ACER

European Union Agency for the Cooperation of Energy Regulators

Can regulation be the bedrock for innovation in Europe's power system?

Session I: Innovation vs Regulation: How to strike the right balance? How to make regulation rhyme with innovation?

Christian Zinglersen – ACER Director

InnoGrid conference - '*Living the Transition*' - 4 June 2021

ACER
European Union Agency for the Cooperation of Energy Regulators

Energy transition implies acceleration

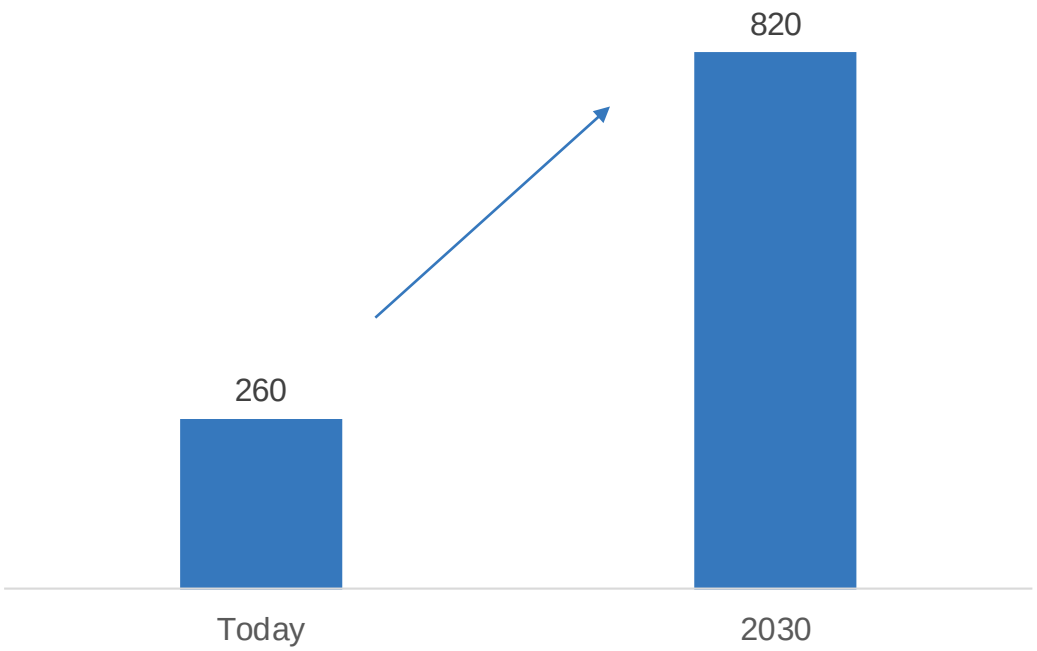
- Energy transition at scale & speed: '*All hands on deck*' (when & where efficient).
- Sound principles still hold true:
  - Cost-efficient & effective
  - Innovation needed (technology & business wise)
  - Avoiding incumbent bias
- Markets a key driver. Regulation a key enabler.
- *But … will that be sufficient?*

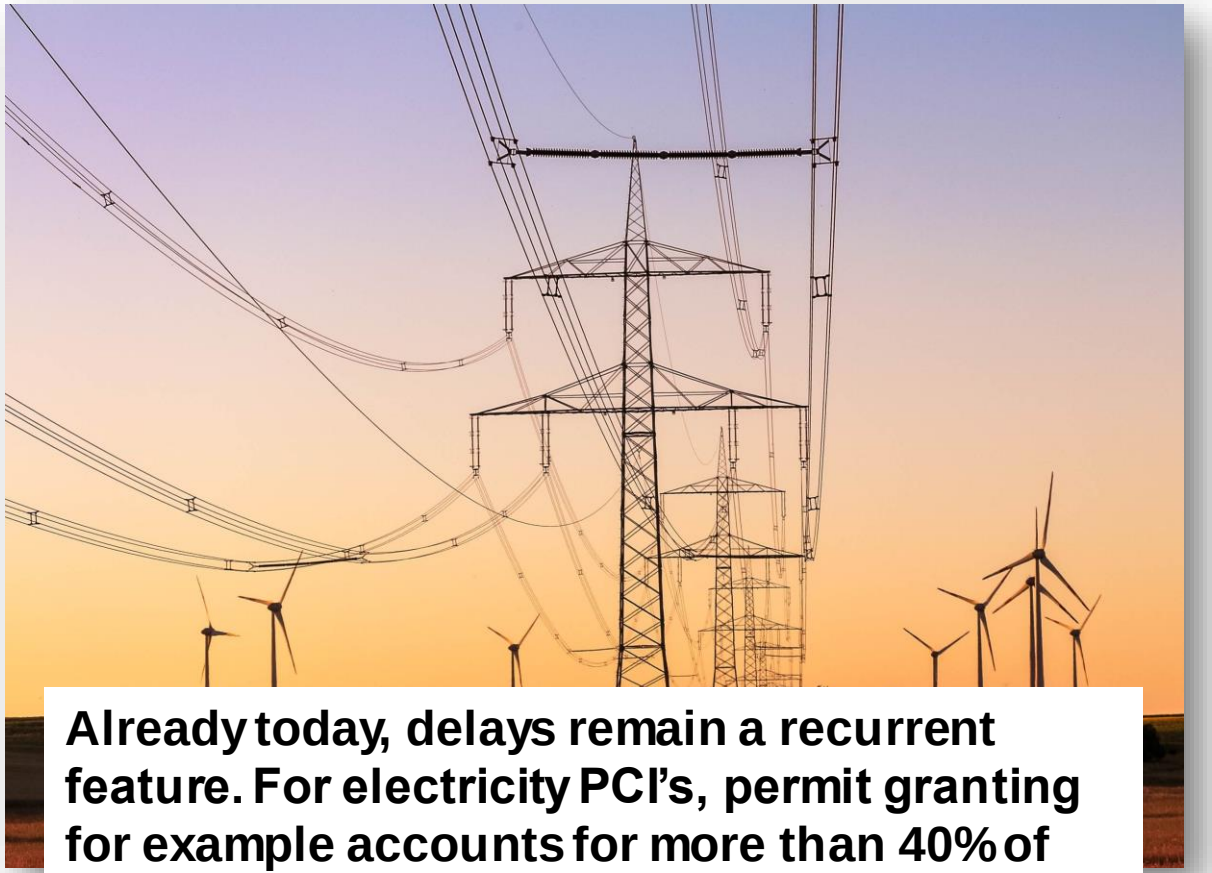
"Without robust policy action, the energy system of 2030 will be more akin to that of 2020 than a reflection of what is needed to achieve climate neutrality by 2050 ..." (The European Commission's Energy System Integration Strategy, 8 July 2020)

ACER
European Union Agency for the Cooperation of Energy Regulators

Scaling up: Challenge & complexity (1/2)

Yearly global estimated T&D investment in USD (to net zero pathway)



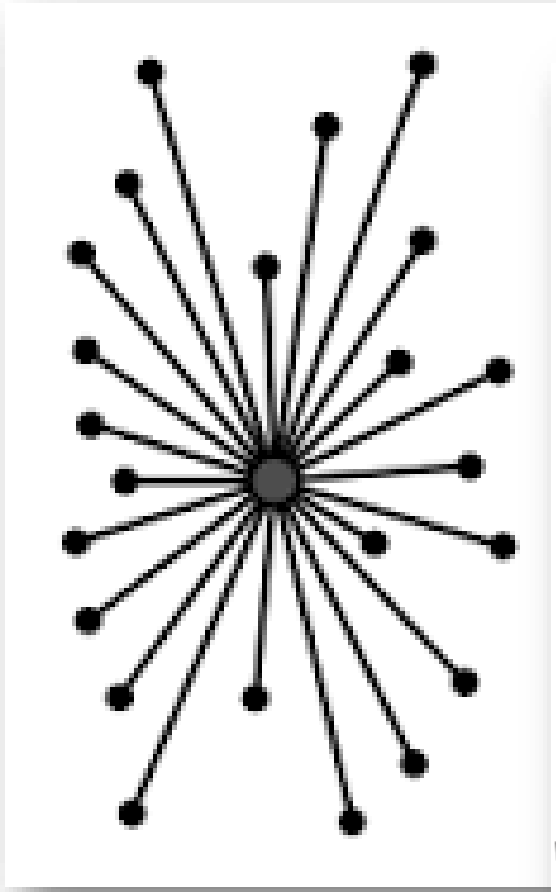


Already today, delays remain a recurrent feature. For electricity PCI's, permit granting for example accounts for more than 40% of delays.

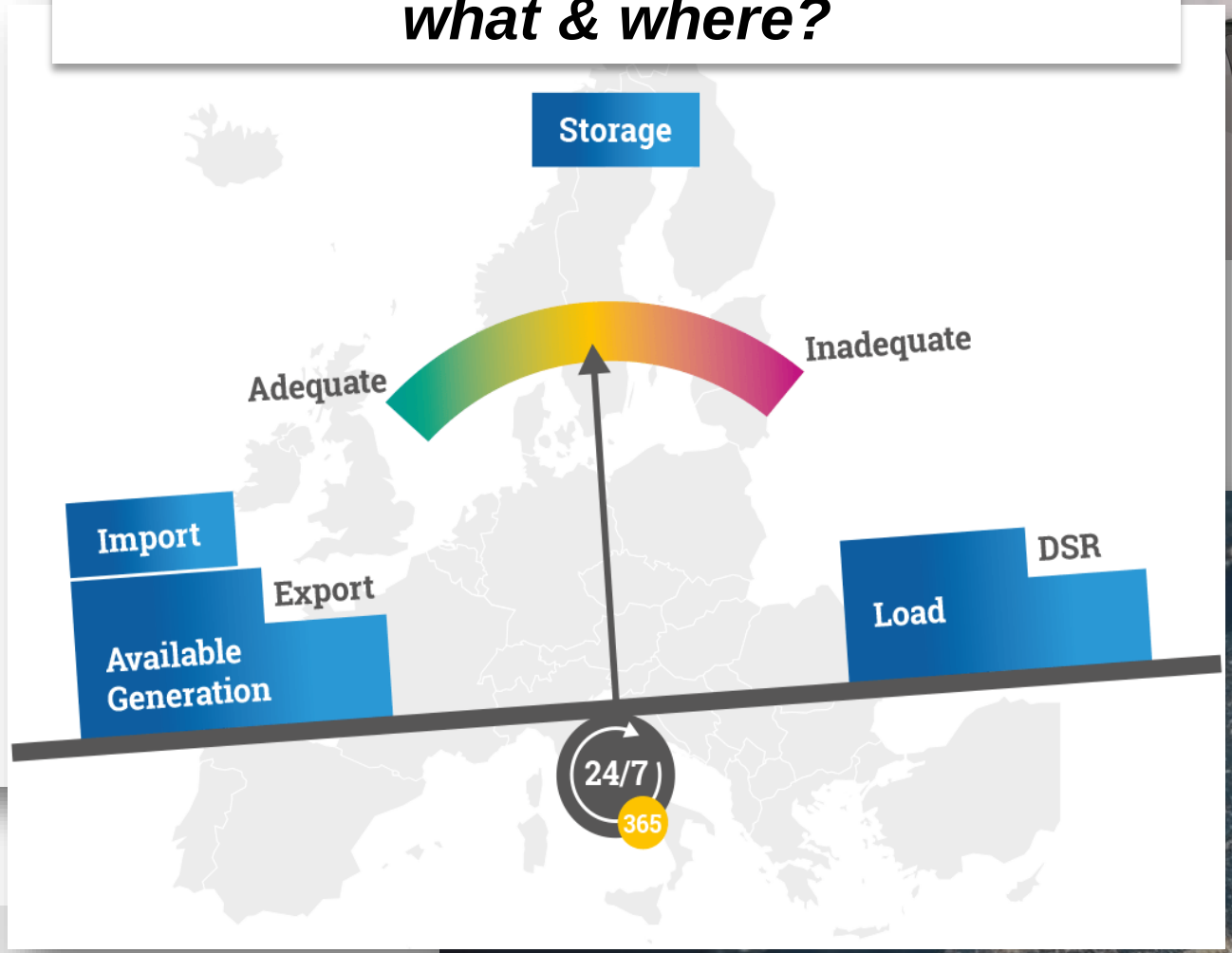
Note: IEA's 'Net Zero By 2050' report of 18 May 2021. ACER's PCI Monitoring report of 1 June 2021.

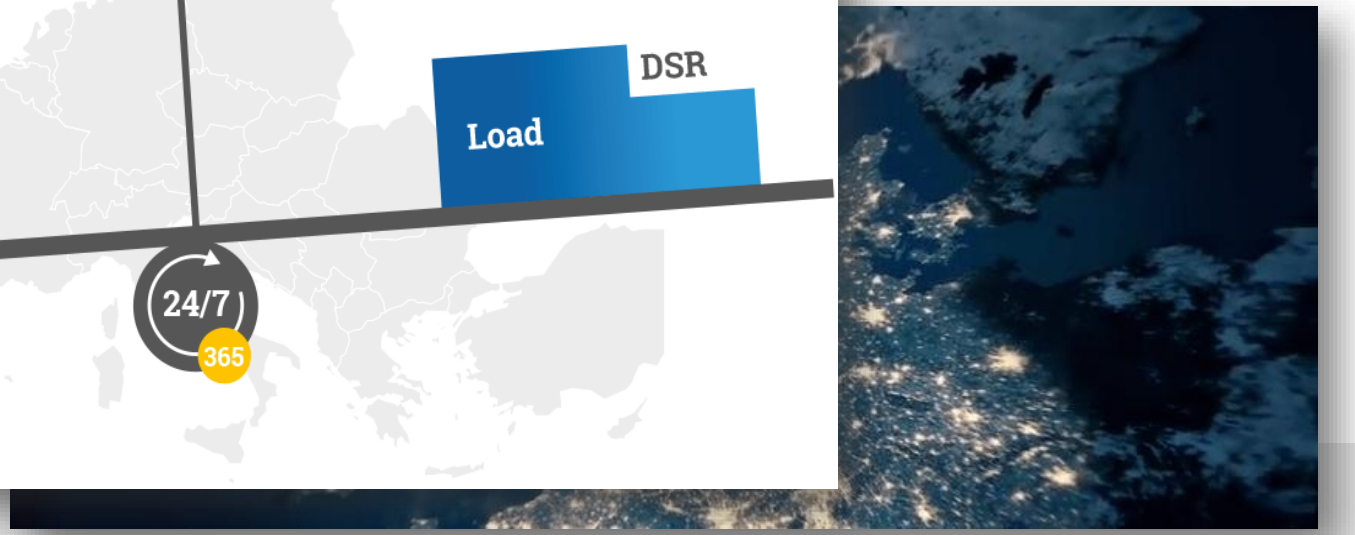
ACER
European Union Agency for the Cooperation of Energy Regulators

Scaling up: Challenge & complexity (2/2)



So: Investing more & faster … but in what & where?





Note: Figure borrowed from ENTSO-E (related to adequacy).

ACER
European Union Agency for the Cooperation of Energy Regulators

Innovation comes in multiple sizes & shapes

'*Making the most of what you have*':

- Optimise use of existing assets
- Operate the system at higher efficiency
- Incentivising framework is key

'*Investing in the future*':

- Who 'applies' innovative solutions (solutions uptake)
- Who 'participates' in innovation (solutions discovery; 'get out of the lab')
- Who 'invests' in innovation (technology vs. approaches)

'*Venturing out of the traditional box*':

- Scope for broader policy innovation?
- Permitting delays / local opposition. Perception of localised benefits.

ACER
European Union Agency for the Cooperation of Energy Regulators

Regulation as an enabler: One possible verdict

- **Shared view of the energy system future a likely prerequisite (scenarios, uncertainties, cost-benefit assessment of new innovative projects etc.)**
  - *Our internal soundings suggest NRAs generally authorise the majority of innovative projects proposed by TSOs.*
- **Operating the system at increased efficiency is demanding …**
  - *Requiring efforts from system operators to change the way of working, sometimes exploring the limits of the system.*
- **… Whilst the regulatory framework does not always properly reward such efforts**
  - *Spotlighting whether current incentives are sufficient, e.g. when innovative solutions compete with classical approaches adding to the asset base (e.g. building new lines).*
- **Requiring new discussions on how to advance innovative network solutions**
  - *Partly, the CAPEX vs. TOTEX distinction; partly, moving beyond (in the absence of an '-EX'; supplementing costs with focus on benefits, incl. appropriate sharing of the latter)*

Thank you.
Looking forward to the discussions.

ACER

European Union Agency for the Cooperation of Energy Regulators

info@acer.europa.eu
acer.europa.eu
@eu_acer
linkedin.com/in/EU-ACER/

BACK-UP SLIDES

ACER
European Union Agency for the Cooperation of Energy Regulators

info@acer.europa.eu
acer.europa.eu
@eu_acer
linkedin.com/in/EU-ACER/

Examples

Issue	Costs for innovation are incurred now while benefits are uncertain and only materialise on the longer term (short-term thinking and risk-aversion)				Innovation benefits can go beyond grid cost reduction (externalities)
Tool (can be combined)	**Input-based**				**Output-based**
	RAB-based approach	**WACC-based approach**	**Cost-pass through**	**Competition for funding**	
Explanation	Include R&D and innovation spending in regulatory asset base	Increasing the return on investment to compensate for the risk	Spending on R&D and innovation is a current expenditure	Tender for grants of an innovation fund	Improving outputs can foster innovation as a mean to gain rewards
Example	In GB, it is applied to infrastructure projects and discussed for new nuclear projects	In Italy, some smart grid projects receive additional WACC	In Norway DSO R&D expenditures are added to the allowed revenues	In GB, there is an annual Electricity Network Innovation Competition (NIC)	Automation can have an effect on quality-of-service incentives

Note: 'Energy Network Innovation for Green Transition: Economic Issues and Regulatory Options', Tooraj Jamasb et.al. 2021 (joint anthology of the FSR and the Danish Utility Regulator)