Future energy infrastructure planning in Europe needs to be fully aligned with the Paris Agreement. CAN Europe recommends to increase variation of TYNDP 2022 storylines by assessing higher ambition of greenhouse gas emission reductions. In order to reach the 1.5°C target of the Paris Agreement, a trajectory towards net zero emissions in 2040 should be assessed.

Instead of primarily opposing “decentralised” and “global” solutions in the TYNDP 2022 storylines, at least one scenario should analyse how to prepare European energy infrastructure for a 100% renewable energy system in the most efficient way, combining the best out of both “decentralised” and “global” futures.

Is there any missing driver that may have an impact on electricity and gas infrastructure assessment?

- Ambition of EU climate targets will not only have to be increased but also sped up in order to limit global temperature increase to 1.5°C. At least one TYNDP 2022 scenario should assess reaching climate neutrality by 2040 instead of 2050.
- The learning curves and the competitiveness of renewable energy technologies are important drivers for the pace of their upscaling. These drivers are more relevant for a meaningful variation of TYNDP scenarios than building an artificial cleavage between a purely decentralised “autonomy” scenario and a purely centralised “global economy” scenario. At least one TYNDP 2022 scenario should assess a 100% renewable energy system which necessarily always combines decentralised and centralised solutions.
- In previous TYNDP 2020 scenarios, the mobilisation of energy savings potentials and energy efficiency gains did not vary strongly. TYNDP 2022 storylines should assess more ambitious assumptions on energy savings and energy efficiency as these are important parameters for energy infrastructure development.
- The policy framework beyond the NECPs as a driver could be better integrated in the top-down scenarios, e.g. in view of potentially more national governments pursuing dedicated phase-out policies to end the use of fossil fuels in the buildings sector.
- Besides the level of the renovation rate, the deepness of the renovation is decisive.
- It is not clear to what extent digitalisation will be considered as a cross-cutting driver in future TYNDP scenarios. Storylines should be detailed and transparent enough to identify which consumers under which condition will be engaged in demand response schemes and so-called smart grid solutions and what are the benefits for the entire energy infrastructure.

- The impact of novel technologies in transport could be included more in detail, e.g. in view of efficiency gains or long-term electrification of parts of aviation and which energy infrastructure needs are caused by a potential market introduction of liquid synthetic fuels as a substitute for fossil kerosene.

How to differentiate scenarios in term of energy intensity when there is possible conflict between EU independency in terms of energy, technology, industrial activity and scarce resources?

- TYNDP 2022 scenarios should differentiate the degree of circularity in industrial activity which then impacts its energy demand as well as its resources demand, thus influences its carbon footprint. If TYNDP 2022 scenarios focus on opposing “independency” and “autonomy”, such scenarios might not necessarily help to identify the best pathway towards the Paris Agreement’s 1.5°C target.

- Although recycling is an important element in a circular economy approach for transforming and modernising industries, the reduction of raw material demand and the degree of reusing raw materials and products also should be integrated.

Do you have further feedback on the storyline definition?

- Future TYNDP scenarios should firstly include a transparent assessment of the climate benefits and costs that different technologies, energy carriers and infrastructure solutions bring about. In this context, the variation of the carbon price is a key driver.

- Instead of opposing an “autonomy” scenario versus a “globalised” scenario, TYNDP scenarios should run a cross-sectoral optimisation of infrastructure needs by comparing costs and availability of all flexibility options, be it on the generation side, on the demand side or be it related to infrastructure solutions.

For more information about CAN Europe’s and EEB’s Paris Agreement compatible (PAC) energy scenario, see https://www.pac-scenarios.eu/scenario-development.html