



# PLATINUM SUPERCHARGER

Platinum-based hydrogen fuel cells are facilitating off-grid recharging solutions for battery electric vehicles

Earlier this year, Chongya, in partnership with China-based international hydrogen energy technology company REFIRE, debuted its hydrogen fuel cell-powered off-grid supercharger for battery electric vehicles (BEVs) at a service station near the city of Rugao in Jiangsu province, China.

The supercharger, which deploys platinum-based proton exchange membrane (PEM) fuel cell technology, can fully recharge a BEV in only ten minutes, delivering up to 480kW of electricity in a footprint that is less than four square metres. The entire charging system can be placed almost anywhere without additional construction or grid-connection requirements, meaning that location can be selected by demand density, rather than by electrical connectivity or high-power availability.

The International Energy Agency estimates that by 2040 electricity demand for transportation will grow by more than one-third and there is no doubt that BEV market growth and the consequent need for recharging is generating demand for reliable power in more places. In the US, for example, there will be an estimated 48 million BEVs on the road by 2030, which will have significant consequences for electrical-grid capacity and delivery.

While the challenge of updating and upgrading power grids and rolling out recharging infrastructure is ongoing, hydrogen fuel cell

charging offers a mobile, off-grid solution for rapid BEV recharging.

## Greater emissions reduction

Chongya and REFIRE are not alone in using PEM technology to provide off-grid recharging solutions. Last year, in the US, Plug Power launched a high-power stationary fuel cell system for charging commercial BEV fleets, which often need to be charged en masse at a single location, requiring a significant increase in power from the grid.

Plug's aim is to overcome the specific challenges faced by this market, from grid power capacity restrictions to long waits for grid infrastructure upgrades and installations, by combining its



REFIRE is a leading China-based international hydrogen energy technology company

18,000-gallon liquid hydrogen tank with its megawatt-scale PEM fuel cell to provide over 60 megawatt hours of instantaneous on-site energy – enough to charge more than 600 BEVs.

Plug has already seen significant interest in its high-power stationary fuel cell system from delivery van fleet owners, rental car companies, and telecom providers with fleets of maintenance vehicles, all of which are focused on deploying

zero-emission BEVs to meet sustainability and operational goals.

What is more, Plug's offering is fuelled by green hydrogen, which is created using renewable energy sources that are brought to the charging site. This means that BEVs charged by Plug's high-power stationary fuel cell can achieve even greater emissions reduction.

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