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REASSESSING THE EU'S ENERGY INFRASTRUCTURE NEEDS

HOW TO ENSURE BETTER SPENDING BY REVISING THE 'TEN-E' REGULATION

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In the ongoing negotiations on the post-2020 Connecting Europe Facility, the Parliament is calling for the re-opening the "TEN-E" regulation – a legislation approved in 2013 and which still sets the infrastructure priorities for the EU. This blog aims at clarifying why this is an important opportunity not to be missed.

Why does it matter?

The European Commission published its latest thorough assessment of the European Union's energy infrastructure needs for the period up to 2020 and beyond in 2011, in its **communication "A Blueprint for an integrated European energy network"**¹. This assessment has since been used to determine how cross-border energy infrastructure is selected, prioritised, and funded:

- > It has been used to develop the Trans-European Networks for Energy (TEN-E) regulation², adopted in 2013, which introduces a process to select Projects of Common Interest (PCI) that can plug future gaps between EU energy demand and supply.
- > Only projects selected through this process can be funded by the current Connecting Europe Facility (CEF), which will allocate €5.35bn to cross-border energy infrastructure investments between 2014 and 2020.

Significant political and policy developments have happened since these guidelines were proposed and negotiated (see Table 1).

¹ European Commission (2011), **Priorities for 2020 and beyond – A Blueprint for an integrated European energy network**

² European Commission (2013), **REGULATION (EU) No 347/2013**



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Table 1: Comparison between 2013 and 2019 political and policy energy context

| | 2013: “Europe 2020” | 2019: “Climate Neutral Europe” |
|---|--|--|
| Short/medium-term climate & clean energy objectives | 20-20-20 targets for renewable energy, energy efficiency (indicative), GHG reduction - by 2020 ³ | 32-32.5-45 targets renewable energy (binding), energy efficiency and GHG reduction by 2030 ⁴ |
| Interconnection objective | 10% electricity interconnection target | 10% electricity interconnection no later than 2020; 15% electricity interconnection goal by 2030 ⁵ |
| Governance system | --- | Paris Agreement ⁶ (ratchet and review) and Governance Regulation ⁷ (NECPs) |
| EU long-term climate objective | -80/95% GHG reductions (indicative) compared to 1990 levels by 2050 | Proposal for a climate neutral economy by 2050 ⁸ |
| International context | --- | Commitment to phase-out fossil fuel subsidies by 2025 ⁹ |
| Major threat | Security of supply as main risk | It is considered that the ongoing PCIs address all major supply side risks ¹⁰ . |

Source: E3G

Europe is now heading towards an energy system that is significantly more decentralised, digitised and aiming for a much deeper decarbonisation that was envisaged in 2011. **Prioritising and funding energy infrastructure for 2020 on the basis of an outdated TEN-E regulation means wasting an opportunity for modernisation and greater effectiveness in how we use our resources**¹¹.

The current picture

The TEN-E Regulation remains the only basis for the selection of priority energy infrastructure projects (PCIs), and for the award of EU funding to such projects. Drafted seven years ago, it skews selection and financial support towards outdated projects, at the expense of a focus on modernising and digitalising European electricity grids.

³ European Commission (2010), **EUROPE 2020 - A strategy for smart, sustainable and inclusive growth**

⁴ European Commission (web), **Clean energy for all Europeans**

⁵ European Parliament (2019), **15% Electricity Interconnection Target**

⁶ Art. 4 (3) of the **Paris Climate Change Agreement**: “Each Party’s successive nationally determined contribution will represent a progression beyond the Party’s then current nationally determined contribution.”

⁷ European Commission (2018), **Energy Union Governance**

⁸ European Commission (2018), **A Climate Planet for All**

⁹ **G7 Ise-Shima Leaders’ Declaration (2016)**

¹⁰ European Commission (2017), **Communication on strengthening Europe’s energy networks**

¹¹ See more on E3G (2017), **Infrastructure for a changing system: the next generation of policies for the European Union**



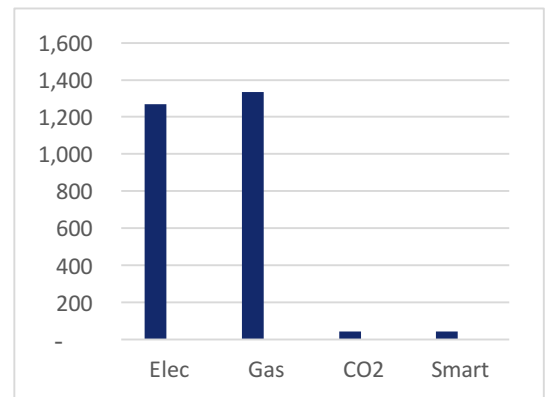
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The PCIs selected on the basis of the TEN-E regulation are not meeting the needs of a modernised energy infrastructure:

- > Only four smart grid projects have been selected and the number of gas projects exceeds that foreseen by the original impact assessment¹².
- > Meanwhile, Europe’s grid digitisation is lagging behind – Europe will not meet its 80% smart meter target by 2020.¹³ Investment needs in electricity grids are expected to amount to about €10bn/year to 2030¹⁴.

As CEF can only invest in PCIs, its funding allocation mirrors the skewed picture introduced by the PCI selection (see Figure 1).

Figure 1:
Cumulative CEF energy investment, 2014-19



Behind this, some of the driving factors related to the TEN-E regulation are:

1. The four gas “priority corridors” outlined in the 2013 TEN-E regulation are framed through a lens of security of supply and diversification of supply sources. However, in 2017, the European Commission stated that gas networks are expected to be completed by the early 2020s¹⁵.
2. Energy efficiency and climate goals are not sufficiently represented in the process:
 - The regulation establishes that projects need to be part of the transmission system operators (ENTSOs) ten-year network development plan. At present, these plans have been characterised by cautious assumptions regarding energy efficiency¹⁶.
 - The time horizon to 2040 used by the ENTSOs makes it difficult to check compliance with the 2050 objectives. However, the recent independent evaluation of the TEN-E regulation - by expert consultant Trinomics based on questions set out by the European Commission - only discussed the role of electricity infrastructure in the context of 2050 targets, but not of gas¹⁷. Meanwhile, Spanish and French regulators have refused the MidCat pipeline project (on the 3rd PCI list) as there is no demonstrable need in view of the EU’s clean energy targets.¹⁸

¹² The TEN-E’s original impact assessment had estimated some 100 projects in the field of electricity and 50 in the field of gas – this would look even more different if the EU’s revised 2030 and proposed 2050 climate neutrality targets are taken into account.

¹³ ACER (2018), **Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2017**

¹⁴ ENTO-E (2019), Power Facts 2019

¹⁵ European Commission (2017), **Communication on strengthening Europe’s energy networks**

¹⁶ Only after 2016, they included a scenario in line with the Council’s 2014 conclusions with regards to energy efficiency.

¹⁷ Trinomics (2018), **Evaluation of the TEN-E Regulation and Assessing the Impacts of Alternative Policy Scenarios**

¹⁸ EurActiv (2019), **Regulators reject key section of planned France-Spain gas pipeline**

As a result, projects are not stress-tested for long-term economic value in accordance with their lifetimes (up to 60 years for gas pipelines). For example, the “Strategic Vision for a Climate Neutral Europe” foresees that the share of gas in the future EU energy consumption will drastically change: the share of fossil gas will decrease slightly to 20% of EU energy consumption in 2030, and to 3-4% in the 2050 net-zero scenarios. Despite the development of cleaner forms of gaseous carriers volumes in the energy system will still be substantially lower than today. This means that gas infrastructure risks becoming underutilised. In this case, further expansion will increase costs for an ever-decreasing customer base.¹⁹

3. The TEN-E independent evaluation emphasises the need for smart grids alongside electricity and storage. Yet, there have only been four smart grid PCIs so far, involving eight Member States. Representatives of distribution system operators have emphasised that **the eligibility criteria for smart grids are too demanding**, in particular when it comes to the voltage level required and the number of eligibility criteria²⁰. In addition, the length of the process represents a significant hurdle for smart grids project, usually benefitting from shorter lead times than large infrastructure projects. Before being able to apply for funding, they need to be included in the ENTSOs ten-year network development plan developed every two years, followed by a 1-2 year PCI selection process.

What is needed?

In order to **turn the TEN-E framework into an effective tool to support the accelerating changes in our energy system and manage uncertainty**, the following points must be addressed:

- > Update the assessment of the EU energy infrastructure needs carried out in 2011 in light of the EU long-term strategy and update the “priority corridors” accordingly.
- > Align infrastructure priorities with Paris Agreement governance: this includes a recognition of the ratchet and review mechanism, which means climate ambition will increase over time, with a next review point in 2025 the latest. A semi-independent institution could be in charge of regularly updating these priorities (e.g. EEA, JRC).
- > Avoid creating infrastructure lock-in. This requires the ENTSOs to:
 - (1) use a scenario in line with the Paris Climate Change Agreement and ranging to 2050 (at the minimum) to test infrastructure needs.
 - (2) provide enough detail in their infrastructure plans to assess how the shape of the energy networks might change, e.g. if supply and consumption points of gas change in the presence of cleaner forms of gases or where there might be a shift from transmission to distribution infrastructure.

¹⁹ EurActiv (2018), [EU’s Cañete warns gas pipelines risk becoming ‘stranded assets’](#)

²⁰ Joint DSO statement (2019), [Joint Statement from the DSO Associations on the proposal to revise the TEN-E Guidelines](#)



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(3) require the ENTSOs in their modelling to distinguish between different types of gaseous energy carriers – at the very least between biogas, hydrogen and fossil gas – as they come with different infrastructure and climate implications.²¹

> Review eligibility criteria for smart grids, addressing the concerns raised by the European distribution system operators.

About E3G

E3G is an independent climate change think tank operating to accelerate the global transition to a low carbon economy. E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change. E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere. In 2016, 2017 and 2018, E3G was ranked the fifth most influential environmental think tank globally.

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²¹ E3G (2018), [Renewable and decarbonised gas: options for a zero-emissions society](#)