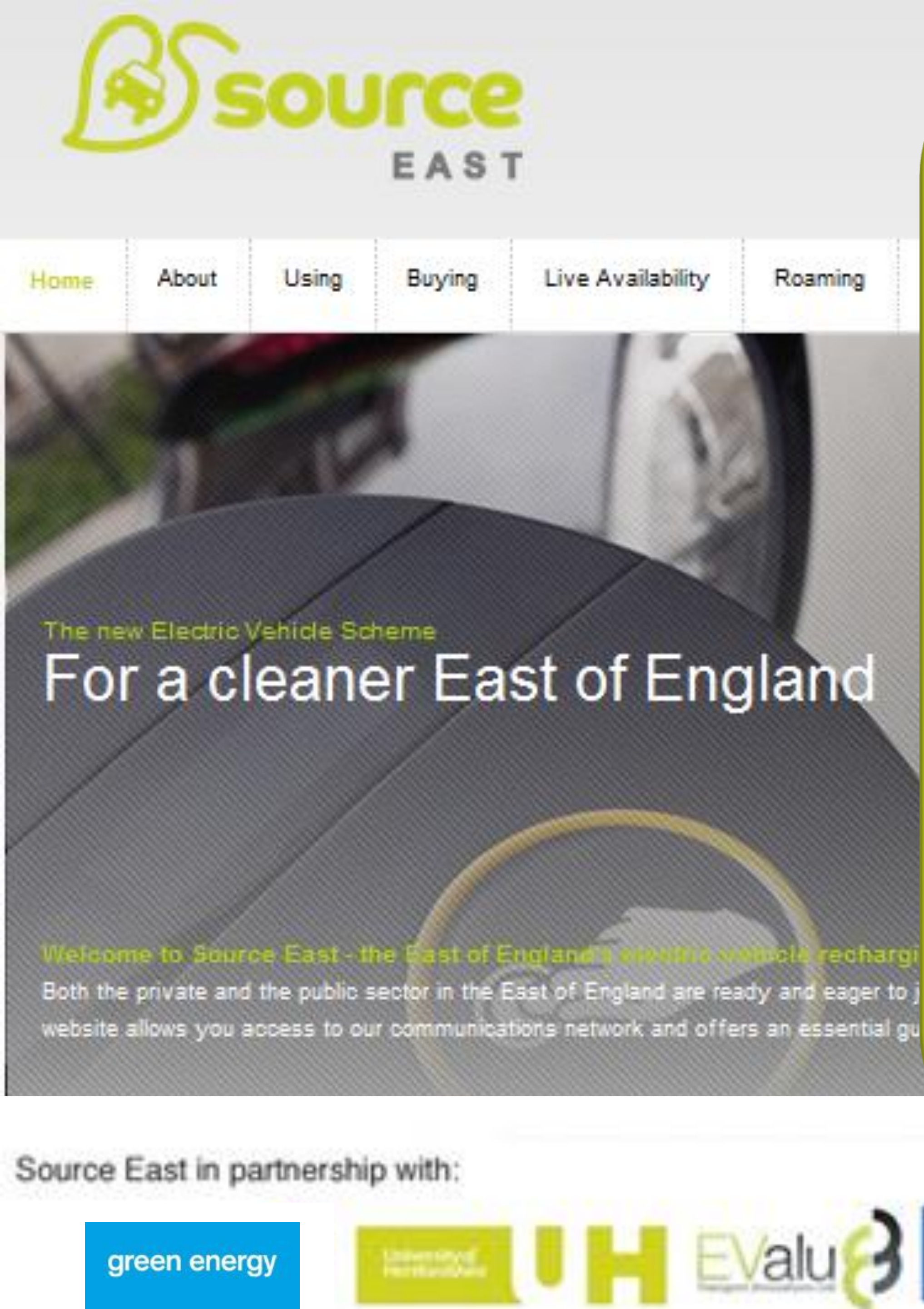


Significance of EV infrastructure for mainstream market acceptance

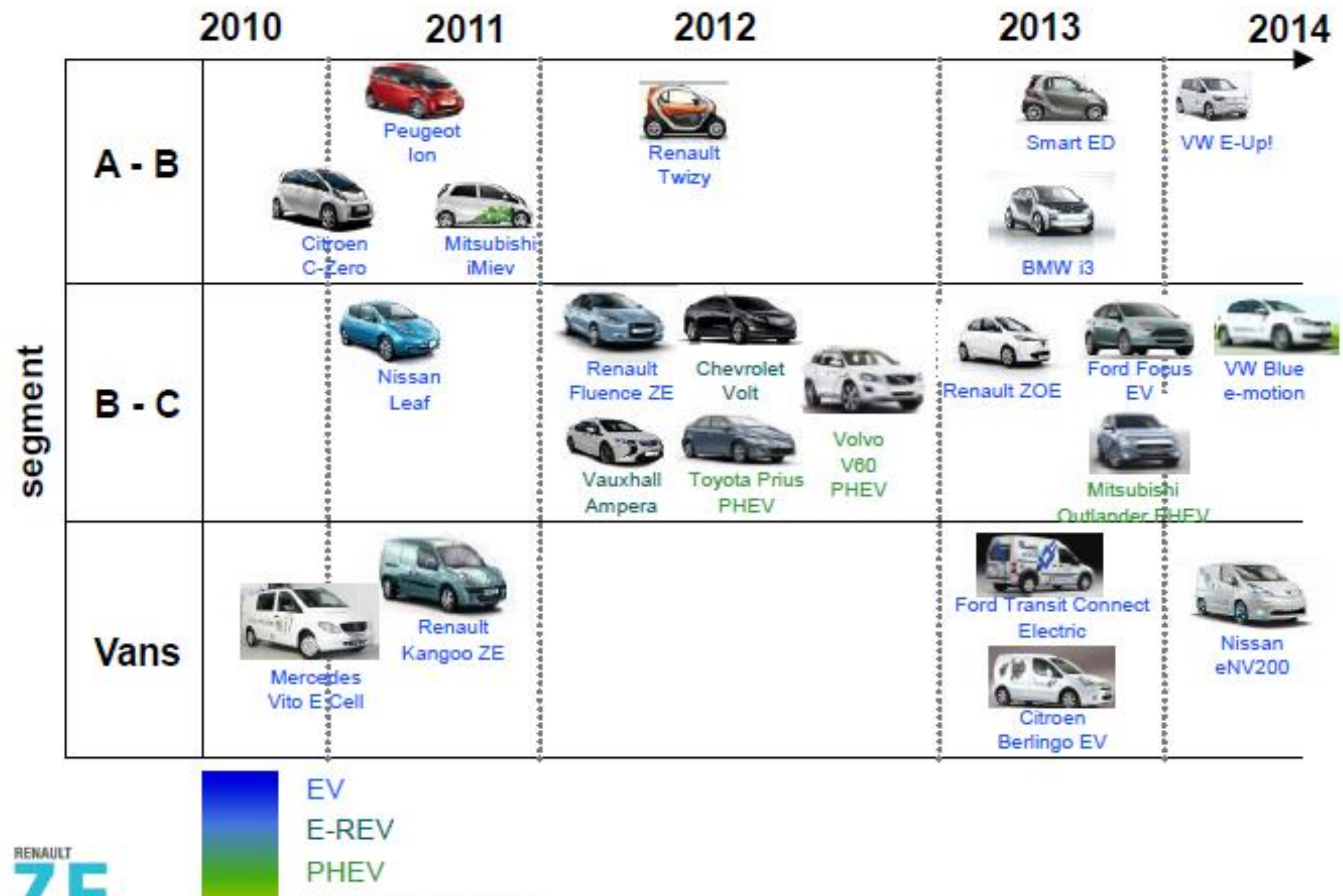
Dr Keith Bevis,

Russell Fenner

Introduction..

- Who we are
- Market
- Barriers
- The driver’s balance
- Reality and perception
- Early adopter differences
- Opportunities with charging networks
- Conclusions

The Current Market and Future Launches



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RENAULT UK MARKETING

April 2013

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How many cars expected

International Energy Agency's *Technology Roadmap* (**2009)** – *Electric and plug-in hybrid electric vehicles:* National sales targets for 2020 (Netherlands 2015, Spain 2014)

Country	Target
France	2,000,000
UK	1,550,000
Germany	1,000,000
Spain (2014)	1,000,000
Sweden	600,000
Ireland	350,000
Denmark	200,000
Netherlands (2015)	10,000
Total	6,710,000

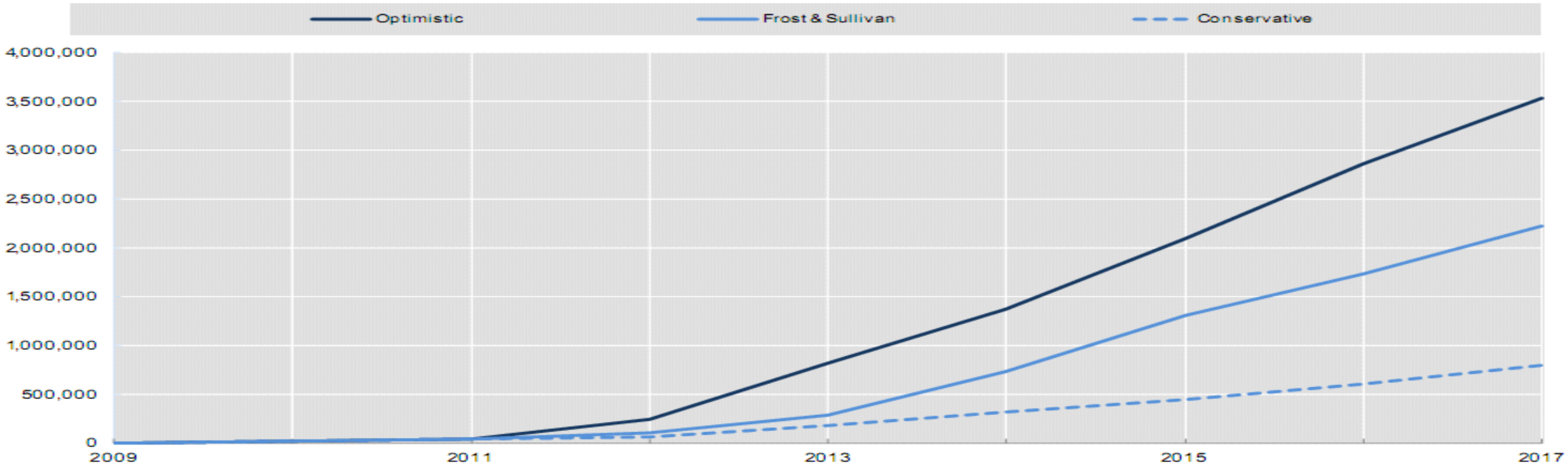
Source: Nemry & Brons (2010)

Revised forecasts

OECD Forecast EV Sales Worldwide to 2017

Figure 11. Electric Vehicle Market: Sales Forecasts Scenario Analysis (World)

2009-17



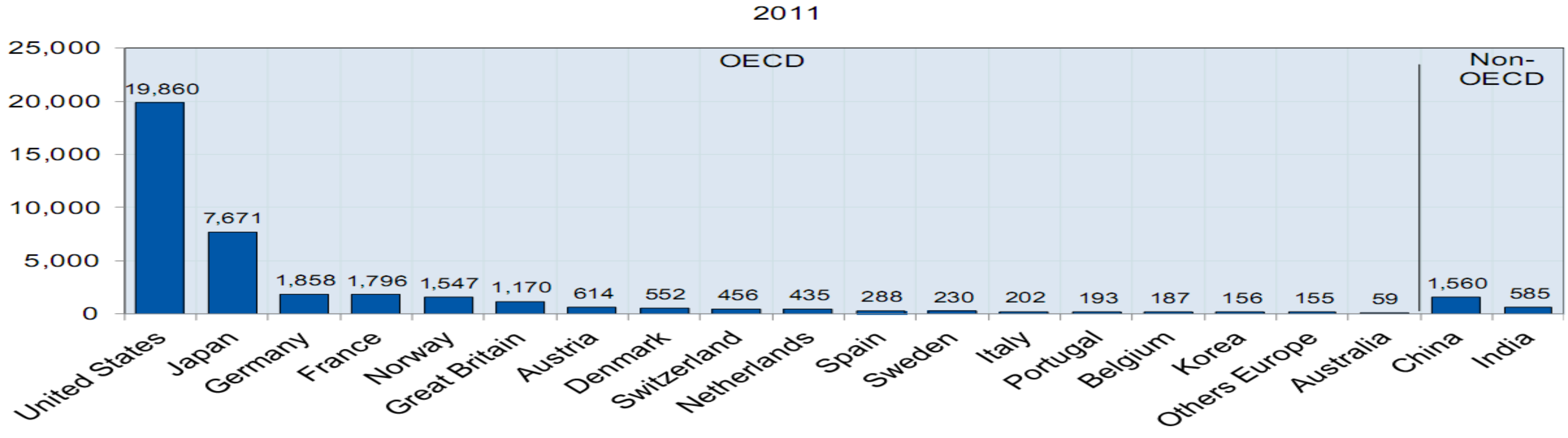
Scenarios	2009	2010	2011	2012	2013	2014	2015	2016	2017	2020 (% of total car sales)
Optimistic	5,060	16,100	43,200	248,400	816,200	1,373,200	2,094,800	2,865,200	3,531,500	10-12%
Frost & Sullivan	5,060	16,100	43,200	110,100	286,500	735,800	1,314,300	1,741,000	2,228,400	5-7%
Conservative	5,060	16,100	43,200	66,500	178,600	318,300	451,000	602,400	796,800	2-4%

Note: All figures are rounded; the base year is 2010.

Source: Frost & Sullivan (2012a).

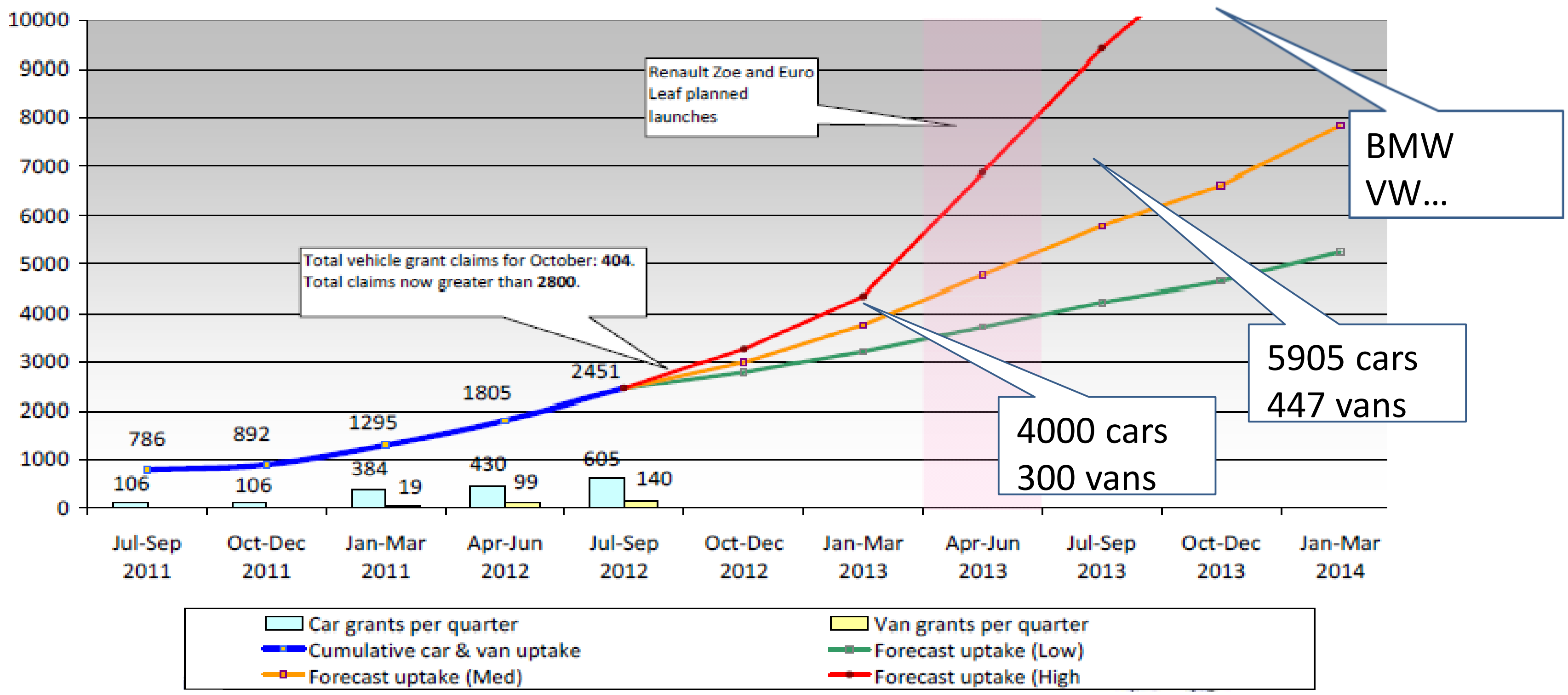
Source: Frost & Sullivan (2012)

OECD Estimates of Worldwide EV Sales for 2011

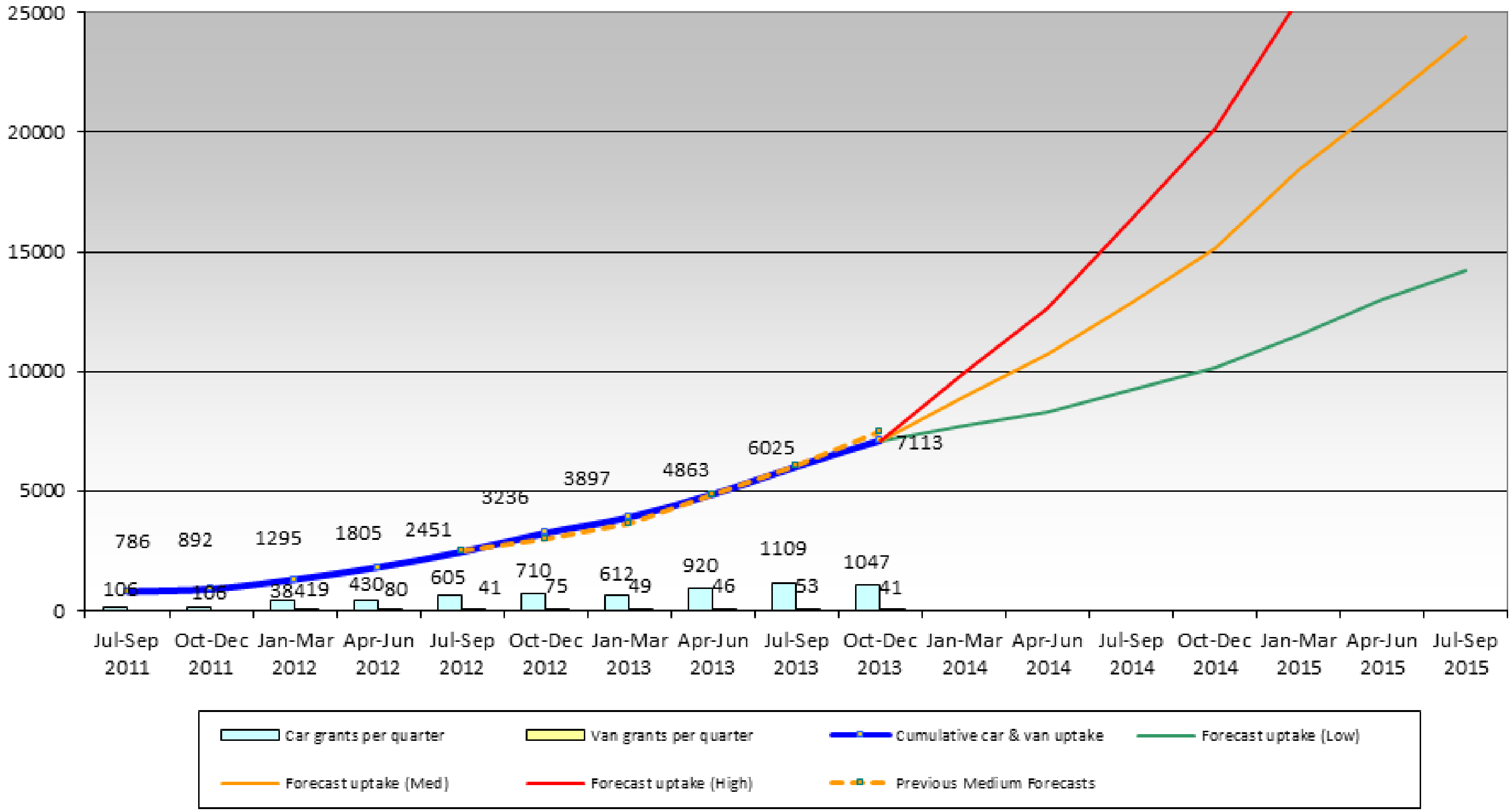


Source: Frost & Sullivan (2012a).

UK Market



Forecast September 2012; actual numbers March and August 2013



Forecast December 2013

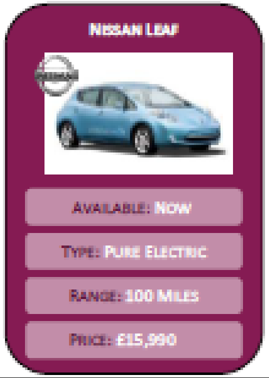
Current package of policy support

Source EAST

Office for Low Emission Vehicles

Incentives

- £300m+ confirmed to 2015
- Technology neutral
- Strict criteria: (sub 75g CO2/km, range, speed, safety)
- Plug-in car grant (up to £5k)
- Plug-in van grant (up to £8k)
- Commitment to review Govt. buying standards



Infrastructure

- Learned much from 8 Plugged In Places (PIP) pilots
- Transition in 2013/14 to national infrastructure measures
- From Feb 2013 £37m grants available for domestic, rapid, station car parks, residential on-street and public sector

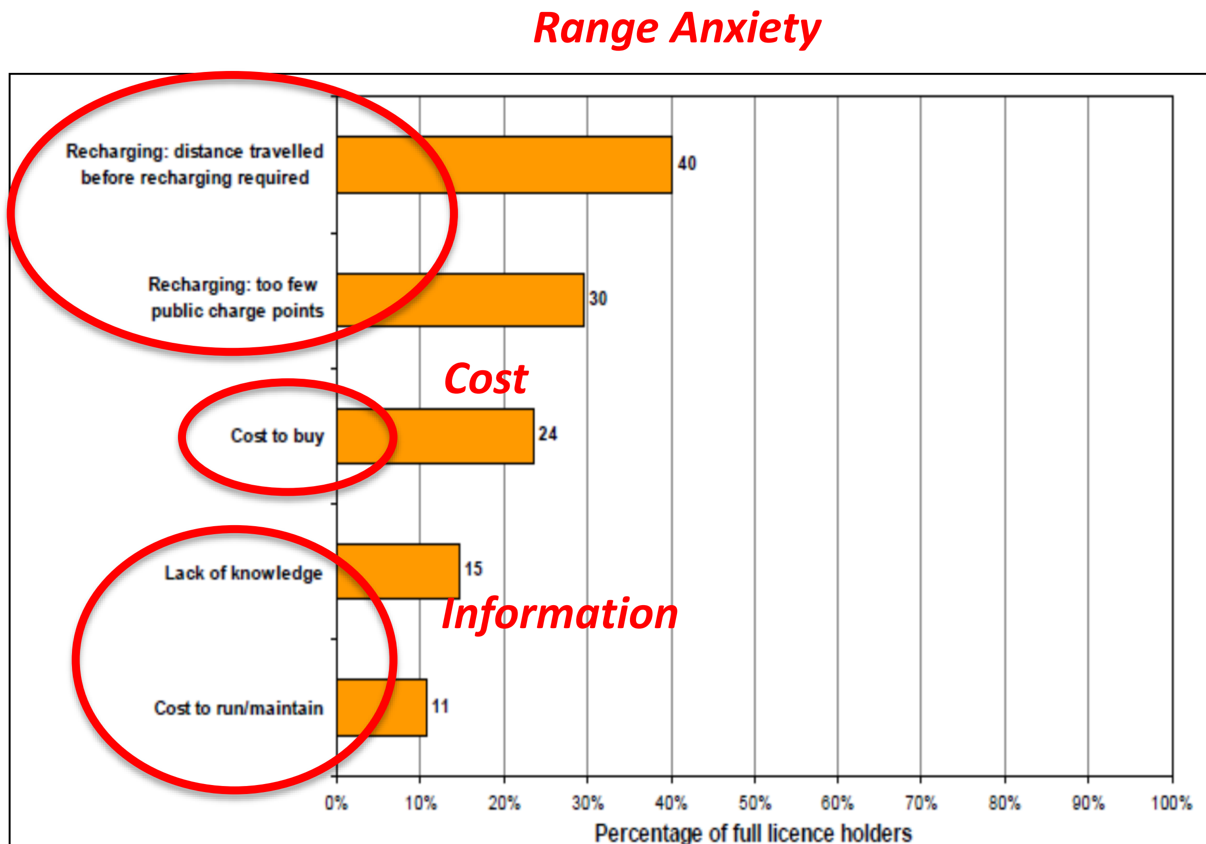
R&D

- Up to £82m to 2015, focussed on 'sticky technologies'
- Giving low carbon innovation 'roots' in the UK for the long term to bolster ULEV supply chain
- Includes: Low carbon vehicle innovation platform, low carbon demonstrators, low carbon truck trial, low carbon van public procurement programme

Fiscal measures

- Vehicle Excise Duty (VED) exemption
- Enhanced Capital Allowances
- Lower fuel tax
- Van benefit charge (VBC) exemption
- Budget 2013 confirmed lowest company car tax rates for ULEVs and committed to keep a differential out to 2020

Barriers



Source: Opinions Survey August 2011.
This is based on full license holders who had heard of electric cars prior to being surveyed (99% of full licence holders).
Respondents could choose more than one response and were not prompted with a list of possible responses.
Base numbers: 796.

Range Anxiety

Where can we charge?

Access and Network

Live Availabilty

Use our Live Availability facility to discover your nearest available charging point in the East of England.

Please click on a charging location below

Search for address:

Search

Legend

- Available
- Charging
- Offline
- Coming Soon

Travelling out of the area?

Find out more about charging networks adjacent to Source East with these links:

- Source London
- North East England
- The Midlands
- Milton Keynes

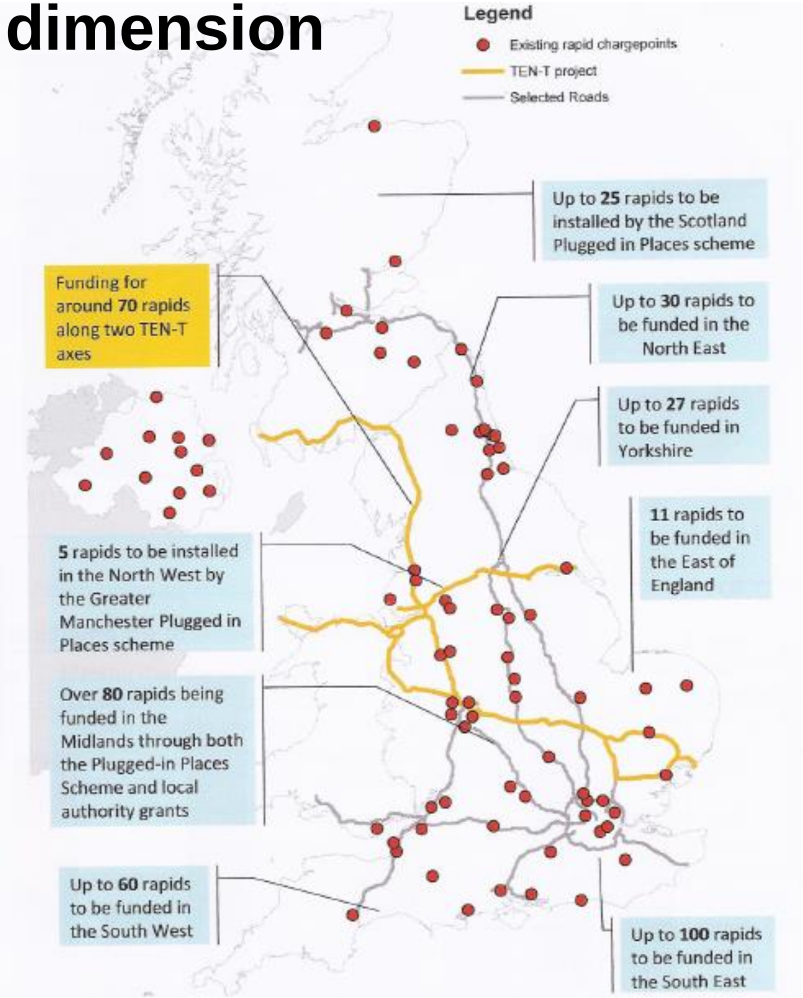
Roaming

Slow and fast charging…

source
EAST

Building a quick solution?

Adding the rapid dimension



Used or not used…

Early Adopters…

Characteristics of EV early adopters and considerers important in market launch

Largely happy to support activities to get technology to wider market

Desire to help improve for all

Mass market criteria different – so how do we bridge between the groups?

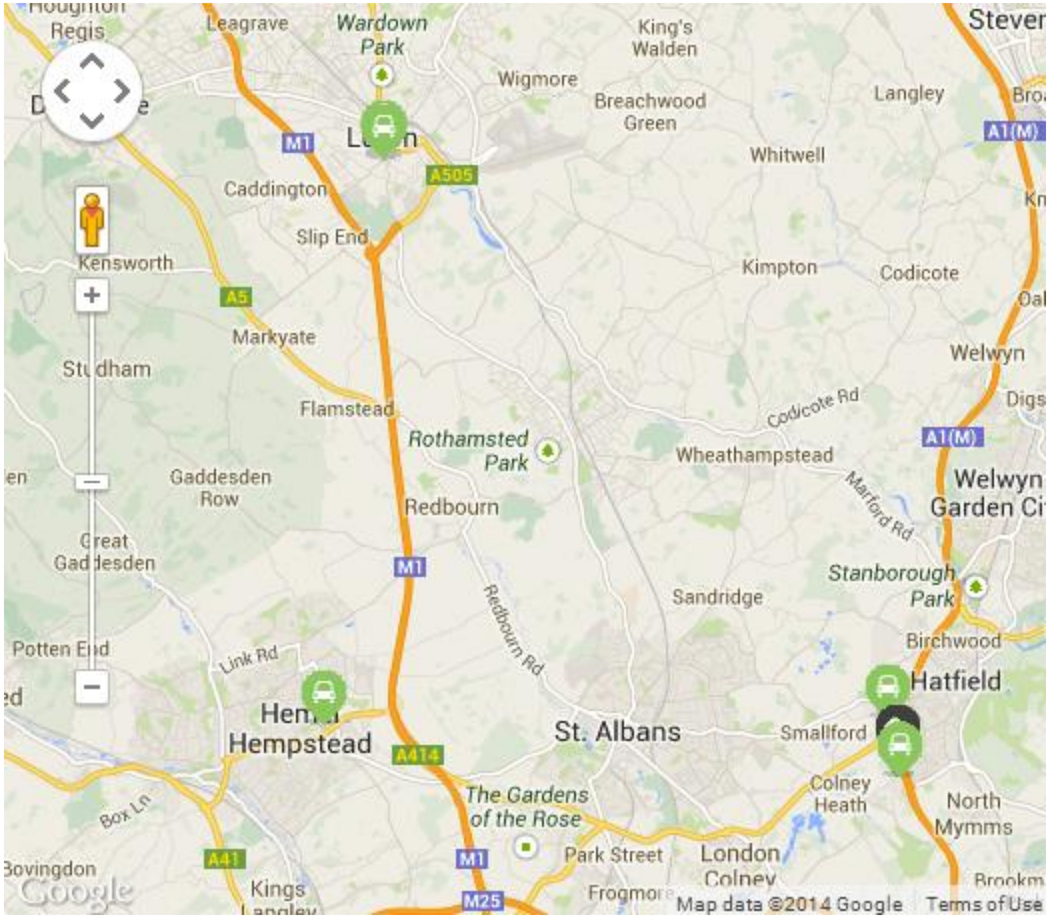
Car Clubs

source EAST

eCar
The Electric Vehicle Car Club

Launch at UH

16th January



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Conclusions

Current **limited range** would suggest an important role for a **comprehensive network of charging infrastructure** as a way of reducing - or at least addressing - that technical limitation

Extent to which public charging is required for actual recharging as distinct from raising public awareness of the technology and overcoming perceived barriers is a moot point.

Experience with EValu8 suggest 'considerers' agonise about range - users seem to be able to manage any constraints imposed by battery range – a difficult message for mainstream.

Network exploitation with new transport models can help provide bridge to mass market take up

Thank you

For further information please visit:

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