

Current and Future Challenges to Energy Security the energy transition

Regulatory challenges and market developments Pippo Ranci

Politically set objectives

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- reducing emissions
- developing renewables at a reasonable cost for society

Structural change

- decentralised generation
- intermittent renewables
- reinforced, meshed, smart grids

require a revision of regulation

4 issues to be discussed

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- Liberalisation has been strictly linked to the unbundling of networks (three packages of EU Directives)
- After debate and confrontation, ownership unbundling has finally been adopted for the main electricity transmission networks ...
- ... but not for the distribution networks, with no apparent distress
- now a large share of the new generation is connected to the distribution grid
- should we revise the rationale for unbundling?

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- The associations of electricity transmission companies (ENTSO-E) and of gas transport companies (ENTSOG) have been awarded an official role in the EU legislation
- Will / should a similar status be extended to the distribution companies associations?
- The power exchanges and the gas exchanges present a growing level of concentration
- Does the **regulatory system** (NRAs plus ACER) provide a sufficient representation of the general interest?



- Given the present and the expected growth of intermittent generation of electricity, increasingly frequent congestion can be expected
- Congestion in cross-zonal exchanges is treated in marketcompatible ways, such as market coupling or market splitting
- Where price zones are very large, a large share of congestion costs remain hidden and non-market solutions prevail
- An increasing distortion of flows and burden on consumers?

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- Diffusion of decentralised generation
- increasing number of prosumers
- diffusion of energy communities
- will reduce the cost of self-sufficiency
- opting out from connection to the grid becomes attractive
- system charges (the cost of smart grids and of RES support) will be an increasing burden on a decreasing number of consumers
- unless the burden is **shifted on taxpayers**