

July 2021

Response to the APG Network Development Plan 2021-2030



CURRENT

Enabling Network Technology
throughout Europe

currENT is the industry association representing innovative grid technology companies that operate in Europe and empower the grid. currENT aims to generate greater awareness of new grid enhancing technologies and to accelerate their implementation. We do so by working with the broader stakeholder ecosystem on future-proof regulatory and policy frameworks in Europe.

We believe that renewable generation and energy efficiency are the ‘first order’ solution for taking the Green Deal ambition and the Climate Law from promise to practice. Renewable-based electricity solutions can meet more than 70% of our total energy needs by 2050. Making the ‘can do’ a ‘will do’ we need powerful climate proof ‘clean’ power grids. Such grids are already possible today.

- Power networks – both transmission and distribution – have to become even stronger enablers and accelerators of the energy transition, paving the way for further electrification, rising demand and sector coupling.
- Enabling network technologies will assist and promote the integration of higher levels of renewables.
- Designing tomorrow’s grid by using today’s technology and an incremental approach is no longer possible if the COP21 and Green Deal ambition shall be implemented.

Therefore, energy system operators must be encouraged and incentivised to update their toolbox for existing and future grids.

On the qualification and the use of new technologies in NDPs, currENT recommends to:

- Develop ‘best practices’ across Europe for qualifying new technologies:
 - o Increase transparent sharing of learnings among system operators, countries and wider industry.
 - o Avoid duplication of pilot projects which slows down the uptake of new solutions and ultimately delays benefits to customers.
- Require system operators to consider all possible solutions for an identified network need.
- Align the priorities for innovation to ensure the highest potential innovations are funded, developed, trialled and ultimately rolled out.

General remarks

CurrENT congratulates APG for an ambitious plan based on the assumption that 100% Renewables for electricity by 2030 and climate neutrality in Austria will be met in 2040. CurrENT agrees that only such a level of ambition can ensure that the objectives of the Paris Agreement are met. We also agree that the uneven regional distribution of RES generation leads to additional challenges for network planning and optimisation.

We appreciate the opportunity to contribute, and we see such transparency as paramount for best possible NDPs, and for the buy-in of society on behalf of which and for whom the networks are developed. The following text reflects our key thoughts.

1 NOVA principle

Scope of the NOVA principle

We welcome that the grid development in Austria is based on the NOVA principle and have advocated in Europe for adopting similar NOVA approaches in other regions. We see, however, opportunities to improve the contents and the implementation of the NOVA principle in Austria, as well as in Germany. Page 48 picture 13 states that there are nearly no further options for optimisation. currENT would challenge such a statement, referring APG to the Technopedia by ENTSO-E once more and the existing opportunities for flexible solutions that should yet be implemented.

currENT believes that optimisation applies to existing AND future grids. This means that the first block in principle, 'optimisation', has to be seen as horizontal and also applying to the two others (reinforcement and expansion). This would translate into the optimisation of existing assets, optimised reinforcement, and optimised expansion. Page 47/48, section 2.7. state 'that only after having used the previous options the next options' should be used. While we agree with this statement, we would like to stress here also that on the one hand, optimisation is horizontal, not only related to the existing grid, and that on the other, optimisation, reinforcement and expansion are needed.

Justification:

- Several available new technologies, such as the modular Static Synchronous Series Compensator (SSSC), limit costs resulting from delayed networks. Such technologies are flexible, can deploy fast, and are relocatable and modular. The value of such short-term solutions needs to be recognized by the NDP more generally, and regulation has to ensure that such solutions become part of the TSOs operational toolboxes.
- New technologies also make newly developed networks more efficient and thus also limit the need for those.
- Make better use of the temporarily available greater capacity that DLR can provide.

The NOVA principle section 2.7 should refer to relevant EU legislation.

currENT believes that a cross-reference should be added to relevant European legislation addressing innovative and efficient power networks. This is in particular valid when it comes to the Austrian NDP with its ambitious energy transition highly impacts the region and beyond. Those legislations to mention are the Smart Grid Indicator that, in line with the Clean Energy Package, had to be developed by NRAs by the end of 2020; or the relevant provision in the Energy Efficiency Directive relating to the efficiency of networks.¹

2 Complementarity of optimisation, reinforcement and network expansion.

3 Be technology agnostic when mentioning technologies under NOVA and in the concrete Load Flow control measures CEP-70 that are proposed in the NDP.

currENT misses a more systematic approach to technology presentation under NOVA and the general

¹ See here also the JRC report of December 2020 [Improving Energy Efficiency in Electricity Networks | EU Science Hub \(europa.eu\)](https://ec.europa.eu/science-hub/en/energy-efficiency-in-electricity-networks)

reference to a toolbox of solutions that TSOs dispose of. We suggest that the NDP applies a transparent and systematic approach when it comes to listing available technology solutions.

Hence, it should include an overview of available technologies, quoting relevant publications such as the ENTSO-E Technopedia² or the CETTIR report by EC as released in November 2020 together with the State of the Union³. Such an overview should refer to the specific capabilities of the technologies, Technology Readiness Levels (TRLs), and implementations in other geographies, particularly in the EU, very much like in the ENTSO-E Technopedia. Like the NDP, this part would also be consulted publicly and updated regularly.

The NDP should be technology agnostic when it comes to the specifically mentioned measures that have yet to be approved: instead of mentioning one specific technology to provide a solution, it should refer to the need, for example, load flow management, and let several solution providers submit solutions in the tender. For instance, several PST solutions are mentioned for Ybbsfeld and Western Tirol: instead, LFC measures could be put into the NDP, and APG would then choose the most appropriate solution for implementation. That way, the regulation would be more straightforward, while TSOs dispose of the flexibility to select from a toolbox of proven solutions instead of a single tool that worked in the past but might not be the tool of choice in the future. This would mean that no PST would be mentioned in the concrete example of power flow control but that the TSO will consider all commercially available technologies.

4 The development plan should acknowledge the value of early delivery.

The NDP does not currently allow for the value of early delivery to be reflected in the value a project brings. For example, if two technologies can meet the need in the same year, i.e., 2025 (four years in the future), but one technology can be built in a year and the other only in four, then their evaluation under the current methodology would be the same, even though the first could provide three additional (earlier) years of benefit. In a plan where some projects will be late, and the exact sequence that will be built is not known, it is crucial that the value of early delivery is added to the methodology, and that the TSO toolbox includes such flexible and fast to be deployed tools. Having additional capability is highly valuable for managing congestion and accelerating early renewable integration.

5 European Solutions for European challenges.

Curtailement and price differentials in Europe's power sector cannot be effectively, economically or efficiently addressed through national solutions alone. Thus, we suggest highlighting the contribution that the Austrian NDP makes to achieving the European objectives as developed with the Clean Energy Package and the Green Deal.

² [ENTSO-E Technopedia - ENTSO-E](#)

³ [Report on progress of clean energy competitiveness \(EC 2020\)](#).

6 Update the implementation of the NOVA principle.

currENT recommends, very much in line with the Ecorys 2019 report to the Infrastructure Forum 2019,⁴ to:

- Move towards an output-based approach – reduce bias towards specific technologies, or larger CAPEX solutions only.
- Incentivise the use of smaller or rapidly deployable solutions, especially for short-term, temporary or smaller scale needs.
- Increase transparency and consultation in national processes.
- Accountability and penalties should be foreseen when grid optimisation solutions are delayed, that are explicitly considered in the NDP. The Smart Grid Indicator could be an appropriate reference here.

⁴ Report 'Do current regulatory frameworks in the EU support innovation and security of supply in the electricity and gas transmission systems?' Energy Infrastructure Forum 2019 - background papers | European Commission (europa.eu)