

OLEV On-street Residential Chargepoint Scheme – Case Study Webinar Question and Answers – 13/06/17

Q1. How secure are the lamppost cables and are they easily stolen?

Greg Edwards, London Borough of Hounslow: The cables use the standard infrastructure locking mechanism that you get in all chargepoints. When the cable is plugged into the electric vehicle and plugged into the infrastructure end, both ends lock and will stay locked until you stop the charging by unlocking the cable from the car. So far, we have not had any wrongdoing or stolen cables.

Q2. Have you had any incidents where people have tried to damage the units? Are they relatively damage proof?

Greg: We have not had any incidents so far. If the cable is plugged into the socket and into the electric car, the locking mechanism will stop an opportunist thief but the unit will of course not withstand substantial impact. When the cable is not plugged in, the charging point is very discreet and will just appear as an ordinary lamppost/streetlight.

Q3. How did the process of retrofitting car club bays with the lamppost charging technology work?

Greg: We are about to start the process, have not as yet. We are looking at where these streetlights are located, which are not always going to be located right in front of a car club bay. This means that we have to either move the car club bay or think about installing a normal post mounted chargepoint. Generally, we do not put car club bays right outside resident houses so we are not going to receive massive objection from residents regarding installing charging infrastructure. I do not see any issues around installing pole mounted chargepoints. It did take some convincing of the car club operator in Hounslow, Zipcar, as they were slightly reluctant at the start because it is a new technology. They were seeking a tried and tested technology that they can rely on. At this stage, I am not able to discuss much in terms of experience so far but we are going to try and install lamppost chargepoints where we can to reduce costs but if not then we will install normal post mounted chargepoints.

Ubitricity also do a post mounted version of chargepoints which uses the same technology and still reduces cost. Their version is much smaller and slimmer and does not have as many gadgets on the chargepoint compared to the chargepoints we usually see.

Q4. How long does a typical electric vehicle take to charge via the lamp column charging infrastructure?

Greg: There are two versions we have installed. One is a 16 amp charger which equates to around the same charge speed as a 3kW charger. Although it really depends on the car. A

lot of residents have hybrids which generally have small batteries, up to around 10 kWh. Those would take 3 or 4 hours to charge. A pure EV – something like a Renault Zoe, with a 40kWh battery – will take 7 or 8 hours to charge.

Teslas, with up to 100kWh batteries, would probably take around 18 to 20 hours to charge on a 3kW charger. This is quite a long time for a full charge and this is why we installed more powerful 32 amp chargers, which perform more like a conventional 7kW charger. No modifications need to be made to upgrade from a 16 amp to a 32 amp charger. We do not need to improve the earthing in any way as the same earthing threshold applies for both the 16 amp and the 32 amp versions, so we can install the latter without any problems.

Q5. Streetlights in Cambridgeshire are owned and maintained by Balfour Beatty plc on a long term contract. Do you know if that would preclude lamppost charging?

Greg: You will need to understand the details of that relationship and seek permission from the owners of the asset to carry out any work. I would assume that the Local Authority must still be the owners of the asset and just have a contract for the streetlights to be maintained by this company. If this is the case, we also have the same set up in Hounslow. We have a PFI for Highways who are owned by Ringway (operates highway maintenance contracts). It is up to us to decide what we chose to do with the asset but installing lamppost charging is going to have implications with the other work that highways do. So, it has been a process of getting the Highways Authority interested, talking to them and showing them the technology we have been thinking about. We were interested in installing this technology a year and a half ago and it took 6 months to talk to the DNO and get the Highways Authority on board.

Q6. Have you found a solution for streetlights that are away from the kerbside or do you just rule those locations out from your lamppost charging plans?

Elizabeth Bohun, Oxford City Council: This is something that still needs to be worked on in the future, we have not found anything that is ready made yet. However, there are potential adaptations that could be made. For example, there is a German company we had initial discussions with who can provide a streetlight with an overhanging cable. However, you would need to have a tethered cable for this to work here and that is something which we have not seen in the UK. However, this was something they were developing at the time.

I think there are some options around tapping into the power supply of the lamp column and having separate pole mounted sockets. You tend to come across the same issues around adding additional street clutter and still restricting the width of the footway which creates accessibility problems. For example, with pole mounted pillars there are still issues of potentially restricting access, so I think it is something that needs to be looked at nationally, and reviewed on a wider scale.