

Commercialization of fuel cell vehicles and hydrogen stations to commence in 2015

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- Leading automakers in and outside Japan and Japanese energy companies have agreed on a scenario which sees commercialization of fuel cell vehicles (FCVs) and hydrogen stations beginning in 2015.
- They have also identified the challenges facing future energy diversification and post-Kyoto Protocol talks.
- Under METI (Ministry of Economy, Trade and Industry), activities for overcoming the challenges are being accelerated through the Japan Hydrogen & Fuel Cell Demonstration Project, through promotion of technology development programs led by NEDO (New Energy and Industrial Technology Development Organization), through investigations into a large scale pilot project, and through other unique initiatives by individual energy and automobile companies.

Under the leadership of major member companies on its board of directors, the Fuel Cell Commercialization Conference of Japan* (FCCJ, President: Taizo Nishimuro, Advisor to the Board Toshiba Corp.) held repeated consultations on scenarios for full scale commercialization of FCVs and development of hydrogen stations, beginning in late 2006. These have finally led to an agreement on a timeline and the requirements for commercialization of FCVs and hydrogen stations in 2015.



Technology development and other activities for commercialization of FCVs, which run on hydrogen, have received various kinds of government support since these zero emission vehicles will contribute toward air quality protection and carbon dioxide emission reduction for global warming prevention and will eventually lead to the introduction of renewable energy sources and reduced dependence on petroleum. Based on FCCJ suggestions, demonstration tests with approximately 120 fuel cell vehicles have been conducted in Japan as part of the Japan Hydrogen & Fuel Cell Demonstration Project, which commenced in 2002. In addition, there are twelve hydrogen stations already in operation focused in the Tokyo metropolitan area.

The agreed-on scenario envisions FCVs beginning to be in daily use by general users around 2015. Automakers and energy suppliers will further accelerate their initiatives for durability and reliability improvement and cost reduction on vehicles and hydrogen stations, respectively. Moreover, commercialization of fuel cell vehicles will require building hydrogen stations as part of the social infrastructure to ensure general user convenience before the number of FCVs can increase. FCCJ will continue working with the government to review the standards and organizations necessary for increasing the number of hydrogen stations to the point where they equal the current number of gas stations, assess the business feasibility of FCVs based on their assumed commercialization, and discuss items which require government support.

Also, this scenario considers it very important to evaluate, from a socio-economic viewpoint, initiatives for identifying general user convenience, environmental and scientific advantages as well as social acceptability of hydrogen energy, and the roles of local communities including local governments. For this reason, FCCJ will begin discussions with the central and local governments and related agencies on the need for and details of a large scale pilot project which may be initiated around 2011 following the completion of the current Japan Hydrogen & Fuel Cell Demonstration Project.

Regarding FCCJ's scenario, Professor Hisashi Ishitani (Graduate School of Media and Governance, Keio University), chairman of the FCCJ planning and steering committee, said as follows:

"Challenges such as cost reduction, reliability and durability improvement, and hydrogen infrastructure development still remain even for FCVs, which are considered representative of next generation vehicles; and there is a fierce technology development race going on globally for commercialization of the technology. The just established clear schedule for commercialization can be considered a commitment which shows the willingness and seriousness of the parties in related industries to succeed with the technology and marks a significant step towards realization. With the way now clear to realize the difficult technologies, commercialization efforts will be gaining momentum in the years ahead. Social expectations and support will motivate the parties involved toward accelerating technology development. I further hope that this schedule will be met and reflected in energy policies leading to a sustainable low carbon society and that world-leading key industrial technologies will be perfected in Japan."

Based on the scenario, member companies with continuing support from government will concentrate on meeting the challenges.

* Fuel Cell Commercialization Conference of Japan (FCCJ)

FCCJ was established on March 19, 2001 as a conference to study and discuss at a nongovernmental level the commercialization and commercialization of fuel cells. Current membership consists of 105 companies and 15 organizations including leading automakers in and outside Japan, major energy companies, electric and engineering companies and material manufacturers. FCCJ's major activities include making proposals regarding verification tests for fuel cell vehicles, hydrogen infrastructure and stationary fuel cells; identifying technological development issues for fuel cells and creating and proposing roadmaps; discussing fuel cell introduction scenarios and making proposals to the ministries concerned regarding standardization and review of regulations.

Major member companies of the FCCJ board (in alphabetical order) Cosmo Oil Co., Ltd., General Motors Asia Pacific (Japan) Ltd., Honda Motor Co., Ltd., Idemitsu Kosan Co., Ltd., Japan Energy Corporation, Mercedes-Benz Japan Co., Ltd., Nippon Oil Corporation, Nissan Motor Co., Ltd., Osaka Gas Co., Ltd., Showa Shell Sekiyu K.K., Tokyo Gas Co., Ltd., Toyota Motor Corporation

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