

## Febeliec answer to the Elia public consultation on the Belgian Electricity Scenario Report

Febeliec would like to thank Elia for this consultation on the Belgian Electricity Scenario Report. Nevertheless, Febeliec wants to indicate that it is deeply worried by this scenario report as it in essence is flawed by some calculation loops. Elia indicates the scenarios it has developed consider trends and policy ambitions to compose storylines on a horizon of 30 years, which are then to be used to validate trends and to be used input as for policy. The input and output will thus mutually influence each other, making the model tend towards self-fulfilling prophecies or else the model will not compute and come with coherent results.

More worrisome even for Febeliec is that Elia for its scenarios and storylines and model is not taking into account costs as a main driver (or brake) on investments in different technologies under a global (cost) optimization approach, but rather seems to take into account policy and societal acceptance as the primary drivers for its storylines (and costs just as a consequence of these drivers). Febeliec deplores deeply this approach by Elia, as this implies that the storylines in the end boil down to mere fairytales, where whichever probable or improbable assumption can be included without any safeguard towards plausibility under the condition of affordability. Indeed, under the precondition of “policy” and “societal acceptance” over a period of 30 years and without any validation based on overall costs (and thus realism on affordability), whichever possible combination can be chosen as a storyline. While such approach might be interesting in a kind of “what if” analysis, this does according to Febeliec not at all create an acceptable approach for central scenarios on which all future Elia studies (those with a long term scope but also those with a nearer term scope) will be based. By not integrating cost aspects and thus not including affordability, all trajectory ranges for any component are very broad towards the longer term and combinations are limitless. Only by incorporating that funding is not unlimited at the core of the scenarios, realistic storylines can be put together as they will have to take into account tradeoffs and overall limitations. Alternatively said, by omitting such elements, any combination of different assumptions can be taken, without any view on their probability and plausibility, rendering the storylines interesting as stories but not as a solid basis for any meaningful analysis.

A next element that Febeliec regrets, and which is linked to the previous one, is that Elia does not include all different technology options but already limits the scope to a subset of selected technologies. Moreover, in its choices for dispatchable generation, Elia is not technology-neutral as it considers hydrogen turbines as the only carbon free option, therefor foregoing all possible alternatives for carbon-neutral generation (such as CCS/CCU, nuclear, ...).

By omitting a cost focus, Elia will also not be able to validate any values regarding electrolysis for hydrogen production, whereas for this technology due to the massive losses and potentially low load factors of both the input and thus conversion plants could be economically non-optimal. While Elia refers to a recent draft hydrogen strategy of the Belgian government (which does not cover the entire period till 2050), which indicates little potential for electrolyzers in Belgium due to the limited RES potential compared to the demand, Elia still includes up to several GWs of electrolyzers in its storylines. Moreover, the RES potential in Elia’s storylines, where any value can be used as no cost optimization is conducted, might differ greatly from those taken into account in the governmental hydrogen strategy, thus leading to different outcomes which are however omitted as a fixed cap is introduced.

A last element Febeliec wants to highlight in this answer entails the absence in the scenarios of any sanity check (other than overall potential, putting a maximum upper boundary) on the feasibility or realism of any of the outcomes of the model. Febeliec insists, especially since costs are not considered by Elia, that input and outputs are screened on this aspect. While societal acceptance, which is considered by Elia as opposed to costs, can potentially partially capture such aspects, this will still not check whether certain outcomes, even if societally acceptable, are technically feasible to build and/or integrate in the Belgian electrical system. However, when Febeliec looks at the very broad ranges (e.g. in 2050 direct electricity demand ranging from potentially 110 to 170 TWh, but also already 106,6 TWh in 2030 with a very large share of 12 TWh increase in electricity demand coming from industry in less than a decade without many clear investment projects in the near future), it can only wonder about the sense of reality of scenarios but also the usability of these scenarios for any meaningful decisions. The same applies a.o. for the values of 20 to 30% energy savings per unit of production output in industry between 2020 and 2050, without any justification or argumentation for such values.

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*Febeliec represents industrial energy consumers in Belgium. It strives for competitive prices for electricity and natural gas for industrial activities in Belgium, and for an increased security of energy supply. Febeliec has as members 5 business associations (Chemistry and life sciences, Glass, pulp & paper and cardboard, Mining, Textiles and wood processing, Brick) and 38 companies (Air Liquide, Air Products, Aperam, ArcelorMittal, Arlanxeo Belgium, Aurubis Belgium, BASF Antwerpen, Bayer Agriculture, Bekaert, Borealis, Brussels Airport Company, Covestro, Dow Belgium, Evonik Antwerpen, Glaxosmithkline Biologicals, Google, Ineos, Infrabel, Inovyn Belgium, Kaneka Belgium, Kronos, Lanxess, Nippon Gases Belgium, Nippon Shokubai Europe, NLMK Belgium, Nyrstar Belgium, Oleon, Proxiums, Recticel, Sol, Tessenderlo Group, Thy-Marcinelle, Total Petrochemicals & Refining, UCB Pharma, Umicore, Unilin, Vynova and Yara). Together they represent over 80% of industrial electricity and natural gas consumption in Belgium and some 230.000 industrial jobs.*