

## ENTSO-E Advisory Council

### Advice on ENTSO-E's perspective on the TEN-E revision

The ENTSO-E Advisory Council welcomes the revision of the TEN-E Regulation. In particular, the TEN-E Regulation will be a framework accompanying the likely growing electrification of the European energy system. Electrification of uses, along with other low carbon energy carriers, is a key enabler of climate-neutrality with between 29 and 31% of electrification of uses by 2030 and up to 50% by 2050 according to the Climate Target Plan, while the deployment of renewables will accelerate the decarbonisation of the energy system. This will create important infrastructure investments needed (up to €59 billion annually in power grids in the next decade according to the Commission Long-Term Strategy), which can be optimised by ensuring the deployment of flexibility sources and digitalising the grid for a more efficient operation of the system. It is therefore paramount that the TEN-E Regulation respond to this investment challenges by triggering investments where they are most needed for an accelerated decarbonisation of the energy system and most cost-efficient for European businesses and citizens.

#### **1. Modernising the governance of the Ten-Year Network Development Plan (TYNDP) process (art 12)**

We welcome the proposal of the Commission with regards to the TYNDP governance, in particular the alignment of the TYNDP with the objective of climate-neutrality, the increased involvement of ACER and the European Commission as well as the further consultation of energy stakeholders. This will ensure a more agile and forward-looking energy infrastructure planning exercise, adapting to the future and fast changing needs of the energy systems and ensuring it is on track of climate-neutrality.

The definition of TYNDP scenarios should be consistent with the objective of climate-neutrality and retain enough flexibility to adapt to the most up to date energy system analyses. On top of the Long-Term Strategy, the scenarios must consider the ambitions of the National Energy and Climate Plans and how they fit together with overall EU-wide TYNDP. It should also consider alternative expert scenarios, representing a range of different pathways and scenarios for reaching climate neutrality.

#### **2. Reflecting the importance of smart grids, flexibility resources and distribution grids (art 11 and 13)**

“Non-wire infrastructure solutions”, such as an increased opportunity for and realisation of deployment and activation of distributed flexibility sources and digitalisation of the network, will be an important component of the future energy system.<sup>1</sup> They will facilitate the integration of larger amounts of renewable electricity sources and optimise, sometimes even reduce, grid investment and operation costs, catering to the needs of all commercial and private users of the TSO and DSO grids. Yet, they are not adequately taken into account in the TYNDP exercise.

We therefore suggest that smart grid solutions, as well as the contribution of all grid-edge flexibility sources (including demand response, energy storage and decentralised renewables generation), both at TSO and DSO level networks, are included and reflected in the energy system-wide cost-benefit

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<sup>1</sup> This should be understood in the context provided by previous iAC recommendations on *Procuring Flexibility as part of cost-effective system development and integration* as well as on *Storage and other assets and the role of TSOs/DSOs*.

analysis and in the TYNDP. In doing so, their economic and environmental benefits should be appropriately reflected, as well as their contribution to increase the efficiency of the energy system. The deployment of non-wire infrastructure solutions should be considered with priority over grid investments where more cost-efficient, to minimize the cost of system integration, enhance the system's flexibility and reduce the risk of stranded assets.

In addition, distribution grids are taking an increasing importance with the development of prosumers and the connection of more renewable generators at low and medium voltage level. Future infrastructure planning exercises must therefore take into consideration infrastructure evolution and planned investment at the distribution level. We therefore call for an increased involvement of the EU DSO entity and DSO representatives in the TYNDP development, from scenarios to infrastructure gap identification, and a better inclusion of the distribution networks in the TYNDP in accordance with the conclusions of the latest 2020 Energy Infrastructure Forum organised by the European Commission.

### **3. Energy system integration (Article 25 and Annex III (2) (4))**

It is therefore absolutely critical that the TEN-E review puts a central focus on the need to expand and upgrade the EU electricity grid infrastructure, tapping into the potential of flexible and non-wire electricity alternatives (demand response, storage, digitalization) whatever is most cost-efficient.

The Energy System Integration Strategy<sup>2</sup> calls for more physical links between energy carriers and the use of hydrogen to link up electricity and gas grids. By 2050 the production of hydrogen with renewable electricity, together with gas to power solutions, will become a relevant source of flexibility. The development of appropriate infrastructures (electrolysers, repurposing and retrofitting of gas pipelines) will further enhance synergies and interlinkages between power and gas infrastructure. Most importantly, the strategy acknowledges that functioning in separate silos cannot deliver a climate-neutral economy. <sup>3</sup>

In line with this, the electricity and gas infrastructure planning exercises, in particular but not only, should be further integrated. However, hydrogen infrastructure investments will not necessarily be planned or based on the same criteria as natural gas infrastructure investments, not least where there is an electricity transmission alternative. Therefore, while hydrogen infrastructure (production and transport assets) is currently developed in the TYNDP for gas by ENTSO-G, we recommend that both ENTSOs are involved not only in the development of demand scenarios, but also take into account the development of hydrogen production and transport assets in their infrastructure planning, due to the infrastructure's ability to link up networks, its compatibility cross-sector, and its involvement of both gas and electricity stakeholders.

Finally, when planning major transmission lines serving both domestic and cross-border needs, it needs to be ensured that these lines can be used to their full extent. Therefore, consistency of investments in local grids, both on transmission and distribution level with the projects addressed by the TEN-E regulation has to be ensured.

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<sup>2</sup> EU Commission (2020) [Energy System Integration Strategy](#) sect. 3.5