ENTSOG position on TEN-E revision

Background

The European Commission has announced a revision of the TEN-E regulation to reflect future EU climate and energy priorities as well as taking stock of experiences on EU level energy infrastructure planning of the recent decade.

Sustainability dimension: Deciding on revision of the TEN-E Regulation, the need for alignment with the European Green Deal meets the reality of selecting infrastructure priorities for the 5th EU PCI list. The European Commission recently published its Energy Sector Integration (ESI) and Hydrogen strategies - intensifying the discussion at EU level as well as with Member States on how the EU decarbonised energy system shall look like and function in 2050 in light of the European Green Deal and the Energy Efficiency First principle. As part of European Green Deal logic, the future energy infrastructure related investments are expected to contribute to achieving Climate Neutrality by 2050, but also support the just transition, particularly important under the economic context of post-Covid recovery.

Governance for System Integration: The fundamental basis of any energy system is the necessary infrastructure to transport, store and distribute energy, from production to consumption areas, whether as molecules or electrons. Therefore, infrastructure needs, network development planning itself as well as actual investments into networks are core fundamentals which need to be properly designed to ensure timely and cost-efficient development of necessary infrastructure for 2050 and beyond. Future-proofed TEN-E and PCI selection process driven by European Green Deal and EU sustainability agenda, will require a full energy system view, with local and European dimension. It shall support smart sector integration solutions, responding to system needs in the most efficient way, and fostering respective pilot projects and dedicated research/investment programs. While redesigning the governance to further strengthen the neutral role of ENTSOG, stakeholders should have the opportunity to feed in the process in a transparent way. Furthermore, financial framework for Green Deal aligned EU recovery will be required to build on sustainable finance taxonomy, while leaving no one behind: Member State national choices of energy sources, as well as national circumstances and possibilities, need to be adequately recognised.

Considering the needed time for planning, financing, permitting, actual construction as well as investment cycles in general, it is necessary to establish a practicable TEN-E regulatory framework as soon as possible. ENTSOG and its member TSOs are ready to contribute to the discussions on the future TEN-E framework with their knowledge of infrastructure planning and network operation as well as expertise of network development not only at theoretical but also very practical level.

Objectives and proposals

To address those challenges ENTSOG proposes a number of changes to the TEN-E and project planning procedures.

Bearing in mind the EU decarbonisation targets as well as Green Deal priorities, **some basic objectives should be:**

- Project planning to internalise **Green Deal priorities**, including Hydrogen and ESI Strategies
- **Stakeholder Involvement** in planning process (DSOs, H2 producers/consumers, RES-E producers, NGOs, and others)
- Process building on **expertise gained** and ensuring **timely delivery** of planning process
- Planning and execution of **European Hydrogen Backbone** should start now and contribute to successful delivery of Recovery Plan objectives

ENTSOG has prepared the following **principal proposals to reflect the Green Deal priorities:**

1. Emphasise **sustainability, delivery of EU targets & Green Deal** in new TEN-E regulation, incl. revising criteria and methodologies
2. Facilitate **coordinated development** of EU wide hydrogen backbone via ENTSOG's TYNDP process ensuring speed and scale in H2 grid development
3. Establish **Joint Advisory Panel for Scenarios** (to be aligned and agreed with ENTSO-E) to facilitate dialogue with stakeholders and improve transparency

Proposal 1 – Sustainability: Delivery of EU targets & Green Deal

1. ENTSOG is ready to take on the **role of the Hydrogen TSO association** which would be efficient in terms of time, expertise, cost and delivery. ENTSOG is committed to delivery of the needed EU-wide hydrogen infrastructure, starting already with TYNDP 2022. This role is further strengthened of the fact that the gas TSOs today own and operate existing gas infrastructure which will be a substantial part of the future H2 infrastructure.
2. Revise and strengthen the **corridor concept** to include focus on hydrogen to enable the medium-term development of an EU Hydrogen market. National Hydrogen Strategies aligned with the EU Hydrogen strategy require proper consideration under TEN-E.
    - This would require new Solutions for Regional Groups under the PCI selection process. Potentially a new task for regional groups could be to build alignment of regional priorities and pathways with the National Climate and Energy Plans for the scale and speed of coal-to-gas-to hydrogen switch.
    - Some clusters of Member States are first movers on hydrogen and are ready to form regional hydrogen backbones, leading to the development of European Hydrogen Backbone.
    - Based on the Regional Groups work, Member States would potentially achieve the acceptance for a timeline or for a geographically differentiated approach to preparedness for uptake of hydrogen and other new gases.

3. TEN-E should further define the **sustainability criteria** building on EC sustainability indicators in line with the Trinomics/Artelys study (published in October 2020). ENTSOG is working together with EC on implementing the sustainability indicators and this will be **included already in the TYNDP 2020 project assessment.** In summary, it considers fuel switching taking into account GHG emissions, including methane emissions along with non-GHG emissions (pollutants such as NOx, SO2…), as well as energy efficiency measures. The study concludes the following on the sustainability indicators:
   - Use simulations prioritising existing infrastructure over projects in the future operation of the gas network
   - Allocate CO2 emission savings based on flows instead of capacities, ensuring that projects which are not used in simulations are not allocated benefits
   - Increase of gas demand results in fuel switches are only assessed when there is a corresponding decrease of the demand for other carbon-intensive fuels.
   - Evaluate effects of fuel switching on emissions of other gases (NOx, SO2…)
   - An indicator building on an interlinked gas, heat and electricity model: allow for better computation of sustainability indicators on all aspects (CO2, non GHG emissions, impact of RES integration and renewable gas integration). In TYNDP 2020 ENTSOG considers GHG non-CO2 emissions as these emissions are assessed as part of the joint scenario building exercise and simulations.
   - Implementing RED II criteria, while considering gases with comparable carbon footprints to renewable gases, such as low-carbon hydrogen.
   - Reflect alternatives to infrastructure investments, such as energy efficiency measures, in line with the Energy Efficiency First principle.
   - Consider methane emissions.
4. The PCI selection:
   - Should consider investments enabling renewables, low-carbon and decarbonised gases, including Energy Transition Related projects to convert gas grids to accept hydrogen blends, as well as pure hydrogen under European Hydrogen Backbone, and CO2 grids. Energy Transition Related Projects may entail: hydrogen-related projects (i.e. infrastructure building/retrofitting and scaling-up technologies such as Power-to-Gas facilities, hydrogen storage, steam methane reforming with CC(U)S and pyrolysis), biomethane and synthetic gas projects, including connections of renewable gas production to the grid, facilities allowing renewable gas reverse flows from DSO to TSO grids, etc. Also smartening of gas grids, digitalisation and real-time gas quality management related projects increasing the responsiveness and flexibility to electricity sector needs should be eligible. For this TEN-E revision should clearly reform the cross-border nature of eligibility criteria to allow eligibility of local projects contributing to decarbonisation of the European energy mix.
   - Should consider infrastructure projects supporting concrete plans for achieving carbon emission reductions medium-term via a **Coal-to-Gas Switch** and potentially longer-term switch to hydrogen/low carbon gases, and address just transition of coal regions and role of CCGT as back up for renewables. Switching from carbon intensive fuels to natural gas enables

immediate and quantified reductions in CO2 emissions that can be demonstrated under the reformed sustainability indicators and accommodates the need for affordable solutions for society.

- A well-functioning and secured energy system needs a backup for the deployment of renewable energy sources. Today's CCGT back up for renewables delivered by natural gas will be followed by next conversion towards hydrogen and biomethane. The PCI selection process should ensure that future-proof infrastructures supporting concrete plans for achieving carbon emission reductions medium-term are eligible. This must be valid in particular for newly built, repurposed or retrofitted natural gas pipelines or equipment in so far they are ready and functional to transport renewable gases, such as hydrogen (in pure form or blends), and to the development of the priority corridors. More specifically, pipelines that are initially operated with natural gas, and accommodating increasing hydrogen share and allowing from a certain date onwards a switch to hydrogen, should be PCI-eligible when ready to operate with pure hydrogen.
- Projects currently in execution phase should not be impacted by upcoming changes of the regulatory framework

5. TEN-E should clarify access to EU level financial support for the hydrogen project promotors gaining renewed PCI label and access to CEF. In relation to the general discussion on financial support, it could also be an opportunity to bring clarity to the role of funding instruments such as IPCEI, Recovery and Horizon Europe, central EU lending via EIB and EBRD for the projects supporting the local or regional transition, even though not demonstrating immediate trans-European and/or cross border effect in CBA.

Proposal 2 – Coordinated development of an EU-wide Hydrogen Backbone

The new TEN-E should address the need to develop an EU-wide hydrogen infrastructure paving the way for an EU wide hydrogen market as foreseen in the Hydrogen Strategy.

European Commission finds in the Hydrogen Strategy that using repurposed existing gas pipelines is the most cost-effective and sustainable manner of developing the Hydrogen Backbone. Planning and execution of European Hydrogen Backbone, mainly based on repurposed infrastructure, should start now and can contribute to successful delivery of Recovery Plan objectives.

ENTSOG believes that TEN-E should support the hydrogen 'backbone' planning. However, TEN-E will need to be updated to take account of the new market realities – including the local development of hydrogen production and consumption centres, even if not of the cross-border relevance yet.

The TEN-E should also recognize that the TYNDP process remains the foundation for future network planning at EU level, not at least given the increasing inter-linkage between sectors which is the foundation of Energy Sector Integration, including electricity, gas and hydrogen networks.

ENTSOG is ready for the upcoming TYNDP 2022 to include the Hydrogen and Energy System Integration strategies. To fully update the TYNDP process, a change to the existing TYNDP process, PCI criteria and the underlying CBA methodology will be required. ENTSOG finds it beneficial that this change will happen in 2021 already. The TYNDP update should be set out to achieve the following:

1. Ensure EU sustainability and other political goals are fully reflected in future infrastructure development.

2. Recognise the need for speed and coordination
   - To speed up the repurposing of existing infrastructure supported by proper incentivisation and a suitable regulatory framework
   - To rapidly establish the European hydrogen backbone. ENTSOG is ready to facilitate a coordinated development of the EU wide hydrogen backbone

   To facilitate a coordinated development of EU wide hydrogen backbone via ENTSOG's TYNDP process can ensure speed and scale in H2 grid development, building on ENTSOG experience and their members expertise.

   To speed up repurposing of existing infrastructure, a proper incentivisation and a suitable regulatory framework via revision of the gas legislation is needed. ENTSOG is committed to facilitate such delivery of an EU-wide hydrogen infrastructure, starting with the upcoming TYNDP 2022. ENTSOG is ready to deliver on the challenges: hydrogen is already included in joint TYNDP 2020 scenarios, in project collection and in network modelling, and ENTSOG will work jointly with ENTSO-E to deliver on the Energy System Integration strategy.

   ENTSOG is also ready and committed to facilitate and accelerate the discussion amongst the relevant stakeholders at the different levels/regions.

Proposal 3 - Joint Advisory Panel for Scenarios

ENTSOG suggests to establish a Joint Advisory Panel to provide information and a broad picture of stakeholder viewpoints to facilitate dialogue and to prepare for the political decision making in e.g. the regional groups to create inclusive and transparent stakeholder involvement for higher acceptance, incl. at the political level:

1. The joint TEN-E regulatory tasks of ENTSO-E and ENTSOG, including TYNDP scenarios and other elements of the Interlinked Model, can be discussed/addressed with broad stakeholder involvement in a more formalised way than today, considering
   - EU policy goals incl. Hydrogen & ESI strategies and Energy Efficiency First principles.
   - Avoiding unsustainable and stranded investments.
   - Apply the full energy system perspective: life cycle analysis and address the issue of emissions abatement thanks to technologies applied locally (also at DSOs levels), not exclusively in the regional/cross border context (P2G,decarbonizing local industrial clusters, hydrogen valleys, hydrogen storage, coal-to-gas switch).
   - The interlinked model achievements and further developments.

2. The panel is to deliver publicly transparent high-level stakeholders' opinions and advice

regarding the TYNDP process. The governance of the panel would be discussed and agreed on between ENTSO-E and ENTSOG and in close dialogue with the EC.

3. The composition should be a broad representation of industry, institutions, and civil society/NGOs associations.