



Recharging car and your bank account

Published: 15th May 2019

Author: Robin Roberts

Online version: <http://www.wheelswithinwales.uk/recharging-car-and-your-bank-account/>

Cenex launched a detailed analysis of the costs and opportunities of Vehicle to Grid (V2G) charging of electric vehicles (EVs).

The report from the technology group found that bidirectional V2G charging, which sees vehicles provide energy from their batteries to the grid when plugged in, delivers greater value and revenues than unidirectional Smart Charging.

The potential value which can be earned by V2G is highly dependent on the customer, with certain customer types seeing much greater value than others. However, the average V2G chargepoint could generate £186 of additional annual value compared to unmanaged charging, through a combination of energy bill savings and additional revenue from grid services. When compared to unmanaged charging, Smart Charging captures between 40% to 80% of the value of V2G.

One of the findings shows that these revenues increase the longer vehicles spend plugged in. This means that V2G chargepoints where EVs are connected for 75% or more of the time could generate £436 per annum of savings, compared to unidirectional Smart Charging. Based on an assumed one million EVs in the UK with this plug-in behaviour, this group alone has the potential to generate an annual revenue of £436m.



Robert Evans, CEO of Cenex said, “While there has been an increasing focus on Vehicle-to-Grid charging, until now there has been a lack of clear data on its costs and opportunities, holding back the ability of organisations to build effective business cases.

“This report is the first step to bridging this information gap, and it shows multiple use cases where V2G delivers additional revenues and value above Smart Charging, especially around grid services.

By making this information available Cenex aims to support the increased uptake of low emission vehicles and thus accelerate the move to a zero-carbon future.”

“Most electric vehicles (EVs) today offer uni-directional charging. Once you’ve drawn power from the grid and put it into your battery, that’s where it stays until it runs out,” said Cenex.

“This lack of flexibility means you inevitably end up storing more charge than you need, which leaves a huge amount of energy sitting unused in EV batteries across the country.

“In fact, recent studies indicate that storing too much energy in a battery can even damage its health, meaning it won’t last as long as if you look after it properly. In addition, as more people move to EVs in future, with the majority charging them during peak times like arriving at work in the morning or getting home in the evening, we’ll see more spikes in energy consumption and more pressure on the grid.

Cenex found six archetypes that were best suited to V2G and which offer large scale opportunities in the UK market:

- Council fleet - Pool cars
- EV Car clubs
- Company car park
- The Retired Professional
- The Eco-Professional
- The Run-around (EV as 2nd Car)



“In order to avoid escalating electricity costs or restrictions around when you can charge your car, we need a different way of doing things and that’s exactly what vehicle-to-grid (V2G) technology offers.”

This can help increase the use of renewable generation nationally, as well as helping to keep bills down for the EV driver, and a number of other potential benefits. The best thing is, in most cases you can just set it up and forget about it.

“As long as you are plugged in, your V2G charger will make it’s own decisions around how to operate based on the things you’ve told it are important.”

By turning a traditional EV battery into a two-way energy source, we can free up any excess charge to power everything from buildings to other EVs, or even sell it back to the grid.