

Press

00.01 18 October 2018 (Oxford)

Future requirement for three million Electric Vehicle charge points at commercial and industrial sites across Great Britain set to unlock a £6bn investment opportunity

- New independent report from Aurora highlights scale of commercial opportunity in EV charging for workplaces, van fleets, commercial car parks and motorway service stations
- Up to three million Commercial and Industrial (C&I) charge points may be needed by 2040 in Great Britain, opening up a £6bn investment opportunity
- Co-location with energy storage, 'Vehicle-to-Grid', and solar PV can further improve business cases
- Information comes as UK Government implements its 'Road to Zero' strategy, considers the implementation of the Energy Performance in Buildings Directive, and deliberates the future management of the £400m Charging Infrastructure Investment Fund

The installation of Electric Vehicle (EV) charging infrastructure at commercial and industrial (C&I) sites across Great Britain (GB) is set to unlock significant commercial opportunities, which would be bolstered with the addition of solar PV, 'Vehicle-to-Grid' (V2G), and energy storage. This is the key finding of a major new cross-industry study published today (Thursday, 18 October).

The report, 'Opportunities in Electric Vehicle Charging at Commercial and Industrial Sites,' by Aurora Energy Research and supported by Eaton, NatWest, Lombard and the Renewable Energy Association describes the need for up to three million C&I charging points across GB to support the mass roll-out of EVs by 2040.

Aurora's study looks at four main applications of C&I charging: fleet vans, workplace charging, public car parks and motorway service stations, and examines the opportunities and the requirements to unlock investment. Analysis shows that profitable business cases and positive returns for C&I charging applications can be identified in cases where users pay for the electricity they use. For example, supermarket car parks and motorway service stations could see a profitable business case by charging a premium of 5-6p per kWh above retail electricity prices, assuming high levels of utilisation.

Combining EVs with technologies such as vehicle-to-grid (V2G) charging, energy storage systems and solar panels can enhance the opportunity on suitable sites, supporting a lower consumer price for electricity, reducing grid upgrade costs, compensating for lower utilisation rates or providing extra revenues from the capacity market or ancillary services. In the case of a motorway service station in GB, for example, an optimistic scenario for adding solar and storage provides a profitable business case with utilisation of 4 hours per day for each charging point when otherwise a utilisation of 6 hours per day would be needed.

This is positive news for the solar sector which faces the closure of the Feed-in Tariff scheme in April 2019 and is seeking profitable, subsidy-free business models. The study is also timely, as the country celebrates Green GB Week, an annual week designed to highlight the opportunities clean growth offers the UK.

The central case modelled by Aurora predicts 17m EVs by 2040, a huge increase that will have a transformative effect on the whole energy system. Aurora also modelled an ambitious 'high' case using EV figures taken from the "two degrees" scenario in National Grid's 2018 Future Energy Scenarios, with 35m EVs by 2040. In this high case, GB demand for EV charging on commercial and industrial sites could reach 11-15TWh in 2040. This would require 1-3 million charging outlets and an investment of £2bn - £6bn, not counting network upgrade costs. This represents a huge expansion of EV infrastructure from current levels of publicly available charging.

Such investment would result in long-term benefits for consumers and society, with car emissions potentially falling by 90% by 2040 in the high deployment case.

Commenting on the opportunities presented by the growth of charging on C&I sites, Dr. Felix Chow-Kambitsch, Head of Flexible Energy and Battery Storage at Aurora said:

"High electric vehicle deployment over the next twenty years will radically transform Great Britain's energy system, stimulating innovation through a shift to 'smart', increasing flexibility and enhancing the role of renewables in the energy mix. Commercial and Industrial 'smart' charging has a key role to play in meeting high levels of consumer 'away-from-home' EV charging demand and represents an exciting development for the whole energy industry. Additional commercial opportunities offered by V2G, solar and energy storage will help to make the system more flexible, and 'greener', contributing to meeting GB decarbonisation targets."

John Robb, Segment Leader Commercial Buildings EMEA at Eaton said:

“Smart regulation is key to unlock the large scale private investment needed in public EV charging infrastructure. It is clear from Aurora’s economic study that the business case for EV charging investment will be greatly enhanced with regulation that helps fully realise important additional revenue streams associated with vehicle to grid, energy storage and demand response. Eaton looks forward to working with UK regulators and government to help foster the right environment to make the UK a world leader in the adoption of electric vehicles.”

Dr Nina Skorupska CBE, Chief Executive of the Renewable Energy Association said:

“Charging infrastructure deployment is crucial for building consumer confidence in EVs, for growing EV sales, and for achieving our Industrial Strategy goals of manufacturing EVs in the future. This report is a welcome development as it emphasises to businesses and commercial property owners that they too can benefit from the great evolutions currently underway in our transport and energy sectors. We are happy to see the emphasis of the benefits of co-locating multiple clean technologies in this report, including solar and energy storage, as this represents a development in the maturation of the clean energy sector.”

Richard Saint, Head of Energy, Infrastructure & Industrials at NatWest, said:

“The electrification of road transport and the associated energy developments are rapidly becoming a top agenda item for our customers, across a variety of sectors such as Utilities, Industrials, Retail and Transport. Developing flexible and smart EV infrastructure will be important in order to have a strong investment case for investors. NatWest and Lombard are ready to support the large scale deployment of EV charging infrastructure, through the provision of Energy intelligence and a broad range of financing solutions, which is underpinned by our £10bn funding commitment of sustainable energy projects by 2020.”

Downloads

The report is available on request. Click [here](#)

Notes to editors

1. GB low carbon vehicles emission frameworks and policies. See: [Road to Zero](#) and [EV Energy TaskForce](#)
2. National Grid’s 2018 [Future Energy Scenarios](#)
3. Public charging statistics. As of September 2018 there are approximately 17,000 publicly available charging outlets in GB, including on-street charge points, and does not include private workplace charge points. Source: [Zap Map](#)
4. Note on methodology: Aurora has modelled a central case in which EV roll-out in Great Britain reaches 17m by 2040. Aurora also modelled an ambitious ‘high’ case which forecasts 35m EVs by 2040. This ‘high’ case can be used to understand the implications of EV numbers rising sufficiently to support

progress towards GB's 2050 decarbonisation target. Aurora's estimates of the potential number of charge points and amount of investment needed by 2040 are based on the high case.

5. The Prime Minister's speech at the Zero Emission Vehicle Summit can be found [here](#)
6. Feed in Tariff news [here](#)
7. Charging Infrastructure Investment Fund. Click [here](#)
8. Green GB Week. Click [here](#)

Media contacts

Aurora Energy Research

Dr Rachel Roffe: rachel.roffe@auroraer.com M: +44 (0)7584254232

Twitter: Follow us @AuroraER_Oxford

Website: <http://www.auroraer.com>

About Aurora

Aurora Energy Research is a leading European independent energy market modelling and analytics company founded in 2013 by University of Oxford Professors and economists. Aurora provides deep insights into European and global energy markets supported by cutting edge models and data driven analytics to support project development and investment decisions. Services include subscription-based forecasts, reports, forums and bespoke consultancy services. Aurora Energy Research has offices in Oxford and Berlin. For further information, please visit: <http://www.auroraer.com>

About Eaton

Eaton is a power management company with 2017 sales of \$20.4 billion. We provide energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton is dedicated to improving the quality of life and the environment through the use of power management technologies and services. Eaton has approximately 98,000 employees and sells products to customers in more than 175 countries. For more information, visit www.uk.eaton.com & follow @ETN_EMEA.

Media contact: Vera Grishchenko; veragrishchenko@eaton.com M: +44 (0)7583090560

About NatWest

NatWest serves customers in England and Wales, supporting them with their personal, private, and business banking needs. NatWest helps customers at all stages in their lives, from opening student accounts, to buying their first home, setting up a business, and saving for retirement.

Alongside a wide range of banking services, NatWest offers businesses specialist sector knowledge in areas such as manufacturing and technology, as well as access to specialist entrepreneurial support.

About Lombard

As the largest asset financier provider in the UK and voted Best Leasing & Asset Finance Provider by Business Moneyfacts for seven consecutive years from 2009 to 2016, Lombard provides various forms of asset finance to many different types of businesses, from SMEs to large multi-national corporates. Products range from Hire Purchase, Finance Lease, Operating Lease, to Sale and Leaseback, as well as specialist divisions that provide funding for manufacturing, sustainable and green energy, agriculture and technology products.

Lombard North Central Plc is authorised and regulated by the Financial Conduct Authority for consumer credit activities. For Insurance Mediation, Lombard North Central Plc is an appointed representative of The Royal Bank of Scotland plc, which is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Security may be required. Product fees may apply.

About the Renewable Energy Association (REA)

The REA is the UK's largest trade association for renewable energy and clean technologies with around 550 members operating across heat, transport, power and recycling. The REA is a not-for-profit organisation that represents renewable energy and clean technology companies operating in over fourteen sectors, ranging from biogas and renewable fuels to solar and electric vehicles. Membership ranges from major multinationals to sole traders.

The REA's EV sector group is comprised of around 70 members delivering the critical infrastructure needed to deliver the transition to a zero-emission car and van future. The REA additionally serves as secretariat to the All-Party Parliamentary Group on Electric and Automated Vehicles.

For more information, visit: www.r-e-a.net