



First in Traffic Solutions.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE IN SCOTLAND

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Evolt



APT PARKING & EMOBILITY

Swarco UK
Region 2 – Northern Europe



Swarco Parking & eMobility



SWARCO – over 40 years of experience in the traffic management & safety industry

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traffic
management
companies



One of the
world's biggest
traffic safety
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SWARCO today is a growing
international group providing a
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ELECTRIC VEHICLE CHARGING
ACCESS AND PARKING
STREET LIGHTING
ENFORCEMENT
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SIGNALING
ROAD MARKING

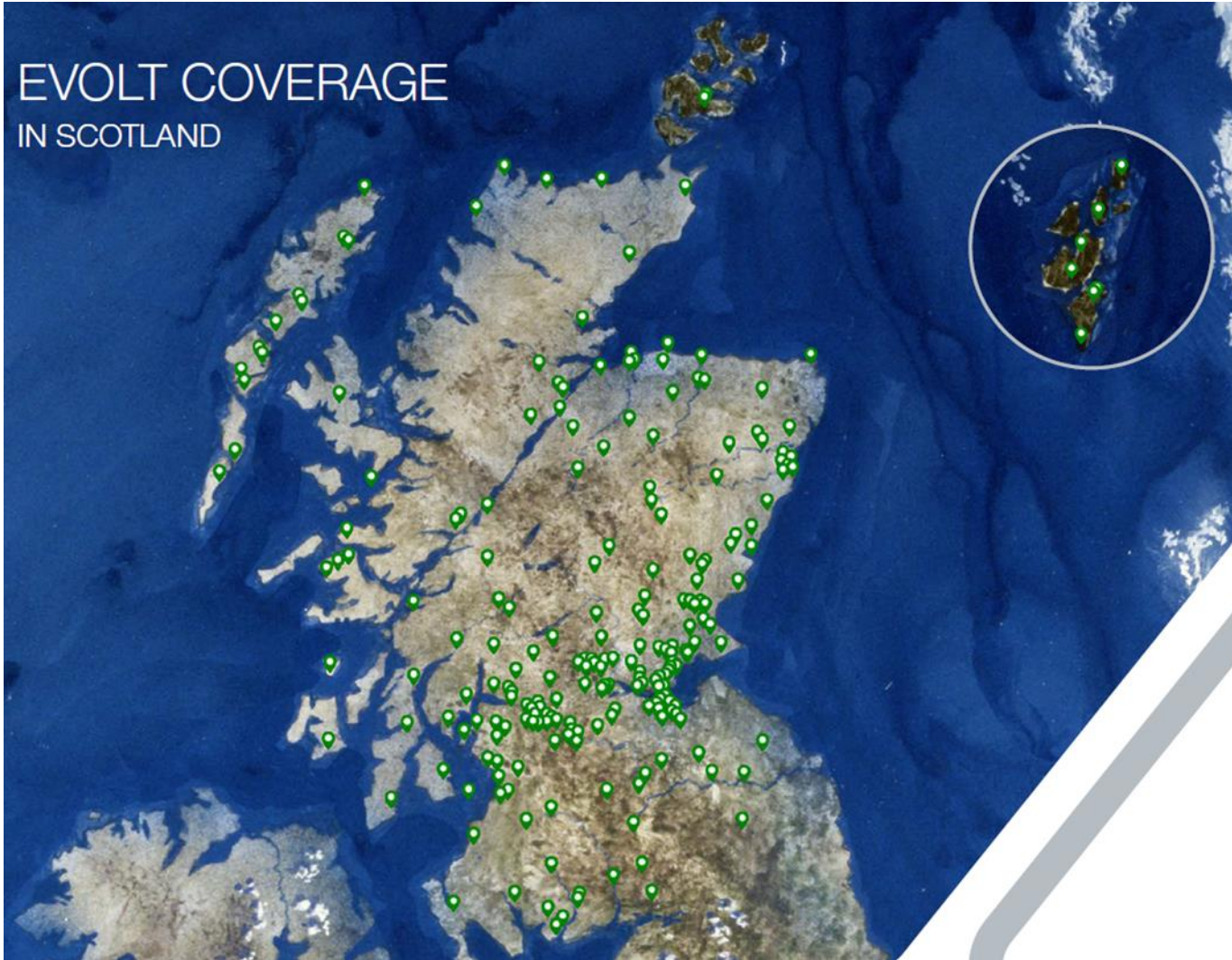
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EVOLT COVERAGE IN SCOTLAND





ELECTRIC VEHICLE
CHARGING – THE
PRESENT

THE HERE AND NOW

7kW/22kW AC



THE HERE AND NOW

Street-lighting
Column

22kW DC Fast

50kW Rapid





FACTORS TO CONSIDER

- Location.....and available power supply
- Engagement with the DNO
- Ease of install (wall vs post)
- Ensuring robust comms
- The user experience
- Creating resilience for the network

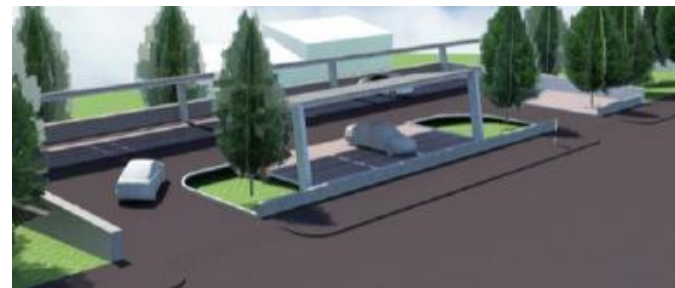
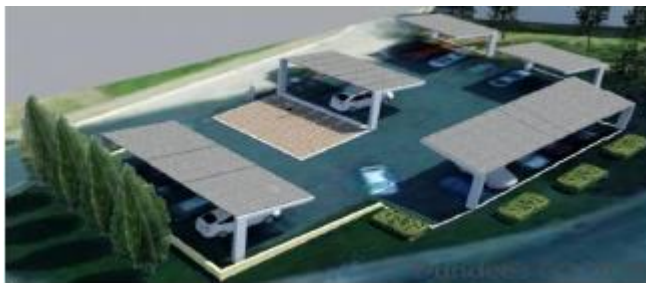
THE GROWTH OF HUBS





ELECTRIC VEHICLE CHARGING – FUTURE MOVES

DUNDEE – THE FUTURE





ENSURING UTILISATION

- Free parking for EVs in the city
- Free to use charging facilities
- EVs are mandatory for any new private hire plate
- Promotion and education
- Transport Scotland paper on local incentives

DYNAMIC LOAD MANAGEMENT



OSLO EXAMPLE

- Vulkan P Garage
- 102 chargepoints (inc 2 rapids)
- Energy storage
- Dynamic load management
- 100 spots leased out between 5pm and 9am
- Integration of payment for EV charging in parking payment system



ENERGY STORAGE



Reduces need for expensive grid upgrades
Integrated control of EV chargers
Links PV to EV
Reactive and active grid load management
Dynamic load balancing

THE FUTURE OF CHARGING TECHNOLOGY

- 150kW/350kW rapid charging
- V2G
- Induction charging
- Simplification of authorisation and payment method

....BUT WHAT TO INSTALL NOW??????????????

THE CHALLENGES

- A national network of anything
 - Prime locations vs available locations
 - Planning constraints
 - DNO engagement
 - Changing technology
 - Interoperability
 - Proving the commercial model
 - Consistency across Scotland
-

But the potential is out there

LARGE ORGANISATIONS.....CAN THEY FILL THE GAPS?

- Braehead Shopping Centre
- Fountain Park Edinburgh
- CALMAC
- Tourist destinations (e.g. Blair Drummond, Falkirk Wheel)





LESSONS LEARNED

- Early DNO engagement is key
- Shift the burden of work to suppliers
- The need for frameworks
- Test mobile coverage at site selection stage
- Enforcement of bays



MORE LESSONS LEARNED

- The need for hubs
- Keep in touch with the funders
- Consideration of dumb/smart chargers where appropriate
- Cost savings with wall-unit installations

MANY THANKS

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