

49,999 electric car journeys and counting: The North East England Electric Vehicle and Infrastructure Trials

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UK Incentives for the uptake of EVs



UK Incentives for EVs :

- ✓ Plug-in Car/Van Grant
- ✓ Favourable tax regime
- ✓ Exemptions - Vehicle Excise Duty & Company Car Tax
- ✓ Ultra-Low Carbon Vehicle Demonstrator Programme

UK Incentives for charging infrastructure:

- ✓ Plugged in Places Programme (PIP) Trials 2010 - 2014
 - Development of common standards
 - Evaluate different technologies
 - Harmonise local incentives
 - Understand user-behaviour
 - Raise public awareness of Electric Vehicles
- ✓ National grants 2013 - 2015
 - Local Authorities
 - Home owners
 - Railway stations
- ✓ Funded by Office of Low Emission Vehicles (OLEV)



Why in North East England ?

Area = 8,600 km²
Population = 2.6 million
80% Population density
in area = 32 x 72 km²



NE PIP Trial Charging Infrastructure

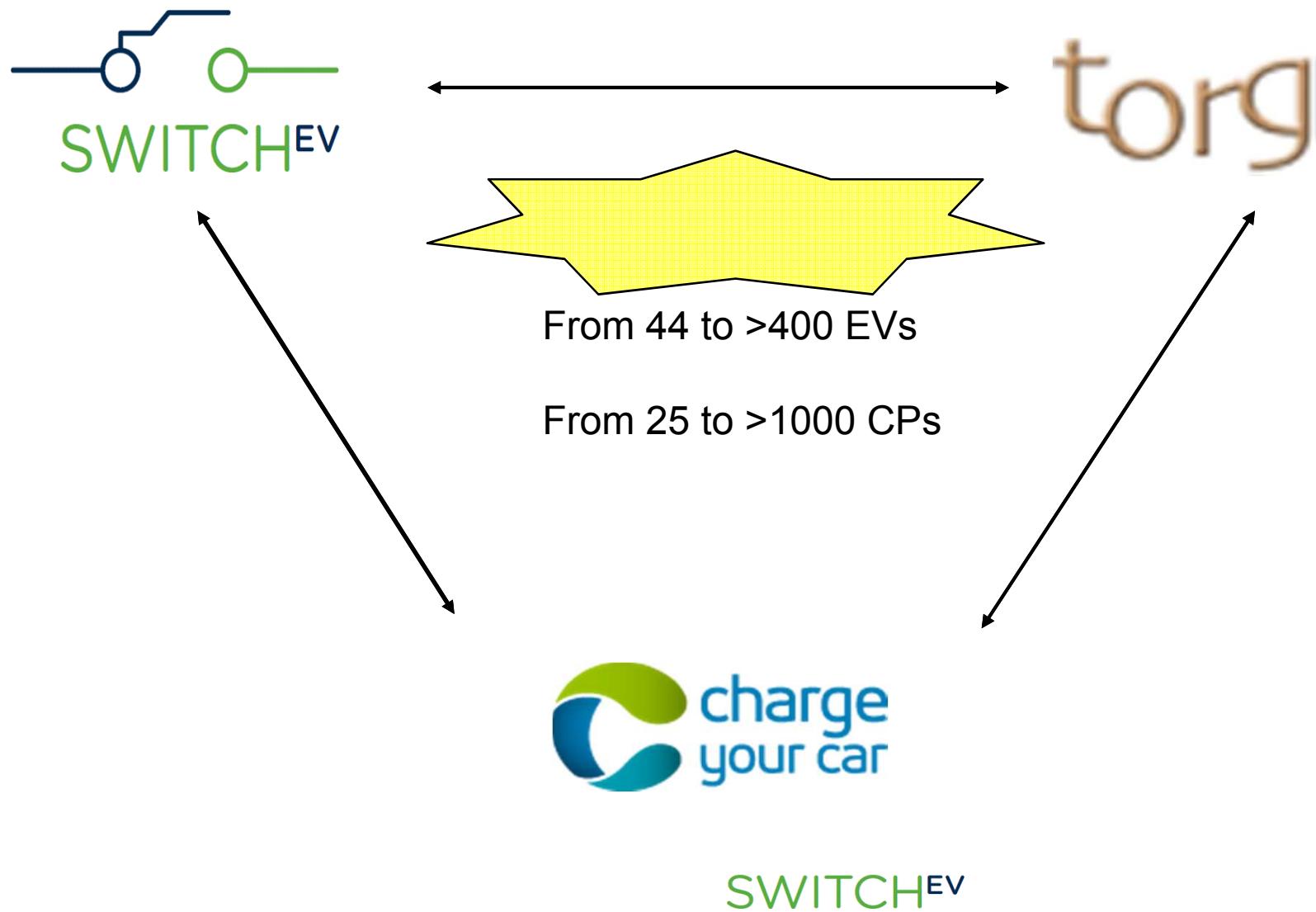
- 12 quick chargers
 - ✓ 50 kW DC/22 kW AC
- 738 standard chargers
 - ✓ 3/7 kW public & workplaces
- 401 home chargers
- For over 90% of the time driving in the North East, the EV is within 5km of a charging point.

£7 Million
Over 3 years

SWITCH^{EV}



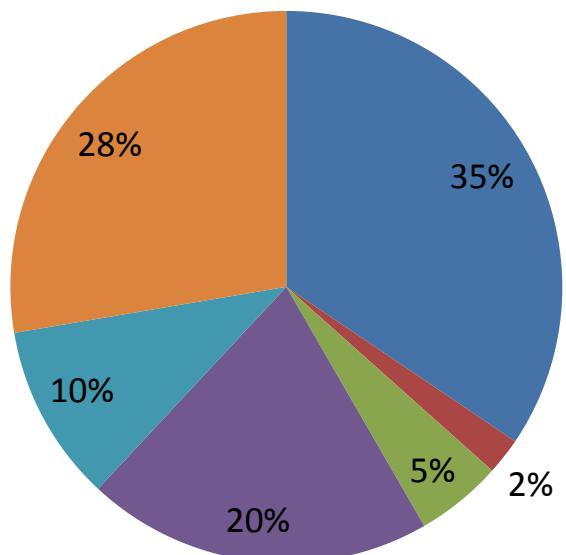
Linking EV and Infrastructure trials



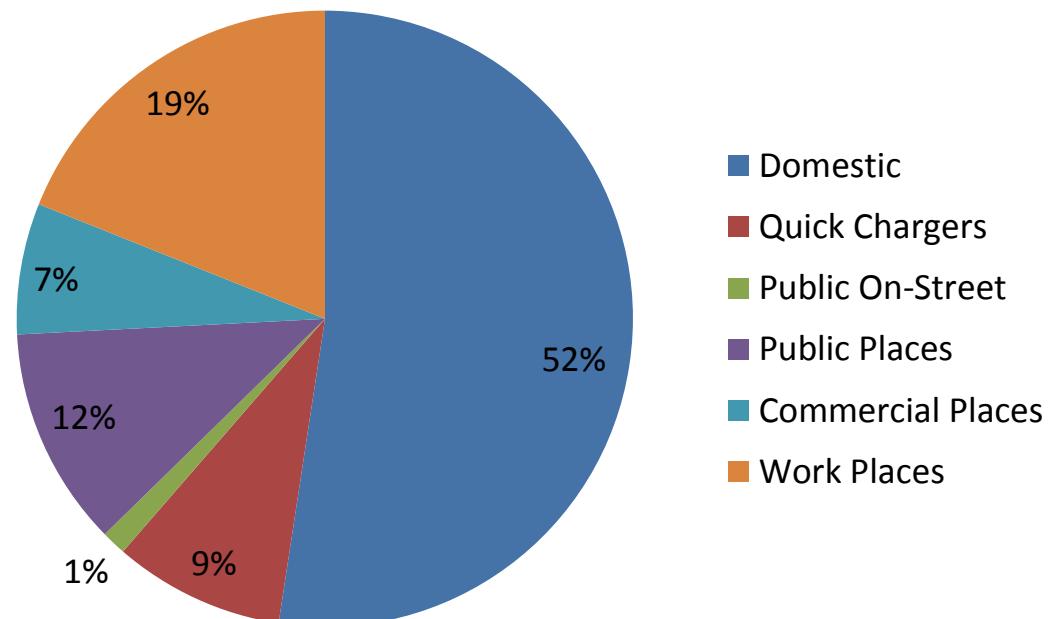
NE Plugged in Places statistics

Data from April 2010 to June 2013

Total charge points = 1164



Total Energy Delivered = 307,974 kWh



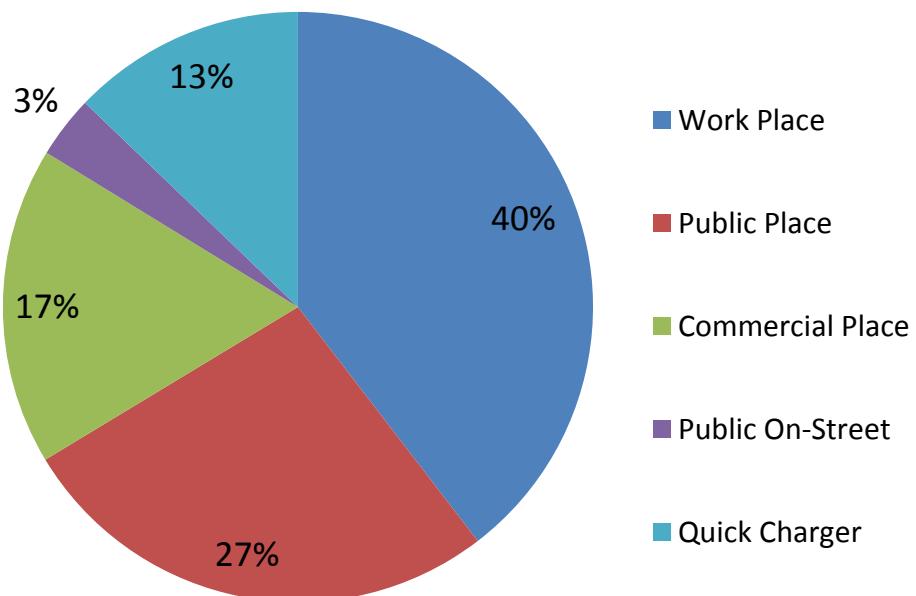
Equates to 248 Tonnes CO₂ saved

NE Public charging characteristics

Data from April 2010 to June 2013

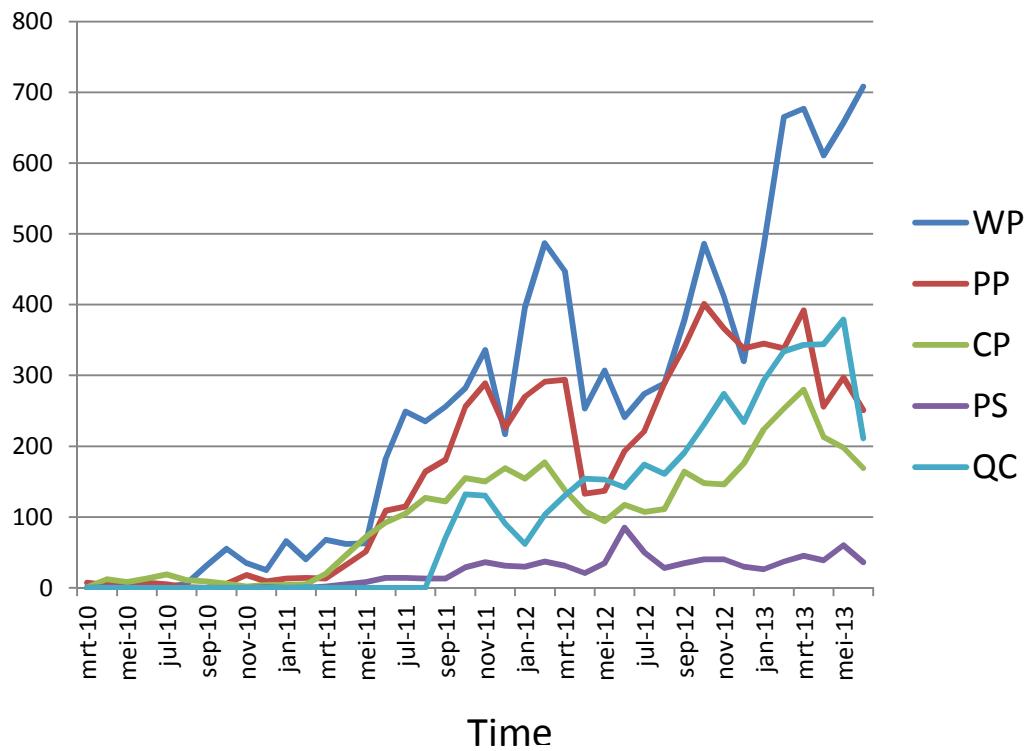
Public charging Transactions

Total = 26,315



Growth in Public charging Transactions

No of transactions

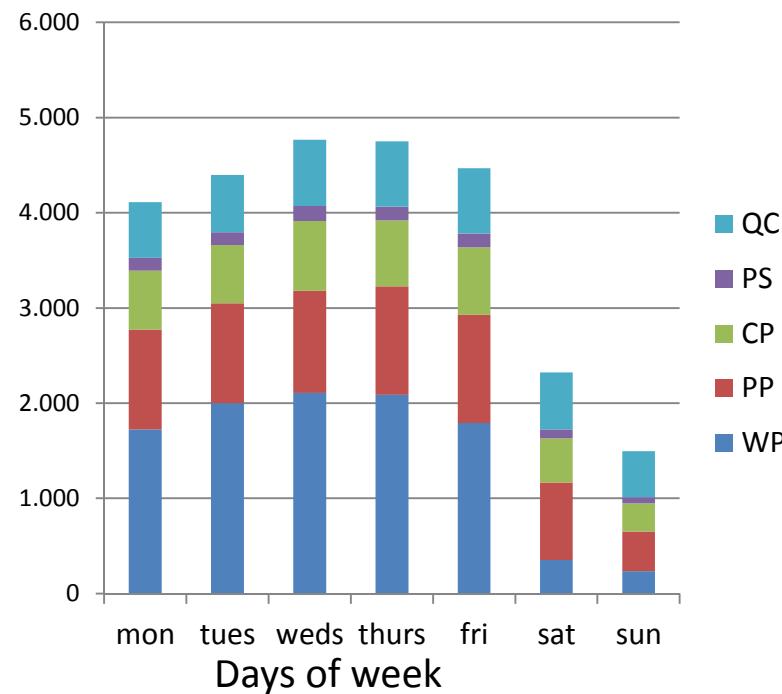


NE Public charging characteristics

Data from April 2010 to June 2013

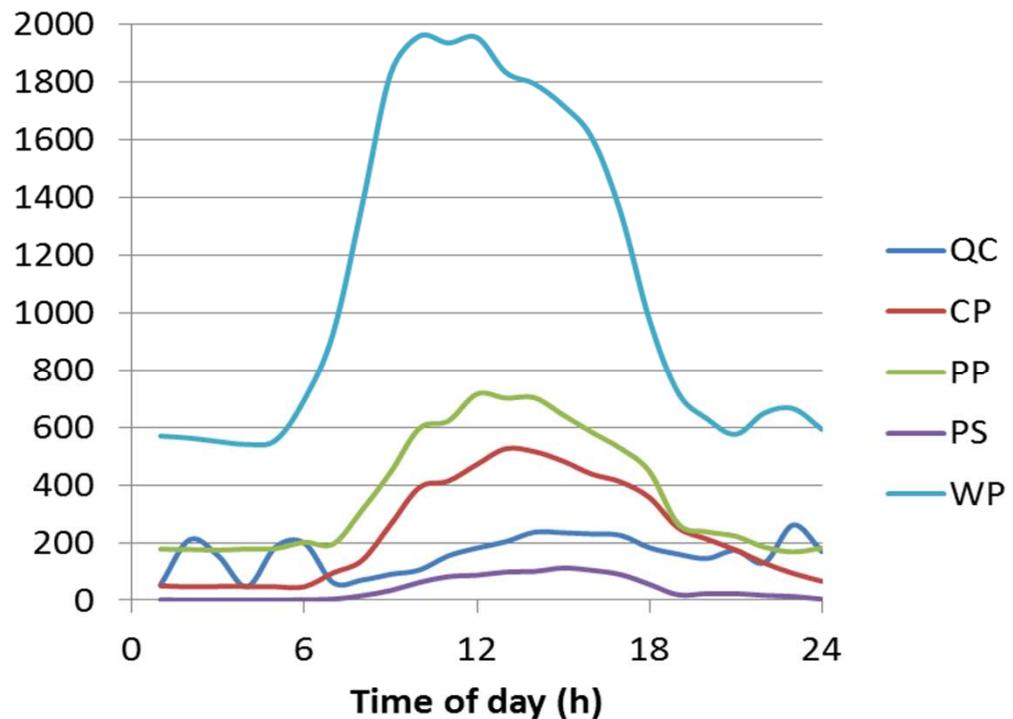
Charging by day of the week

No of transactions



Over 6 months Jan-June 2013

Hours of charging



The Switch-EV Trial

Ultra-Low Carbon Vehicle Demonstrator Programme funded by
the Technology Strategy Board

Data from Dec 2010 to Jan 2013

Total Electric Vehicles: **44**

Total journey distance: 591,000 km

Total number of journeys: **65,000**

Total number of charges: 17,000

Total energy transferred: **105 MWh**

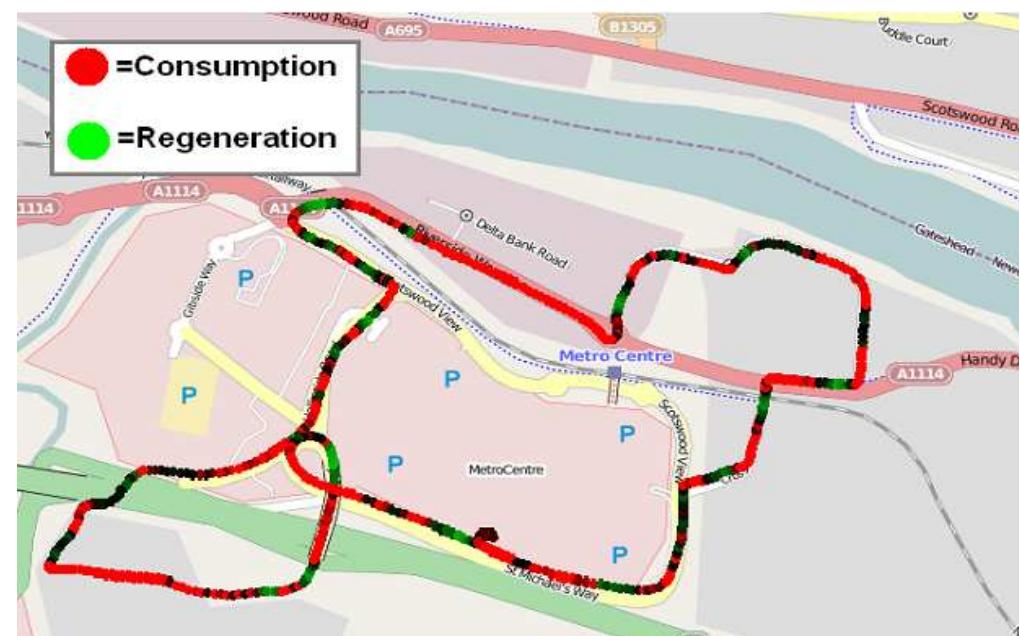
Total CO₂ Saved: 65,000 kg/CO₂

157 answers to the pre-trial questionnaires

103 answers to the post-trial questionnaire

58 participants attended 8 focus groups

23 individual exit interviews



 FUTURE TRANSPORT SYSTEMS
Integrating transport with infrastructure



 AVID
vehicles

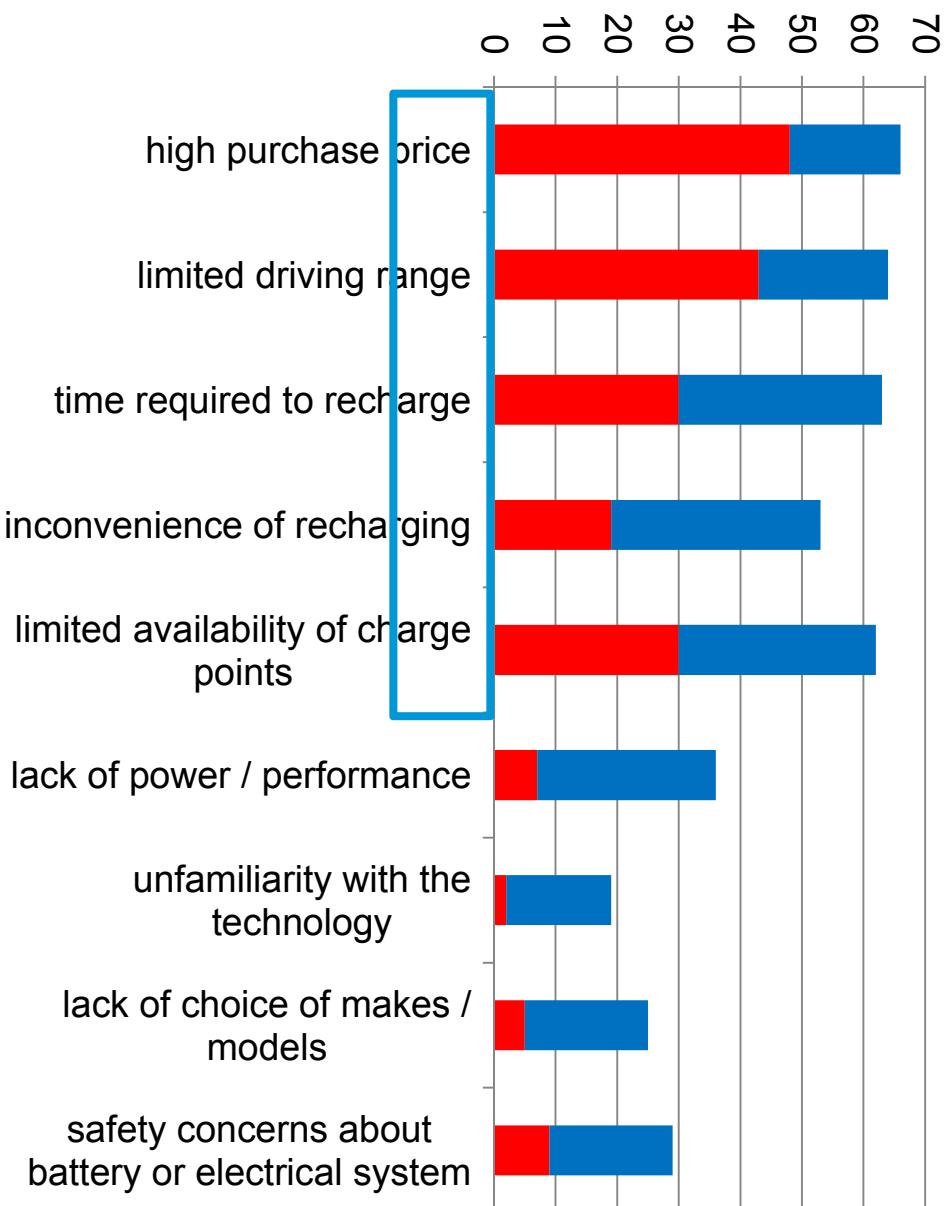
 PEUGEOT

 S SMITH
ELECTRIC VEHICLES

 Newcastle
University

 Liberty Electric Cars

Possible barriers to EV uptake

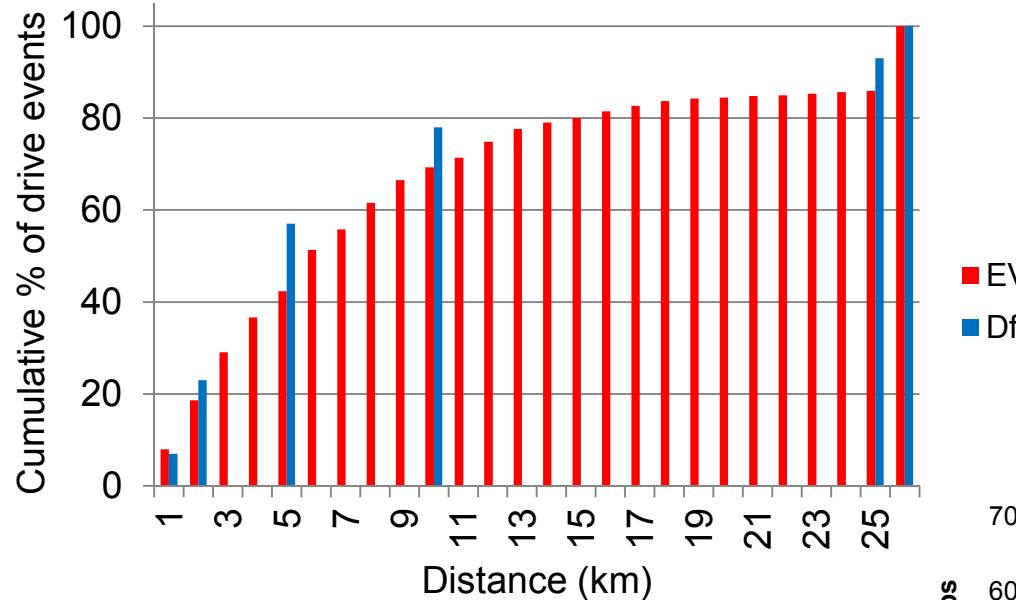


■ 5 - extremely important
■ 4 - important

Focus group feedback on barriers:

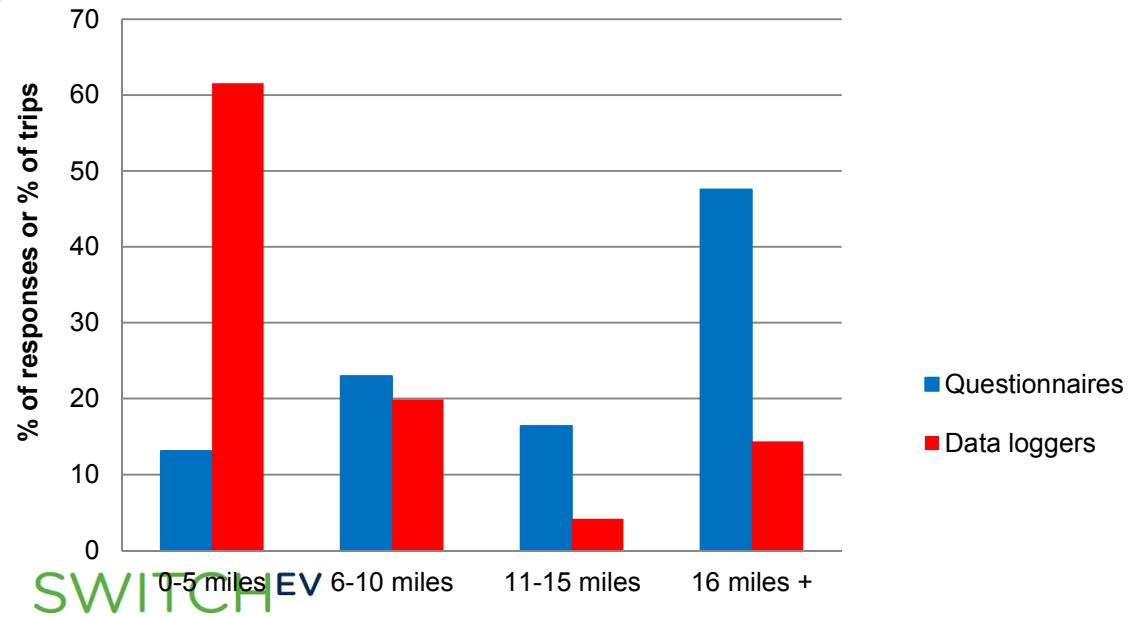
Participant 1 – Cost.
Participant 2 – Cost and battery life.
Participant 3 – The range.

Distance driven



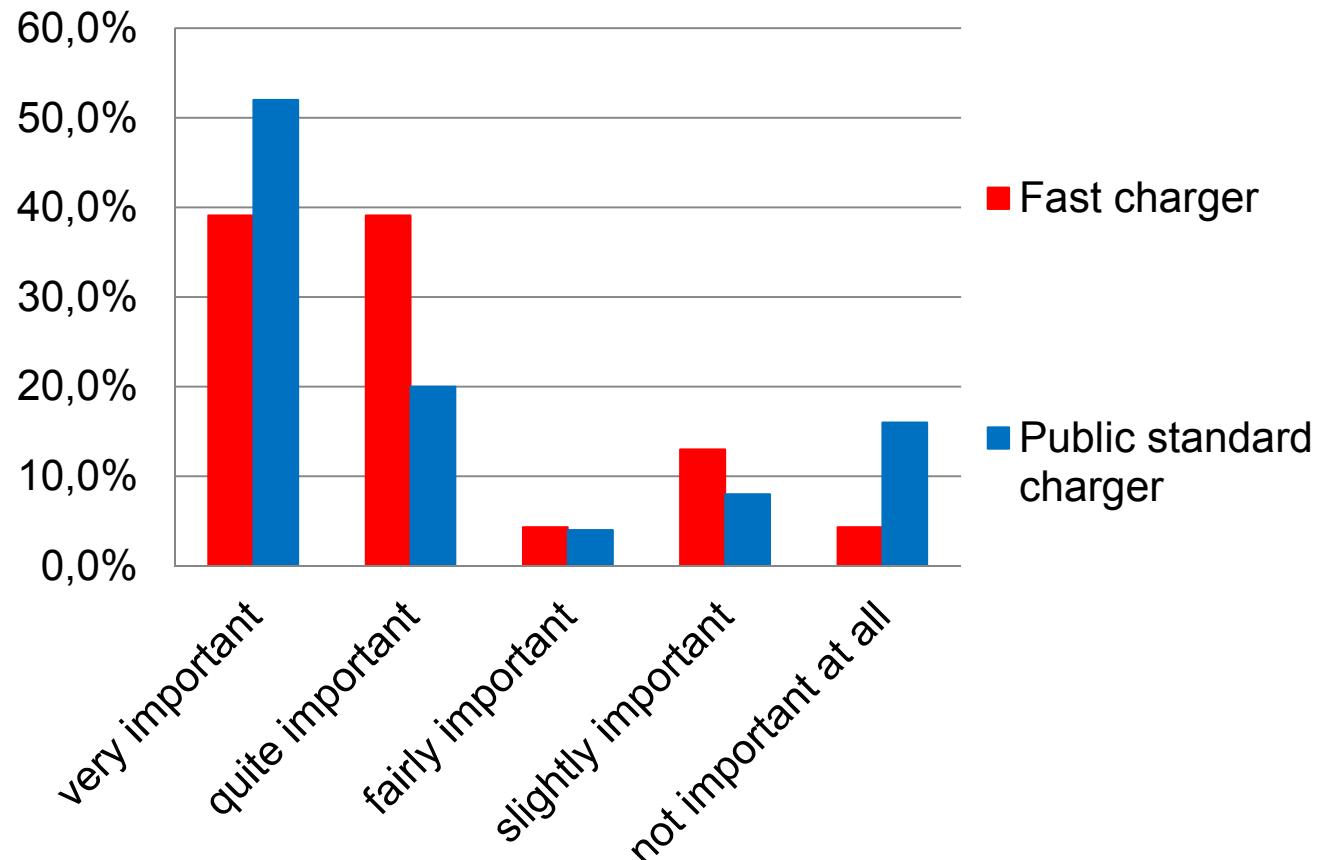
UK Government statistics:

- 87% of all car journeys in the UK are below 10 km
- 93% of all car journeys in the UK are below 25 km



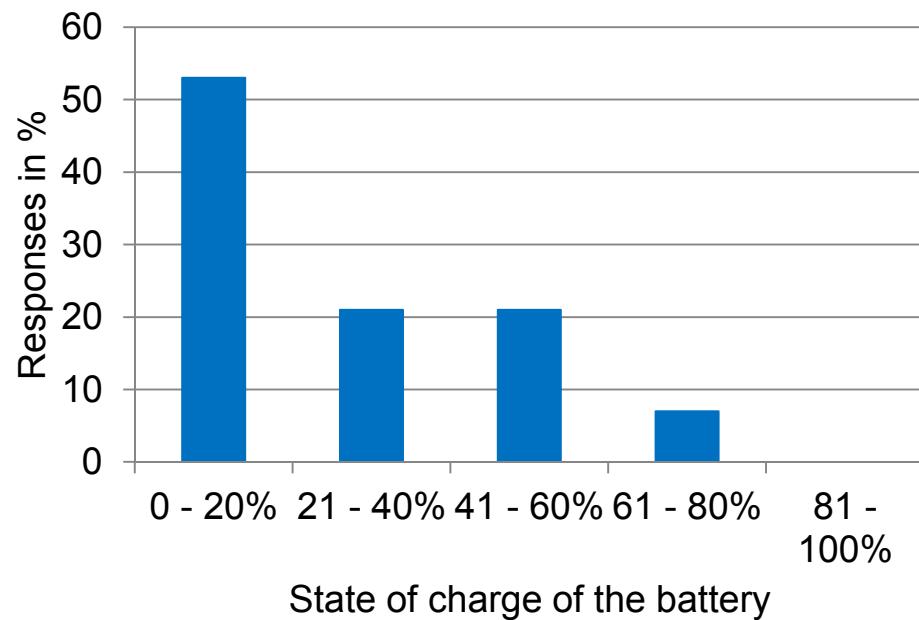
Importance of public charging infrastructure

How important is it for you to have access to...

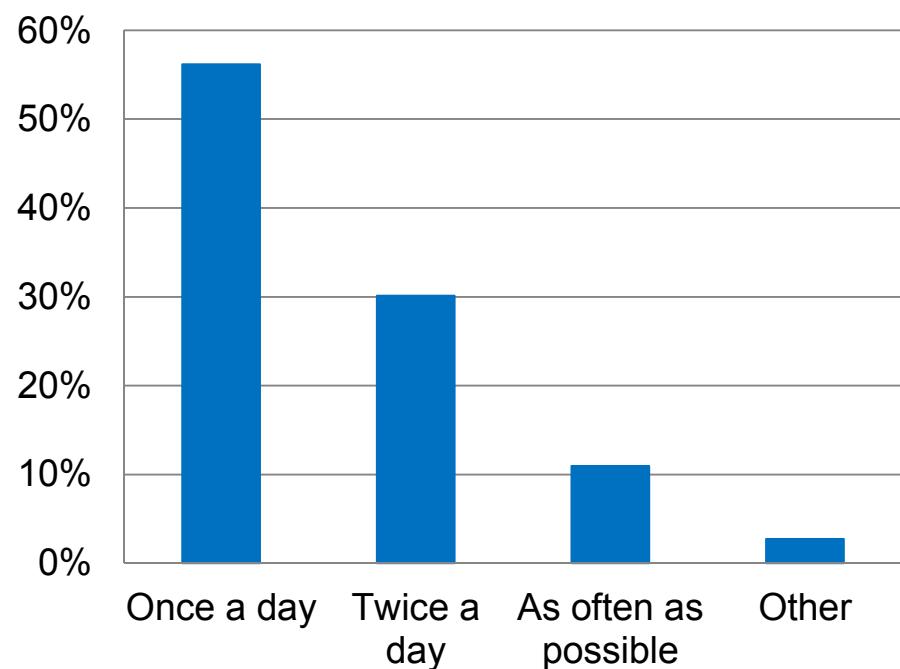


Switch-EV Drivers' Charging behaviour

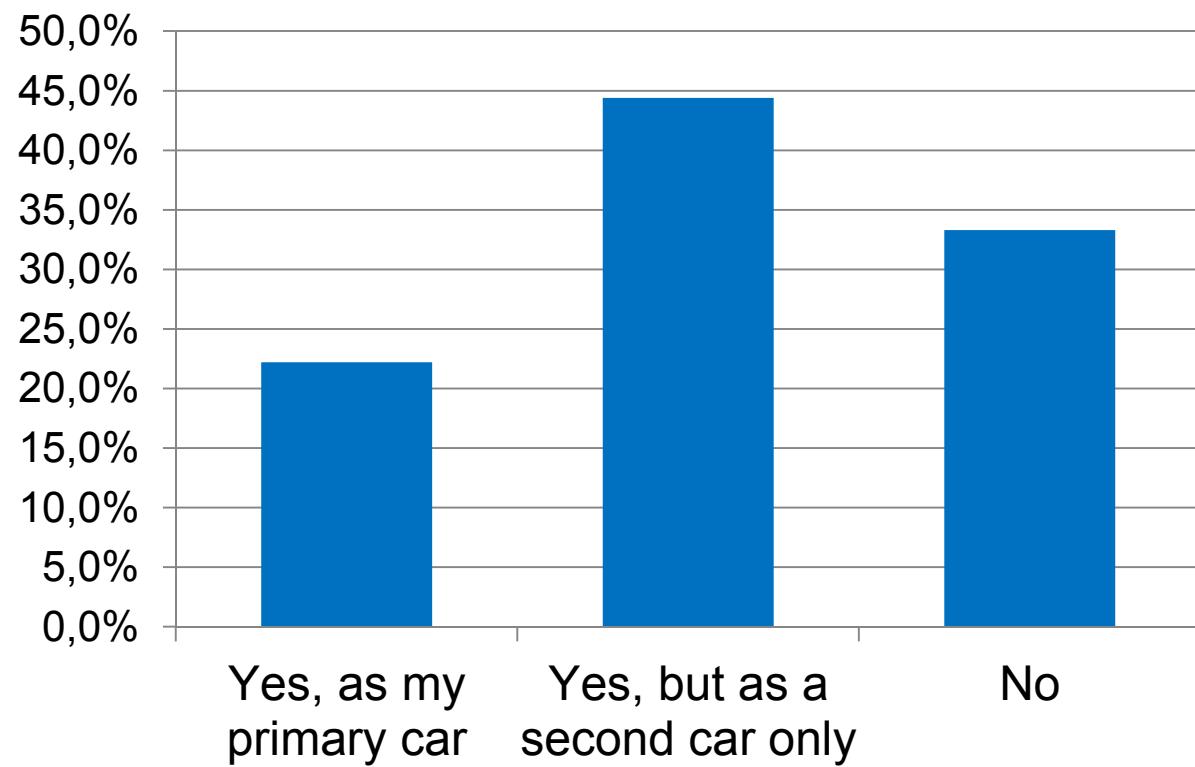
Q. Minimum SOC (%) that you felt comfortable driving with before you started to charge the battery?



Q. Over the course of a 24 hour day, how often did you plug in the car to charge?



Would you consider buying an EV?



People need to experience driving an EV in order to make an informed decision about buying one.

This could be through car clubs, trials or electric buses.

Conclusions

- Benefits of LCV and Infrastructure trials working together:
 - ✓ Wide choice of infrastructure available
 - ✓ Large quantity of data – EV miles and charging transactions
 - ✓ Opportunity for data validation – loggers and chargers
 - ✓ Valuable qualitative data gathered
 - ✓ Infrastructure Standards & Guidance developed
 - ✓ LCV Qualifications & training packages produced

Contacts for Further Information

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Switch EV

<http://vehicletrial.switchev.co.uk/>

TORG

<http://www.ceg.ncl.ac.uk/transport/index>

Charge your Car

<http://chargeyourcar.org.uk/>

Zero Carbon Futures

<http://www.zerocarbonfutures.co.uk>



**Zero Carbon
Futures**

Innovative Transport North East England



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