

Session II:

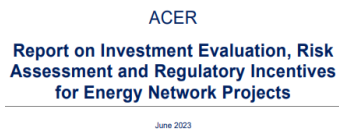
IMPACT OF CLEAN ENERGY SOURCES ON THE GRIDS AND SYSTEM STABILITY

Main Barriers for Investments to Accelerate Grid Expansion - ACER-CEER Position on Anticipatory Investments

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Key deliverables on anticipatory investments



■ The **9th Energy Infrastructure Forum (June 2023)** invited ACER and CEER to analyse key barriers to anticipatory investment and recommendations to promote them;

■ In **early 2023, ACER reviewed national frameworks** for investment evaluation, risk assessment and incentives, focusing on transmission assets for new generation;

■ https://acer.europa.eu/sites/default/files/documents/Publications/ACER_Report_Risks_Incentives.pdf

■ This **ACER-CEER 2024 review** has a wider scope, including “EV” recharging, impacts on distribution networks;

■ https://www.acer.europa.eu/sites/default/files/documents/Position%20Papers/ACER-CEER_Paper_anticipatory_investments.pdf

■ The above **deliverables contribute to the Commission’s work** on guiding principles under which anticipatory grid investments should be granted (Action 4 of the EU Grids Action Plan)*.

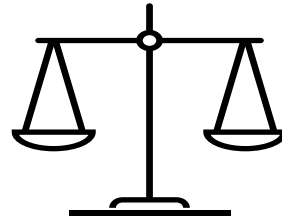
Anticipatory investments: What are we talking about?



- **Anticipatory investments are not defined in national frameworks.**
- However, there is a general understanding of what anticipatory investments encompass
 - A long-term horizon: **Forward-looking** investments;
 - Uncertainty: Investments with **higher-than-average uncertainty** regarding their need, e.g. higher risks of temporary underutilisation, with ensuing sunk costs.

Anticipatory investments involve a trade-off between

Anticipating future needs, hence facilitating timely grid build-out



Moderating network users' risks and impacts on network tariffs

Current network planning often enable anticipatory investments

Several Member States apply forward looking approaches in network planning. For example:

- By applying scenario-based approaches over longer time-horizons* to anticipate future generation and demand, in contrast to solely planning with firm connection requests**
- Sometimes also allowing overly-dimensioned assets to accommodate future additional needs.



*TSOs and DSOs are often expected to follow a forward-looking approach (up to 10 or 15 years for NDPs and more for transmission prospective studies) in planning and anticipate generation and demand.

**Few instances where the criteria for positive evaluation are stricter: i.e. actual/firm connection requests, need being confirmed in all planning scenarios, etc



Default regulatory frameworks largely mitigate system operators' risks, including for anticipatory investments:

- The regulatory treatment systematically mitigates TSOs risks, treating all projects alike, including cost recognition;
- Additional rewards/penalties apply regardless of the “anticipatory nature” of the investments;
- Underutilisation of an anticipatory investment does normally not lead to lower remuneration.

In general, no specific stringent national conditions to accept an anticipatory investment:



- For example, only in few cases, the likelihood of becoming a stranded asset is assessed through detailed analyses of future energy needs and cost-benefit analyses.
- Measures to mitigate the risk of sunk costs are however recommendable (see slide 9).

Identifying obstacles and applying existing tools are the key to success!



Some issues still hinder anticipatory investments

- Based on ACER monitoring, **permit granting** is the main reason for delays in key projects (regulatory treatment mentioned only marginally as a cause of delay).
- **Certain aspects of some national frameworks can discourage** anticipatory investments:
 - Project approval based only on actual firm connection requests;
 - Overall benefits to be confirmed in every planning scenario;
 - Relevant share of risks of underutilisation borne by system operators;
 - Rigid revenue/price caps, etc.
 - Slow cost recognition in the regulatory asset base (liquidity issues)

Shared view among several NRAs that available tools and good practices would facilitate anticipatory investments; need for further action varies across Member States.

A number of options exist ... often with trade-offs



NRAs identified a number of tools that could enable anticipatory investments; for example:

- early inclusion of work-in-progress investments in the regulatory asset base;
- approval of costlier connection works and/or oversized grid developments to accommodate future network users.
- ...



Often with trade-offs...

- Expansion of the revenue caps could risk hampering efficiency of network operations.
- It may interfere with deep connection charging
- Potentially high impact on network tariffs
- Etc.



In contrast, where the regulatory framework mitigates the system operators' risks of underutilised and/or stranded investments in general (i.e. for any project), it may also encourage investments in "anticipatory" projects (e.g. in Germany, there is a special depreciation that can also be used to depreciate e.g. "stranded assets" and residual risks are compensated by the market risk premium within the imputed rate of return on equity).

Moreover, regulatory measures which are increasing TSO/DSOs liquidity (e.g. in AT and BE the system operators are entitled for return already before project's commissioning) or allowing additional revenues (e.g. mark-up on revenue caps in AT and DE) may also facilitate network investments, including those which are more anticipatory.

Other tools mentioned by NRAs which can facilitate "anticipatory investments" and/or reduce the lead time for network adaptation, include:

- System operator's possibility to choose a more costly "connection method" of a new grid user when it anticipates additional future connections (e.g. in IE the additional costs are socialised via use of the network charge, similar measure is the "grid reinforcement loans" provided in SE, where the State takes the financial risk for the part of the grid reinforcement that is not utilized in the initial stage, as the loan is repaid proportionate to utilisation);
- Advanced build of renewable hubs identified by the system operators based on expected projects, available generation capacity, available upstream grid capacity and/or other factors (e.g. IE);
- Request to producers to declare their expected projects through a specific website and request to network operators to start the works based on these evaluations as soon as possible (e.g. FR);
- Allowing the TSO to oversize grid reinforcement projects to enable pre-set industrial areas with high demand to host future potential users not yet identified, but considered very likely to appear soon due to substitution of fossil fuels (e.g. "decarbonation zones" in FR)¹⁰;
- Allowing the TSO to anticipate the start of the work before the end of wind farms development tendering processes if the geographical area in which the offshore windfarm will be located is known (e.g. FR).

Source: 2023 ACER/CEER Position on anticipatory investments, p.5.



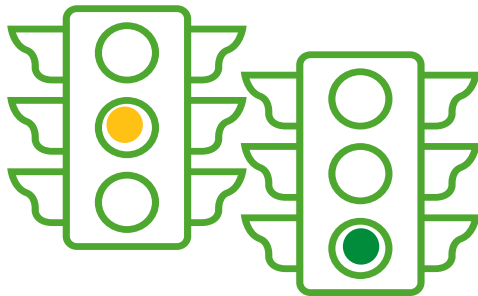
On planning and coordination:

- Reducing planning uncertainty about development of new network uses (e.g. renewable acceleration areas, improved analysis of the electric recharging uptake, distribution development plans).
- Encouraging electricity network users to flag their potential connection requests (including their capacity requirements and planned locations) as early as possible.
- Improving coordination and information exchange amongst future network users, operators and regulators to speed-up the green-light for grid investments (e.g. consultation of the network planning scenarios, providing access to relevant data).
- Regularly updated public, country-wide “hosting capacities” maps, displaying the capabilities of the network to integrate new generation and additional loads.



On improved needs and projects' assessment:

- TSOs should **improve how** electricity transmission **needs are identified** by providing higher spatial granularity at European and national level and higher transparency of their results.
- Strengthening the **role of energy regulators** and the tools at their disposal in assessing energy infrastructure needs and projects.
- Regulators should **evaluate potential welfare losses from a “too early” vs. “too late”** implementation of projects.



Faster permit granting:

- Countries **introducing separate approvals** for permit granting and construction, which **expedites project implementation and minimise “sunk costs”** in case the project will not be needed.



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