

**Break-Out Session 1: Financing Low-Carbon Infrastructure**  
**UNEP FI Korea Summit**  
**16th – 17th June 2010**  
**Grand Sheraton Hotel (Walker Hill), Seoul, Republic of Korea**



# **Role of Finance for the Low Carbon Economy**

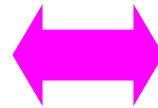
**~ Public Private Financial Partnership ~**

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# Transition to Low Carbon Economy

Scale up Low Carbon Investment

Scale up Low Carbon Finance



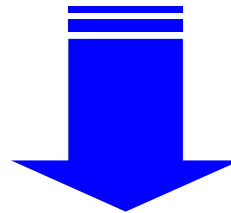
## Bottleneck

### 1 Technology

- Diffusion of technology
- R&D investment

### 2 Funding

- Role of private finance
- Role of FI in developing countries



## Solution of JBIC

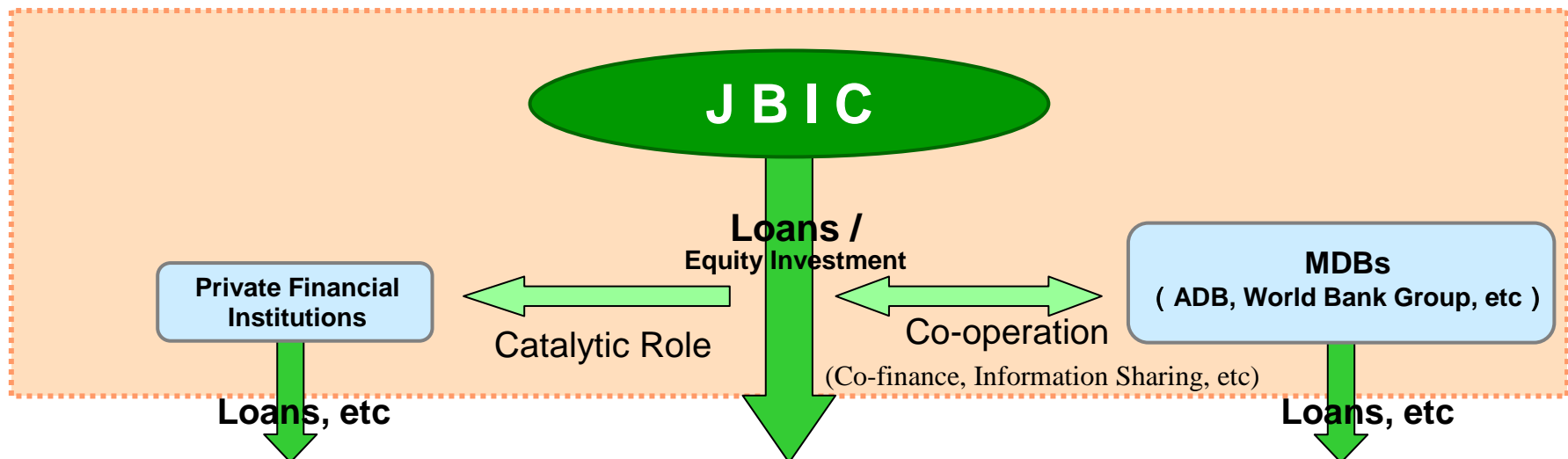
1 Message to the market : LIFE( USD 5 billion), GREEN( USD 4 billion)  
mobilization of private finance (Public Private Finance)

Commercially Viable BAT

2 Prioritize by J-MRV

## **“LIFE” (Leading Investment to Future Environment) Initiative by JBIC**

- The LIFE will ...
  - support both public and private sectors,
  - co-operate with Multilateral Development Banks (MDBs) and mobilize private finances.
- The JBIC’s financial support under the Initiative will be around **5 Billion USD for the next 2 years.**



### **4 Main targeted sectors** of the Initiative 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)

# Projects Financed by LIFE

No.	Country/ Region	Project	Month/Year
1	India	High Energy-Efficient Boiler Manufacturing Project (for Coal-Fired Plant)	Jul. 2009
2	UAE	IWPP Project	Oct. 2009
3	India	High Energy-Efficient Boiler Manufacturing Project (for Coal-Fired Plant)	Oct. 2009
4	Asia	Fund Focusing on Efficient Energy and the Environment Sector	Oct. 2009
5	Asia	Infrastructure Fund Focusing on Emerging Asian Countries	Dec. 2009
6	Kazakhstan	Export Loan for Thermal Power Generation Equipment Utilizing Gas Generated by the Oil Field	Dec. 2009
7	Korea	Export Loan for By-product Gas-fired Combined Cycle Power Generation Equipment for Iron & Steel Plant	Jan. 2010
8	UAE	Fund Focusing on Climate Change Investment Universe	Jan. 2010
9	Indonesia	Thermal Power Plant Expansion Project	Mar. 2010
10	Indonesia	Thermal Power Plant Project	Mar. 2010
11	Mexico	Thermal Power Plant Project	Mar. 2010
12	Maldives	Water Supply and Sewerage System Operation Project	Mar. 2010

Total amount of financing by LIFE including private funding as co-financing is USD 5.4 billion as of 31 March, 2010.

# New Financial Program (GREEN) and J-MRV

(Global action for reconciling economic growth and environmental conservation)

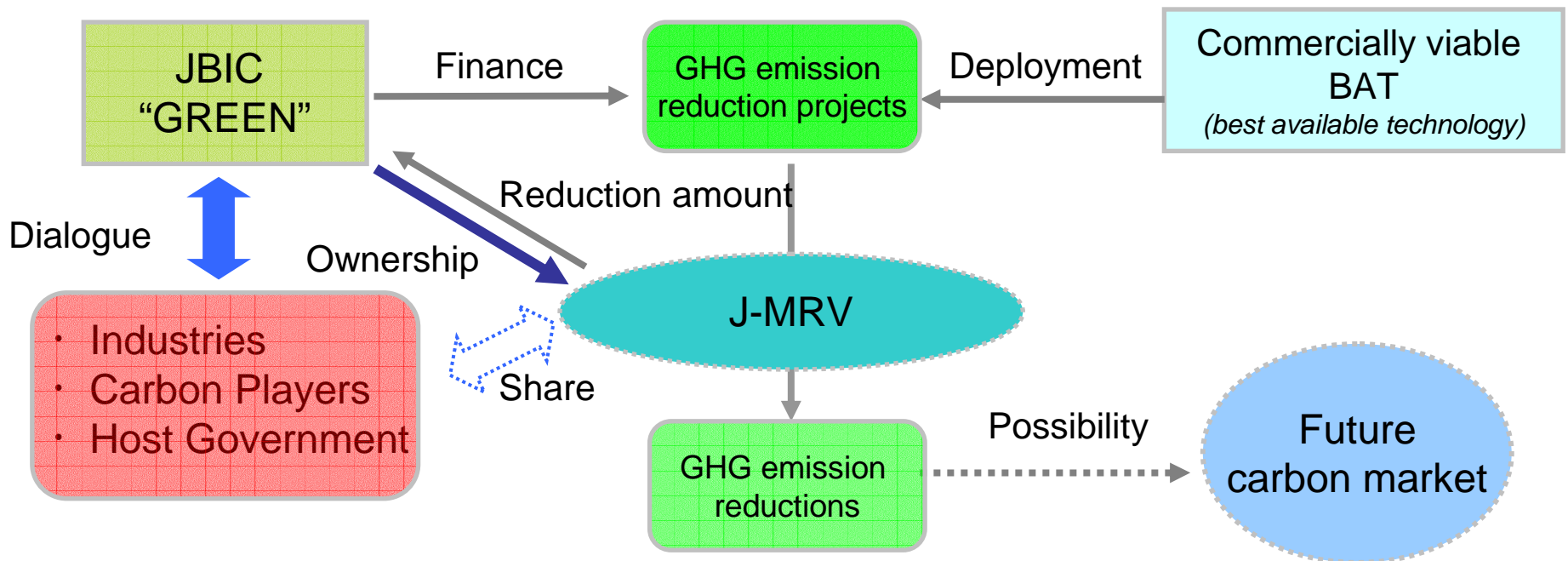
## JBIC will review the followings

1. Climate change policy of the host country
2. Technology to be used
3. Reduction amount by J-MRV

## J-MRV

JBIC are going to establish a guideline for quantifying GHG emission reduction amounts.

It should be “simple, practical and internationally acceptable.”



(MRV: Measurement, reporting and verification)

# Commercially viable BAT

## ~ Steel industry ~

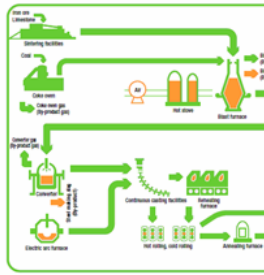
### 1. Iron and Steel Industry

Iron and steel industry is one of the energy intensive industries, the share of total green house gas is estimated 5% (year2006, IEA data), which is top share of manufacturing sector. According to IEA analysis, the process are complex structure, however, there are basic 2types of steel works:

1. **[Integrated steel works]** Integrated steel works is a major company for making pig iron. The process, which uses iron ore (and coke) in blast furnace.
2. **[Electric furnace process]** Secondary steel works use Electric Furnace for melting.

About 60% of product share is comparing CO<sub>2</sub> emissions, one defining the boundaries. Energy steelworks or in electric furnace

Processflow of steel industry



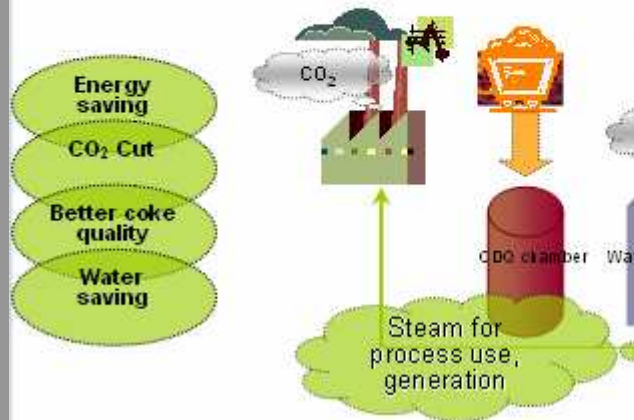
(Source)Nippon Steel 2008 -Sustaina

### 1-1 CDQ (Coke Dry Quenching)

#### Description

Coke dry quenching is equipment, recovering the waste heat of the coking process. Compared with the traditional quenching using water (wet quenching) of the coking process, it improves the working climate, and recovers the sensible heat of the coke. It is applied at new and retrofitted at existing plants.

#### Coke Dry Quenching process



(Source) Drawn up by JIBC based on SOACT, Asia-Pacific Partnership on Clean Development and Climate, 'State-of-the-Art Clean Technology Handbook' (SOACT).

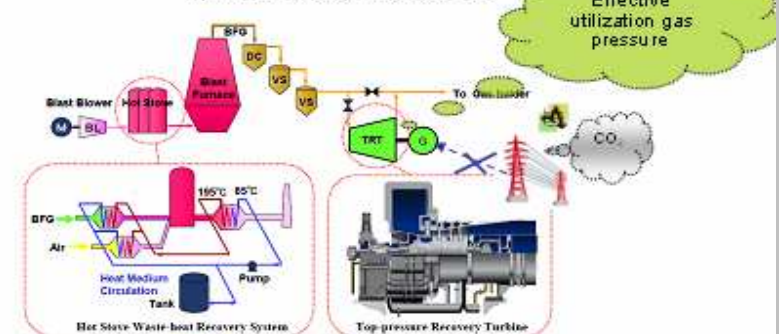
### 1-2 TRT (Top Pressure Recovery Turbine)

#### Description

Top Pressure Recovery Turbine (TRT) is a equipment for beneficial use of waste gas pressure generated from the steelworks' blast furnace top and converted into electricity using a turbine. Energy savings, noise is reduced when gas passes through the turbine.

Although the pressure difference is low, the large gas volumes make the recovery economically feasible.

#### Top Pressure Recovery Turbine process



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(Source) Toru Ono (2007,Jan.)FRITE International symposium "challenges for GHG Reduction in steel company" (Partially modified by JIBC)

# Public-Private Financial Partnership

Capacity of Our Planet

Change of Lifestyle

Use of Technology

Better investment climate, More investment

Public Sector  
(Improvement of investment climate)

Private Sector  
(Driving force)

Financial Sector  
(Push last one mile)