

# End of the Road for Hydrogen

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## End of the Road for Hydrogen

With climate change on everyone's mind and rumours of an energy crisis, what could be better than a car which doesn't run on fossil fuels and has no emissions except water? BMW's new Hydrogen 7 fits the bill. This is the V-12 BMW 7 modified to run on hydrogen. It has a petrol tank as well; it also runs on petrol, which is handy if you are far from the UK's only hydrogen filling station - one of only six in the world. Of course, if hydrogen catches on there will be filling stations all over the country, won't there?

Hydrogen cars sound ideal, but there are practical problems. First, the hydrogen tank takes eight minutes to fill and it takes up most of the boot space. Even then, the hydrogen tank provides a range of only 125 miles. To get enough hydrogen into the fuel tank it has to be chilled and liquefied. Gradually it warms up and boils away, so if you don't use the car over the weekend you'll find less in the tank. Park up at the airport while you take your three-week holiday and when you get back it'll be nearly empty.

The fact that the hydrogen has to boil off for safety reasons may be why hydrogen vehicles are illegal in France. Even over here you are advised not to park the vehicle in an enclosed car park. You cannot see hydrogen, you cannot smell it and it burns with an invisible flame. Like petrol vapour, when mixed with air it is highly explosive. At least you can smell petrol!

Where does hydrogen come from? It is either extracted from natural gas or electrolysed by passing a current through water. Extracting hydrogen from natural gas leaves carbon dioxide, which must be captured - otherwise the process produces as much CO<sub>2</sub> emissions as if you had just burnt the gas. Electrolysis produces no CO<sub>2</sub>, but it does produce a lot of waste heat so the energy content of the hydrogen is significantly less than the energy of the electricity used. Electricity itself comes from coal, gas or nuclear, and the electricity produced is also much less than the fuel put into the generation process. Producing hydrogen this way is very inefficient.

All these factors make it very doubtful that hydrogen will be the fuel of the future. As we approach Peak Oil and petrol becomes more and more expensive, economies and cutting back on our travel will be the only solution.

How will you change your lifestyle when petrol costs £5/litre? (That's \$36.95 per US gallon.)

Anthony Day

[http://www.planetsave.com/ps\\_mambo/The\\_News/Feature\\_Articles/End\\_of\\_the\\_Road\\_for\\_Hydrogen\\_200701258387/](http://www.planetsave.com/ps_mambo/The_News/Feature_Articles/End_of_the_Road_for_Hydrogen_200701258387/)

