Japan's Approach to Commercialization of Fuel Cell / Hydrogen Technology

Ichiro TAKAHARA
Director General
Energy Conservation and Renewable Energy Department
Agency for Natural Resources and Energy
Japan

IPHE Steering Committee
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P.M. Koizumi's Initiative

- **Basic Policy Speech by Prime Minister to the Diet (February 2002)**

"The fuel cell is the key to opening the doors to a hydrogen economy. We will aim to achieve its practical use as a power source for vehicles and households within three years."

- **Introduction of First Commercially Released FCVs by the Government (December, 2002)**

PM's new Residence introduced the world's first commercially released FC Systems (April, 2005).

Panasonic

Ebara-Ballard

Expected Targets and Policies

FCV

2010	50,000
2020	5M
2030	15M

Stationary PEFC

2010	2.1GW
2020	10 GW
2030	12.5 GW

	2002 -	2005-	2010-
	R&D Stage	Introduction Stage	Diffusion Stage
Infra	Demonstration Project	Stepwise Construction	Grow Naturally
Codes	Review of Regulations		
R&D	R&D on FC and H_2	Further R&D	

METI Budget for Fuel Cells (1)

(Billion JPY)

2001FY: 11.7

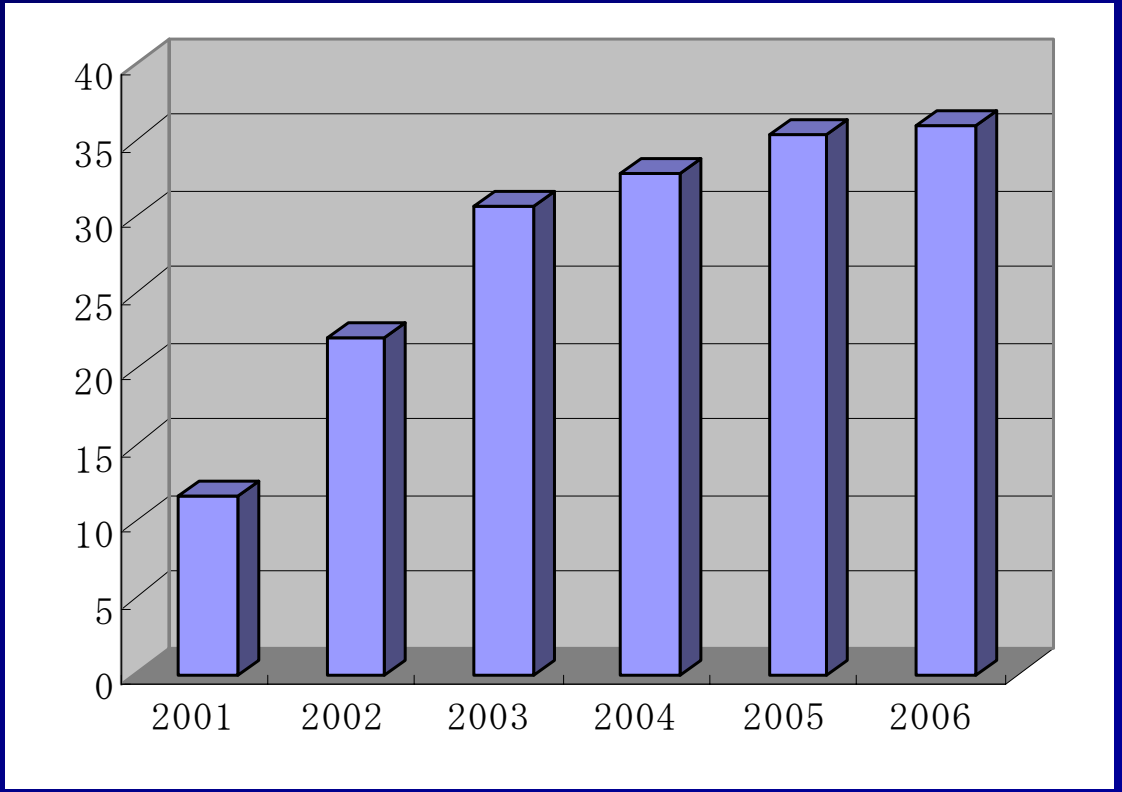
2002FY: 22.0

2003FY: 30.7

2004FY: 32.9

2005FY: 35.4

2006FY: 35.9 (Requesting)



METI Budget for Fuel Cells (2)

2006FY (Requesting, JPY)

- *A New National lab. for hydrogen material R&D - New* *1.7B*
- R&D on PEFC 5.8B
- "FC-cubic" National lab. 1.2B
- Large-scale demonstration for stationary application 3.3B
- *FC system demonstration project (JHFC2) - New* *1.4B*
- *Support of FC Supporting-Industry - New* *Undecided (A part of 9.6B)*

Review of Regulations

- 28 items of 6 laws
- **Completed by FY2004 (Mar. 2005)**
- To remove barriers to introduction of FCVs, H_2 stations and stationary fuel cells

JHFC Demonstration Project

Overview

- **58 FCVs (at September 2005) from both domestic and overseas auto manufacturers**
- **10 H_2 stations in the Tokyo-Kanagawa area and 2 stations at EXPO 2005 in Aichi with different H_2 sources**

JHFC2 project will start in 2006.

FC Technology Showcase at EXPO 2005

4 Types are being Demonstrated

(1) Demonstration of FC Buses / Hydrogen Station

Fuel Cell Buses (PEFC)

Hydrogen Station (Natural gas reforming + by-product from steel mills)

(2) Demonstration in Japanese Government Pavilion

Electric Power supply for the pavilion

- PAFC 800kW
- MCFC 720kW
- SOFC 50kW

Japanese Government Pavilion

Large-Scale Stationary Fuel Cell Demonstration Project

- 400 stationary PEFCs in total
- Started from April 2005
- Various conditions

A New National Lab. for Basic FC R&D

Polymer Electrolyte Fuel Cell Cutting-Edge Research Center

(FC^3 = FC-cubic)

METI

AIST Depts.

1 Billion Yen

(FY 2005)

FC3 was established on April 1 2005.

Close collaboration

Industries, Public, Academia

Basic Scientific Knowledge

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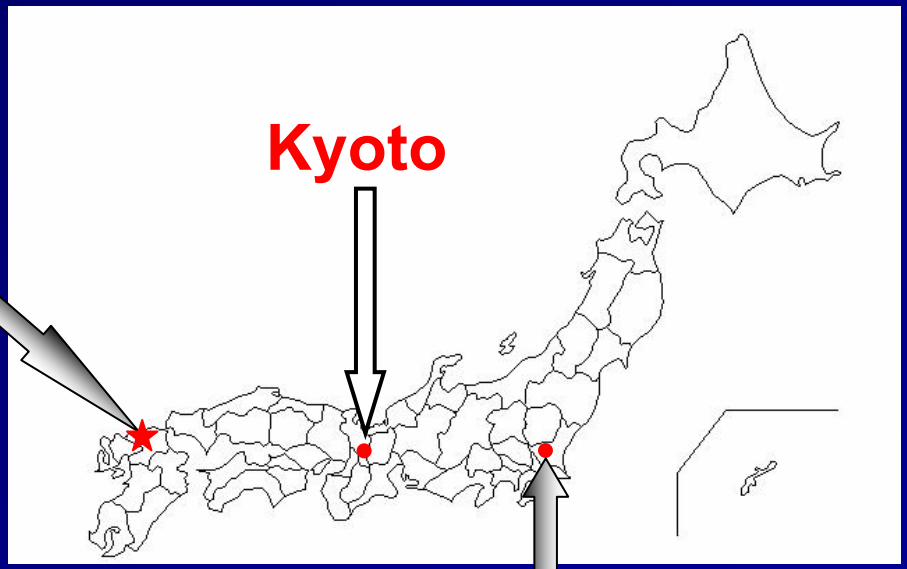
Open Innovation

A New National lab. for hydrogen materials R&D

Hydrogen National Institute for Use and Storage (Tentative name)

(Hydrogenius)

Kyushu University
(Ito campus)



1.7 Billion Yen (FY 2006)

A new national lab. will be established on April 1 2006.

Aiming at a unique international center-of-excellence for hydrogen technologies.

International R&D Cooperation

- METI/NEDO started a **new international joint R&D grant program** last year and 11 joint research activities were adopted.
- Diverse foreign partners from 8 counties: Canada, China, France, Singapore, Switzerland, Norway, Russia, and the US.

- ***METI/NEDO plans to invite proposals for FY2005 international joint research under the "Development for Safe Utilization and Infrastructure of Hydrogen" project up to 30 million yen per theme from 16 Sept.***

  (The day after tomorrow!)

Thank you very much
for your attention!