Answer to “Public Consultation on the scenarios for the 10-year Federal Development Plans Electricity and Hydrogen”

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This response reflects essenscia’s preliminary feedback on the ongoing consultation. Please note that the scope of our input is limited to the content presented during the industrial demand stakeholder workshop and does not extend to the full consultation documentation. Our comments - listed below - are intended to contribute constructively to the consultation process.

- The transparent **co-creation** of future energy scenarios is much appreciated. We also believe in the usefulness aligning scenarios between Elia and Fluxys.
- **Emission Scope (1)**: essenscia members have substantially reduced emissions since 1990 and essenscia supports a European, society-wide net-zero ambition.
- **Emission Scope (2)**: Belgium is an energy-intensive region in Europe with a strong (yet often hard-to-abate) chemical industry. The realization of further emission reductions will require significant efforts, including industrial policy support.
- **Industry production levels**:
    - For most industries it was assumed that production levels will remain constant: while industrial competitiveness is under pressure, we believe this is the correct approach. After all, similarly to the EU net-zero ambition, the ambition of the EU is to keep its industrial fabric - pillar for our welfare - in the EU (See Clean Industrial Deal).
    - Reference point: for the chemical & petrochemical industry 2021 (before the Russian Invasion) is taken as a reference point. We believe this is the correct approach, since industrial policy and competitiveness is high on the policy agenda (e.g. clean industrial deal, affordable energy action plan, chemical industry packages, etc.) Now, urgent and targeted actions with direct impact on the competitiveness of our industry are needed as a clear signal to the chemical and life sciences sector and international investors.
- **Scenarios**:

- The current scenario set-up distinguishes between ELEC, BASE, MOL. While these can form a starting point for the network development plans, the three scenarios show little differences and all seem rather optimistic:
    - **Rapid kicking in of the transition**: Today, the business case to implement technologies/processes/energy vector to reach net-zero is barely available for hard-to-abate industry (and for other industries/sectors). And strict regulation is often a hindrance rather than a help (e.g. set-up of current RFNBO targets). Moreover, technological solutions are not always available or mature.
    - **Ample availability of cost-competitive low-carbon energy carriers**: While the analysis is still to be further developed at Elia/Fluxys side, EU simulations show that the availability of cost-competitive low-carbon energy carriers (e.g. biomass, electricity, hydrogen) might be a challenge.
- **Delayed transition scenario:** Apart from the optimistic scenarios and considering the large uncertainty ahead, we would suggest also exploring scenarios where the energy transition (and therefore the demand for low-carbon energy carriers) goes slower than hoped for due to technological and economic reasons. Such scenarios should not focus on reducing the energy demand of one or several specific sectors, but rather include a general reduction of overall demand starting from the base scenario. Potentially these could be used - together with the optimistic scenarios - to detect least-regret options in the network development plans.

- **E-boilers versus Heat pumps**: in future shifts from fossil fuel-based heating towards heat pumps and e-boilers, a strong preference towards e-boilers is observed. This seems to originate from the fact that currently several companies are investigating E-boilers to be integrated on their sites to be used as a source of flexibility. However, this trend cannot just be extrapolated since – in a net-zero scenario towards 2050 - low-carbon heat production would be required in baseload. This might change the trade-off between e-boilers and heat pumps.

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essenscia welcomes the opportunity to respond to the public consultation on the multi-energy scenarios and associated greenhouse gas (GHG) emission trajectories. We support the ambition to align infrastructure planning with realistic energy and climate pathways. However, we would like to raise several important considerations regarding the treatment of emission targets and assumptions.

In general, the goal of the study is to see what infrastructure needs will be in the future. It is crucial that this is as realistic as possible, and thus not lead to over- or

underestimations. Overestimations will lead to additional costs that can and need to be avoided. Imposing targets in the study would impose a higher investment rate, and additional infrastructure, resulting in higher costs for society and consumers. However, investments are currently already under pressure, due to the high energy costs; additional targets and increasing costs could lead to further deindustrialization. If this happens infrastructure needs will be completely different. Therefore, as the goal of the study is to estimate realistically the needed infrastructure, the only right way forward is to use a bottom-up approach based on stakeholders input which needs to be updated regularly to see what the impact of policy decisions is on their investments plans.

Below some additional feedback on specific elements:

1. **2030 ESR Emission Targets?**
    a. We support the bottom-up approach of using realistic demand projections as the basis for infrastructure planning. Overly optimistic assumptions risk misaligning infrastructure with actual needs.
    b. We are not in favor of including a sensitivity scenario that explores the impact of additional emission reduction measures and if it's done it can only work if the total additional cost for infrastructure and additional OPEX/CAPEX costs of consumers (industry and households), impact on investment decisions (e.g. de-industrialization) and other impacts are included.

2. **ETS Targets at Belgian Level?**
    a. We are not in favor of imposing these targets in the model (see general comment)
    a. It is important to clarify that there is no legally binding ETS target at the Belgian level. The EU ETS is a market-based mechanism with an EU-wide cap, and national-level targets are not defined within this framework.
    b. Belgium hosts a disproportionately high share of energy-intensive and hard-to-abate industries compared to other Member States. Applying a uniform 62% reduction assumption at national level would be unrealistic and unfair, and risks distorting the role of Belgian industry in the EU context. This means that the bottom approach should be maintained, and no 62% reduction should be imposed on the model.
    c. Last but not least, the analysis should explicitly include the role of negative emissions and flexibility mechanisms such as:

i. CCS and BECCS

ii. LULUCF contributions

iii. Direct Air Capture (DAC)

iv. GHG credit trading

v. ....

➔ These are standard components in most EU and international scenario studies (including those from the European Commission), and omitting them gives a misleading picture of the actual decarbonisation potential.

➔ Note that the use/import of H2, bio-molecules, e-molecules and the use of BECCS is also applicable to process emissions.

3. Belgian 2035 and 2040 Emission Targets

a. We are not in favor of imposing these targets in the model (see general comment)

b. There are no Belgian emission targets for 2035 or 2040. Including such figures in the scenario risks creating confusion and setting expectations that are not grounded in policy.

c. Introducing intermediate targets does not necessarily accelerate emission reductions. The direction of climate policy is already clear, and overly aggressive short-term targets could undermine long-term investment certainty and the credibility of the 2050 trajectory.

d. At EU level, the proposed -90% target for 2040 is not yet confirmed and should be treated with caution. If adopted, the target could become conditional on key enabling factors, such as: access to affordable and secure energy, global competitiveness of European industry, Robust carbon leakage protection under the EU ETS, ...

4. 2050 Net Zero Targets

a. The consultation refers to validated net zero targets for both ESR and EU ETS sectors by 2050. However, the only legally binding target is the overall EU-wide net zero GHG emissions by 2050.

b. Sectoral or national breakdowns of this target are not yet defined or validated, and should not be presented as such. Scenario planning

should reflect this uncertainty and avoid implying a level of precision that does not exist.

Conclusion

essenscia encourages Elia and Fluxys to maintain a realistic, technology-neutral, and industry-aware approach to scenario development. Infrastructure planning must be grounded in credible assumptions, with also regularly updates to reflect the evolving policy and innovation landscape. Imposing targets in this not in scope of this study and should be avoided as this can lead to wrong estimations of the real infrastructure needs. We remain committed to constructive dialogue and to supporting the energy transition in a way that safeguards industrial competitiveness and societal resilience.