

Where are we **today?**

Reducing Carbon, reducing costs - multi-fuelling is part of the solution

It is widely accepted that in transport the diesel engine is one of the most efficient mechanisms for turning fuel into energy. In many areas, and particularly with larger HGVs, it is the only practical solution, both now and for the foreseeable future.

Additionally, nearly everyone accepts that: (a) oil is a finite commodity, with an increasingly volatile price; and (b) global warming is a real and present danger for future generations.

Can we find a cost effective way to make heavy goods transportation lighter in carbon and less dependent on oil, whilst reducing operating costs?

At G-volution, we believe the answer is emphatically yes, and yes today. G-volution is supported by the Carbon Trust Entrepreneurs Fast Track scheme, facilitated by Carbon Limiting Technologies (a Carbon Trust incubator company), which has accelerated the development and penetration of our multi-fuelling technology into the HGV market.

What can be delivered today?

G-volution has pioneered a patented technology that gives precise and complete control of two or more fuels into a modern diesel engine. This means that all the developments made in diesel technology over the past decade – including electronic control and OBD – can be retained, whilst, at the same time, significant reductions in carbon and costs can be achieved (10–15% net fuel cost reduction, 7–9% net CO₂ reduction with a diesel/LPG mix).

Not surprisingly, over the past 18–24 months, as our technology has been shown to work effectively, there has been increasing interest from HGV fleets and OEMs alike (as reported in *Transport Engineer*, August 2009 and July 2010).

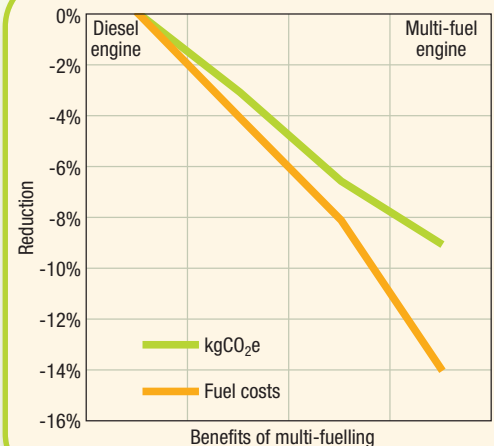
And Governments seem to think so, too...

In the UK, in 2010, the Carbon Reduction Commitment was introduced. For the first time (for 6,000 of the UK's largest businesses) carbon will be priced and taxed. This is the beginning of a long journey where carbon will cost more – so ensuring that greener fuels remain cheaper, from a government taxation perspective. And the push now is beyond Euro 6 and it seems clear that Euro 7 emissions standards will focus almost solely on CO₂ emissions.

And so, OEMs – under pressure to deliver

solutions to their clients – are becoming more interested in the idea...

A number of OEMs have already embraced the concept of multi-fuelling. Customer pressure means that all the OEMs are now looking for ways to reduce emissions and cost. Certainly, there are big advances in biofuels, but the sustainability of these has been called into question. No one can predict the future of fuelling, but it is clear that it will involve a mix of fuels, according to country and region – depending on the energy mix and carbon taxes in each location.



And tomorrow?

The G-volution view is that our model of using LPG (despite what you might think, considerably greener than diesel, say 7–9% less CO₂), which is both cost effective and available today, shows the way ahead for a broader approach and acceptance of multi-fuelling diesel engines.

From liquid bio-methane to wet ethanol and hydrogen, G-volution is continuing its fuel mix research programme at Cranfield University, supported by the Carbon Trust, aiming to become the leading provider of multi-fuel technology in the HGV sector.

A British invention, built in Britain, that really can change the World – fast.

To see how you can reduce your carbon emissions and operating costs visit G-volution at www.g-volution.com or call us on 01633 415311

