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

Yoshiyuki IWAI
Director General
Energy Conservation and Renewable Energy Department
Agency for Natural Resources and Energy
Japan

IPHE Steering Committee
January 2005

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P.M. Koizumi's Initiative

- Test Drive by Prime Minister (December, 2001)

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

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

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JHFC Demonstration Project (1)

Overview

- 47 FCVs (at Jan. 2005) from both domestic and overseas auto manufacturers
- 10 hydrogen stations with different H_2 sources
- Study on energy efficiency

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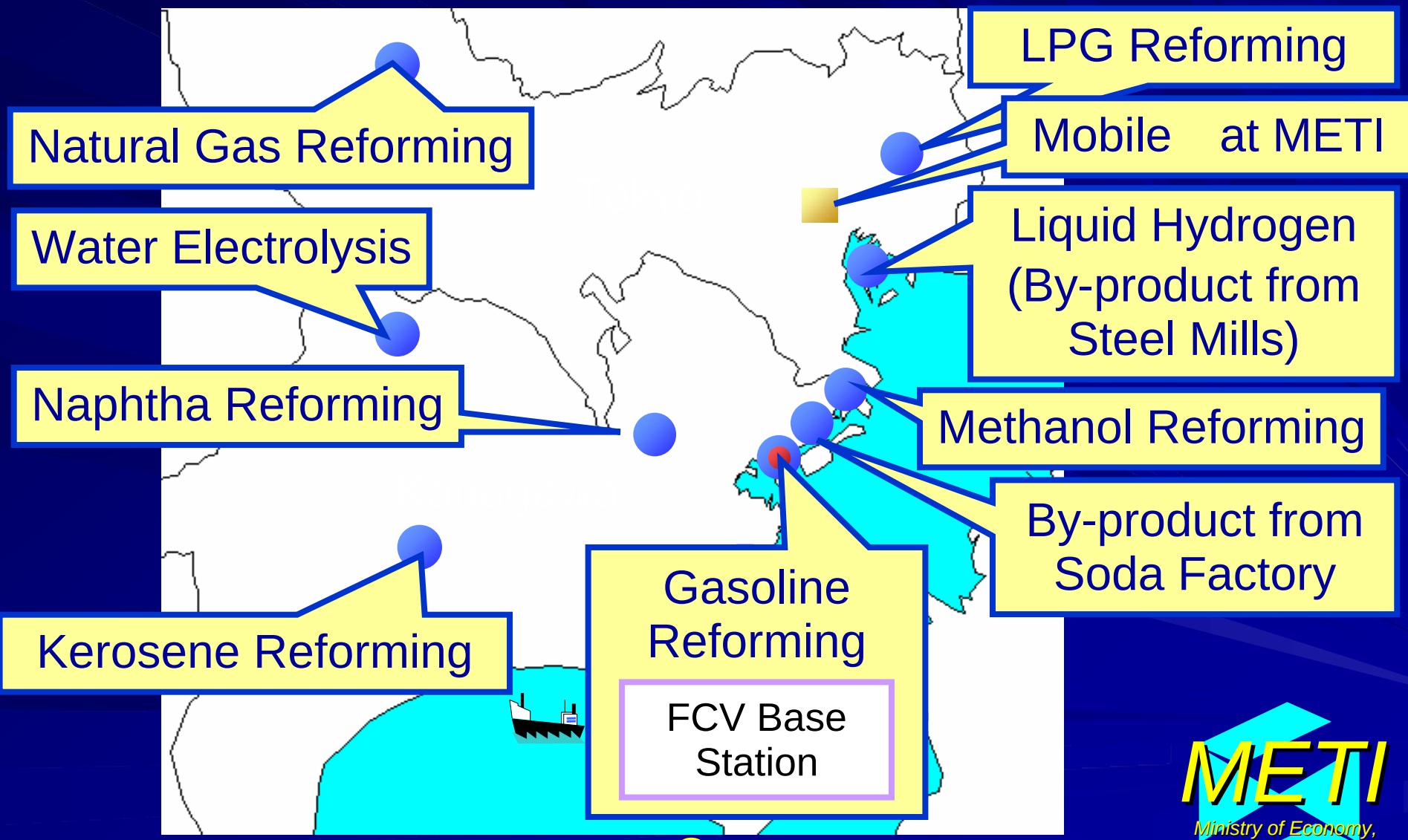
JHFC Demonstration Project (2)



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Fuel Cell Demonstration at EXPO 2005, Aichi, Japan

4 Types to be 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 National Government Pavilion

Electric Power supply for the pavilion

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

National Government Pavilion

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Stationary Fuel Cell Demonstration (1)

- 33 stationary PEFCs from 11 manufacturers
- Various conditions
- Various fuels (Natural Gas, LPG, Kerosene)

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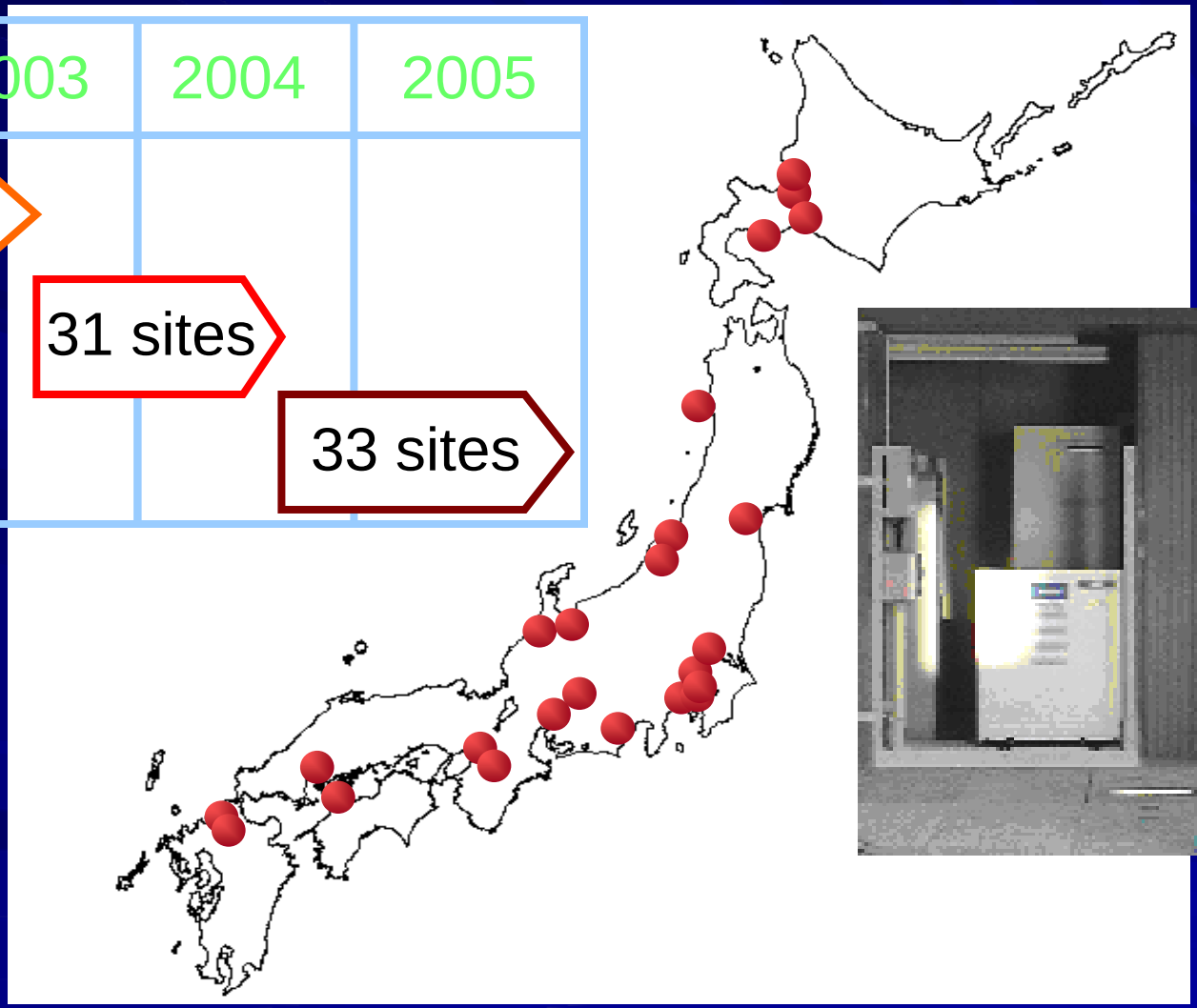
Stationary Fuel Cell Demonstration (2)

2002	2003	2004	2005
12 sites			
	31 sites		
		33 sites	



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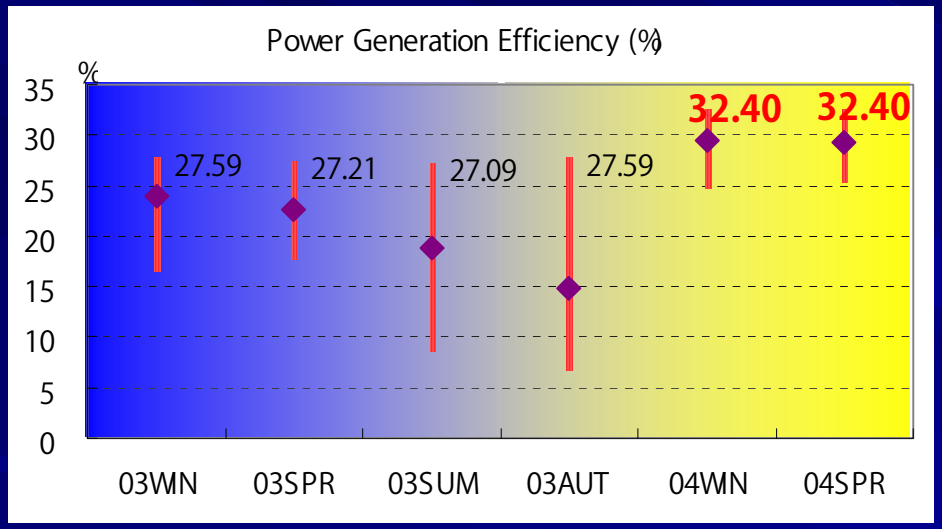
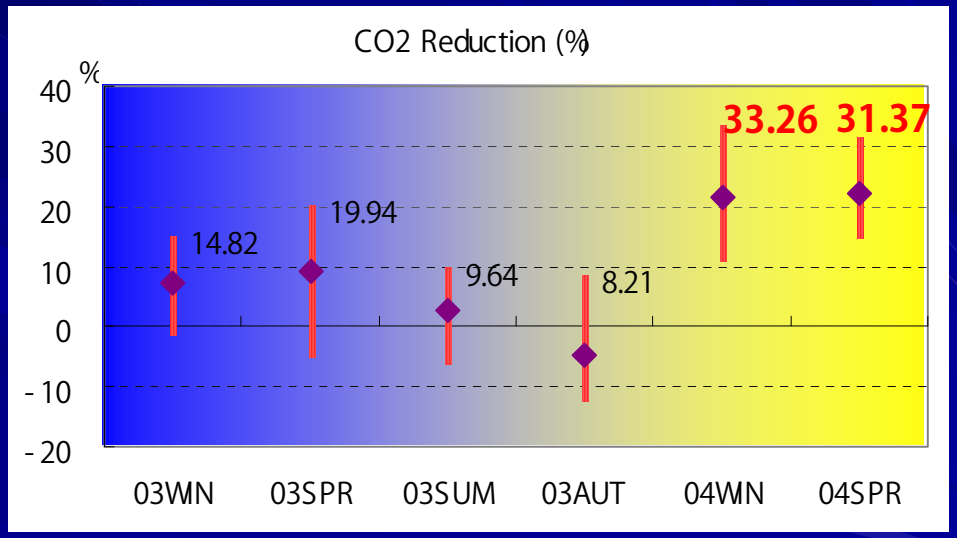
Stationary Fuel Cell Demonstration (3)

More than 32% efficiency under real conditions



More than 30% CO2 reduction under real conditions



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PM's new Residence will introduce the world's first Fuel Cell Systems to the marketplace in this year.

Panasonic

Ebara-Ballard

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Review of Regulations

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

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International R&D Cooperation

- METI/NEDO started a **new international joint R&D grant program** up to 300,000 USD per each team.
- 11 joint research activities were adopted last month.
- Diverse foreign partners from 8 counties: Université du Québec, National Research Council Canada (Canada), Chinese Academy of Science (China), Université Bordeaux 1 (France) , National University of Singapore (Singapore) , University of Fribourg (Switzerland) , Institute for Energy Technology (Norway) , Boreskov Institute of Catalysis - Russian Academy of Sciences (Russia) , Applied Nanotech, Inc., Battelle Memorial Institute, Naval Research Laboratory, SRI International （US）

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