

LowCVP News Release

6th September 2011

LowCVP study demonstrates the cost of owning electric vehicles will fall substantially to approach those of conventional cars

The total cost of owning an electric or hydrogen vehicle is likely to fall substantially and approach those of conventional cars within 15-20 years according to a new study.

The report was prepared by Element Energy¹ for, and in collaboration with, the expert membership of the Low Carbon Vehicle Partnership (LowCVP) that includes major vehicle manufacturers and oil companies. It has examined how the total cost of owning a car can be expected to change to 2030 with the introduction of lower carbon technologies. These lead to higher purchase prices than for conventional cars (with only an internal combustion engine) but have lower running costs as they use less and / or cheaper fuels like electricity and hydrogen. For ultra-low carbon cars to be widely adopted the total cost of ownership, for the first buyer of the vehicle, ² must be competitive.

The difference in the total cost of ownership between conventional and ultra-low carbon family cars will fall from around £5,000 pa at present to £500 – £750 pa by 2030. This is mainly because the car will become cheaper to buy as batteries and fuel cells fall in price. Fuel costs for ultra-low carbon cars will be much lower than conventional cars. With big improvements in the fuel efficiency of conventional cars annual petrol costs are anticipated to also fall, despite oil price rises. The net result is that by 2025 a tax break of £1-2k pa will be sufficient to equalise the cost of owning most electric or hydrogen cars.

LowCVP Managing Director Greg Archer said, “Drivers will need to embrace ultra-low carbon technologies like electric and hydrogen vehicles as one of the measures to avoid dangerous climate change. But for many drivers to switch these cars must be both appealing and no more expensive to own. This study indicates that the cost of electric and hydrogen fuel cell vehicles will fall substantially and with modest tax and other incentives could be as cheap to own as conventional cars within the next 15-20 years.”

¹ Element Energy is a strategic energy consultancy specialising in the analysis of low-carbon energy in the transport, buildings and power sectors

² The first owner is assumed to keep the vehicle for 4 years and drive around 9,500 miles pa

The study also shows that:

- Conventional cars will become much more efficient, a typical family car, or larger hybrid, achieving around 100mpg by 2030. As a result typical annual fuel costs are anticipated to have fallen to around £500 pa and insurance costs become an even greater element of the total cost of ownership
- The cost of owning a conventional family car for 4 years is estimated to rise slowly from around £22.5k in 2010 to £24k in 2020 and £25k in 2030 as the cost of technology needed to reduce CO2 emissions also delivers fuel cost savings.
- Before 2020, the cost of larger batteries providing longer all electric driving range is not repaid through lower running costs for a typical first owner. Cars with shorter all-electric range (such as plug-in hybrids) therefore have a lower cost of ownership pure battery vehicles. It is also uneconomic to increase the range of electric vehicles.
- New battery and fuel cell technologies will probably be needed for these cars to have a lower cost of ownership than conventional equivalents (without tax breaks) - even if petrol prices rise to £3/l (in real terms)

Greg Archer commented, “The study points to an evolution in the car parc over the next 20 years as a range of technologies delivers a marked improvement in fuel economy. Drivers choosing the most efficient models should see their fuel costs fall. Initially there will only be a modest take-up of electric or hydrogen vehicles and most of these are likely to be plug-in hybrid vehicles with a lower electric range (10-20 miles), lower total cost of ownership and no risk of running out of charge. More significant take-up of battery electric and hydrogen fuel cell vehicles is possible after 2025 with tax incentives.”

He added, “The Government must continue to encourage and invest in the recharging and refuelling infrastructure needed to support the emerging market in ultra-low carbon vehicles and incentivise their purchase.”

LowCVP’s previous work³ showed electric vehicles do deliver greenhouse gas savings when measured on a whole life carbon basis; but need to be recharged using renewable electricity and manufactured using lower carbon processes and materials to maximise the benefits.

³ http://www.lowcvp.org.uk/assets/pressreleases/LowCVP_Lifecycle_Study_June2011.pdf

Notes to Editors

About LowCVP

The LowCVP (www.lowcvp.org.uk) was established in 2003 to take a lead in accelerating the shift to low carbon vehicles and fuels in the UK and to help ensure that UK business can benefit from that shift. It has approaching 200 organisations from the automotive and fuel industries, the environmental sector, government, academia, road user groups and other organisations with a stake in the low carbon vehicles and fuels agenda.

The LowCVP will be exhibiting at the Cenex Low Carbon Vehicle Event at the Rockingham Motor Speedway on the 7th and 8th September. <http://www.lcv2011.co.uk/>

The LowCVP Champions Awards are currently open for nominations for leading companies seeking to reduce vehicle or company greenhouse gas emissions.⁴ The Awards, held in conjunction with the Institute of Mechanical Engineers will be announced on the 14th November.

For further information, or to register at the Awards, please contact:

Neil Wallis, neil.wallis@lowcvp.org.uk Mob: +44 (0) 7974 255 720

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⁴ <http://www.lowcvp.org.uk/lowcarbonchampions/>