

Review of Electric Vehicle Uptake Forecasts

This report provides an update to our “Best View” on likely future uptakes of electric vehicles (EVs). This report will be used to inform our ongoing network reinforcement strategy and plans as part of our ED1 Business Plan. Our original EV forecasts were produced in January 2014, before EVs had made any real market impression. Now, three years later, the market has had more opportunity to develop and more information on historical uptake is now available, so this is an ideal time to perform this review.

Executive Summary

In general, the uptake of EVs will be driven by Government policy and incentives. As an example, this is clearly evident in the case of the Feed-in Tariff (FIT), which was very effective at promoting the rapid uptake of photovoltaics, for instance.

It is anticipated that the Government will encourage the uptake of low carbon electricity generation before stimulating growth in low carbon electricity demand and the transition to electric transport (and electric heating). Up until now, Government incentives for EVs have not been strong. But with significant additional levels of low carbon generation now installed, it is anticipated that the Government is likely to strengthen the incentives for low carbon transport.

DECC (now BEIS) recently updated their own EV uptake forecasts upon which our original forecasts were primarily based. However, the changes are small and whilst we have now taken these changes on board, they are not sufficient for us to materially change our Best View.

The current Government EV uptake forecasts, which can be used for scenario planning purposes, is shown in Figure 1. This shows that there could be between 3 Million (low) and 10.5 Million (high) EVs in the UK in 15 years time (i.e. by the year 2030).

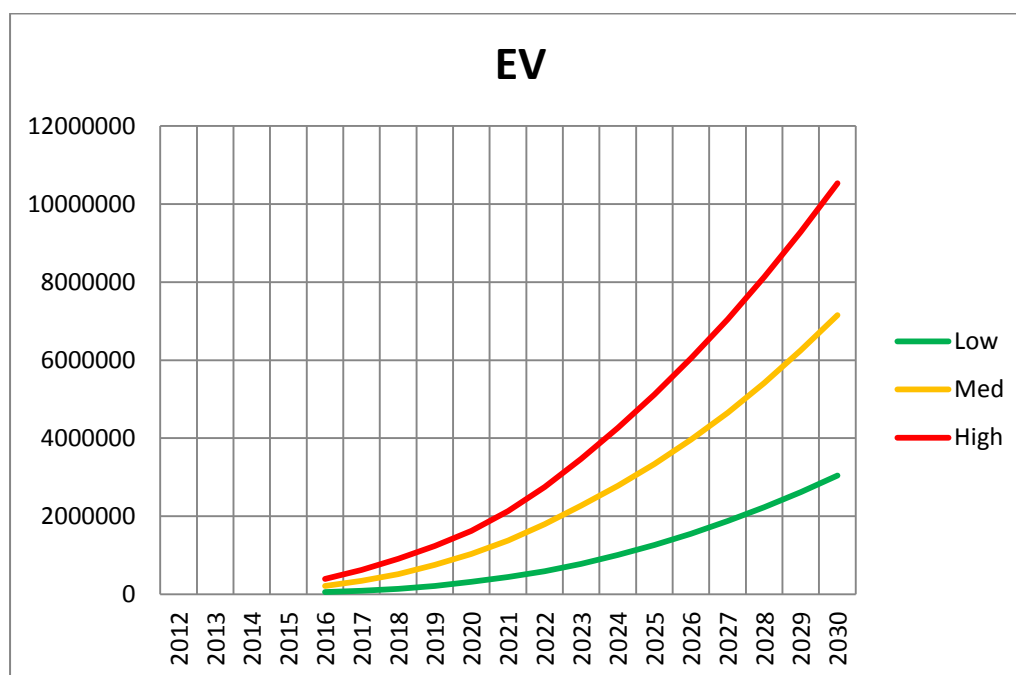


Figure 1: Government forecasts for the uptake of EVs

To give an idea of scale and context, according to the Society of Motor Manufacturers (SMMT), there are currently some 32 million cars in the UK and about 2.5 million new cars are sold every year¹.

The following sections provide further detail on electric vehicles:

- Since the launch of the Plug-In Car Grant in January 2011, there have been approximately 90,000 eligible cars registered, with new sales of ultra-low emission vehicles (ULEVs) running at around 30,000 per year . With approximately 2.5 million total new car sales annually, ULEVs currently represent around 1.2% of all new car sales.
- We have noted the recent trend in Plug-in Hybrid Electric Vehicles (PHEVs), with sales of PHEVs (most notably the Mitsubishi Outlander) outstripping sales of the most popular pure EV (the Nissan Leaf) in 2016. The “electric-only” driving range of PHEVs is generally less than pure EVs and the battery in the PHEV can be charged by its own internal combustion engine, so the level of network-based plug-in charging is less well known for PHEVs. So, given this uncertainty, we will be treating PHEVs in the same way as EVs for the purposes of network planning during the ED1 period until the charging profiles of PHEVs are better understood.
- One of the key methods for minimising the cost to customers of accommodating widespread EV charging on distribution networks is by encouraging diversity in EV charging. This can be done most effectively by introducing some element of network-based EV charging management. This concept is being explored as part of the ongoing Ofgem network innovation-funded “Car Connect” project².

In terms of the two SP Energy Networks network licence areas, SPD and SPM, we anticipate approximately 7% of the total UK uptake of EVs will connect within our SPD licence area and about 5% will connect within our SPM licence area. The forecast is shown in Figure 2 and Figure 3.

¹ <https://www.smmt.co.uk/industry-topics/uk-automotive/>

² <http://www.smarternetworks.org/Project.aspx?ProjectID=1905>

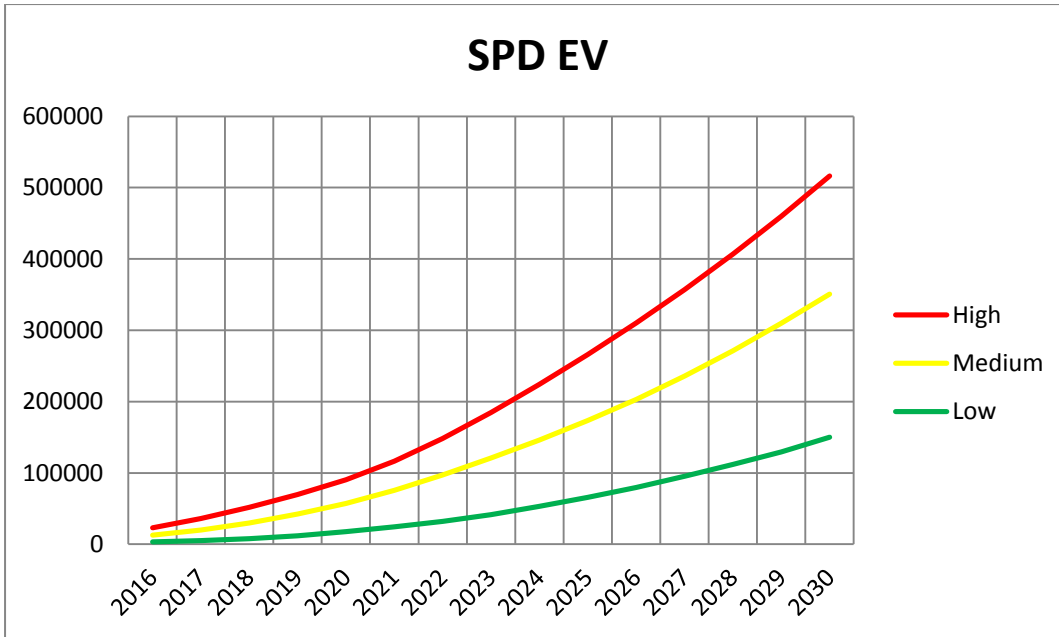


Figure 2: Forecast uptake of EVs within the SPD distribution licence area

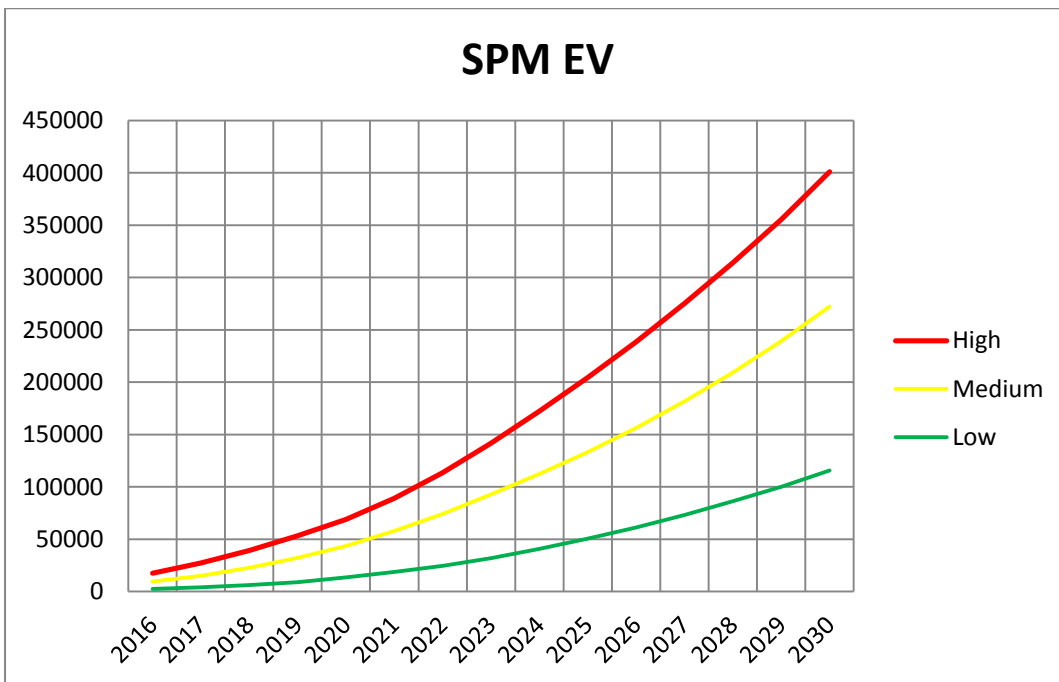


Figure 3: Forecast uptake of EVs within the SPM distribution licence area

- The rate of uptake of electric vehicles within our two franchise areas (SP Distribution and SP Manweb) is currently less than the Government’s “low” forecast, above, with less than 100 notifications of EV charger installations per month in each of our two licence areas
- However, a change in Government policy could change the rate of uptake dramatically, so at this stage we have no plans to revise down our EV uptake forecasts for the ED1 period.
- Our Best View forecast is that approximately 1.8% of our customers will own an electric vehicle by the end of the ED1 price control period (i.e. by 2023). This aligns with the Government “low” forecast in the above graphs.