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Glossary



Distributed Energy Resource - DER

Distributed Energy Resource (DER) is a general term referring to various small-scale electricity generation and storage devices that are generally connected to a centralised or islanded power grid. Common examples of DERs include electric vehicles (EV) and EV chargers, rooftop solar PV units, natural gas turbines, microturbines, wind turbines, biomass generators, fuel cells, trigeneration units, battery storage, and demand response applications.

Distribution System Operator - DSO

A Distribution System Operator (DSO) is an entity tasked with managing and upkeeping the distribution grid. This grid encompasses the network of power lines and substations essential for delivering electricity from the transmission grid to homes, businesses, and other end consumers.

Grid-aware charging

Grid-aware charging refers to a smart charging strategy for EVs that considers the condition and needs of the electrical grid. This approach involves optimising the timing and rate of EV charging based on dynamic power prices, electricity demand, grid capacity, and the availability of renewable energy.

Neighbourhood

A neighbourhood is a small, low-voltage area situated beneath a secondary substation. Substations are located near the points of consumption, and from there, they distribute low-voltage electricity to an end consumer.

Neighbourhood energy coordination

Neighbourhood energy coordination or local energy coordination is a system of tools and partnerships that use technology to better match the supply and demand of electricity while minimising costs and maintaining the stability and reliability of the grid.

Partner ecosystem

Spark partner ecosystem is a network of organisations, businesses, and individuals collaborating to speed up the green transition.

Spark

We operate as a neutral facilitator, bringing together industry leaders to leverage their respective strengths and capabilities. Acting as a matchmaker, we foster new business opportunities while spearheading technological innovations to enable the transition to sustainable energy practices at the neighbourhood level.

Spark



The vision

Increased electrification and renewable rollout will be challenging, but we see a future in which all these assets communicate locally to maximise their potential in a grid-aware manner. Our goal is to facilitate the integration of renewable assets while maintaining a healthy and stable low-voltage grid. This nurtures energy retailers, smart home providers, charging point operators, EV manufacturers, fleet operators, and creates new market opportunities.

What

Spark is an ecosystem of partners and data-driven solutions that address the rollout of solar, electric vehicles, and other distributed energy resources.

How

Neighbourhood energy coordination will match the supply and demand of electricity while minimising costs and maintaining the stability and reliability of the grid.

Why

We want to empower a new customer base in low-voltage neighbourhoods to establish a sustainable, smarter, gridaware energy system for the greener future.

How it works: The core

1. Get your assets in

Discover the full extent of your network and its significance in Norgesnett, Tensio, Lede, and other DSO regions.

2. Receive pricing signals

Through the API, receive optimal charging intervals based on specified parameters.

3. Share pricing signal with the customers

Leverage your existing solution to make behavioural shifts appealing and the benefits easily comprehensible to customers.

4. Report consumption

Submit their consumption reports to us for compensation calculation purposes.

5. Compensation

Customer will receive compensation determined by the DSO tarrifs.



Benefit



You will

Open new market opportunities

Earn additional revenue by participating in the growing demand for flexible grid solutions.

Add value to your existing solutions

Improve your smart charging solutions, by enabling customers to decrease expenses with grid-aware charging.

Increase competitiveness

Stay ahead of the competition by being an early adopter of flexible grid solutions.

Open the doors for greener tomorrow

Be at the forefront in the transition to a more sustainable, smarter energy system!

Cooperate with a neutral partner

Ensure unbiased cooperation, fostering a fair and transparent environment.

Business model

Users are rewarded for charging their devices in a grid-aware manner, directly through their grid tariff.

There's a membership fee for end-users, which is covered by the Distributed Energy Resources (DER) partner for each resource.



What do you need to do now?

1. Become a partner by signing up to receive credentials on Spark Studio.

- 2. Test the credentials by authenticating with the API.
- 3. Enroll your resources into our API.
- 4. Set up a webhook to receive events.

Detailed documentation can be accessed on docs.voluespark.com.

Reach out

We are always ready to onboard and assist you.



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FAQ



Will you control the EVs?

No, we will not. Our role is to provide a new price signal for you so you can let your customers know. Whether you share charging advice information directly with the customer or integrate it into your existing smart charging algorithm is at your discretion.

How can we ensure this does not negatively impact the customer's charging experience?

Spark does not directly interfere with end-users' control of DER. We trust our partners, who understand their customers' comfort and product offerings, to manage these resources.

What's in it for us?

Primarily, the service adds value for your customers, who receive direct compensation from the local grid operation through the tariff reduction. This allows you to attract new customers, charge for your services, or integrate the service into your business model as you see fit.

What is in it for the participants of smart neighbourhoods?

Participants benefit from a reduction in the grid tariff provided by the DSO. The compensation is a minimum of 100 NOK per month for those in problematic areas.

What capabilities do we need to join?

To join, you need an app to communicate charging advice with your customers, as we provide individual charging plans for each user. You can integrate the charging advice into your existing smart charging algorithm if you offer smart charging.

How can we join?

Simply start the onboarding process for your assets via Spark studio.

How do we secure our customer data?

We adhere to GDPR and include necessary terms and conditions. Details regarding data usage will also be outlined.

What is the subscription fee?

Initially, the service is free, and we even compensate you for each connected EV within an incentive period. Subscription fees will only be introduced once the savings for end-users become significant.

How can the grid compensate the EV owner?

This introduces a targeted approach to tariffs, ensuring more focused compensation compared to existing models.

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