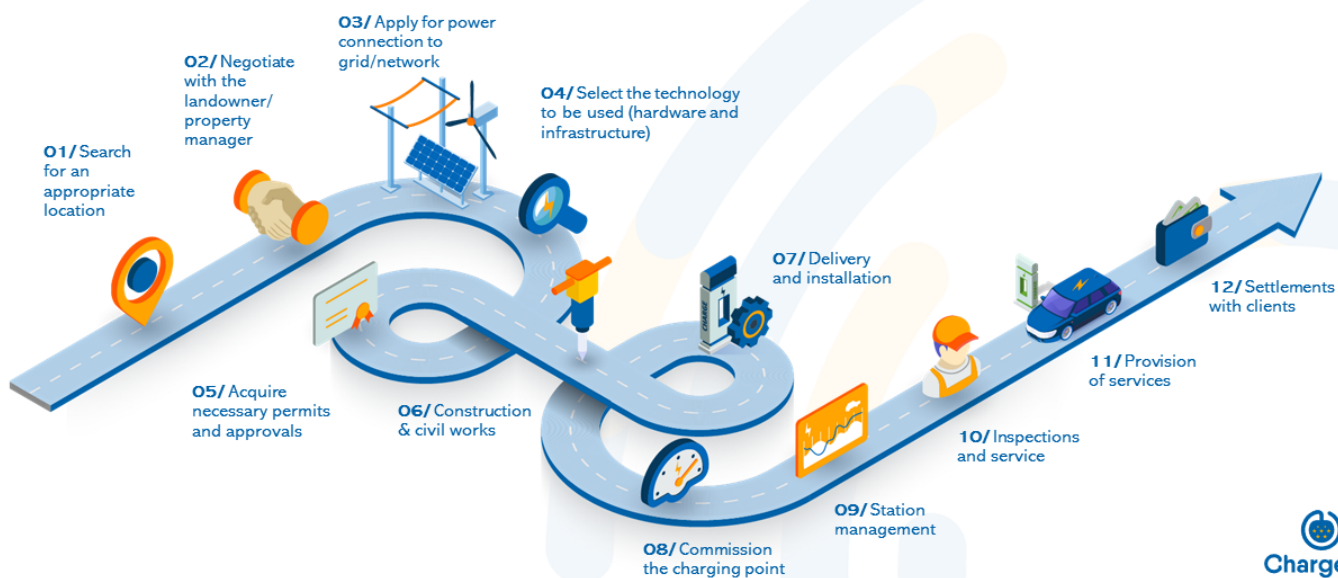


## Hook Us Up!

# Simplifying and Accelerating the Grid Connection and Permitting Process for EV Chargers

## THE LONG ROAD FOR PUBLICLY ACCESSIBLE CHARGING INFRASTRUCTURE





A successful transition to e-mobility requires a large amount of charging infrastructure for electric vehicles (EV's) to be deployed across Europe. Crucially, it also needs to be deployed quickly.

For EV Charge Point Operators (CPOs), this means a laser-sharp focus on tackling every obstacle and bottleneck standing in the way of fast rollout of charging infrastructure.

**The largest bottleneck CPOs face today is the amount of time it takes to establish a grid connection point, the complexity of the process to get one, and access to sufficient grid capacity.**

Delays resulting from these bottlenecks can add months or years to a project's timeline. While the resulting "soft costs" are difficult to quantify, they do significantly impact the rollout of charging infrastructures across Europe today, and weigh on organisational, financial and hardware resources that could be deployed elsewhere to support the growth of EV charging infrastructure.

Without concerted action, this problem will only become more acute. Delays are particularly long for higher power connections (ie, over 100 kW), which are already growing in number and increasingly the norm. They also happen against the broader backdrop of a vast electrification agenda for the EU across economic sectors.

These issues do not just impact the CPOs and EV drivers, but the Distribution System Operators (DSO's) as well, which must respond to and act upon these requests for grid connection, often on a case-by-case basis. Solutions to these situations could thus be a win/win for CPOs and EV drivers, DSOs, and the overall grid.

ChargeUp Europe believes that the permitting and grid connection process needs to be simplified, accelerated, digitalized and standardized. Access to the grid needs to be both timely and efficient to support business development, the rapid and widespread rollout of charging infrastructure to support ever more EV drivers, as well as the energy transition more broadly. These challenges cut across CPOs, DSO's, their national regulators, and public authorities. So do the solutions<sup>1</sup>.

## I – What would an efficient grid connection and permitting process look like from a CPO perspective?

From a CPO perspective, an efficient process would meet the following benchmarks:

**Standardisation** – An efficient process would see a standardization of steps and procedures, both within DSOs and with public authorities, which would be based on digital tools and a digitalized approach. This would reduce fragmentation, e.g. in data CPOs must provide, contractual arrangements, timelines etc, reducing the administrative costs that come with dealing with hundreds of DSOs.

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<sup>1</sup> We understand that DSOs are regulated entities and thus many of their operations, financing, and planning are the purview of those national regulators. For simplicity and clarity of the outcome driven recommendations outlined in this paper we do not distinguish between them.

**Transparency** – An efficient process would be transparent at all stages. First, it would give CPOs a view on where there are load capacity constraints on the grid in advance of submitting connection requests for individual locations. Second, it would ensure clarity on interconnection processes and the timelines associated with each step of the process. Lastly, it would let CPOs track the progress of their requests.

**Predictability** – An efficient process would provide predictability for outcomes, as well as costs. It would ensure that outcomes do not vary from one DSO to another depending on the account manager in charge, leading to waste of scarce manpower within CPOs. It would also offer CPOs predictable fees and costs in the preparation of the business case for a location.

**Harmonisation** – An efficient process would take into account that CPOs operate across borders, and encourage DSOs across Europe to converge toward one standardized process acting de facto as the “industry standard” for multiple jurisdictions, supporting the scale-up of CPOs.

**Speed** – An efficient process would guarantee that the time between a request for a permit and realisation of the connection to the grid is specific as well as accurate. This could be supported by policies differentiating treatment between system users, prioritizing connection requests which contribute to Europe’s decarbonization objectives, and which improve coordination between DSOs and public authorities, which also dictate the speed of permitting. Depending on the power requested, timelines could be:

- Power requests below 100kW: <12 weeks;
- Power requests from 100kW to 350kW: up to 6 months;
- Power requests above 350kW: up to 8 months.

These timelines could be improved in the future, depending on the demand for charging points, as driven by the pace of EV uptake as well as other process improvements that allow for accelerated timelines.

## II – How could CPOs, DSOs and public authorities better work towards these objectives?

The following actions could help in moving collectively towards these benchmarks.

### **A. Increasing standardisation, transparency and supporting project siting**

**Distribution System Operators should:**

1. **Develop standard solutions dedicated to e-mobility projects, with elements such as:**

- Publicly available, online guides for applicants that detail the interconnection steps and delineate the responsibilities of each party;

- Clear and fixed timeframes for each step in the process, with clear penalties/procedures for when they are violated;
- Transparency on the status report (progress) of each request;
- A permanent point of contact for each application within a dedicated team with expertise on E-mobility projects;
- Transparency on fees and costs, in parallel to getting an actual connection (whenever possible, DSOs should adopt fixed grid connection fees based on objective parameters – capacity, distance, etc – publicly available online).
- Transparency on how to deal with a change in the scope of a request (e.g. wanting to place more chargers) once an application has already been submitted. In particular, CPOs should be allowed to update the technological and physical specifications of their recharging infrastructure between the permit application and the deployment, to promote the adoption of innovative technologies and accessibility;

**2. Develop and make available grid transparency resources**, such as load hosting capacity analysis maps with data to help identify capacity constraints. These “heatmaps” should show the connection cost in a given geographical zone. Over time, they could evolve toward proactive hosting capacity upgrade models that could reduce the time and cost of interconnection by increasing the available capacity on particular grid sections. More upfront clarity will help to prioritise the right locations, as CPOs will be able to focus on areas where there is availability;

***Good practice examples on grid transparency***

- Advance information and heat maps are very useful to help CPOs know in advance and incorporate information into their site selection methodology. In the Netherlands a capacity map is available, '[netbeheernederland.nl](http://netbeheernederland.nl)'.
- In France, DSOs provide free online tools for self-running network simulations (e.g. “traffic light” results) so the CPO can have an idea of the impact on the network of the requested capacity on each location (green = no reinforcement needed). This can reduce iterations for adjustments between CPOs and DSOs.

**3. Develop one-stop-shop platforms / digital portals:** To make the entire process, from its very first step (grid request) to the installation on the field more fluid/dynamic, and support better synchronisation of permits and grid connection procedures, DSOs, relevant authorities (e.g. municipalities, highway authorities, environmental protection agencies, regional building ministries...) and CPOs should have a digital and integrated platform (digital portal) dedicated to e-mobility. The portal should include a clear framework for the permitting procedure, including a standardized application procedure for the whole administrative process, as well as online checklists identifying the necessary documentation. Costs to support digitalization should be spread out over users/industries.

### Public authorities should:

1. Coordinate with DSOs to implement long-term grid planning and investments consistent with the planned expansion of recharging infrastructure to enable forward-looking network planning and construction over the short, medium, and long terms;
2. Coordinate with CPOs and DSOs to define clear roles and responsibilities, and cooperate in the implementation of any applicable rules and procedures for the grid connections;
3. Harmonise permitting fees, and make these fees clear from the beginning of the permit procedure;
4. Adopt fully digital permit-granting processes and communication means (e.g. online access to application forms for environmental, building, and other permits, details on fees). This should include integrating or connecting with the DSO's own ticketing system, for best coordination and so that all project materials and updates can be centrally accessed by the relevant parties;
5. Use evaluation checklists so that CPOs better understand the criteria behind the assessment of a permitting authorization procedure, communicate these checklists to CPOs (along with information on complaint mechanisms) to enhance predictability;
6. Select a specific number of adequate locations for EV charging infrastructure and pre-approve them, without prejudice to keeping the market rational and driven by private actors. This may help CPOs investment in charging infrastructure, while also reducing delays;
7. Introduce a rule that whenever a competent authority fails to respond within the proposed deadlines, this results in the implicit acceptance of a given permit-granting request;

### B. Making the best of limited resources (human, financial, and technical) and shrinking timelines

#### Distribution System Operators should:

1. **Develop broader network planning:** DSOs should predict the installation of idle/reserve power capacity, particularly in strategic locations, to meet the demand for future electricity (or EV) needs. In urban areas, DSOs and local governments should also be better synced, to improve the preparation of tenders for the operation of public charging points;

#### Good practice examples on upgrades

- *DSOs selling connections without having the capacity, giving CPOs priority for when the network is expanded, so initially a CPO gets 0 kW contracted transport power but that can be upgraded later on.*
- *In the Netherlands a website allows to request a grid upgrade [www.mijnaansluiting.nl](http://www.mijnaansluiting.nl) (although one DSO is not connected to it and has a different process.)*

2. Dialogue with regulators to be allowed to introduce a differentiated treatment to grid connection requests which support decarbonization objectives. EV charging infrastructure requests should be prioritised particularly if other pending requests will not lead to tangible sectoral carbon savings. In this regard, the Electricity Market Design Directive should be amended to allow for differentiated treatment between system users (e.g. by setting up simple categories a connection request could be put in based on a combination of societal and environmental importance);

**Good practice example on a regulator's approach**

*“Ofgem has an important role to play in enabling the widespread adoption of EVs and their lower-cost integration into the electricity system. We have a range of regulatory tools at our disposal – from establishing market mechanisms to mandatory requirements. We plan to adopt a balanced approach, establishing price incentives and enabling market-based solutions to encourage smart charging, supported as needed by regulatory measures (...) As the transition to EVs happens, Ofgem will ensure both that the networks are prepared for increased EV adoption whilst avoiding over-investment, and that network connections are timely and cost-effective. Network companies will need to adapt to these challenges.” – Enabling the transition to electric vehicles: The regulator's priorities for a green, fair future, Ofgem, 2021*

3. Appoint permanent contacts at grid operators for infrastructure charging applications: this will ultimately ensure that any staff working on EV infrastructure projects have emobility-specific knowledge to more efficiently manage charger installation requests, respond to inquiries, and complete utility design and approval processes. Having a permanent point of contact/ dedicated specialists at DSOs who work on e-mobility projects can support trust building between all parties, as public authorities know who at the DSO to work with on any e-mobility related projects, and all parties develop expertise together;

4. Allow for CPOs to present a self-liability insurance/declaration to accelerate the issuance of construction and environmental permits, for the installation of charging points, with a clear delineation of where the responsibility of the DSO ends and the responsibility of the CPO begins;

5. Leverage EU-level cooperation and coordination: there are many bodies representing DSOs at EU level. These could helpfully be used as fora to promote learning on DSO participation in system integration, and in how successful projects undertaken in one country can be replicated in another<sup>2</sup>.

**Public authorities should:**

1. Design streamlined procedures and follow a simple-notification procedure, when no significant adverse environmental or social impact (as is the case with recharging infrastructure);

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<sup>2</sup> The Active Distribution System Operator (DSO), CERRE, September 27, 2022

2. Liaise and communicate more closely with DSOs to adjust other network construction needs with the connection of charging stations to facilitate the permitting and connection process;
3. Set up a contact point tasked with monitoring the main bottlenecks in the permitting procedure, and addressing the issues encountered by public authorities and CPOs;
4. Use the upcoming Net-Zero Act under the Green Deal Industrial Plan to mirror in the EV charging infrastructure sector the provisions of the Council regulation laying down a framework to accelerate the deployment of renewable energy: the planning, construction and operation of recharging stations, and their connection to the grid, should be presumed as being in the overriding public interest;
5. Strengthen administrative capability and use relevant fora (e.g. C40, Polis, Covenant of Mayors, Eurocities, etc) to exchange on best practices.

### III – Way forward

We recognize that DSOs operate in a complex and fragmented environment, both from a technical and a regulatory point of view, and that working towards a “best-in-class” vision will require time and collaboration between our industries, as well as with public authorities.

They are also under multiple pressures to decarbonize and decentralize our electricity system (RePower EU) from integrating RES to connecting heat pumps and EV charging stations.

We believe that the actions outlined above could help DSOs as they grapple with grid capacity constraints, pressured human resources, capped annual investments, and costly, time-consuming grid upgrades, not to mention the greatly increased complexity of variable, distributed renewable energy resources. They could also be a foundation for CPOs to reform existing work practices, such as trying to increase their chances of getting a grid connection by making more applications, adding to the burden on an already overburdened system.

Finally, we are of the view that these changes would have benefits beyond DSOs and CPOs, for example by enabling market parties and governments to identify areas where adding more EV charging could reduce pressure on the grid (demand response), provide supply while reducing the need for more centralized generation (V2X), generate streams for market-led investments and where government assistance is needed to enable a viable grid connection.

The need for simplifying the grid connection process has found recognition in EU initiatives, from RePowerEU (simplified permitting procedures for renewables projects) to AFIR, where the European Parliament proposed a number of steps to help address this bottleneck as part of national plans. ChargeUp Europe strongly supports the changes proposed as a means to advance the agenda for simplification and acceleration of permitting and grid connection procedures.

In parallel to the EU legislative track, we call on organisations representing DSOs at the EU level to work with us on a collaborative way forward, design common solutions that would best support their and our interests, and through them, the interests of the communities we serve

across Europe. This is a shared responsibility, and can be a joint agenda, i. This will go hand in hand with work with national regulators via their EU bodies.

CPOs are also ready to develop their offer to make progress on this issue as responsible, collaborative partners, e.g. by:

1. Renewing efforts to include DSOs as soon as possible in the site selection, in a close and early partnership with the DSO to ease the process;
2. Stepping up efforts to provide DSOs with more data concerning charging stations and utilisation factors;
3. Supporting funding requests from DSOs for their grid expansion;
4. Supporting cooperation at the policy-making level and making expertise available to facilitate this, e.g. on the model of the US Joint Office of Energy and Transportation;
5. Offering dedicated training programmes to DSO staff to support understanding of the e-mobility sector;
6. Self-regulating to avoid multiple connection requests to maximize chances to secure one, via guidance promoted by professional bodies of CPOs at EU level, and if possible national level;
7. Providing expertise and resources to work with DSOs collective bodies at EU level, as well as national regulators and their associations;
8. Collecting and raising awareness on best practices;
9. Exchanging with DSOs to hear their feedback on how CPOs could improve processes and practices on their end – setting up regular, formalized dialogues to keep in close touch on these issues.

ChargeUp Europe is the voice of the electric vehicle (EV) charging infrastructure industry, bringing together the charge point operators, e-mobility service providers and hardware manufacturers, with the aim of ensuring a seamless charging experience for all European EV drivers. As of today, our member companies represent over 500.000 charging points in all 27 EU Member States.