



Making Fast Charging an Economic Reality

Leclanché EV Charging Battery
Energy Storage System (BESS)

Electric Vehicles: Growing Challenges for a Growing Market

The global electric vehicle (EV) market, as well as the necessary charging infrastructure required to keep it running, is growing at a rapid pace. Governmental policies and economic incentives aiming at reducing

carbon emissions are driving this growth, as more and more international automotive manufacturers are making EVs the centerpiece of their future fleets.



Globally, the number of personal electric vehicles (PEV) reached 5m in 2018 rising to 127m by 2030 according to Navigant Research.

The global EV charging equipment market is expected to be valued at 140b € in 2030.

In order to reduce the time required to charge EV batteries, charging stations are steadily increasing their power output — from 50 kW up to 350 kW and beyond. This development has created several challenges:

- The costs for a high-power grid connection capable of supporting **fast charging** can be very high
- High power demand is **expensive** and can make EV charging stations unprofitable
- EV charging can create large power peaks which could impact the **grid's stability in the future**

Leclanché Provides a Solution to these Challenges

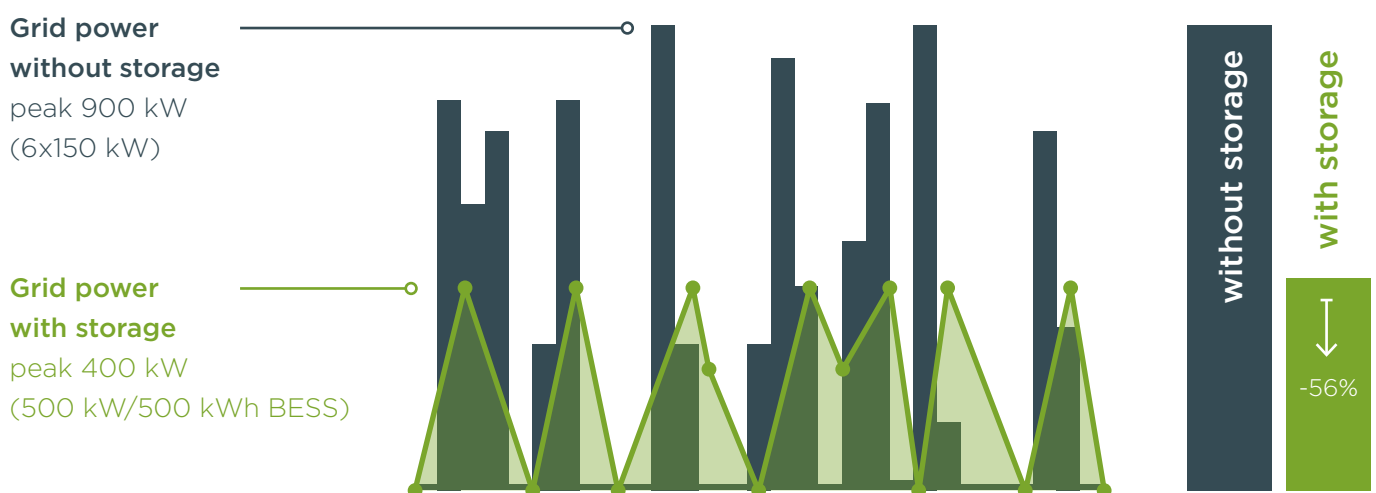
The Leclanché EV Charging Battery Energy Storage System (BESS) enables fast charging to be cost effective by avoiding peak pricing and demand charges while taking advantage of low-cost energy.

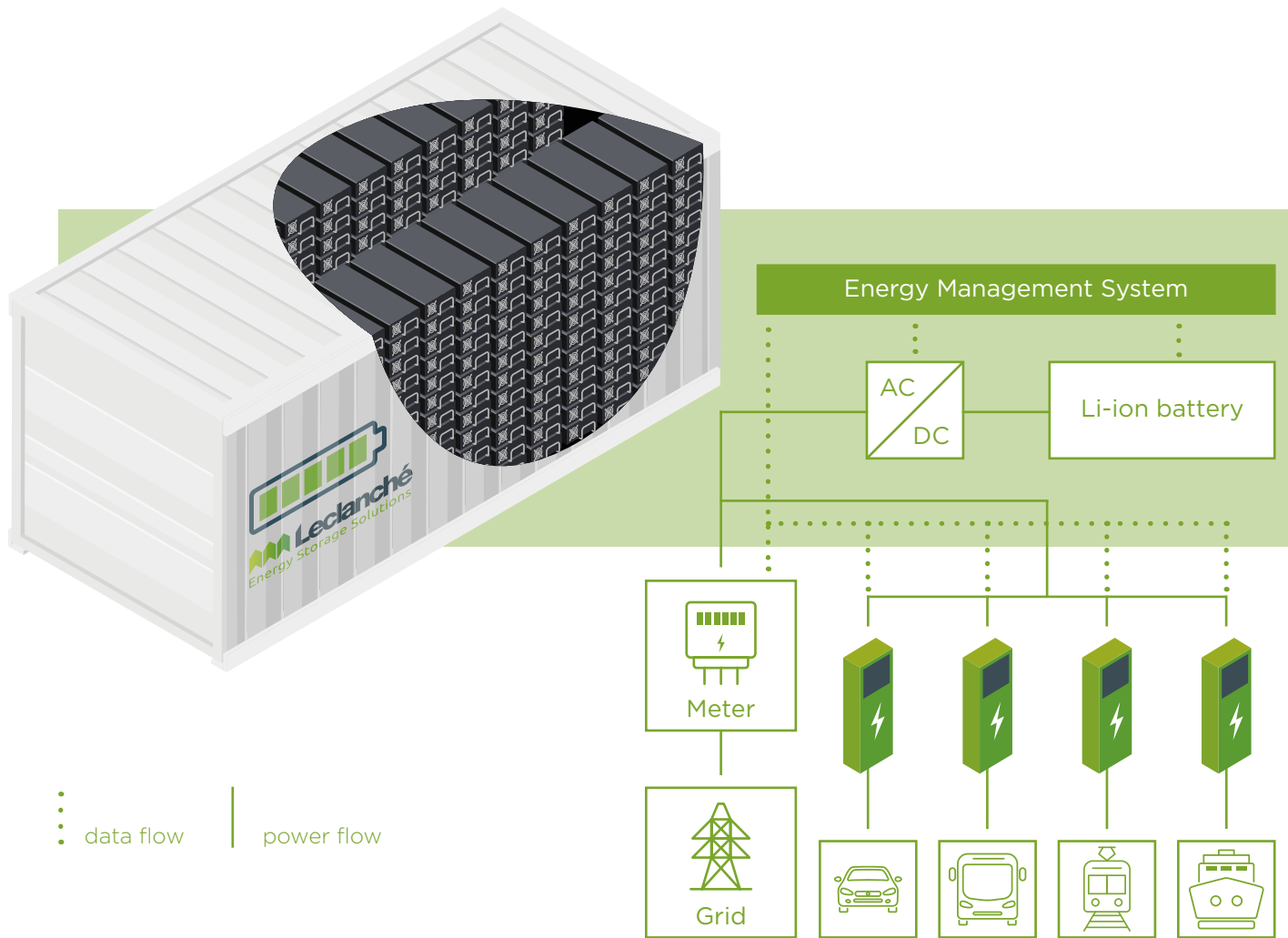
How does it work?

The BESS charges from the grid and provides the power required to charge one or multiple EVs. It thus reduces the demand on the grid by acting as a buffer. Besides EV charging, the battery can provide

valuable services to the customer and the grid creating a better business case. Furthermore, the battery allows for reduced CO₂ emissions by charging and discharging renewable energy.

Example of system:

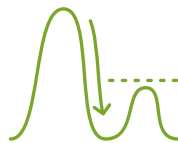




Leclanché's EV fast-charging BESS can be connected to the electrical grid and renewable power sources.



avoid high grid connection costs



reduce load peak costs



fast and powerful charging



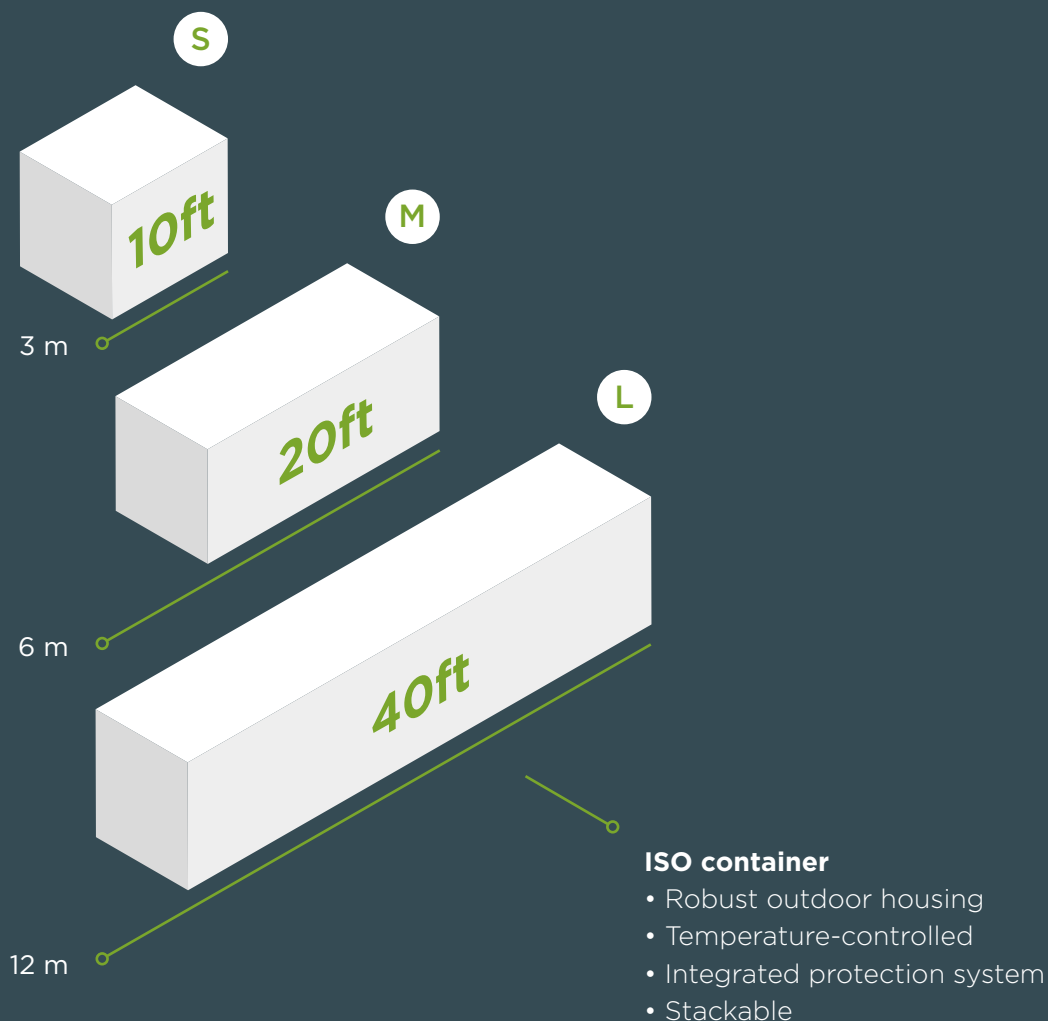
additional services bringing economic advantages



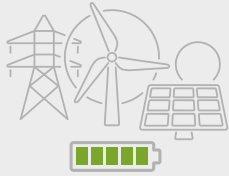
reduce CO₂ emission by utilising renewable energy

Flexible Modular System Configurations

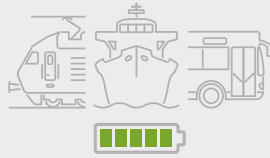
	S	M	L
Nominal AC Power	250 kW	500 kW	1,000 - 3,000 kW
Nameplate Energy Capacity	200 - 400 kWh	500 - 1,000 kWh	up to 3,000 kWh
Enclosure size	3.0 x 2.4 x 2.6 m	6.0 x 2.4 x 2.6 m	12.0 x 2.4 x 2.9 m



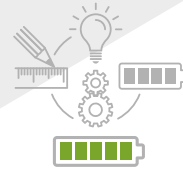
WE ARE IN CHARGE



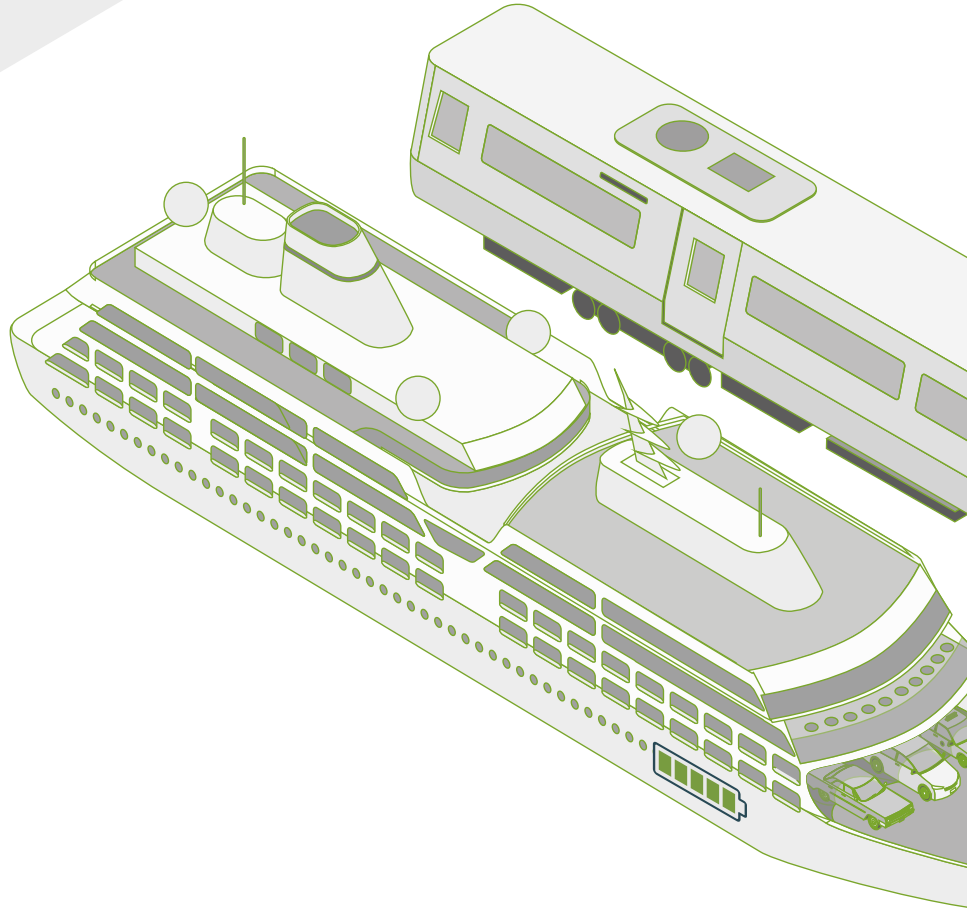
STATIONARY SOLUTIONS



e-TRANSPORT SOLUTIONS



SPECIALTY BATTERY SYSTEMS



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Leclanché is a fully vertically integrated battery energy storage solution provider. It designs, manufactures and delivers a wide range of turnkey energy storage solutions for electricity grids, residential, commercial and industrial applications. Leclanché also provides battery solutions for land based and electric marine transport systems.