European Electricity Transmission Grids and the Energy Transition

Why remuneration frameworks need to evolve

European Network of
Transmission System Operators
for Electricity

entsoe

Executive Summary

The present ENTSO-E discussion paper provides an updated recommendation on ENTSO-E's 2015 position paper "Fostering Electricity Transmission Investments". It is based on the current and future commitments European electricity Transmission System Operators (TSOs) are eager to undertake to make the energy transition a success. The paper highlights the challenges which TSOs are increasingly facing, and the barriers to effectively tackle those challenges posed by currently applied remuneration models. While recognising individual differences across countries, the paper also proposes solutions to allow TSOs to be valuable enablers of the European Green Deal.

Transmission investments are the backbone of the EU Green Deal Strategy

European TSOs are currently engaged in an unprecedented transition in their tasks and duties as they operate in an increasingly complex, digitalised, decentralised, volatile and uncertain environment. This evolution of tasks and challenges is a key building block to achieving the goals of the European Commission's ambitious EU Green Deal.

Currently, most European regulatory frameworks only remunerate capital-related activities. Non capital-related activities – those aimed at system management and market development – are covered at cost in most regulations. These TSO activities will become essential for unlocking the potential of the energy transition, but they also carry increased uncertainties and risks compared to today's situation. Indeed, sustained innovation and the development of digital solutions are required in order to:

- Provide a level playing field and incentives for innovation to maximise the flexibility available to the system while ensuring security of supply;
- Enable the integration of considerable amounts of renewable energy resources, empower consumers and encourage new end-uses;
- Develop breakthrough solutions, creating added value for market participants across Europe; and
- Deliver on the ambitious decarbonisation goals by placing the electricity system at the core of the transition, away from fossil fuels.

Therefore, these solutions must be encouraged and adequately remunerated. TSOs are eager and ready to take on the challenges they face as one of the most important enablers of this energy transition because it is essential to our customers – the European Society – today and tomorrow. To this end, the regulatory framework should be made fit for purpose.

TSOs will need to continue investing substantially in traditional transmission grid assets, with the aim of further integrating renewable energy resources, increasing cross-border exchanges and strengthening the Internal Energy Market. Notably, the Ten-Year Network Development Plan (TYNDP) 2020 considers over 46 000 km of additional cables and lines that require building until 2035. To finance these vast investments, remuneration of capital is still a main pillar for the TSO business model to access equity and debt, while keeping an excellent credit rating and cheap debt, to generate cash flows and plough back equity into the company while maintaining affordable tariffs for grid users and keeping the transmission business viable for the future.

An updated approach to remuneration frameworks is required

Until now, National Regulatory Authorities (NRAs) have primarily aimed to reduce TSO costs and keep tariffs stable while providing a certain degree of incentive in their individual regulatory frameworks. Consequently, and due to the efficient management of costs by TSOs, grid tariffs have remained affordable, even though TSOs have carried out huge investment programmes. The significant increase of investment efforts projected for the next few decades to achieve climate neutrality by 2050 does however highlight the possible shortcomings of existing regulatory frameworks to adequately remunerate TSO activities. Such shortcomings are further exacerbated by artificially low and still decreasing risk-free rates on financial markets, which have the potential to endanger TSOs.

TSOs are regulated monopolies and their capital remuneration (debt and equity) is bound to the evolution of risk-free rates. Adequate regulated capital remuneration is necessary to maintain attractive financial ratios for debt investors and low debt rates, in increasing equity, to be able to achieve TSOs' investment programmes at low cost for grid users. With the current level of risk-free rates, there is a risk that TSO activities are no longer attractive in comparison to other non-regulated sectors and that TSOs may have difficulties raising sufficient affordable capital. This risk is leading to downgrades of individual company ratings, therefore raising the cost of debt borne by users, along with the increasing difficulty of effectively executing the necessary investment.

Performance and risk-taking are, more than ever, key to the ongoing energy transition

Although the basis remuneration for most TSOs only provides rewards for investment in physical assets, some regulators have complemented this with performance-based incentives, aiming to encourage efficient innovation, quality of service, and stakeholder involvement, to name but a few. These incentives, which can lead to rewards or penalties depending on how TSOs perform against pre-defined key performance indicators (KPIs), encourage more risk-taking behaviour, which is expected to result in tangible benefits for consumers.

Varying degrees of complexity in the design of incentives are available to regulators depending on the maturity of the regulation, the parties involved (TSOs, regulators and stakeholders) and the amounts at stake. As such, the decision to incentivise more or fewer activities, and how to do so, should carefully follow deliberate considerations.

It is also important to consider the interrelationship between a meaningful incentive regulation and risk. Although TSOs benefit from a fairer output/profit balance with the introduction of incentives, they also face a higher risk. Consequently, models that include financial incentives – as far as they are not optional for the TSO – should always consider the higher risk level and reflect this in the basis remuneration (Weighted Average Cost of Capital [WACC] or Return on Equity [RoE]).

Proposed Solutions:

For the reasons set out above, TSOs are increasingly aware that changes to their respective regulatory frameworks might be required and, aware that particular challenges will soon materialise, suggest opening up a comprehensive discussion about the evolution of regulatory frameworks in the mid and long term. Clearly, such a debate has to consider the individual state of affairs in each country as the immediate need for evolution might vary. Nonetheless, it is widely acknowledged that the overarching objective must be to ensure:

- Adequate remuneration for investments, such as:
  - determination of a lower bound (floor) of risk-free-rates or WACC/RoE
  - enlargement of the Regulatory Asset Base (RAB) for sustainability and decarbonisation measures
  - Remuneration for certain operational activities (e. g. market facilitation tasks), not just focusing on efficiency targets on operational expenditures (OPEX)
- Adequate setting of incentives for innovation and performance, such as:
  - budgets for innovation exempted from cost incentives
  - WACC adder for selected, well-defined projects considered of outstanding importance
- Alignment of incentives with regulators' long-term vision, to provide greater investment predictability for TSOs.
- A regulatory system adaptable to an ever-evolving environment

Proposals for such adjustments and potential solutions have already been initiated by certain TSOs ("Better Projects" by Amprion or "FOCS" by TenneT) and should be further discussed with European regulators.

About ENTSO-E

ENTSO-E, the European Network of Transmission System Operators for Electricity, represents 42 electricity transmission system operators (TSOs) from 35 countries across Europe. ENTSO-E was registered in European law in 2009 and given legal mandates since then.

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