
Hydrogen taxi cabs to serve London by 2012 Olympics

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A taxi cab that runs on the latest hydrogen fuel cell technology is being developed with the aim of being ready for full road trials in time for the 2012 Olympics.

The car looks and drives just like a standard London black cab - but underneath the bonnet is some cutting-edge technology by sports carmaker Lotus.

The fuel cell taxi can hit a top speed of 81mph, go from 0-60mph in 14 seconds and has a range of more than 250 miles on a full tank of hydrogen. Like electric vehicles, the new taxi does not produce any emissions from its tailpipe but, unlike battery-electric cars, it will only take a few minutes to fill up from empty.

The widespread introduction of hydrogen cars has long been a goal of some green campaigners, because eventually they allow transport fuel to be generated from renewable energy. Wind and solar plants could be used to drive the process of splitting water into hydrogen and oxygen - and the hydrogen piped to filling stations. Iceland has already begun constructing a hydrogen grid using plentiful geothermal energy. But in the short term, hydrogen vehicles in the UK are likely to be powered by fuel derived from oil.

Henri Winand, of Intelligent Energy, which makes the fuel cells used in the taxis, said they were an ideal way to begin building the infrastructure required for a hydrogen-based transport system - seen as one of the big stumbling blocks for the

250 The distance, in miles, the new taxi can travel on a full tank of hydrogen. Unlike electric cars, it only takes a few minutes to fill

wider introduction of hydrogen vehicles. "With fleets you can deploy a little infrastructure, which you can build up with the more fleets you have, rather than going straight to consumers who might be wondering where the next filling station is."

London's deputy mayor, Kit Malthouse, announced last year that by 2012 there would be six hydrogen filling stations in the capital. He said he wanted around 20-50 taxis in operation by then as part of the Black Cabs Go Green programme, as well as 150 hydrogen-powered buses.

"The intent is to take the taxis and retrofit a powertrain that has zero tailpipe emissions," said Winand. "But also it has to deliver some very important things: a reasonable range, very quick refuelling time and no modifying the passenger or driver space."

After modification, he said no one would be able to tell the difference between a hydrogen cab and a regular one apart from the lack of diesel fumes. The first few hydrogen taxis, which were funded in part by the government's Technology Strategy Board, have already been built at the Lotus headquarters in Norfolk.

Intelligent Energy, leading the consortium for the new taxi, has designed and built the fuel cell, which uses hydrogen to make electricity. Lotus is responsible for integrating the fuel cell into the body of the taxi - in their design, pressurised hydrogen is stored in a tank where the internal combustion engine of a standard cab would be. The fuel cell produces electricity and feeds it to a battery pack under the floor of the taxi's passenger area. The batteries then drive motors in the wheels.