

TECHNOLOGY IN ACTION



Decarbonising transport while optimising energy use



Orgalim's Technology in Action case studies showcase how the technology industries we represent are shaping a future that's good for Europe's economy and society - and how the right policy framework can help them do even more. They are extracted from our Technology at Heart series, available in full online at orgalim.eu/technology-heart.

Challenge

As the uptake of electric vehicles (EVs) accelerates in Europe, so does the demand for the electricity to power them. Electricity demand in the transport sector is forecast to increase by 11% between 2017 and 2030, more than any other sector.

And at peak times that increase in demand could be significant. An electric vehicle charged at home can double the amount of electricity used by a residential property. At retail and business locations where customers and employees often want to fast charge their cars before departing again, peak load demand can potentially be even greater.

This puts tremendous load management pressures on a grid that is already challenged with integrating the growing proportion of more variable renewable energy sources in the mix. Without flexibility in the system, the potential for overload and the requirement for new grid infrastructure to cope would ramp up prohibitively.

Solution

Electric vehicle charging solutions sit at the sweet spot of the e-mobility and energy management sectors, providing not only the much needed charging stations for the growing number of EVs on the roads, but also enabling users and distributors to manage and control energy usage to avoid intolerable peaks in demand.

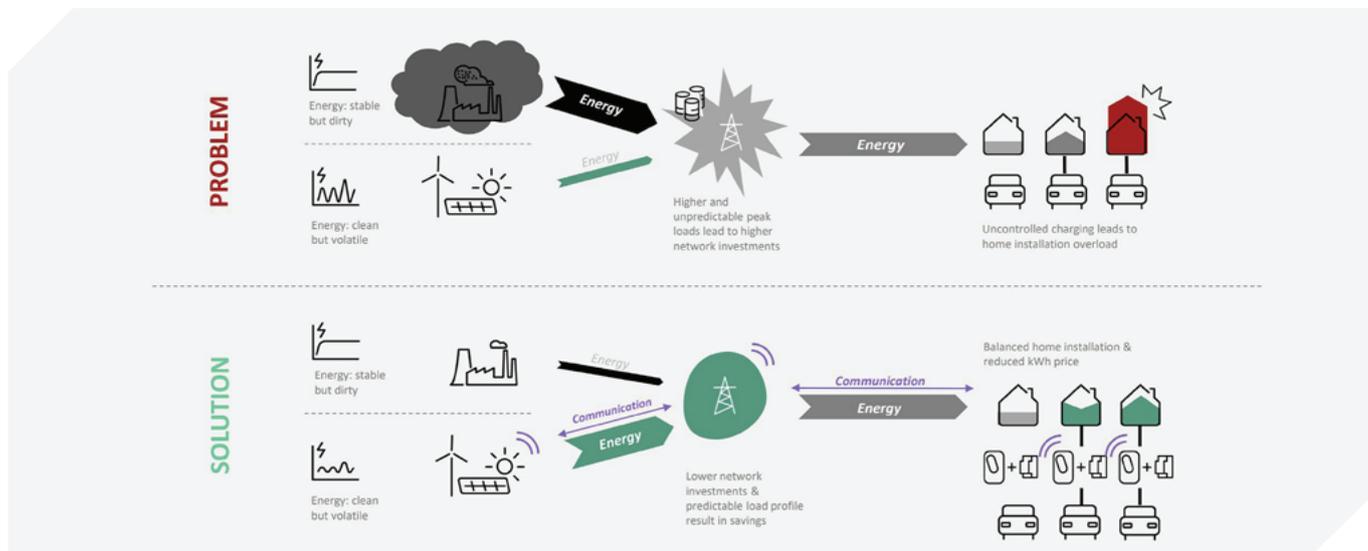
Slovenia-based Etrell makes both the charging station itself and the digital platform to manage the charging network and the loads. Using complex algorithms, Etrell's interactive charging technology balances the charging needs of the user, the vehicle, other chargers installed in the same location, building power supply limitations, local energy surplus and grid demand. "You breathe with the system," as CEO Miha Levstek describes it.

“Our product portfolio is designed to manage and control energy use in electric vehicle charging across the entire energy ecosystem, to ensure EVs become an essential part of smart grids.”



Miha Levstek, CEO, Etrell

In practice, the company's OCEAN smart charging platform allows users – whether EV drivers, charge point operators or e-mobility service providers – to share



Graphic: Etrell

information on loads and available flexibility with power companies in exchange for financial compensation. This gives power companies the possibility to control EV charging load, in order to reduce it in times of peak demand, or use the batteries as a reservoir for electricity from renewable sources at times of high production.

Activating this demand-side flexibility can save up to €5 billion a year in additional grid infrastructure costs across the EU up to 2030.

Policy implications

1. Energy regulators should adopt rules that will enable active and large-scale participation of final customers in the operation of power grids and energy markets.

2. Governments should adopt legislation to enable all citizens to charge their EVs on private charging stations.

3. Municipalities should elaborate short- and long-term plans and define incentives to increase the share of EVs and expand EV charging infrastructure on their territories.

Related Orgalim EU policy positions

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- [Energy Efficiency](#)
- [Energy Performance of Buildings](#)
- [Alternative Fuels Infrastructure](#)
- [Trans-European Networks in Energy](#)

About Etrell, a Landis+Gyr company

ETRELL

a Landis+Gyr company

Since 2007, Etrell has been designing and developing innovative charging solutions that help transform EVs from static consumers to essential building blocks of smart grid infrastructure. Its product portfolio provides stable and scalable solutions to any charge point operator and e-mobility service provider who wants to help EVs become an integral part of the energy infrastructure and facilitate the integration of renewably sourced energy for electric mobility. Etrell's chargers have been recognised by the Solar Impulse Foundation as one of the 1,000 solutions that address environmental challenges without compromising economic growth. In May 2021, the company became a part of Landis+Gyr, a leading global provider of integrated energy management solutions for the utility sector. As a lead for the e-mobility division within the Landis+Gyr Group, Etrell continues to pave the way for sustainable e-mobility and a greener world.

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Orgalim represents Europe's technology industries, comprised of 770,000 innovative companies spanning the mechanical engineering, electrical engineering, electronics and ICT, and metal technology branches. Together they represent the EU's largest manufacturing sector, generating annual turnover of over €2,076 billion, manufacturing one-third of all European exports and providing 11.33 million direct jobs. Orgalim is registered under the European Union Transparency Register – ID number: 20210641335-88.