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?

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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)
Already today, delays remain a recurrent feature. For electricity PCI's, permit granting for example accounts for more than 40% of delays.
So: Investing more & faster … but in what & where?
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.
• 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.
### 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)**

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<thead>
<tr>
<th>Tool (can be combined)</th>
<th>Input-based</th>
<th>Output-based</th>
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<tbody>
<tr>
<td>RAB-based approach</td>
<td>WACC-based approach</td>
<td>Tender for grants of an innovation fund</td>
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<td>Explanation</td>
<td>Cost-pass through</td>
<td>Improving outputs can foster innovation as a mean to gain rewards</td>
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<td>Include R&amp;D and innovation spending in regulatory asset base</td>
<td>Spending on R&amp;D and innovation is a current expenditure</td>
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<td>Increasing the return on investment to compensate for the risk</td>
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<td>In GB, it is applied to infrastructure projects and discussed for new nuclear projects</td>
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<td>In Italy, some smart grid projects receive additional WACC</td>
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<td>In Norway DSO R&amp;D expenditures are added to the allowed revenues</td>
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<td>In GB, there is an annual Electricity Network Innovation Competition (NIC)</td>
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<td>Automation can have an effect on quality-of-service incentives</td>
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