

Charging Electric Vehicles

Matthew Trevaskis - Drivenenergy Ltd

Cargreen, 7th March 2022





Advice to fleets and retail customers.

e.g. designing project with 15 Renault ZOE for the NHS. Working with public and private customers to design complete solutions.





 **Drivenergy**[®]



Age UK Cornwall project – from Penzance to Pensilva

6 lowered floor Wheelchair Accessible Vehicle (WAV) conversions.

Supplied from 'host' businesses but accurately metered for reimbursement.





Charging infrastructure design and provision

Dealerships require significant amounts of charging infrastructure.
Dynamic Load Management can avoid significant connection upgrades.



Charging

Most convenient if you can charge at home, usually overnight (also best time for the grid). Start every day fully charged, with pre-conditioned car. Challenges: 60A supplies; looped supplies; need for 2 charging points. New DNO supplies often three-phase.



Smart charging from PV to absorb energy as it is produced.
AC draw can vary 6A to 32A (1.4kW to 7.4kW - or 22kW three-phase)

Home

Public

'Smart'



7kW



7kW-11kW
(22kW)



22kW

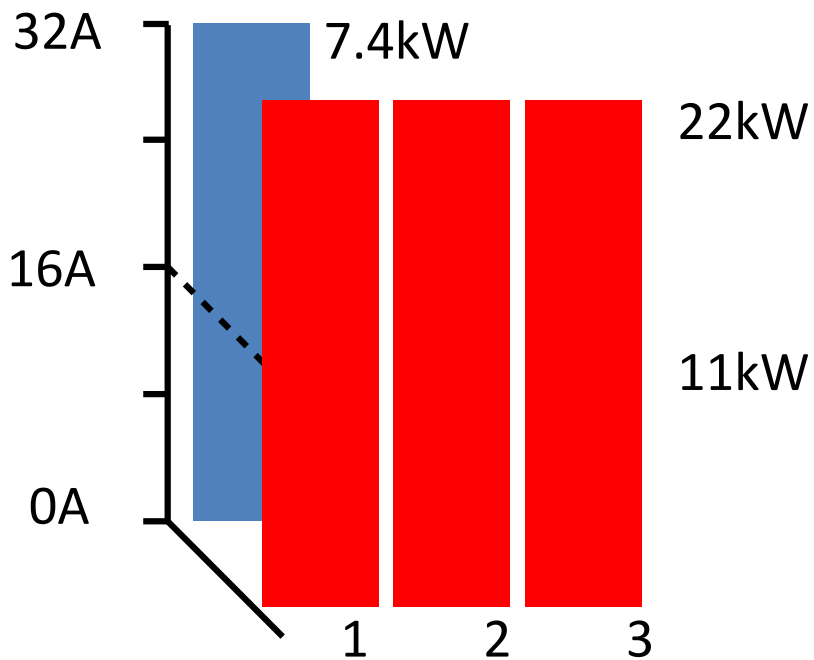


50kW
150kW
350kW

AC charging most cost-effective for overnight / commuter parking.

All new charging points (in GB) must be 'smart' from 30th June 2022.

DC charging can be suitable for a fleet, workplace or, exceptionally, a residential area.



Charging up to 7.4kW at home (240V AC)

Charging up to 22kW (three-phase AC) at work, supermarkets, car parks.





Rapid Charging: 30-45 minutes, now with the 'CCS' connector standardised.
50kW / 150kW / 350kW

ecodrive



Gridserve electric forecourt (Essex) - 20 electric hubs to follow

Financed by Hitachi Capital.

Plus other high power charging from Instavolt (150kW) and IONITY (350kW)





Smart EQ

Now ONLY available as an EV. 22kW AC charging. No DC rapid charging.





Peugeot e-208

50 kWh battery. Charging: 7kW (11kW optional) + CCS

Very similar to the Vauxhall Corsa-e (shared platform)

ecodrive_e



Kia Soul / e-Niro & Hyundai Kona EV

64kWh. Newer models with 11kW charging.



BMW i4

10% to 80% in 31 minutes at 200kW+ Rapid Charger (12 months' free access to IONITY)
250kW (340hp), 80 kWh, 347-365 mile range (WLTP), 0-62mph in 5.7s.

ecodrive_e



Audi e-tron

95 kWh battery. Charging: 11 kW AC + CCS. Audi e-tron GT with 22kW AC option.



Freestanding or wall mount

Retrofit or during (re)development.

Groundworks can be provided for an expanded network.



Home Charging (for fleet)

Liability; Reimbursement; Displaced workplace charging. MID metering. Data connection. More than 1 point?
£350 grant ending March 2022. Likely will be more options for leasing.





Apartments

Alternatively wired to 'landlord' supply, or ideally separate DNO metered supply. 'MID' metered hardware.
Remote management 'backend' service for transparency of billing.



matthew.trevaskis@drivenergy.uk

0800 CHARGE (242743)
www.drivenergy.uk

Twitter: @Drivenergy
Facebook: /Drivenergy

