Developing Clean Energy Markets:

Toward China- Japan-U.S. Trilateral Cooperation

JBIC New Approach; "GREEN”

October 25, 2010

Japan Bank for International Cooperation
Japan Finance Corporation

JFC

JAPAN BANK FOR INTERNATIONAL COOPERATION
JBIC

Profile of JBIC

- Status: **Japan Bank for International Cooperation ("JBIC")** is the international wing of **Japan Finance Corporation (JFC),** a policy-based financial institution wholly owned by the Japanese government;

- Capital: JPY 1,055.5 billion (approx. USD 11.3 billion)

- Outstanding Loans and other financing:
  JPY 8,818.1 billion (approx. USD 94.6 billion)
  (cf. IBRD: USD 105.7 billion as of June 30, 2009)

- Outstanding Guarantees:
  JPY 1,977.1 billion ※ (approx. USD 21.2 billion)

※ as of March 31, 2010
USD1=JPY93.25

Missions of JBIC

access to natural resources

competitiveness of Japanese Industries

FACE **LIFE**

respond to financial disruption

conserve global environment

GREEN

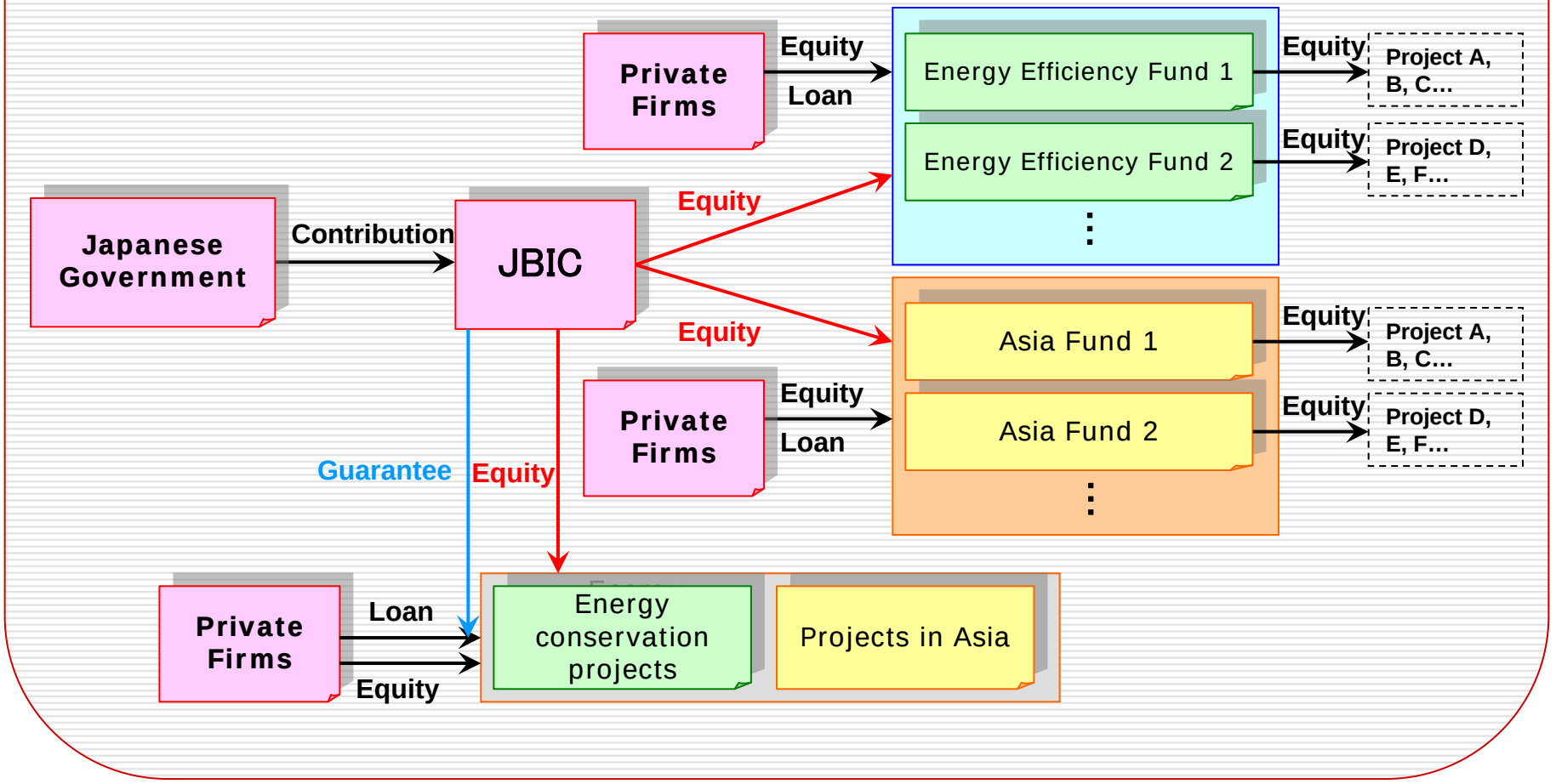
Outline of FACE

Objectives	-To mobilize private capital by using JBIC's **equity** participation and guarantee functions. -To support the projects politically important to Japan in view of the upcoming G8 Hokkaido Toyako Summit : (1) projects contributing to mitigating climate change (including for energy efficiency, renewable energy, forest conservation, etc.); and (2) projects in **Asia**.
Period	FY2008-2012 (April 2008-March 2013)
Funding	To fund this Facility, JBIC is to receive 20 billion yen to its international financial operation account from the Japanese government's Fiscal Loan Fund Special Account (investment account).

Note: A facility is not a fund or account, but a program with specific procedures for managing, in this case, equity participation and guarantee provision.

FACE

Significance of JBIC's equity participation
1.Exploit its knowledge on investment climates and economies in developing countries and its negotiating power in relation to their governments.
2.Provide sufficient safeguards for overseas investment projects
3.Serve as a catalyst for enabling Japanese private investors to work together.
4.Address the environmental and other political agendas by mobilizing private capital for the finance schemes of international organizations

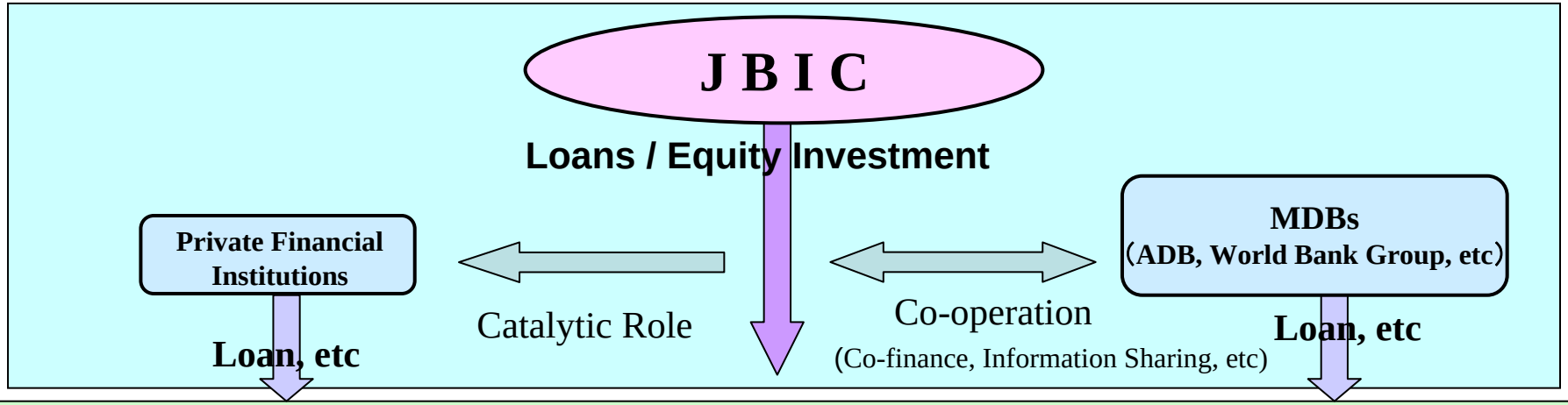


Track Record of JBIC Finance under FACE

No.	Country	Project	JBIC Finance Amount	Month /Year	Remarks
1	Philippines	CDM Enhancement Loan	JPY 4 billion	August 2008	
2	Vietnam	Hydropower CDM Project	JPY 4.4 billion	November 2008	
3	China	China Environment FundⅢ, L.P. investing in China's Environment and Energy Efficiency Projects	USD 15 million	December 2008	
4	China	Urban Monorail Project in Chongqing	JPY 9.1 billion	February 2009	
5	Asia (Region)	Daiwa Quantum Capital Partners I, L.P. focusing on Efficient Energy and the Environment Sector in Asia	USD 20 million	October 2009	

"LIFE" (Leading Investment to Future Environment)

- **JBIC will support environmental investments in developing countries, mainly in Asia, which can …**
  - **be "frontloaded and quickly executed" (the G7 Communique at Rome, February 2009), as the policy response for economic recovery from an ongoing and severe global economic downturn, and**
  - **address long-term agenda in infrastructure sectors in developing countries, with a view to leading those targeted investments to future better earth environment.**
- **The LIFE will …**
  - **support both public and private sectors,**
  - **also utilize JBIC FACE (Facility for Asia Cooperation and Environment) launched in 2008, and**
  - **co-operate with Multilateral Development Banks (MDBs) and mobilize private finances.**
- **The JBIC's financial support under the Initiative will be around US$ 5 billion for the next 2 years.**

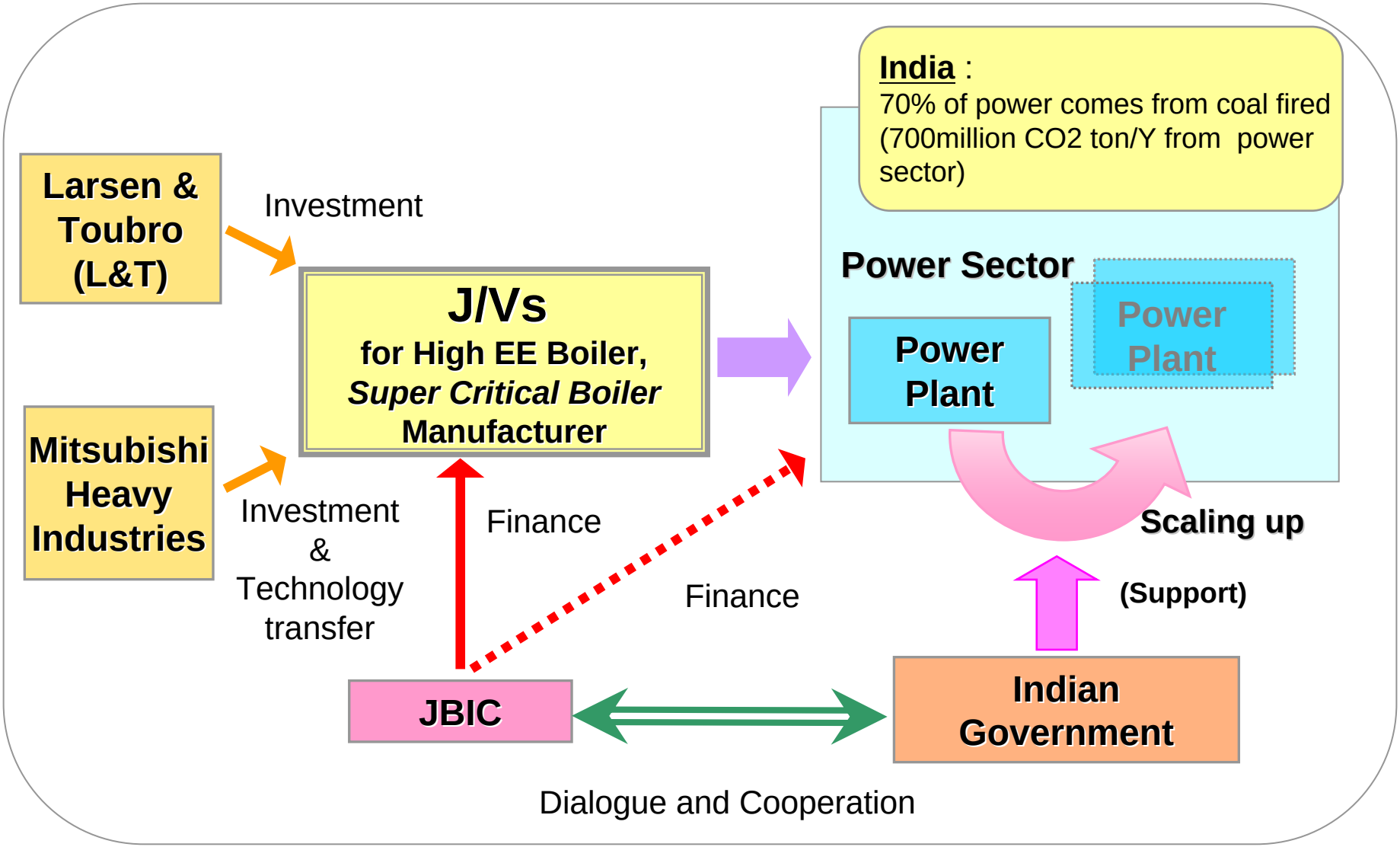


Main targeted sectors are ...

- **Clean Power Generation** (Solar, Geothermal, Wind Power, Clean Coal Power Plant, etc)
- **Energy Efficiency Improvement** (Upgrading of Existing Transmissions and Distributions, Modernization and Heat Recovery of Steel Furnaces and Cement Kilns, ESCO (Energy Service Company), etc)
- **Water** (Water Purification and Supply, Sewage System, Wastewater Treatment, Desalination and Water Processing, etc)
- **Urban Transportation** (Modal Shift in Densely Populated Areas, etc)

LIFE

~ High Energy Efficient Boiler Manufacturing Project in India ~



Track Record of JBIC Finance under LIFE

No.	Country /Region	Project	JBIC Finance Amount (mill US$)	Month /Year	Remarks
1	India	High Energy Efficient Boiler Manufacturing Project (for Coal-Fired Plant)	153.7	July 2009	
2	UAE	IWPP Project	1,111	October 2009	
3	India	High Energy Efficient Boiler Manufacturing Project (for Coal-Fired Plant)	90	October 2009	
4	Asia	Fund Focusing on Efficient Energy and the Environment Sector	20	October 2009	Total: up to USD 300 million
5	Asia	Infrastructure Fund Focusing on Asian Emerging Countries	50	December 2009	
6	Kazakhstan	Export Loan to a Thermal Power Generation Equipment Utilizing Associated Gas Generated by the Oil Field	21	December 2009	
7	UAE	Fund Focusing on Climate Change Investment Universe	25	January 2010	
8	Korea	Export Loan to by-product gas fired Combined Cycle Power Generation Equipments for Iron & Steel Plant	78	January 2010	

GREEN

(Global action for Reconciling Economic growth and Environmental preservation)

Eligible Entity:

Government, Utilities and Financial Institution.

Eligible Projects:

1. significantly reducing GHG emissions.
2. Accepting JBIC-MRV process..

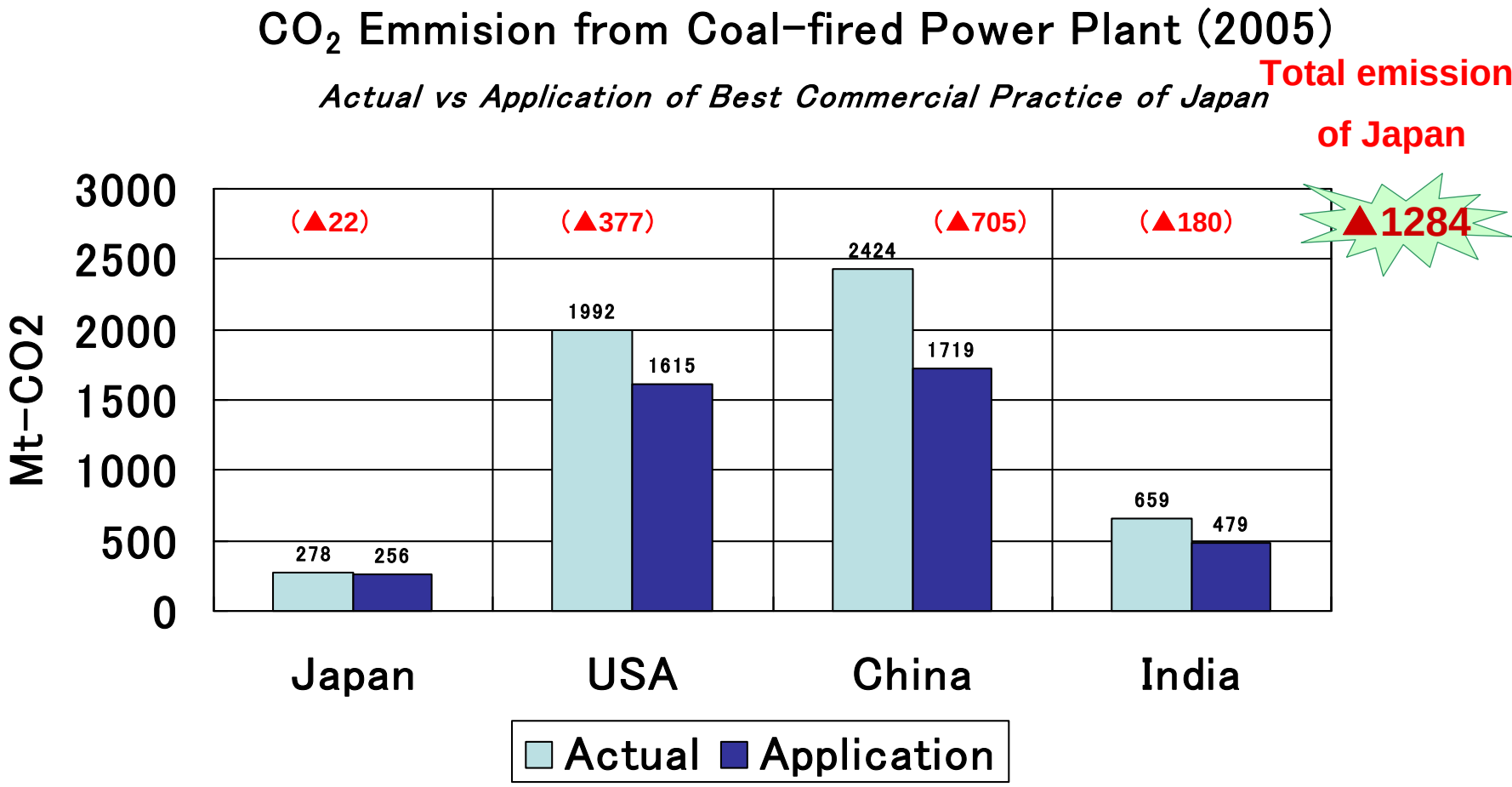
JBIC will utilize GREEN to provide financing to developing countries under "Hatoyama Initiative" until the end of 2012 (4.0 Billion USD).

Eligible Projects for GREEN

Approach	Sector	Sub-Sector	Eligible Factors
Renewable Energy			・Solar Energy ・Wind Energy ・Geothermal Energy ・Biomass Energy ・Hydro Energy
Energy Efficiency	Industry	1. Iron and Steel, 2. Cement, 3. Chemicals and Petrochemicals 4. Non-ferrous Metals, 5. Pulp and Paper, 6. Other Industries	・High Efficient Equipment and Technology ・Waste Heat and Gas Recovery ・Rehabilitation /Efficiency Improvement in Existing Plants ・Energy Efficiency through Utilizing of Unused Resources ・New Plants Incorporating Above Factors
	Power and Water	1. Power Generation	・Highly Efficient Coal-fired Power Generation ・Gas-fired Power Generation ・Rehabilitation /Efficiency Improvement in Existing Plants ・Combined Heat and Power (Cogeneration) ・Waste to Energy ・Fuel Cells ・Fuel Switching
		2. Transmission and Distribution	・Smart Grid ・Grid Management System ・Highly Efficient Rechargeable Batteries ・Highly Efficient Transformers
		3. Water Treatment	・Water Recycling System
	Transport	1. Urban Transport	・Modal Shift in the Urban Area
	Community / Building Utilities and Appliances	1. Community Utilities 2. Building Utilities 3. Appliances	・High Efficient Community Utilities ・High Efficient Office Building Utilities (including ESCOs) ・Energy saving Appliances
Others			・Methane Emission Reduction ・Chlorofluorocarbon Emission Reductions ・Dinitrogen Monoxide Decomposition ・Carbon Capture and Storage (CCS)

This is a part of the list and may be changed following the progress of investment climate.

Effect of Application of Japanese efficiency for existing plants in major countries



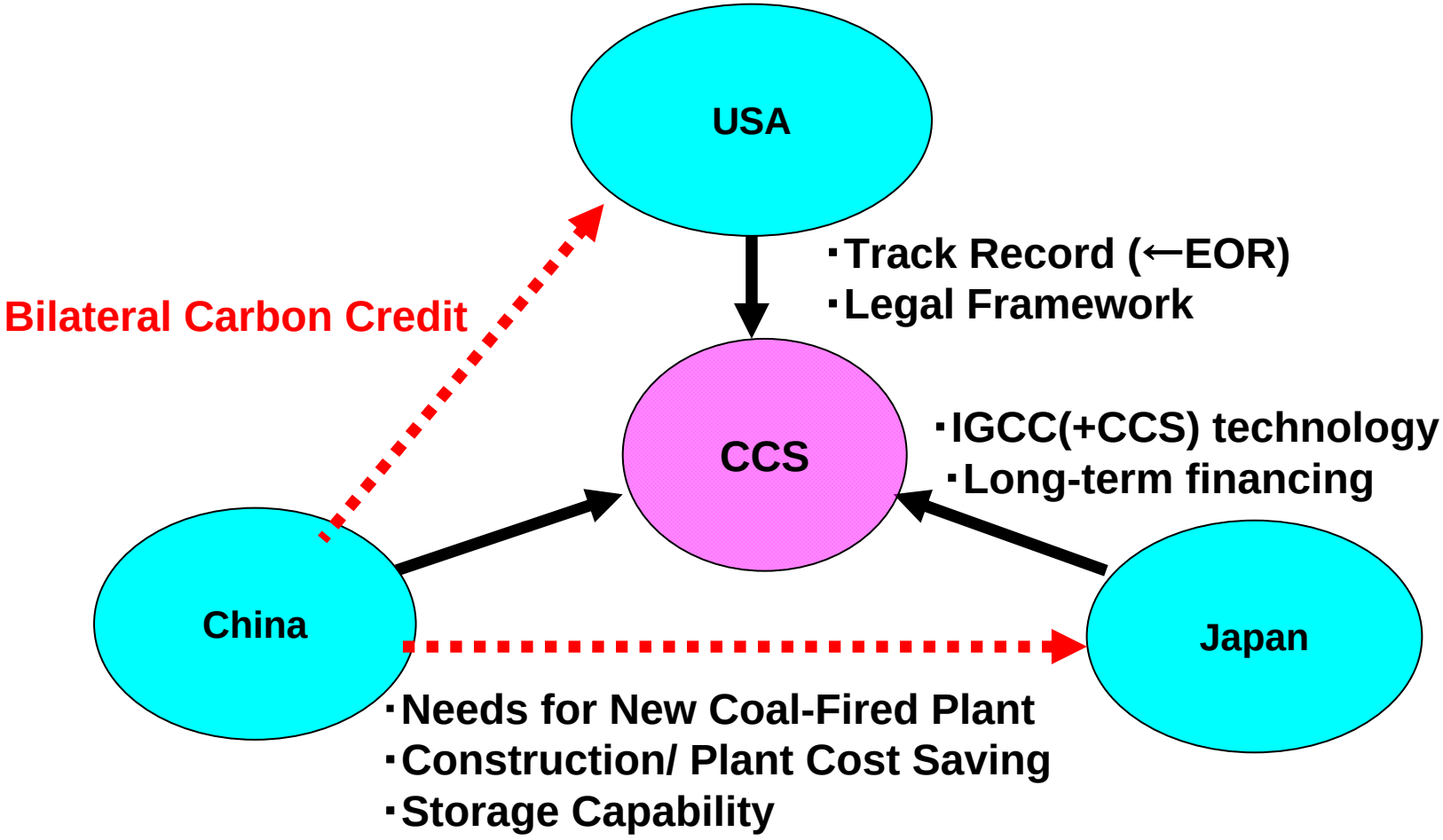
(METI; IEA"World Energy Outlook 2006"and"Ecofys International Comparison of Fossil Power Efficiency and CO2 Intensity 2008")

Coal-based Power Plant in next generation

- SC/USC technologies have been transferred through license by Japanese manufactures to Chinese ones.
- IGCC（Integrated coal Gasification Combined Cycle） is focused for merits of higher thermal efficiency and environmental performance.
- Coal-based power generation is expected to have a significant position in power generating so it is necessary to be combined with CCS (Carbon Capture and Storage).

CCS

Most Prominent Methodology and Alliance for low carbon target



Thank you!

Takahiko Onozuka
Special Advisor for Environment Business Promotion
Japan Bank for International Cooperation
t-onozuka@jbic.go.jp