

ULEV Innovation in the Automotive Industry

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Low Carbon Vehicle Partnership

What is Innovation?

The act of introducing something new

- The American heritage dictionary

Innovation is creativity with a job to do

– John Emmerling

The ability to deliver new value to a customer

– Jose Campos

"Innovation is the market implementation of new ideas"

– Andy Eastlake



Automotive needs clear long-term targets

Don't try to pick 'winners' (or define 'losers'!) Let the engineers find the best technology to meet policymakers' objectives.

Volvo offer V60 Plug-in **Diesel** Hybrid, Euro 6 emissions, 48g/km CO2

ULEMCo offer a **Hydrogen dual-fuel** conversion to run a Transit on Diesel/Hydrogen, 59g/km CO2

Earlier this year the first Hydrogen Fuel Cell Vehicle went on sale in the UK.





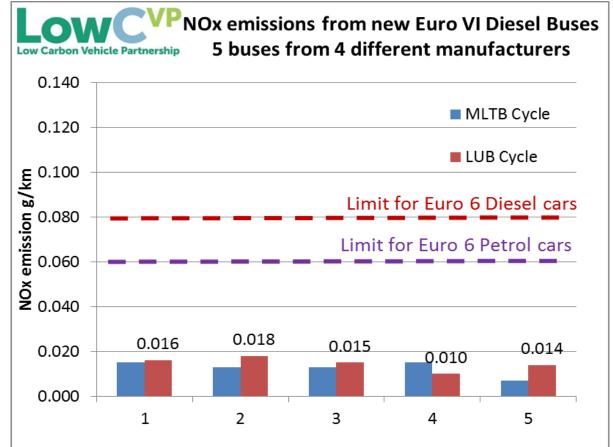


Emissions

Ultra-Low NOx emissions can be delivered with robust exhaust after treatment

And Ultra Low CO2 (75g/km) emissions can now be delivered without plugging in!







All Vehicle Categories are innovating





Fuels and infrastructure too!







Gas powered vans

Hydrogen filling stations





Support needed for to make innovation attractive



Infrastructure expansion

Priority access





Shared use and car clubs

Incentives through policy





Innovative ULEV vehicle types are growing in number

Go Ultra Low - 7 manufacturers, range of 12 cars



Plug-in Car grant – 18 manufacturers, 27 Cars



VCA database shows – 13 Full Electric Cars and 27 Plug-ins below 75g/km CO2



Auto industry playing its part in the ULEV delivery plan

- ULEVs for car clubs
- ZEC (Zero Emission Capable) taxis and PHVs from 2018
- ULEVs into freight and fleets
- Geo-fencing for ZEC vehicles
- Demonstrate and test new technology and approaches
- Preparing for commercial Hydrogen vehicles

Without implementation an innovation is just a good idea! London is the ideal location for ULEV market success

• Success will be achieved through the Low Carbon Vehicle Partnership



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