Comment on Connection with flexible access: Design note on the evolution of the framework at federal level - June 2024

Dear Elia,

I am responding to the above request for public consultation on the design note related to the evolution of the connection with flexible access framework at the federal level on behalf of Continuum Industries.

For clarity, Continuum Industries is a software provider that offers a new approach to desktop optioneering studies for energy infrastructure such as underground cables, transmission overhead lines and substations.

Our software - 'Optioneer™' allows for users to automate the existing optioneering process for new offshore and onshore cable corridors, landfalls and offshore and onshore substations, efficiently capture detailed geospatial information, consider environmental, permitting, cost and engineering factors, and iterate through thousands of design options to find the most optimal solutions.

Use of Automated Tools

Continuum Industries wishes to suggest that with the large number of new renewable energy developments in Belgium leading to the growing number of required connections, Elia as well as the customers themselves might find the use of automated tools highly beneficial for increased efficiency in the planning of new distribution and transmission connections. This would allow for Elia to ascertain which connections are most likely to require flexible connections in the interim also.

Additionally, it is believed that for strategically identifying which developments could be prioritised for connections, the use of automated tools, such as Optioneer, might likely become beneficial as well, as the tool allows for consideration of thousands of constraints and supports such site selection functionality.

Given how restricted the Belgian network might get, as the number of renewable energy developments continues to grow, as well as knowing that in many cases it is not possible to predict precisely where an onshore electrical substation may ultimately be installed, a wide variety of potential options needs to be considered based on the requirements to consider alternatives, including flexible alternatives. This would include consideration of issues as wide-ranging as ecology, population density, geoenvironmental considerations and landscape issues.

Continuum Industries is of the view that with sufficient data and digital tools available in-depth analysis of option designs during both the initial and detailed phases can be done in a fraction of the time, compared with traditional methods, allowing flexibility offerings to be rolled out quicker also.

Approaches such as using AI software to “speed up” route selection connecting these new renewable energy areas to electricity centres and demands should be prioritised and supported to ensure feasibility at the earliest stages of option design.

Currently, the practice of establishing a preferred corridor for new linear development such as transmission infrastructure involves a level of detailed design such as environmental, engineering/technical and cost considerations that are already sufficiently complex as to constitute a ‘middle ground’ between high level and detailed. Proposals to segment high-level design away from the detailed is not practicable and in fact, may lead to a slowdown in delivery of new infrastructure.

Advancements like automated routing software, digital twins and grid flexibility bring detailed design aspects into higher-level discussions. Best practice involves integrating all known factors early in the routing design process to accelerate approvals, encourage stakeholder input, and maintain flexibility.

Traditional manual methods are too time-consuming and costly for corridor routing, especially with the anticipated surge in connection applications. Embracing digital tools and AI is essential to address these challenges. Continuum Industries’ Optioneer tool has facilitated transmission development across Europe, including in the UK, France and the Netherlands enabling developers to explore more scenarios in less time.

These assessments, combined with local knowledge, form cost-benefit analyses and facilitate comparison with repurposing options. The interactive platform also allows for ongoing refinement and iteration as the project progresses.

Conclusions

In conclusion, the adoption of digital tools and automated technologies, such as Continuum Industries' Optioneer software, is expected to be highly beneficial for optimising offshore corridor routing, and site selection processes, compared to traditional, time-consuming, often costly methods.

It is believed that in order to reduce inefficiencies and meet the specified objectives, bodies such as the Commission should prioritise and support the implementation of digital solutions to streamline project delivery and enhance stakeholder engagement to speed up the much-needed expansion of renewable energy in Belgium

Kind regards

Continuum Industries