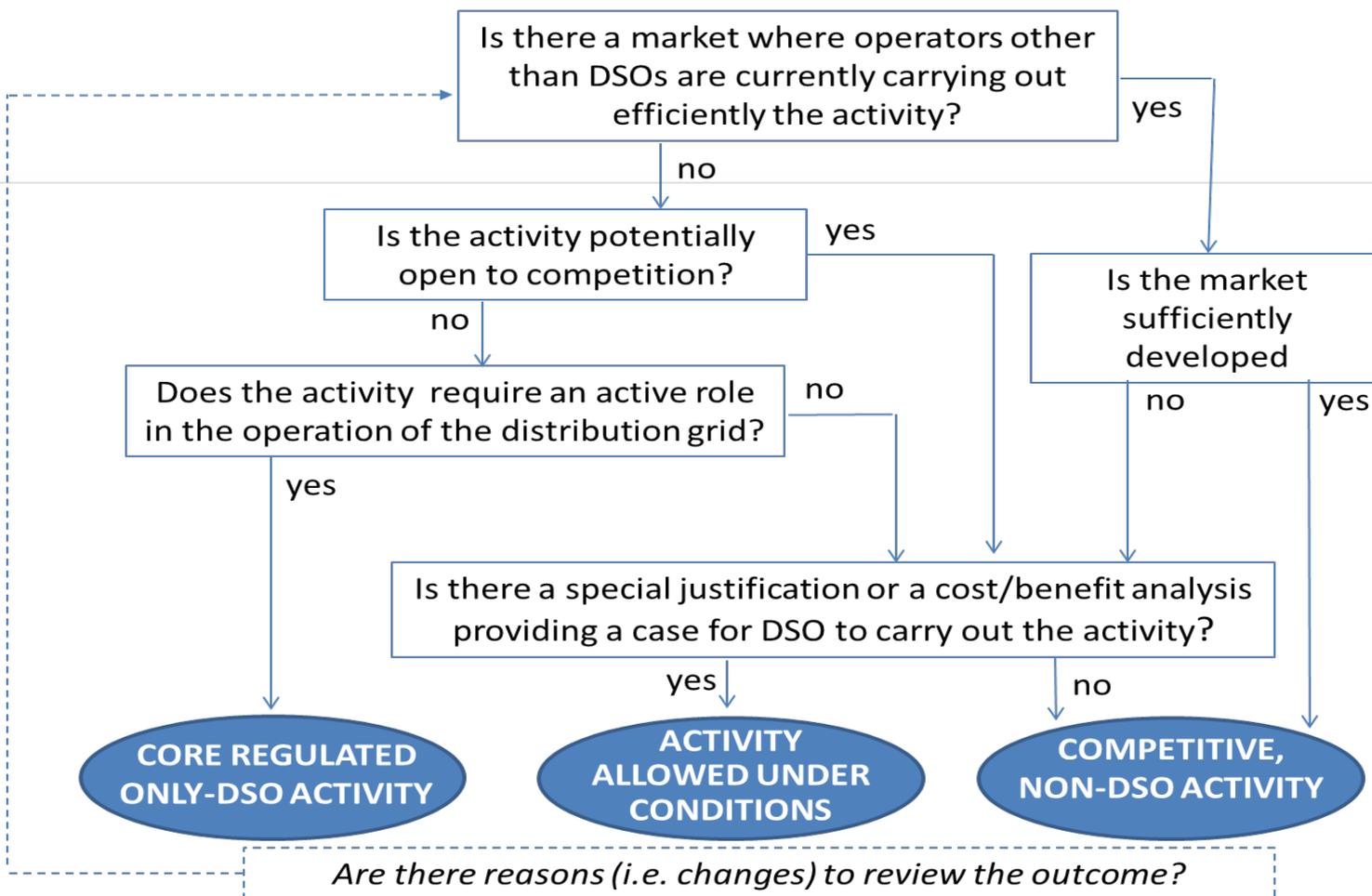
**No one size fits all approach**

**→ need for principles and overall framework**

1. Meet the **reasonable expectations** of users and stakeholders
2. Act as **neutral market facilitators** in undertaking core functions
3. Act in the **public interest** (CBA analysis)

# New role of DSOs.

## The overall logical framework





# New roles of DSOs call for many regulatory changes

## Key issues in CEER paper:

- Innovative investments and related risks
- “Total expenditure” approach
- Output-based incentive regulation for smart grid developments
- More economic signals for customers but low complexity for retail market
- Deferral of grid development with Tariff structure (Capacity vs Consumption) and possibly Time-of-use distribution network tariffs (via supplier) although there are difficulties in coordinating them with hourly system marginal prices
- Which commercial arrangements for procuring flexibility are needed (further investigation is needed)

# Where CEER is heading

- Regulators should encourage smart and flexible solutions to reduce capital investment where this delivers efficient outcomes for consumers.
- Regulators should avoid undue bias towards capital investment over operating expenditure (TOTEX approach).
- Though many stakeholders across Europe agreed that network tariffs should change, or that they may be inadequate in the future. There was no consensus on the extent as to in which direction network tariffs should change.

**Action point:** regulators will carry out further analysis on the benefits of different approaches including, service related tariffs, capacity based charges and discounts etc.



# The Italian case. Regulator's approach to innovation pilots

- Demonstration pilot: **real operations** on real grid (no lab)
- **Transparency** of the rules: procedures, evaluation methods and project selection criteria, known ex-ante
- **Knowledge development** with the involvement and the support of the best expertise (RSE and University like Politecnico MI)
- Continuous monitoring in the medium and long term: cost benefit analysis for the **whole life-time** of the new components
- **Input-based incentives**: selected projects are awarded with extra-WACC (+2% on top on ordinary WACC for 12 years)
- Replicability and dissemination of the **best-practices**
- Output **disclosure**: because demonstration pilots are paid by all customers > results must be public (no patents)



# The Italian case. From pilots to Smart distribution system

- After the pilot phase, AEEGSI recognizes the need to move towards a roll out of «smart distribution system» to cope with the RES penetration (30 GW)
- The results of the pilot projects are the basis of the orientations for a public consultation (due by next month)
- Basic infrastructure will become a platform for further developments (RES participation in ancillary service market) and must ensure interoperability
- New rules for grid users and market participants will need to be identified
- There will be focus on two main smart functionalities:
  - Observability of power flows and connected resources
  - Ability to regulate voltage on MV lines
- Both smart functionalities will be regulated through an output based mechanism; further smart functionalities may be developed in the future
- Cyber security will become more central as more “smart devices” are connected to grids



# The Italian case. New economic signals - proposals

- The introduction of a totex approach will be explored:
  - in order to avoid incentives to over-invest given by the current hybrid approach (*price cap* applied to operating cost and cost of service regulation applied to capital cost);
  - neutrality between *make* or *buy* solutions;
- The introduction of a menu of regulatory options will be discussed in future specific consultation papers
- The (tariff and quality) regulatory options combine different levels of yield and different levels of risk



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**Thank you for the attention**

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