

How sustainable are low carbon vehicles?

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If you're looking for a holistic experience, visit the Whole Life Vehicle Conference 2009.

Who	DRIVENet
What	Whole Life Vehicle Conference 2009
Where	Turweston Aerodrome, Silverstone, UK
When	18-19 November, 9am-5pm
Costs	£595 (see registration form for discount possibilities)
URL	http://www.drivenet.org.uk/

[E037 Image 1](#)

More to it

There is more in the life of a vehicle than the cycle “from raw materials, to design, assembly of components, manufacture, disassembly, recycling and reuse of components and materials.” British network organisation DRIVENet doesn't overlook these factors, but looks further than the technical side of car life.

At this year's Whole Life Vehicle Conference, held 18 to 19 November and organised by DRIVENet, there is a place for topics such as legislation, impact on lifestyle, climate change and alternative fuels as well. “Find out how the automotive industry is planning for the whole life of future vehicles,” the organisation promises in their conference alert. As a bonus, you can admire and testdrive the latest electric and low carbon vehicles on the Turweston Runway.

In short, the programme encompasses the entire realm of electric and low carbon vehicles: society, technologies and solutions.

Gripping

There is room for education in such a programme as well. Not of the boring kind, but with a gripping name like BLOODHOUND, the looks (and engine) of a rocket, and the promise of a possible land speed record. Come and explore the limits of sustainable mobility in more than one sense.

Highlight: BLOODHOUND

The BLOODHOUND super sonic car project is a three-year mission lead by Richard Noble to create a car that can break the land speed record. What is sustainable about that, one would ask? In line with the Whole Life Vehicle Conference, let's explore more aspects of this project than merely the fast driving.

How fast is a bloodhound? Going Mach 1.4, or one thousand miles per hour (mph), over land is the goal of a super sonic car project bearing the dog's name. That's "faster than a bullet fired from a handgun", says the press release. The vehicle will accelerate from 0 – 1,050mph in 40 seconds, exposing the car surface to air pressure of over twelve tonnes per square metre. Designing the wheels to cope with this is only one of the challenges the engineers are facing. The 12.8m long 'car', powered by the largest hybrid rocket motor ever built in the UK, is to be a "showcase for science, technology, engineering and mathematics."

It also seems to take a showcase of a courageous pilot to drive the BLOODHOUND. Wing Commander Andy Green will be at the wheel. He'll try to break his own record of 763mph (1228kmh) which he set driving the Thrust super sonic car (SSC) in 1997.

School children

However, Building a car quicker than a fighter jet (the low altitude speed record for aircraft is 994mph) is not the primary goal of the project. "Rather, it is to inspire future generations to take up careers in science, technology, engineering and mathematics by showcasing these subjects in the most exciting way possible." Many developed countries are short of scientists, engineers and mathematicians. To help advance sustainable mobility, we need children to choose these subjects in school, is how the BLOODHOUND project is marketed. A three year cinema and television campaign was launched to support the educational effort.

Every team trying to break the land speed record builds its own unique car for the purpose. Therefore, all technical information on the BLOODHOUND SSC can be shared freely with the public without the risk of giving the competition a head start. The BLOODHOUND SSC is accessible to everyone from the age of five on. So it is not just the project leader's name that is Noble.

Undeniable

The team point out that they do consider the environment more directly than through the long-term goal of education. For starters, the company is largely virtual, with most of the staff working from their homes.

Also, the engines are not as polluting as they seem. In the first twenty seconds a hybrid rocket motor brings the car to its peak speed. For many of the early runs this motor will use High Test Peroxide (HTP) for fuel, which decomposes into steam and oxygen without CO2 emissions. In later runs, it will also use an aromatic rubber substance, HTPB, for fuel though. An EuroJet EJ200 jet engine is the other power plant. It "burns small volumes of standard jet fuel, as used in commercial airliners. BLOODHOUND SSC will use a maximum of 200-250 kg of jet fuel on its high speed runs," as it says on the project website.

Admittedly, this sounds rather apologetic, if not outright disguising how much energy is used for this project. But education is an underestimated long-term solution to many problems, that is undeniable. The British Government agrees, and is part funding the education programme. Private sponsorships must cover the build and running costs of the vehicle.