



ACCEPTH₂

Public Acceptance of Hydrogen Transport Technologies

Problems addressed

Public perceptions and acceptance of hydrogen technologies will be critical to the success of these HB demonstration projects. However, there have been very few comprehensive studies into economic values and public perceptions of fuel cell and/or hydrogen-fuelled vehicles. Most research assessing the potential for hydrogen fuel cell vehicles in the transport market has only looked at the strict technical and financial feasibility of the technology and not at its wider economic impacts.

The project will address this lack of data by evaluating public perceptions and acceptance of hydrogen vehicles, especially fuel cell buses, and measuring economic preferences towards the use and uptake of these vehicles. The study will also assess how knowledge, perceptions, values and use vary across different population segments within each city and across the populations of the five cities.

Project structure

HB demonstration projects will be held in many cities; the project is based on five of these: London, Munich, Luxembourg, Perth (Australia) and Oakland (USA). The London and Luxembourg studies will assess the influence of the EC-funded Clean Urban Transport for Europe (CUTE) project, developed under Framework Programme 5. This demonstration project is introducing DaimlerChrysler Citaro buses with Ballard fuel cells and compressed hydrogen fuel into each of those cities (as well as 8 other cities within the EU). The Munich study will assess the effect of

the H₂ ICE project being run in Ottobrunn, while the Perth study evaluates a similar bus to the CUTE project but funded by the Western Australian Government, and the Oakland study will assess the effect of a fuel cell bus project using Van der Hool buses and UTC fuel cells.

Expected impacts

This project has been conceived as a means of contributing towards the long-term strategic objectives of introducing hydrogen and fuel cell vehicles into vehicle markets. The project concentrates entirely on buses, as these are considered to be the most appropriate vehicle type for early demonstration projects for two reasons. These are: their set routes and large size mean that the reduced vehicle range associated with H₂ vehicles and the current lack of significant refuelling infrastructure is less problematic for buses than for other vehicle types; and because many people will travel on each HB, thus gaining first hand experience of hydrogen vehicles.

In developing a detailed understanding of public perceptions and values of HBs, the project will contribute towards an understanding of how best to develop, present, and ultimately market hydrogen vehicles and technologies. The integration of the results into policy design will assist with the achievement of specific policy objectives. The results of the project will therefore become a useful tool for stakeholders that wish to enhance market opportunities for this new generation of cleaner and quieter vehicles.

Objectives

Hydrogen fuelled buses are being trialled in selected cities world-wide, with a view to achieving full commercialisation. However, the successful introduction of these vehicles will depend not only on technical maturity, but also on public acceptance of hydrogen fuel and technologies. While there is strong industrial and political interest in the introduction of hydrogen vehicles to the market, a belief among many experts persists that the wider public might not accept hydrogen fuel for safety reasons.

In this context, the overall aim of the project is to support the future introduction of hydrogen-fuelled buses (HBs) by conducting a systematic evaluation of public perceptions, values, and intended and actual use of HBs. This evaluation will permit an assessment of both the public acceptability and the economic viability of HBs. The research will be carried out through detailed surveys of public perceptions and economic preferences, that will be conducted both 'before' and 'after' high-profile HBs demonstration projects are held in five cities: London, Munich, Luxembourg, Perth (Australia) and Oakland (USA).



Progress to date

The project began in early 2003. A review of existing work relating to public perceptions and economic values of H₂ and fuel cell vehicles has been completed. Different questionnaire designs and question formats used by other authors have been reviewed. An initial draft of a 'before' questionnaire has been developed, and is currently under consultation within the partners. At the same time, background characterisation of the different cities including funding for hydrogen and fuel cell fleets is being conducted.

INFORMATION

References: ENK5-CT-2002-80653

Programme:

FP5 - Energy, Environment, Sustainable Development

Title:

Public Acceptance of Hydrogen Transport Technologies (ACCEPTH₂)

Duration: 30 months

Partners:

- Imperial College of Science Technology and Medicine (UK)
- L-B-Systemtechnik (D)
- Saarland University (D)
- Institute of Transport Studies, UC Davis (USA)
- The Department of Transport (AU)
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Status: Ongoing