

View of a Japanese Market Participation

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Electric Power Development Company

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Topics

- ❑ **Why J-POWER is active in the CDM Market**
- ❑ **How we see the Emissions Trading Market**
- ❑ **J-POWER's Activity in the Market**

J-POWER is Power Generation Company

Operating Revenues	US\$ 5,392M (FY2003)
Net Income	US\$ 261M (FY2003)
Created by the Government	1952
IPO (100%)	2004.10.6
Power Sales	58,787GWh (FY2003)
▪ Coal Fired	81%
▪ Coal import	17,630 kton(FY2003)
Installed Capacity	16,375MW(*)
Transmission Lines	2,404km (*)
Telecommunications	1,002,146ch-km(*)

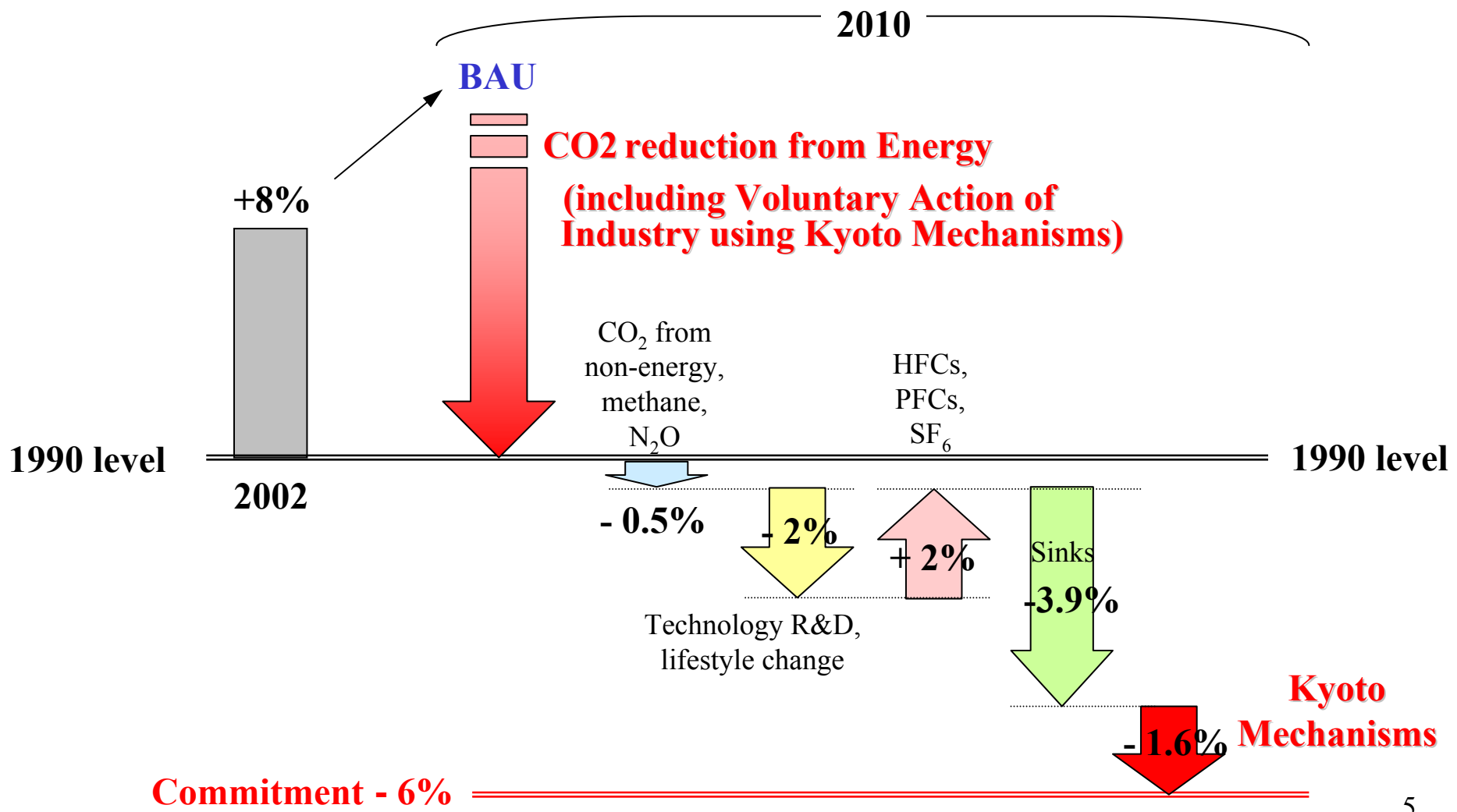
**as of March 31,2004*

J-POWER develops, owns and operates power projects that promote Sustainable Development

Power Sources	Domestic (MW)	Foreign (MW)
Hydropower	8551	-
Efficient and Clean Coal	7812+316	50
Geothermal	13	49
Wind	211	64
Waste	21	-
Biomass		10
Gas Turbine Combined Cycle	505	1601
Combined Heat and Power	92	356

Note: Figures in italics are total installed capacity of plants in operation and under construction as of September 2004 in which J-POWER has partial Ownership.

Breakdown of the 6% Reduction of Japan's Commitment in the Kyoto Protocol



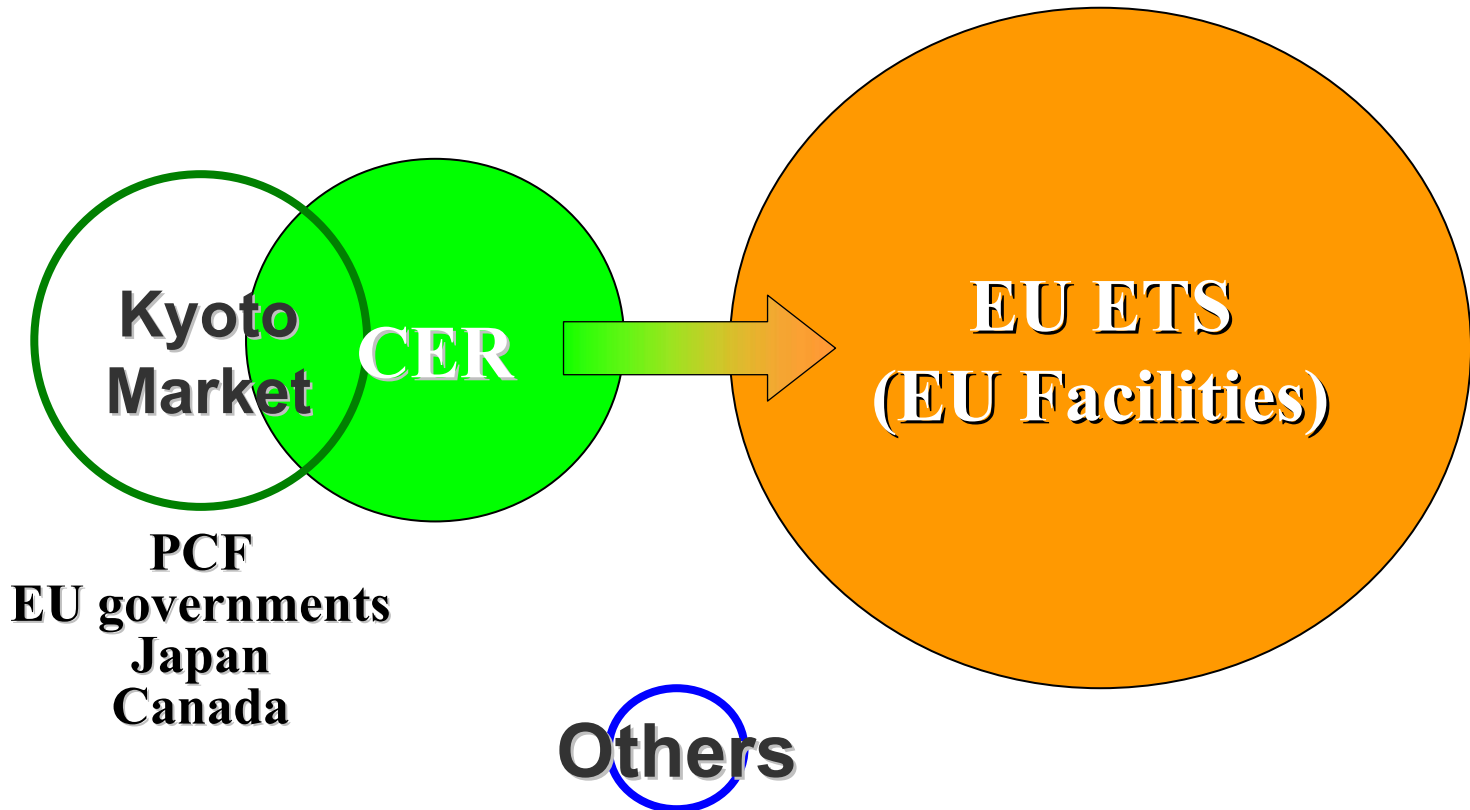
The First Review undertaken

- ❑ **Japan's GHG emissions in FY2002 were 7.6% above those of the reference year and to achieve its goal of 6% reduction it needs to reduce 13.6%.**
- ❑ **If consider Nuclear's temporal low operation in FY2002, future reduction by R&D, sequestration by forestry and offsets by Kyoto Mechanisms the gap may be smaller, but still require additional Policies & Measures.**
- ❑ **The Ministry of Environment proposed environment tax to finance additional policies and measures to achieve the goal.**
- ❑ **MOE also proposed domestic voluntary emissions trading scheme for an experiment.**
- ❑ **The Ministry of Economy, Trade and Industry is rather put weight on voluntary commitment of the industry, R&D for efficient use of energy, and Kyoto Mechanisms.**

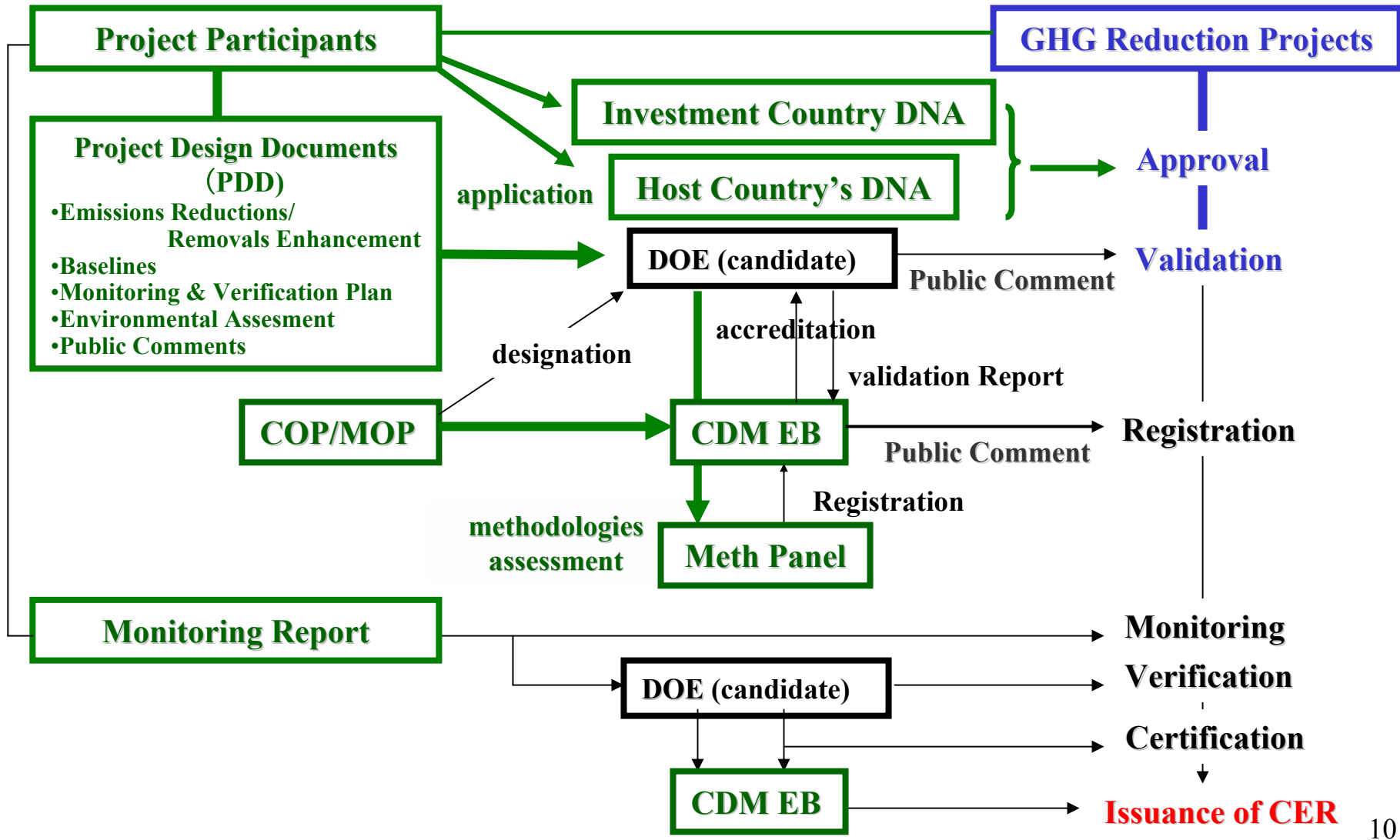
J-POWER uses CDM to hedge Carbon Risk

- ❑ Policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest cost (UNFCCC)
- ❑ CDM allows us to take such measures to ensure global economic efficiency
- ❑ CER can be issued without Kyoto Protocol entering into force
 - ❑ COP has authority over CDM until COP/MOP takes place
 - ❑ CER can be issued for CDM activities after 2000
- ❑ Other Kyoto credits, i.e. ERU & AAU, can be issued only after Kyoto Protocol entering into force and for activities after 2008
- ❑ CDM should be used to establish fluid market now, avoiding market domination by hot air supply

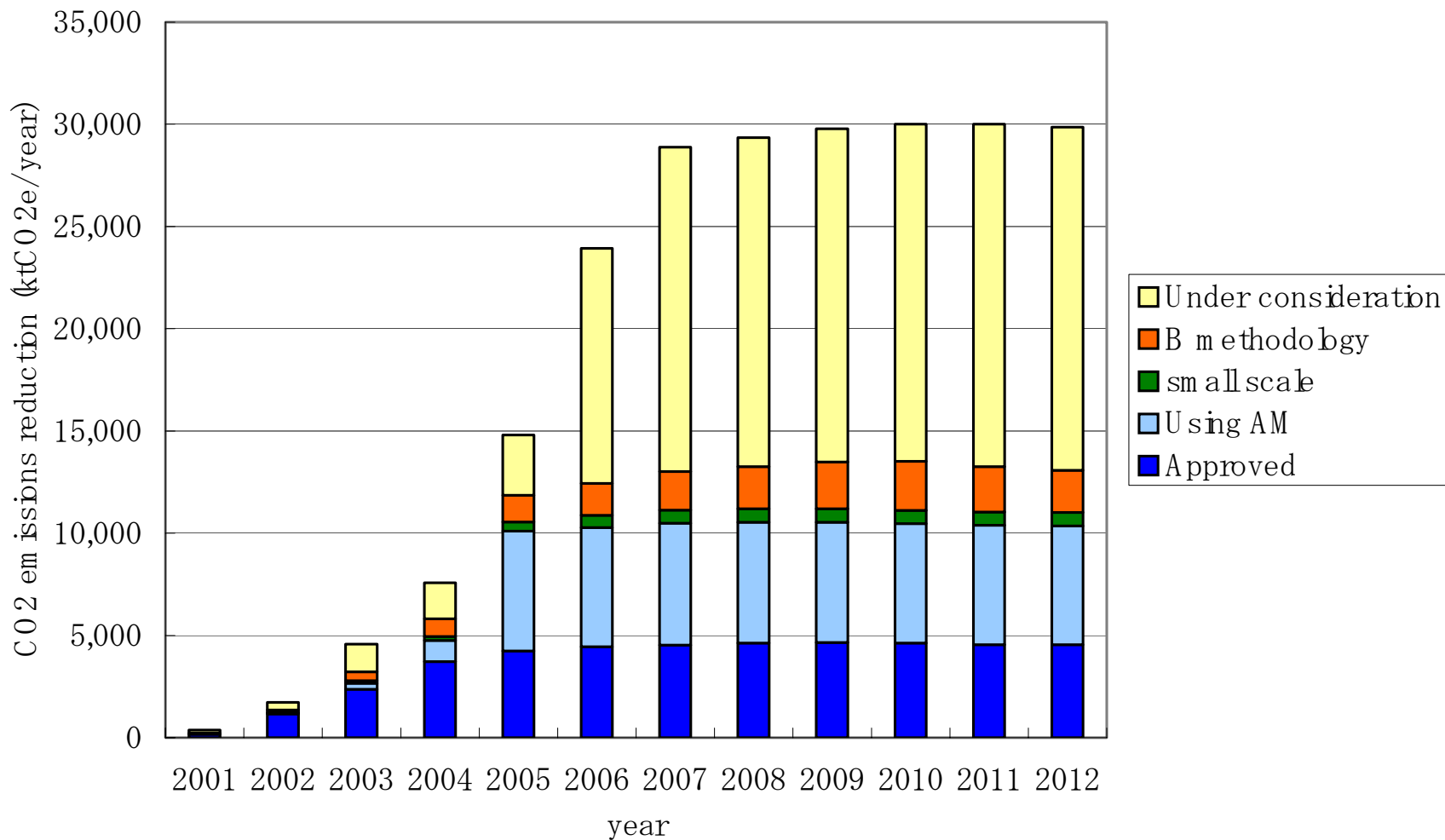
Emissions Trading Market (2005)?



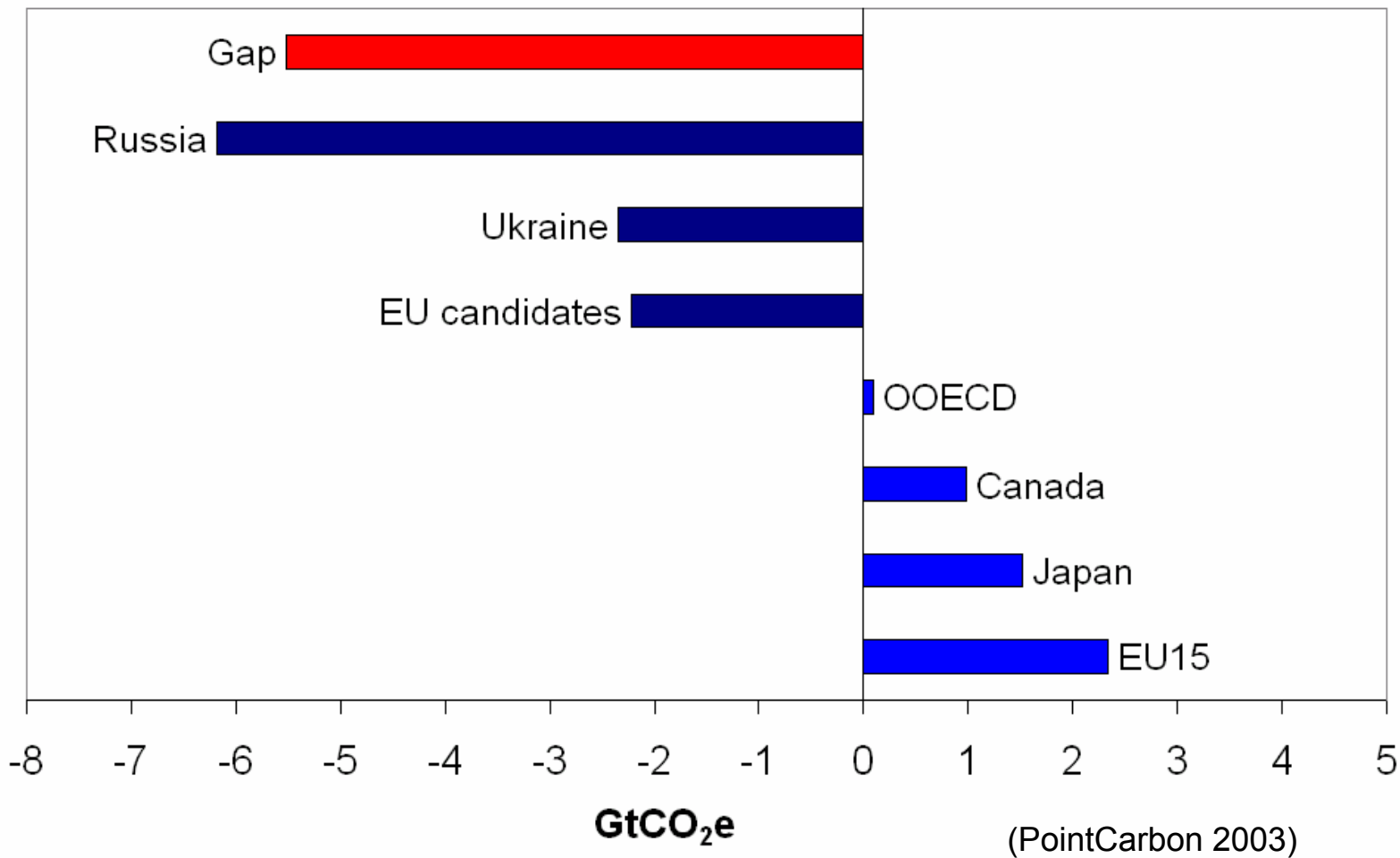
The Long and Thorny Way to Get CERs



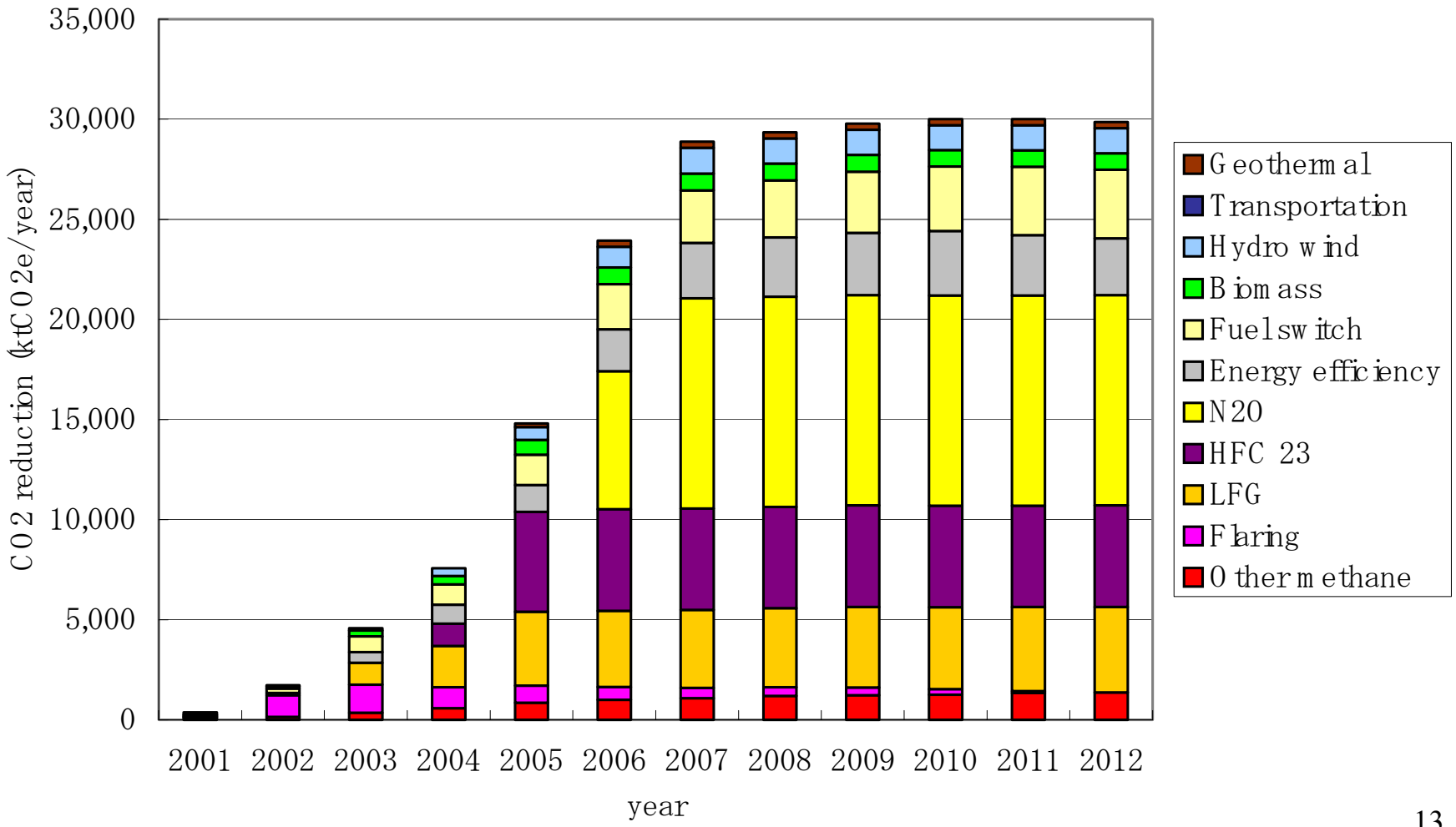
CER supply potential by methodology ranking under CDM EB



Estimated Gap : KP Commitments vs. Emissions



CER supply potential *by project type*



J-POWER participates in CDM Projects as Developer, Investor and/or CER Buyer



CDM makes projects happen

J-POWER first set of projects as CER buyer:

Renewable Energy

- **Guatemala:** Candelaria Hydroelectric
- **Brazil:** Aquarius Hydroelectric
- **Colombia:** La Vuelta and La Herradura Hydroelectric*

Cogeneration

- **Chile:** Metrogas Package Cogeneration Project*

Fuel Switching

- **Chile:** Graneros Plant Fuel Switching Project *

Methane Recovery

- **Chile:** Metrogas Methane Recovery from Pipeline Rehabilitation



* The baseline, monitoring and verification methodologies that were developed by MGM International have been approved or are under examination by the Methodology Panel of the CDM Executive Board.

J-POWER has been making Equity Investment and is developing CDM Projects

Forestry

- **Afforestation Project in Australia**
- **Afforestation Project in Ecuador**

Biomass Power Generation

- **Rice-husk fired Biomass Power Plant in Thailand (GEF project)**
- **Rubber Wood Waste fired Biomass Power Plant in Thailand (GEF project)**

Methane Recovery

- **Land Fill Methane Recovery and Flaring/ Utilization Project in Latin American Countries**



J-POWER as a Potential Investor and Partner

JI Development

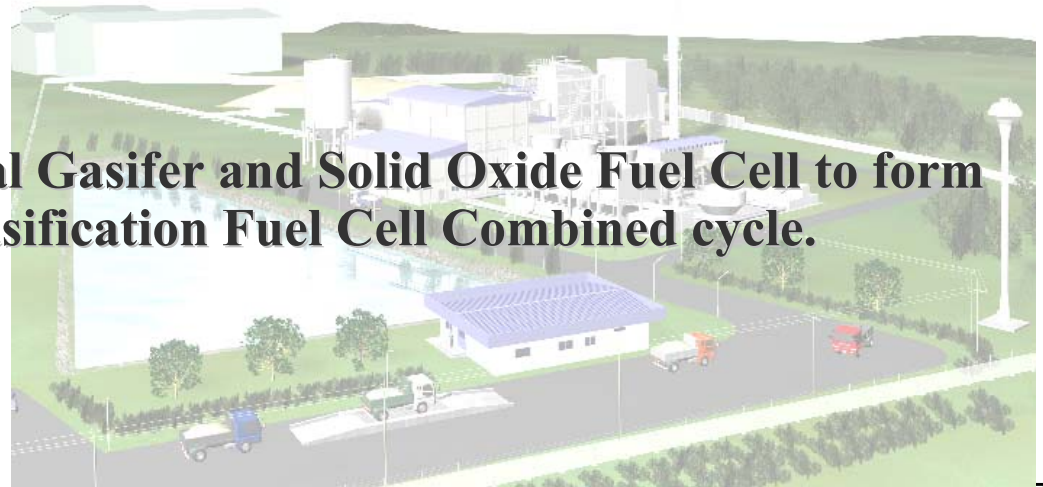
- **Power Projects with less CO2**
- **Non-CO2 gas Reduction Projects**

CDM Participation

- **Project Offering**
- **Co-investment**
- **Buyers Pool**

Technology R&D

- **Oxygen Brown Coal Gasifier and Solid Oxide Fuel Cell to form Integrated Coal Gasification Fuel Cell Combined cycle.**



Thank you very much.



電源開発株式会社

<http://www.jppower.co.jp/>