

ONE-PAGER

How to solve the future charging point problems now?

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DEMOCRATIZATION OF CHARGE POINTS

The charging market is developing rapidly and at present risks of blind angles in the development are created that can lead to unsuitabilities for both the energy system, consumers, and market actors.

This problem is brought forward by Energinet in the paper *Driving towards Grid Balance*, that proposes a selection of technical and architectural principles to accommodate the problems and at the same time, supports the strategical visions from EU's action plan¹ for digitalization of the energy system.

This one-pager highlights the problems and potentials in the development of the charging market. For a more technical review the reader is referred to *Driving towards Grid Balance*.

THE POTENTIAL IN UTILIZING SMART CONSUMPTION DEVICES

As Denmark is to readjust to 100% renewable energy, it requires a rethinking of the security of supply. New assets are required in order to be able to balance a system with large amounts of renewable energy. The rollout of intelligent consumption devices, i.e., electric vehicles and charging stations, make greater demands of the energy system, but there is also potential for utilizing the smart consumption devices for balancing the energy system.

BARRIERS IN THE CURRENT MARKET

The current charging market has a low degree of competition, high technical barriers for new actors and barriers due to bundling of hardware and software, that disrupts the free movement in a high degree. This development is not advantageous for consumers, market actors or the development of an innovative charging market that can cooperate along with the energy system.

¹ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13141-EU-handlingsplan-for-digitalisering-af-energisektoren_da

FROM ECOSYSTEM TO A DEMOCRATIZED ECOSYSTEM

Based on the thoughts above, Energinet has compiled a discussion piece, regarding a technical architecture with a selection of capabilities, that can change the current charging ecosystem into a democratized ecosystem.

This gives a variety of advantages such as:

1. Creates a standardized communication interface for markets.
2. Enables data sharing across sectors.
3. Ensures a legal owner can delegate control- and/or read-access to own devices.
4. Ensures equal rights for service providers.
5. Unbundles the infrastructure layer with the service layer.

These advantages can help empower the integration of electric vehicles and charging stations in the energy system, open up for the development of new digital services and open up for new markets for controlling of and interacting with intelligent consumption devices.

CALL TO ACTION

In the paper *Driving towards Grid Balance*, Energinet has investigated and clarified a suggestion for a technical architecture that addresses the barriers in the current charging market. The suggestion should be viewed as a starting point for dialogue about how we can secure the technical and legal foundation to ensure the future charging market in a manner that also secures the interaction with the digital energy system in correspondence with EU's action plan.

Driving towards Grid Balance should be read as a proposal for dialogue wherefrom collaboration can be initiated across relevant authorities and market actors. That way the necessary legislation can be prepared in collaboration to create the foundation of a future proof charging market.

It is crucial that the identified challenges are handled before the rapid development carries the current charging market further away from the common solutions, that can ensure us not only a democratic charging market, but also help the green transition.