Simplifying Grid Connection Processes for Electric Vehicle Charging Infrastructure in Europe

Roundtable Conclusion, 01.04.2025.

Charge Up Europe, representing the EV charging industry and Eurelectric, representing the European electricity utilities, and in this context the distribution system operators (DSOs) teamed up to organise a Roundtable to discuss the grid connection process best practices and challenges, with a special focus to the connection of EV charging infrastructure.

The Participants included representatives of DG MOVE of the European Commission, Charging Point Operator (CPOs) and technology provider members of ChargeUp Europe, DSO representatives of Eurelectric andfellow DSO associations GEODE and E.DSO.

ChargeUp Europe and Eurelectric signed **MoU in 2023** to overcome the difficulties of CPOs' grid connection and to improve the legislation. The organising Associations are glad that grids are high on the EU Agenda, and welcomed all relevant Communication and legislation, such as the Grid Action Plan and the Electricity Market Design. However, slow and inconsistent transposition of these policies across Member States continue to hamper the deployment of EV charging infrastructure, delay progress on electrification and hinder the integration of EVs as valuable assets to the grid.

Due to soaring renewable electricity generation, industry and households with the electrification of heating (e.g. heatpumps) and transport, the **capacity shortage in grids** is persistent in several areas both on distribution and transmission level.
Eurelectric is currently mapping the connection queues and best practices among its DSO members, and investigates the alternative solutions of grid connection methodologies, as the first-come-first-served principle does not work in high congestion. We also suggest **a better alignment of electricity and transport infrastructure**, namely the TEN-E and TEN-T infrastructure.

During the roundtable, various solutions from DSOs for managing the grid were discussed. There are more and more digital **grid capacity maps** with **up-to-date capacity information on grids** available, good examples of the **Dutch Capacity Map** and **and the Network Infrastructure and Usage Map of UK Power Networks** were shown. Digital solutions for data sharing and connection process are also essential for new network users. Good examples of **French, German, Portuguese DSOs** where shared. One DSO member showed the good example of its **digital twin** project, which is the digital replica of the distribution grid including all assets and

allowing the simulation of electricity flows. And on top of this, a CPO member shared an example of a single national contact point that's in charge of connecting charge points to the grid. The main conclusion was that there is need for **sharing more information** on the **available capacity** and the **connection process** from both DSO and CPO side**, avoiding speculative connection requests**. A **permanent point of contact, standardised communication streams** and **preset data framework** for the connection requests as well as **real-time** information on the connection **status** are also needed, and **more transparency on grid connection fees**.

Financing all the necessary grid investment is one of the main challenges. The main source of financing will be still **network tariffs**, thus **competitive returns** shall be in place and it is essential that National Regulatory Authorities enable **anticipatory investments** **in each Members State** to make all necessary network investments which are needed in the energy transition. DSOs and the EV charging sector are looking forward to the upcoming **Guiding principles** of the European Commission **on Anticipatory Investments** and **on shortening the waiting time for recharging points' connections to grids -** which will serve as a basis for National Regulatory Authorities (NRAs). **EU funds** specified for **distribution** asset change, modernisation, expansion and digitalisation is also very much needed to complement network tariffs within the new Multiannual Financial Framework (MFF).

The workshop concluded that a **minimum dataset could be identified** which is necessary for network connection and that all DSOs, big and small, should be supported to replicate the best practices shared during the roundtable. Where not yet done, the **digitalisation of DSO connection processes — as well as increased transparency on current grid capacity , including available headroom on lines and substations—is urgently needed**. Sharing more granular, harmonised and complete information helps to eliminate the practice of **speculative connection requests.** **Therefore, a single-point-of-contact inside DSOs for new connection requests is a first step in harmonizing the stream of information related to the grid connection process.**

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