

What is required in order to ensure that rural / remote communities and those without off-street parking are well served by charging infrastructure?

- Encouraging free energy capture in rural locations with grants to support it, small scale wind turbines, ground source heat pumps and solar arrays to reduce the demand on the grid or offset usage.
- Improved electrical infrastructure and dedicated places at leisure facilities (campsites, gyms, parks), work and community and shop car parks that allow for charging at every opportunity when the vehicle is not in motion.

What challenges or difficulties related to chargepoints might act as a barrier to consumers switching from a conventionally fuelled passenger vehicle to an EV and how might these be overcome?

- Currently charging points are not suitable to larger vehicles (headroom and space) and those towing a trailer or caravan. Currently all form of trailers would require (if there is space) to unhitch which in turn may cause issues with security and insurance T&Cs.
- The multitude of charging systems and payment options causes issues, a common connection and payment system would help ease this.
- The very low number of publicly accessible charging points in rural locations.
- The lack of electrical grid network capacity in rural locations being able to cope with the increased demands.
- Having the confidence that the vehicle won't just stop running while in an isolated location. Hybrids or hydrogen technology work much better to give a guaranteed reserve if needed.
- If battery range can be improved this may offset some of the above.

Do particular groups of consumers face additional challenges to interacting with the sector and if so, who and why? How might these be overcome?

- Yes. Those towing a trailer or caravan don't have the choice of affordable EV vehicles, currently the UK only has five vehicles suitable to towing and all are out of the normal range a typical consumer could afford.
- Motorhomes are based mainly on commercial vans however they are heavy and will suffer from very poor range as a pure EV. So they won't fit the requirements of the user, which is essentially to tour around a country.

- Driving licencing would also need to change to offset at least the lost weight capacity the battery and system take up. All motorhomes and caravans operate near the gross limit of the vehicle so they only have relatively small payloads that a battery system would significantly reduce. Most people operate on the B only licence, which limits a vehicle or caravan and car combination to 3,500kg. We understand the EU is talking about increasing this to 4750kg for a basic B licence holder.
- Something could be done with the caravan industry to develop lighter technology suitable for these EVs. However aerodynamics is a primary factor and with significant reductions in drag range may be extended. Caravans are still running on separate chassis and the mainly wood floor is bolted to this to form the stable structure, however this is relatively heavy.

What are the main existing and potential barriers to entry and expansion for EV charging providers and how can these be addressed?

- The rapid evolution of EV and what this will look like in just the next couple of years is a big concern from a campsite perspective. The investment levels are not small and could be out of date in a very short period of time. The current electricity supplies into our existing campsite locations are also only suitable for the current operational delivery. If power upgrades are needed these can be tens of thousands of pounds that, when on top of the charging points costs, would make it a non-starter.

What incentives are there for private investment in EV charging infrastructure including within the different sector segments? How might incentives need to change for the future growth of the sector and development of competition?

- Grants for installations and utility power upgrades would be needed. There is little if any financial return by installing an EV charging point, so when businesses are already having to invest heavily to maintain their core business, there are not the funds available to invest in non-core services.