The Better Way. Every Day. swarco

CHARGING INFRASTRUCTURE IN UNIVERSITIES AND COLLEGES

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Bob Murphy
eVolt Business Development Manager (Scotland)

www.swarco.com

WHO IS SWARCO?

- SWARCO is a Group of 80 Companies focused on the Traffic & Transportation market, headquartered in Wattens in Austria
- Founded in 1969 & privately owned by Manfred Swarovski & family
- Present in over 30 countries across Europe and USA
- Selling in over 70 countries worldwide
- Originally founded to produce glass beads and road marking products - still a market leader in that field
- +£550m Turnover

SWAROVSKI


Traffic
Management


Road Marking
Systems


Connected
Driving

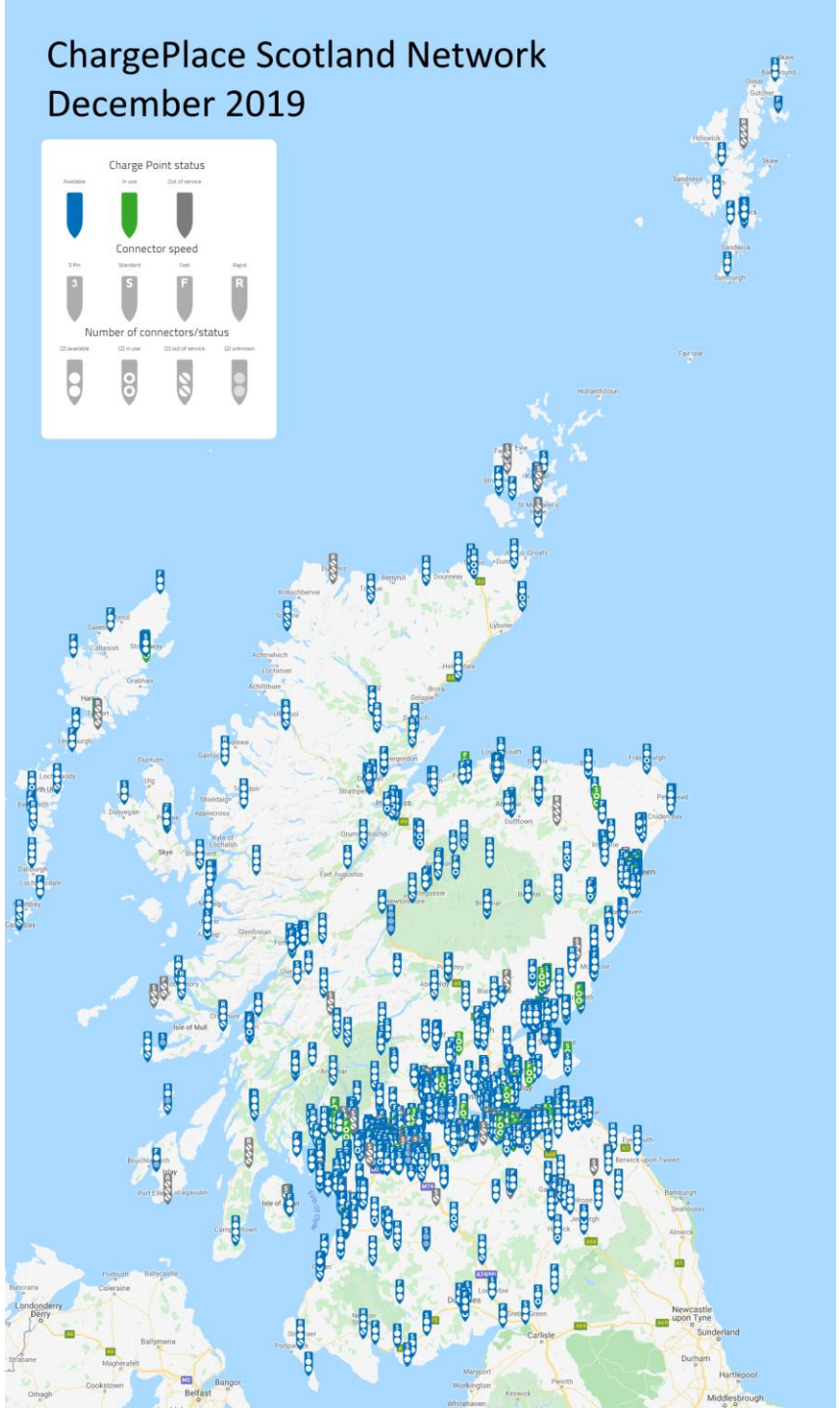

Parking


Public
Transport


Street
Lighting

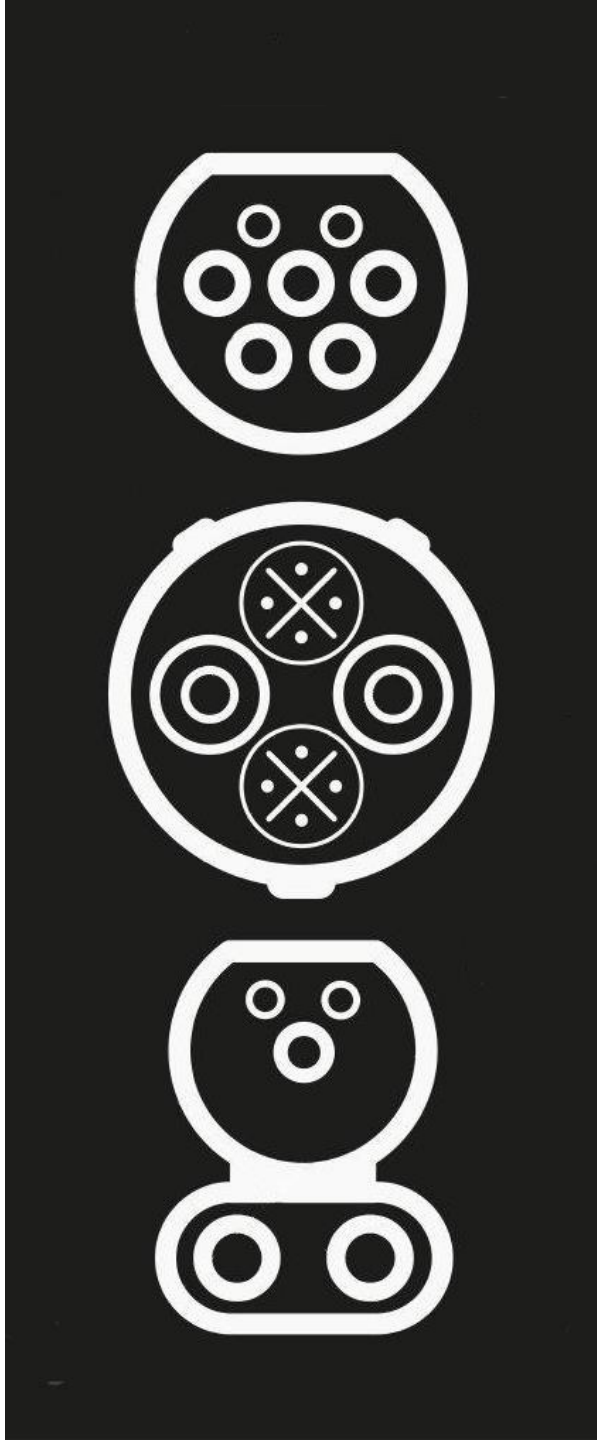
STATS

- **+1,000** charge points now available in Scotland
- National network - ChargePlace Scotland
- More added weekly
- Multiple large-scale projects in progress
- More hubs. New workplace and public chargers.
- 80% of charging done at home



CHARGING BASICS

- There are three core modes of EV charging – **rapid, fast, and slow**
- Rapid chargers usually take 30 to 40 minutes on **AC or DC**.
  - DC CHAdeMO – Power = 50kW, *suitable for Nissan, Kia, Mitsubishi*
  - DC CCS – Power = 50kW, *suitable for BMW, VW, Hyundai*
  - AC – Power = 43kW, suitable for *Renault Zoe*
- AC Fast chargers cover those with 7kW and 22kW power outputs, which typically charge an EV in 4 to 6 hours. Ideal for fleet.
- AC Slow units (up to 3kW) are best for overnight charging and usually take between 8 to 12 hours. Useful where power is limited.
- The charging speed at the vehicle available will depend on its specifications, the power supply available, and charging equipment fitted.
- Important to review ops and establish best fit.



WORKPLACE/PUBLIC EQUIPMENT

eVolve AC posts/wallbox

- Wall or Ground mounted & weatherproof – IP54
- Single or 3-phase AC output (16 or 32 Amps; 7kW to 22kW per socket).
- Type 2 (EN62196) sockets as standard.
- Compatible with all EV's that meet the EN61851-1 comms standard (mode 3).
- Aluminium/ABS construction.
- 3G/GPRS modem
- RFID card reader and built in display with user instructions.
- LED status lights.
- OCPP 1.6 compatible

Raption Rapid Chargers

- Dual charging
- Lockable tethered leads
- Modular power technology
- Weatherproof - IP54
- RFID card reader and 8* built-in display & multi-language
- LED status lights (individual lighting for AC & DC)
- LED down lighting
- Simple to use & compact
- 3-phase, 100A or greater supply required
- OCPP 1.6 compatible
- Available as 22kW DC Fast

DOMESTIC EQUIPMENT *(NON-FUNDED)*

SMART CHARGER

BASIC CHARGER

Hardware

- Backlight LCD display
- Kwh consumption in real time
- Indicators: “Available”, “Reserved”, “Not available”
- Instructions for use displayed on screen
- User ID
- Compatible with Mode 3 IEC 61851-1 (Certified)
- Type I, Type 2 connectors, in compliance with IEC 62196-2 regulations
- IK10 Vandal-proof aluminium & ABS
- Protection degree: IP54 and anti-graffiti finish
- RFID identification and pre-payment
- Mechanical locking of the Type 2 socket
- Circuit breaker and earth leakage protection
- Customisable

Remote Charge Activation

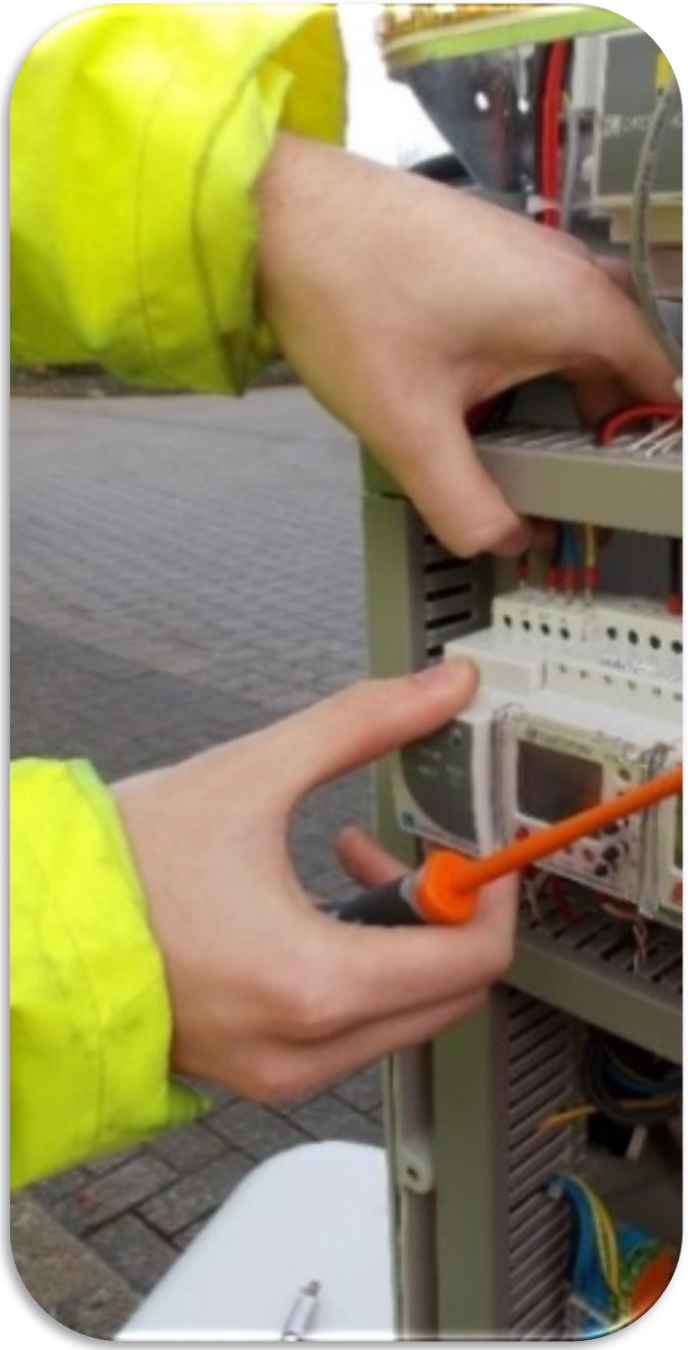
Easy Installation

Modern Design

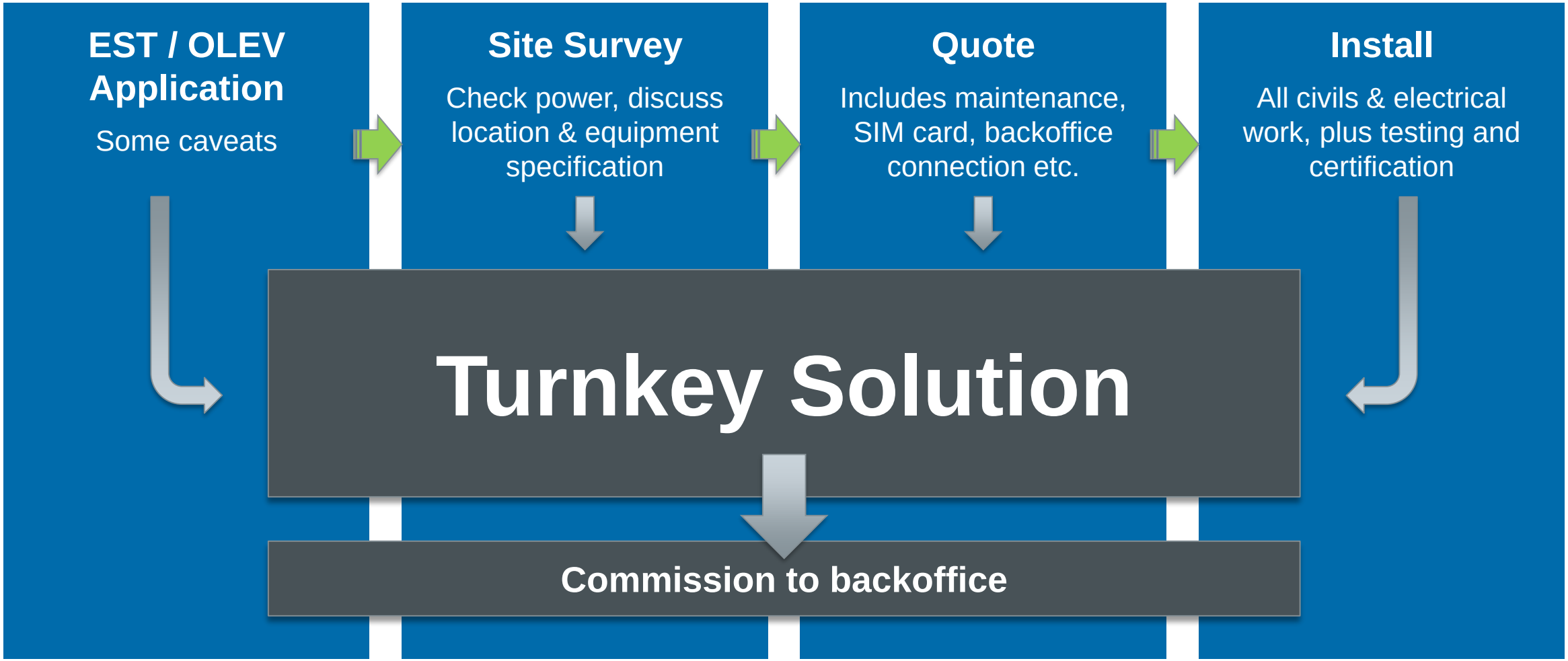
Status Lights

SUPPORT

- 3 year warranty, plus:
  - Scottish-based service technicians
  - Remote monitoring of equipment
  - Annual preventative maintenance
  - Remote diagnostics and repair
  - Site visit within 48 hours or less
  - Engineers use EV’s allowing instant field testing



FUNDED CHARGERS - THE PROCESS



BENEFITS

Dearbonisation

- Critical to meet challenging climate change goals and prepare for phasing out of petrol & diesel
- Allows for improved emissions reporting
- Staff members personal cars CO2 reduction

Cost Savings

- Huge potential savings on fuel & Grey Fleet expenses
- Ability to set tariffs for public/staff use
- No road tax for pure BEV, less servicing & maintenance

Build into curriculum

- Enhanced learning opportunities
- Doorway to more in depth climate & renewables discussions
- Preparing students for the future

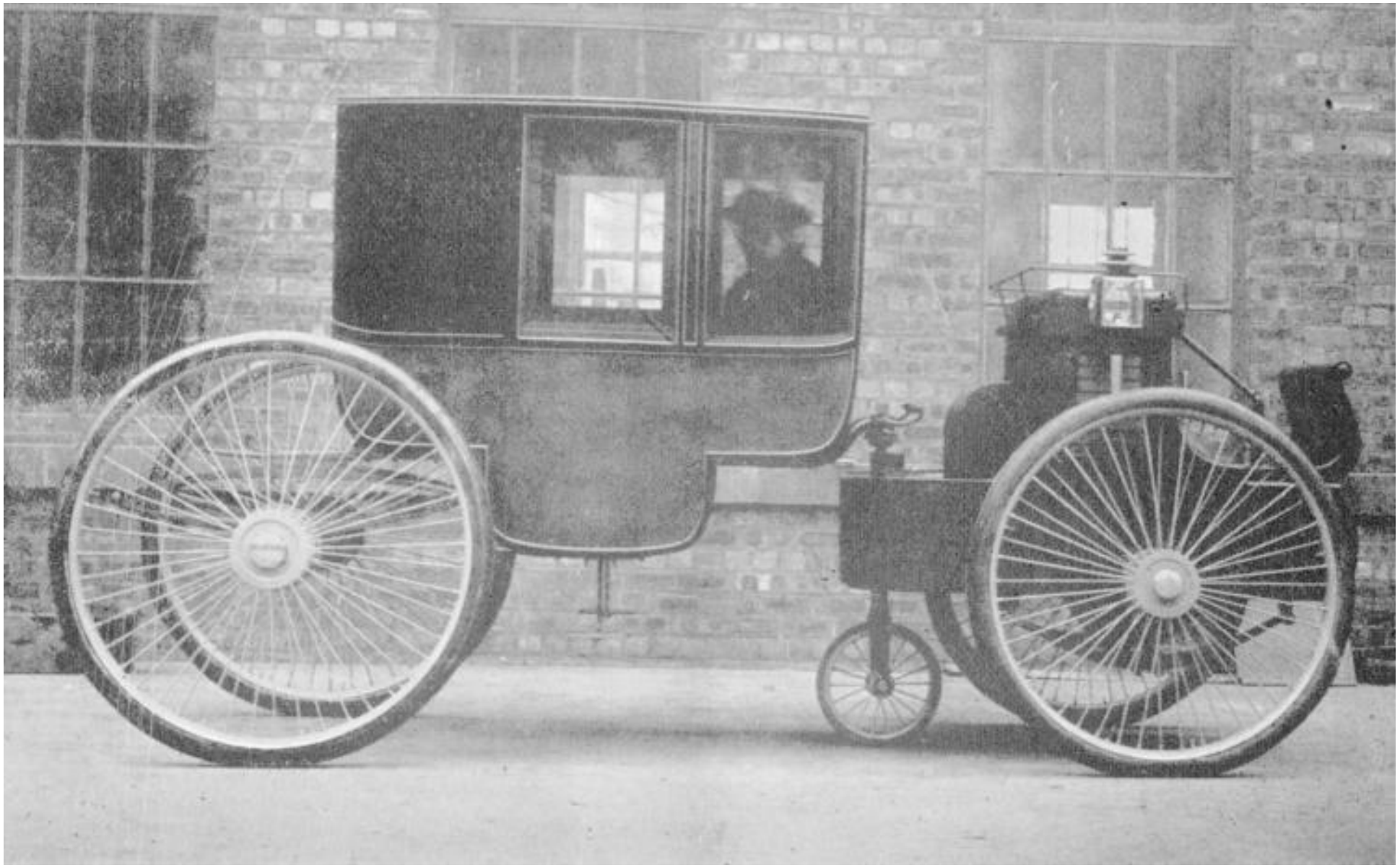
Greener credentials

- Local engagement & provision of chargers to further wider decarbomisation
- Opportunity to lead change

PUBLIC ENGAGEMENT

SCHOLARSHIPS STEM

FLEET OPTIONS



FLEET OPTIONS

- Average car tip distance = 6.7 miles
  Scottish Transport Statistics - 2016

- 300 to 400 miles in one charge
  Tesla, S, X, & Model 3

- 200 to 300 miles in one charge
  Nissan LEAF 40/60, Hyundai Kona, Kia e-Niro, Jaguar I-Pace, Mercedes EQC

- 100 to 200 miles in one charge
  Nissan LEAF 24/30, BMW i3 120Ah

PRICE

- £4,000 or less used
- Up to £150,000+ new
- £200+ per month leased

Vehicle Types: *Commercial, bus, light vehicles, bin lorries, hybrids*

PREVIOUS INSTALLS

- Edinburgh College
- Fife College
- Stirling University
- Argyll College UHI
- North East Scotland College
- Edinburgh University
- Heriot-Watt University
- Dundee University

Thank you for your attention!

bob.murphy@swarco.com
07971 878 146
www.swarco.com