

Demonstration for Fuel-Cell Bus Commercialization in China (I/II)

The Challenge

Air pollution is a serious environmental and health problem in most urban cities in China. Coal combustion and oil consumption, the two primary sources of air pollution, constitute 90% of China's total energy use. The transport sector, which relies almost entirely on oil, is projected to account for most of the incremental demand for oil over the next 20 years. The projected dramatic growth in number of vehicles over the coming decades will significantly exacerbate the urban air pollution problem while also contributing to global warming.

The Response

Through the strong support of the Global Environment Facility (GEF), this project will reduce greenhouse gas emissions and air pollution through widespread commercial introduction of Fuel-Cell Buses (FCBs) in urban areas of China. Fuel-cell vehicles utilise alternative forms of energy and lower emissions of major air pollutants and greenhouse gases, with significantly higher fuel efficiency compared to conventional vehicles. In particular, hydrogen fuel cell vehicles can serve to reduce the burden on the environment through the reduction of greenhouse gas emissions while reducing consumption of fossil fuels.

UNDP support to the Ministry of Science and Technology (MOST) is designed to demonstrate the operational and commercial viability of hydrogen FCBs in China through the pilot FCBs and construction of two hydrogen refueling systems in Beijing and Shanghai. The project will support the development of hydrogen and fuel cell vehicles (FCV) related value chain while enhancing scientific, technical, and industrial capacity for commercializing FCBs; and increase the understanding of FCVs and clean vehicles among government, academics, investors, media, and other key actors. Finally, a series of activities will focus on defining a detailed strategy for large-scale FCB commercialization in China. Other capacity building activities will include expanding government policies, technical standards, enhancing domestic research and development capabilities to support FCB commercialization in China.

UNDP partners under this project include: the Ministry of Science and Technology and Ministry of Commerce; Beijing and Shanghai municipal governments, Municipal Science and Technology Commissions and the Public Transit Company; multinational corporations and local companies, and universities.

Achievements

Phase I (2002-2006) - 3 Fuel-Cell Buses were provided to Beijing along with a FCB workshop and garage and a Hydrogen refueling station, the first of its kind in China. This was coupled with capacity building and awareness raising activities toward commercialisation in China.

Phase II (2007-2010) - Identical activities will be completed in Shanghai incorporating the lessons from Phase I. Phase II will (1) demonstrate the operational viability of FCBs and their refueling infrastructure by setting up FCB fleets and supportive facilities in Shanghai; (2) accumulate technical and policy knowledge for advancing commercialization of FCB technology and supply chain nationally; and (3) promote enabling environment for FCB expansion in other cities through the design of roadmap for commercialization of fuel cell buses in China.

At A Glance

Start Date: November 2002
End Date: December 2010
Implementing Partner: Ministry of Science and Technology
Project ID: 00012144 - CPR/01/G31, 00051247

UNDAF: Outcome 3 – Efficient Management of Natural Resources
MDG: Target 9, Goal 7 – Ensure environmental sustainability
CPAP: Outcome 6 – End-use energy efficiency and application of new and renewable energy technologies improved
Website: www.chinafcb.org.cn

Total Budget:	US\$	30,710,000
UNDP/GEF:	US\$	11,969,000
Government:	US\$	16,291,000
Private Sector:	US\$	2,450,000

Project locations: Beijing, Shanghai

To contribute to this initiative, or to find out more about the programme, please visit our website or contact Dr. Yiyang Shen, Programme Manager at 86-10-8532-0736 or yiyang.shen@undp.org

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