

Fact Sheet

HyFLEET:CUTE Hydrogen Bus Project

The HyFLEET:CUTE project involves the operation of 47 hydrogen powered buses in regular public transport service in 10 cities on three continents. The Project started in 2006 and will conclude in 2009. The Project aims to diversify and reduce energy consumption in the transport system by developing new, fuel efficient hydrogen powered bus technology, and clean, efficient and safe ways of producing and distributing hydrogen fuel.

Bus Technology

■ Fuel Cell Power Train

- In a fuel cell bus the driving energy is generated by the reaction of hydrogen and oxygen in order to power the electric motor with water being the only by-product. This makes fuel cell technology highly efficient and produces no harmful emissions.
- Thirty three hydrogen powered fuel cell buses are continuing operations for one year in Amsterdam, Barcelona, Beijing (China), Hamburg, London, Luxembourg, Madrid, Perth (Western Australia) and Reykjavik. This builds on the experience gained from their operation in previous projects.
- A prototype next generation fuel cell bus which is even more fuel efficient is also being developed, tested and demonstrated.

■ Internal Combustion Engines (ICEs)

- These engines are based on proven combustion technology derived from CNG (Compressed Natural Gas) engines
- The first two of a fleet of 14 hydrogen powered internal combustion engine buses commenced operations in Berlin in June 2006
- Different types of ICE buses will be developed and operated. The first four buses are powered by naturally aspirated engines. The following ten buses will have turbo charged engines with direct fuel injection in order to have a higher power output. The fourteenth bus will have additional auxiliary power provided by a fuel cell system.

Hydrogen Infrastructure

In the project, existing hydrogen infrastructure is being further optimized and new hydrogen refueling infrastructure is being developed and demonstrated.

Hydrogen is being produced in different ways both on the refueling station (on site) and away from the station (off site) in order to evaluate the different methods of hydrogen production.

- Steam reforming of natural gas and LPG (Liquefied Petroleum Gas)
- Electrolyzes of water
- Renewable energy sources are playing a major part in providing energy

HyFLEET:CUTE also includes the operation of stationary fuel cells to provide power and heat to a service station.

HyFLEET:CUTE involves the cooperation of 31 partners from politics, industry and science to promote the development of hydrogen technology.

HyFLEET:CUTE is part of “*Hydrogen for Transport*”, which is an initiative that groups, coordinates and monitors all the transport demonstration projects of the European Hydrogen and Fuel Cell Technology Platform.

For further information on HyFLEET:CUTE contact

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