

**Asia and Latin America and Caribbean
Trade and Investment Forum**

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Tokyo, Japan

Panel 3 : Sustainable Energy and Climate Change



**JAPAN
BANK FOR
INTERNATIONAL
COOPERATION**

Financing for Sustainable Energy Development - JBIC's approach -

30 October 2008

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Japan Bank for International Cooperation

Japan Finance Cooperation

Renewable Energy for the Low Carbon Society



Great threat to the global economy

- Climate change

CO2 emission reduction;

50% reduction by 2050

- Energy Constraint

High Growth of energy demand

Volatility of energy market

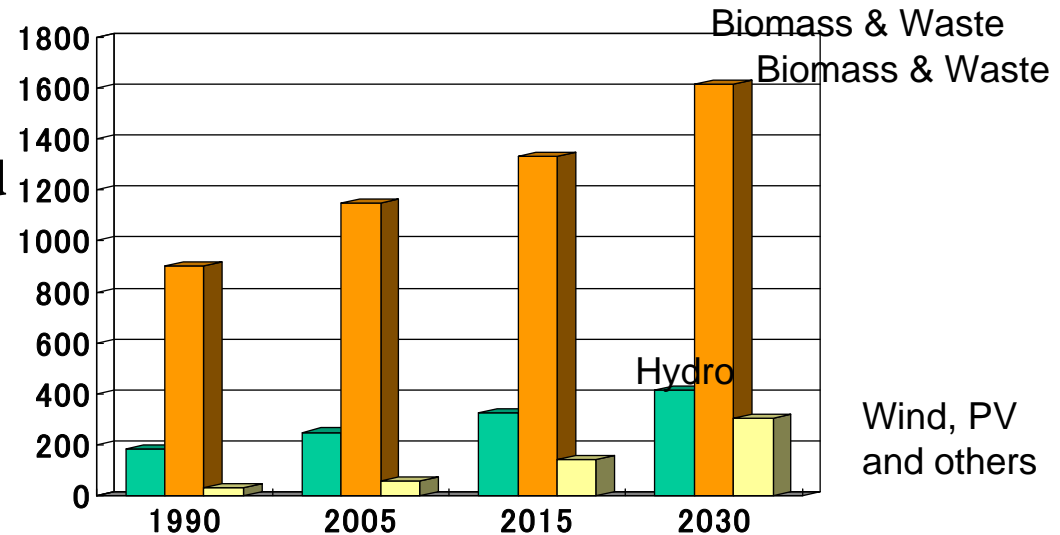


Renewable energy

Carbon Free

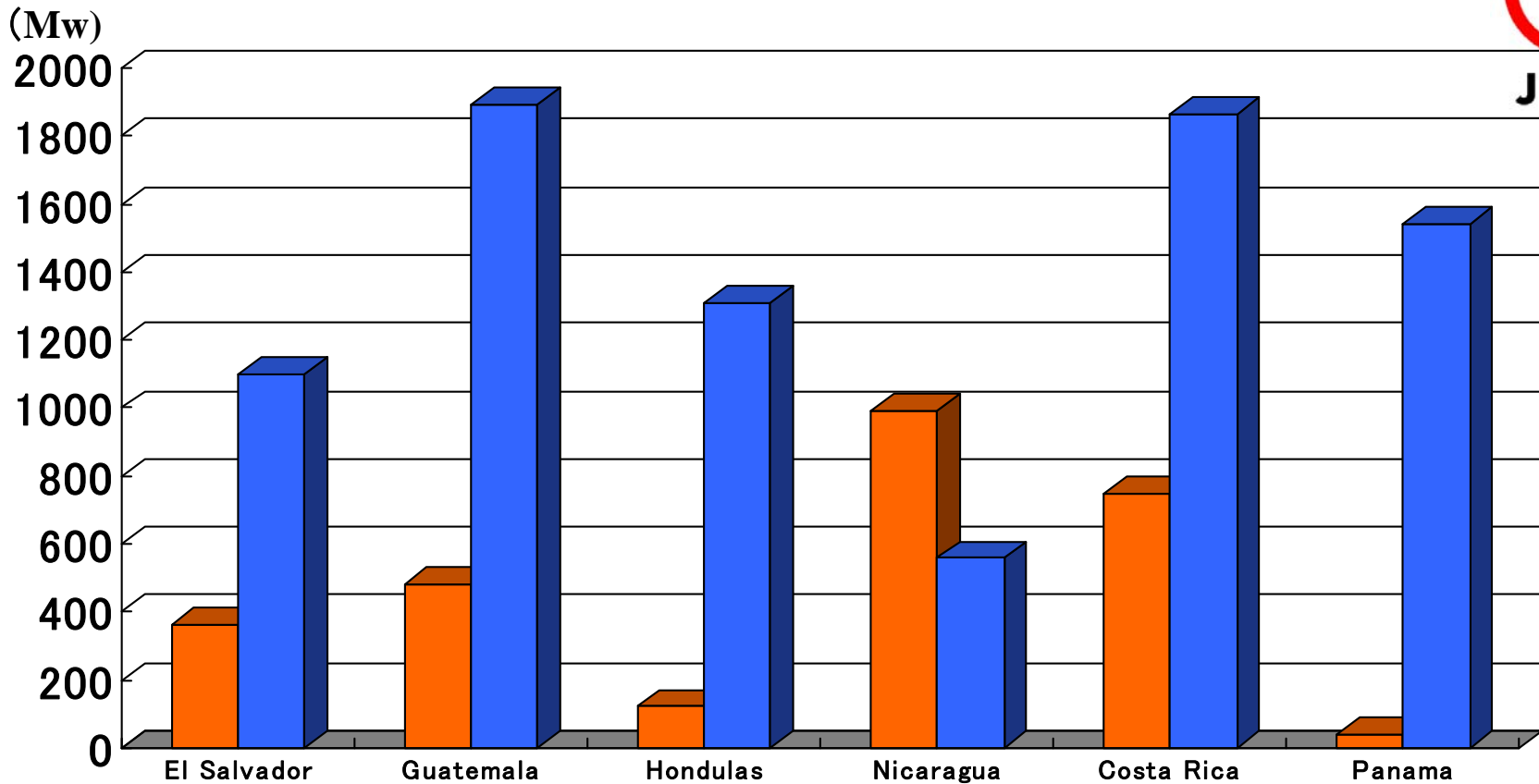
Domestic supply

Demand for Renewable Energy



Source IEA, World Energy Outlook

Potential of Geothermal generation



(Source) JBIC's survey.

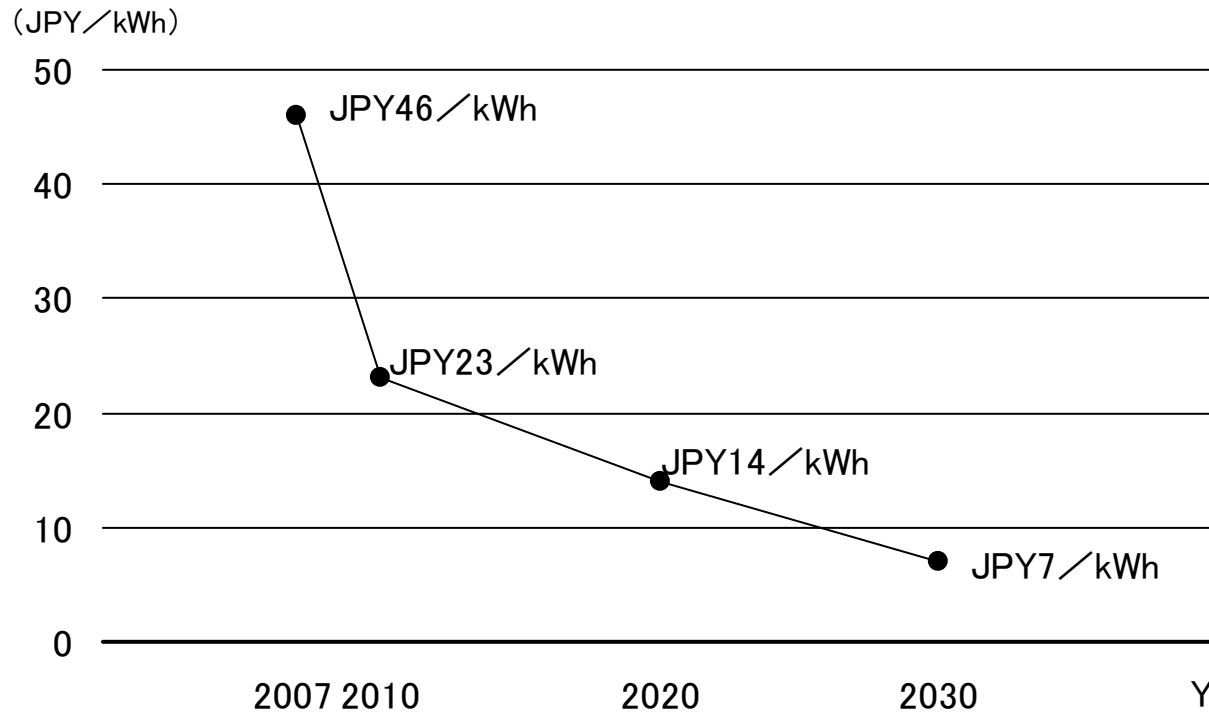
Left: Geothermal capacity
Right: Installed capacity

Potential of geothermal is high.

For further investment,

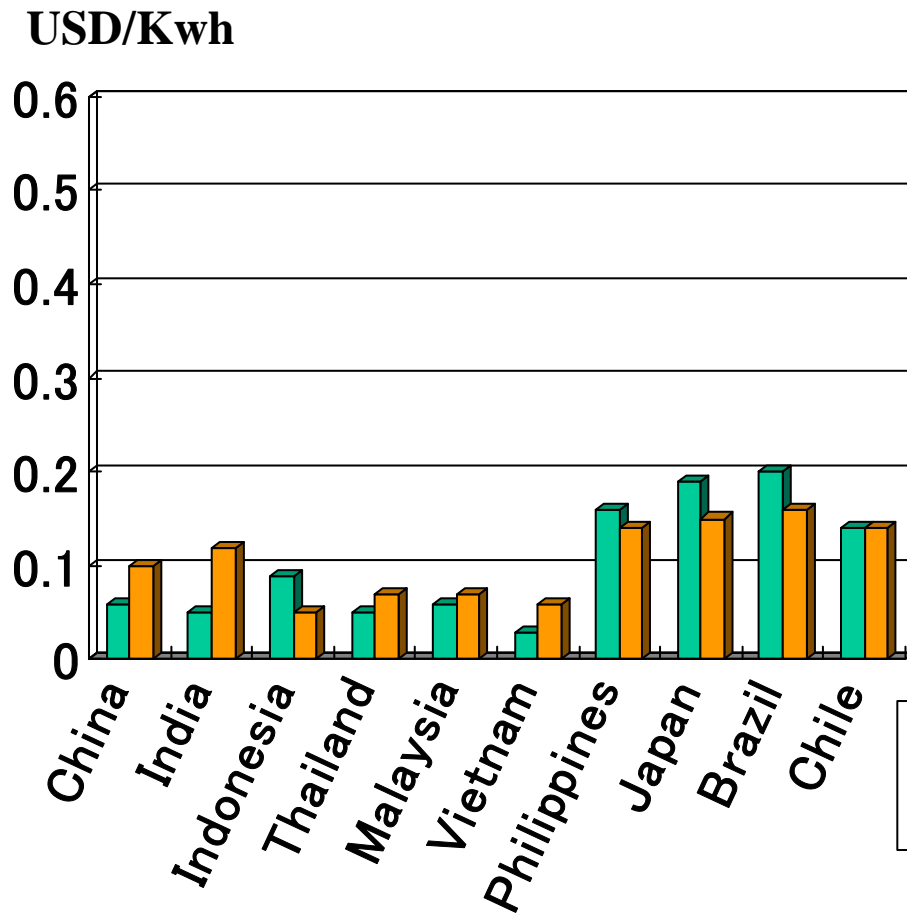
- 1/ Interstates grid connection including Mexico**
- 2/ Incentives for renewable, such as long term off-take contract, minimum requirement of renewable and price**

Cost of PV power generation



Source: 「PV Road Map toward 2030(PV2030)」(NEDO、2004年)

Electricity Price and Renewable Electricity Price



German Renewable Act
(20 years Feed-in-Tariff)

76.9c/kwh PV

20.1c/kwh Geothermal

11.7-12.2c/Kwh
Wind power

Barriers of Renewable Energy



1 Higher initial cost

Longer term finance

Infrastructure investment(Grid connection, pipeline, port and road etc)

2 Low economic return

Incentives, like feed-in-tariff

Role of carbon finance

Innovation of Technology

3 Small scale projects

Team up with local partners

Use of equity finance

4 Mitigation of negative impact on environment

Environment guideline

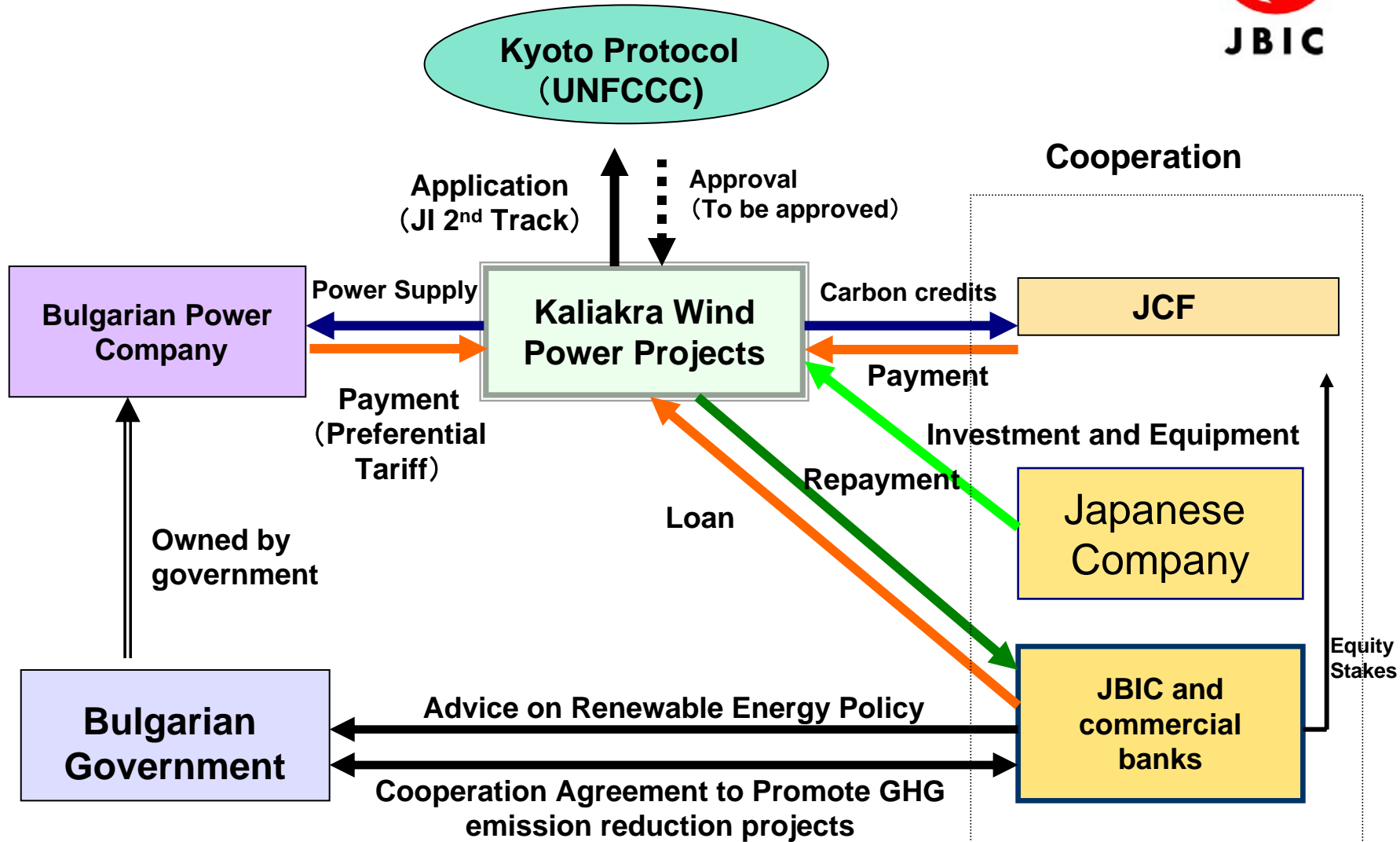
5 Constraint of water and land resources

Life Cycle Test for large scale bio energy development

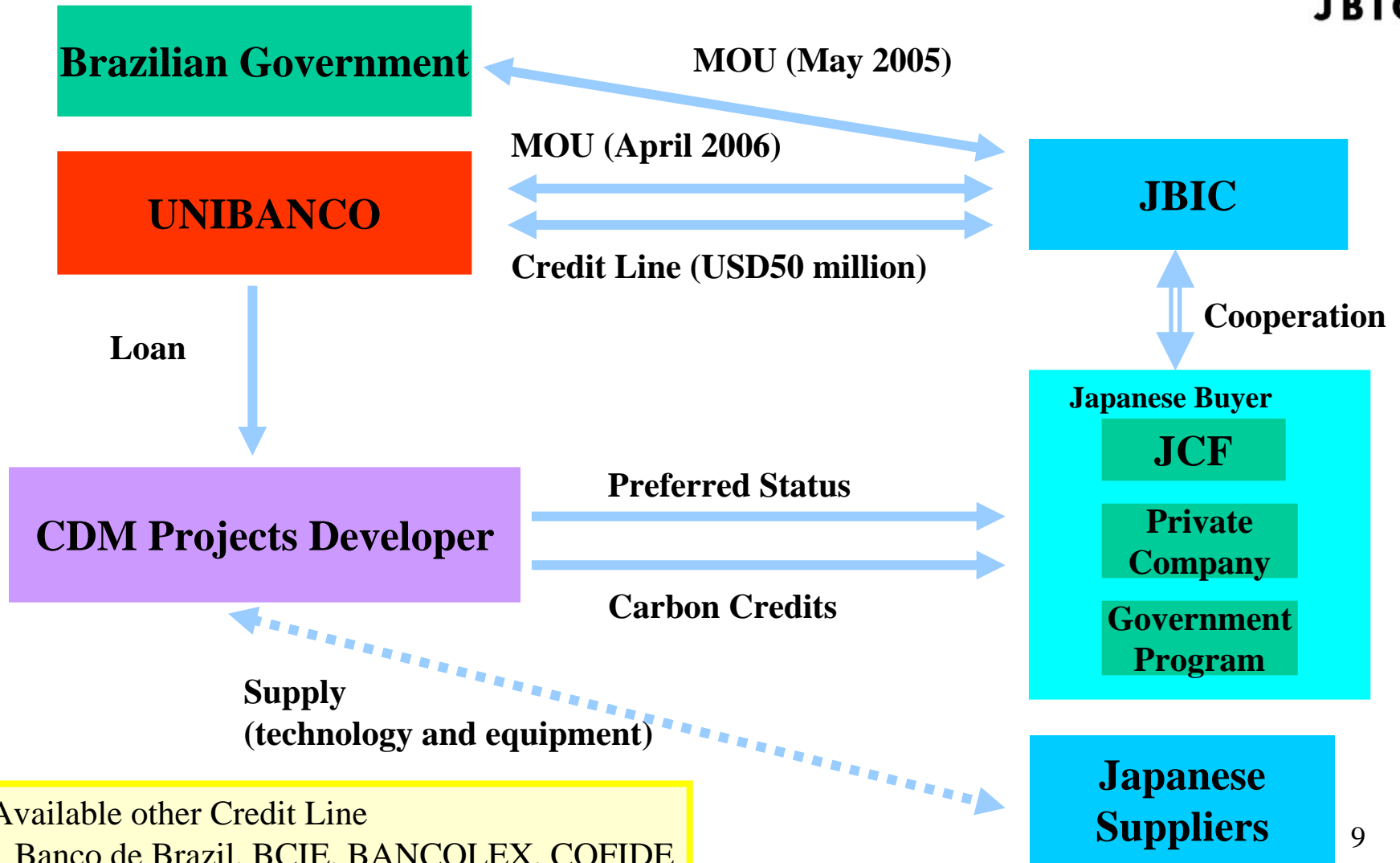


JBIC's approach

Japanese Technology, Carbon Finance and JBIC'S finance



For Small Scale projects

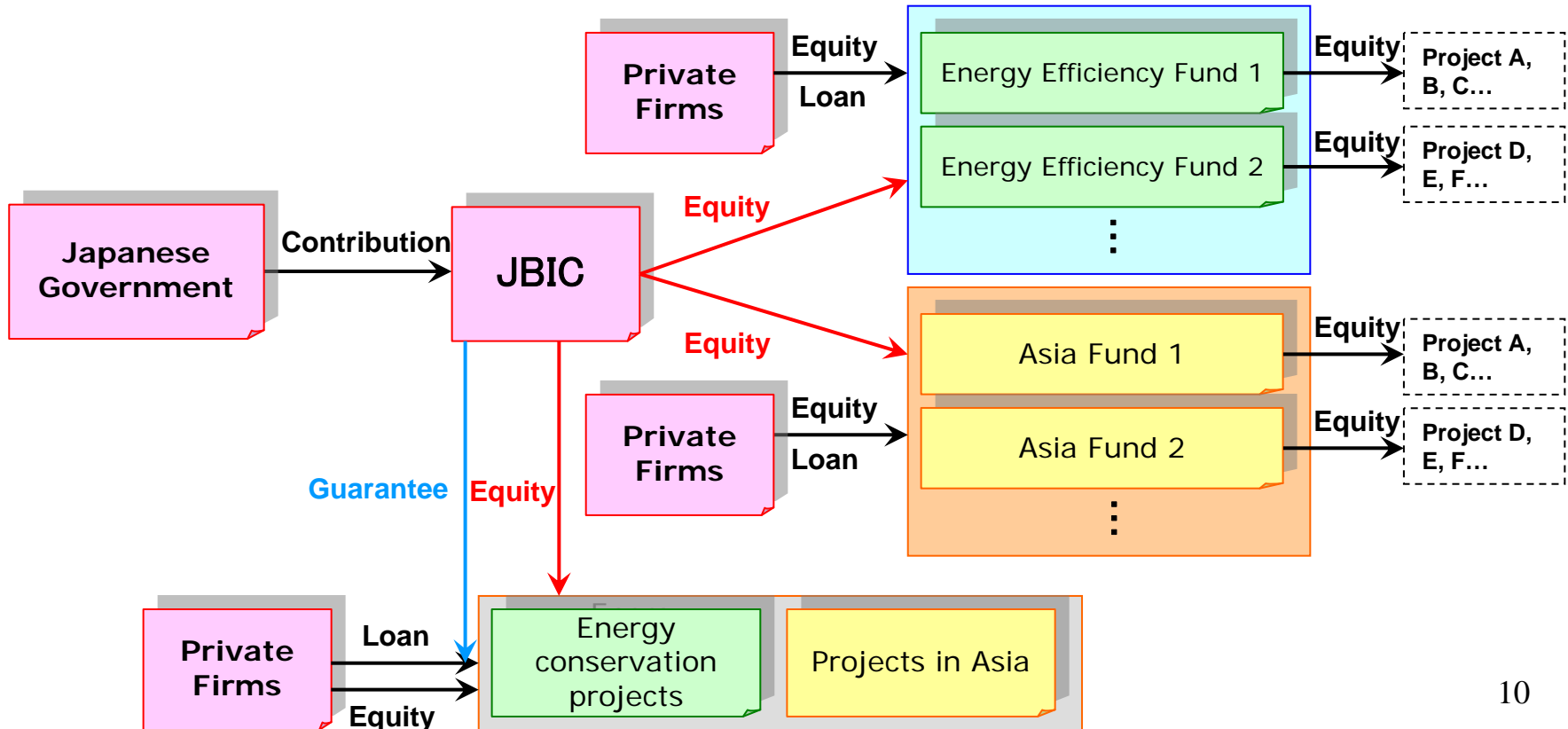


Equity Finance



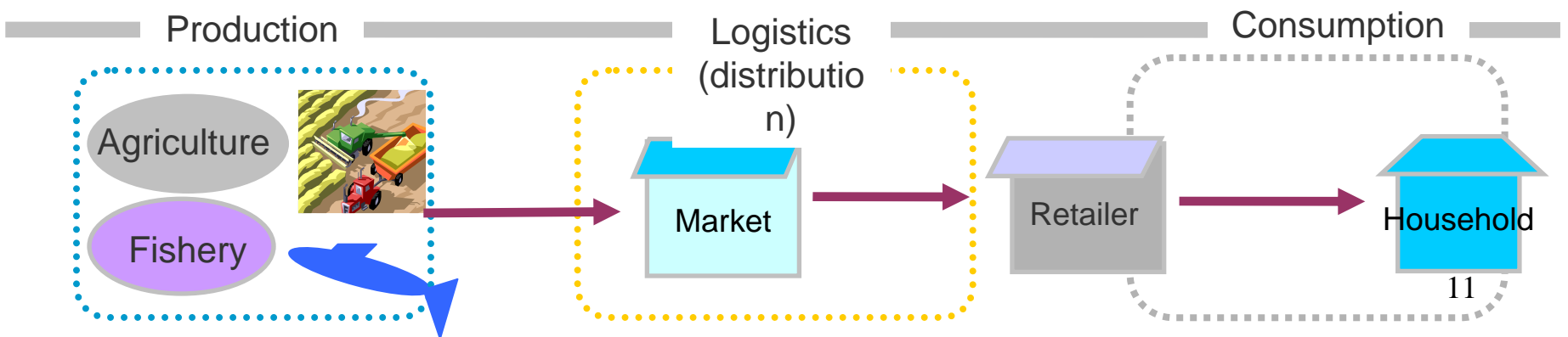
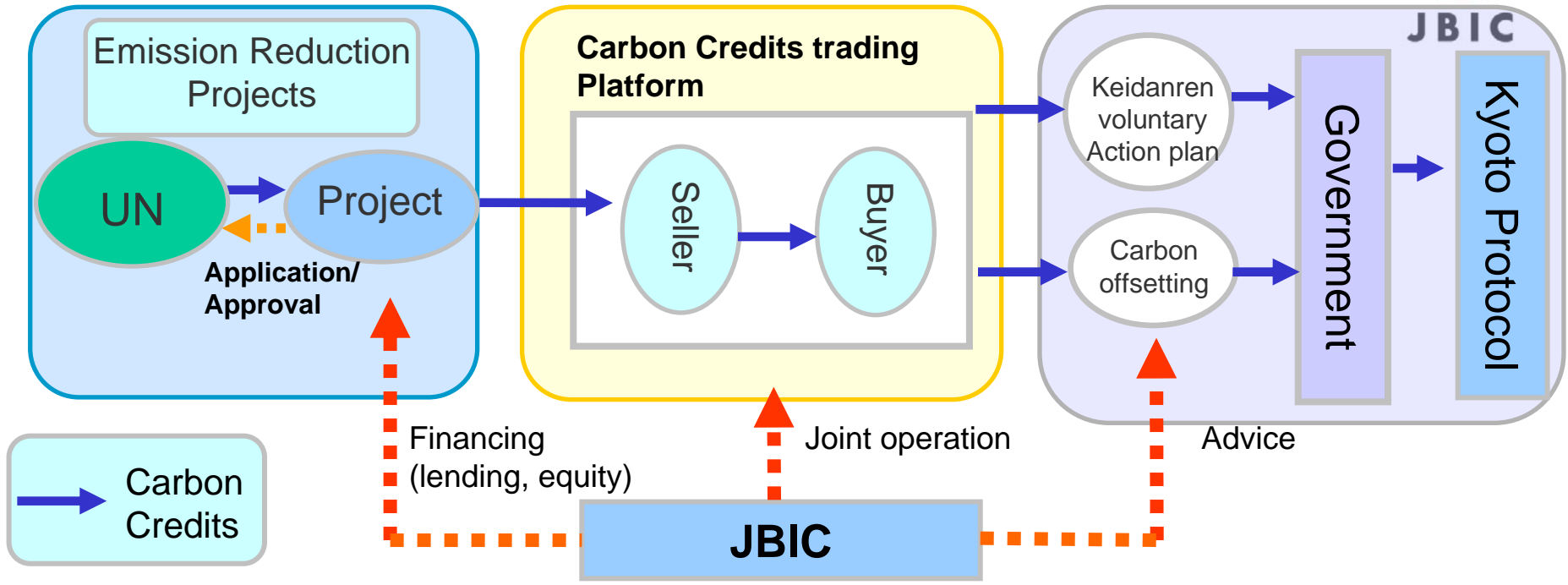
Significance of JBIC's equity participation

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



Carbon Market and JBIC

~ from upstream to down stream ~



Carbon Credits Trading Platform



1. Web base information providing system

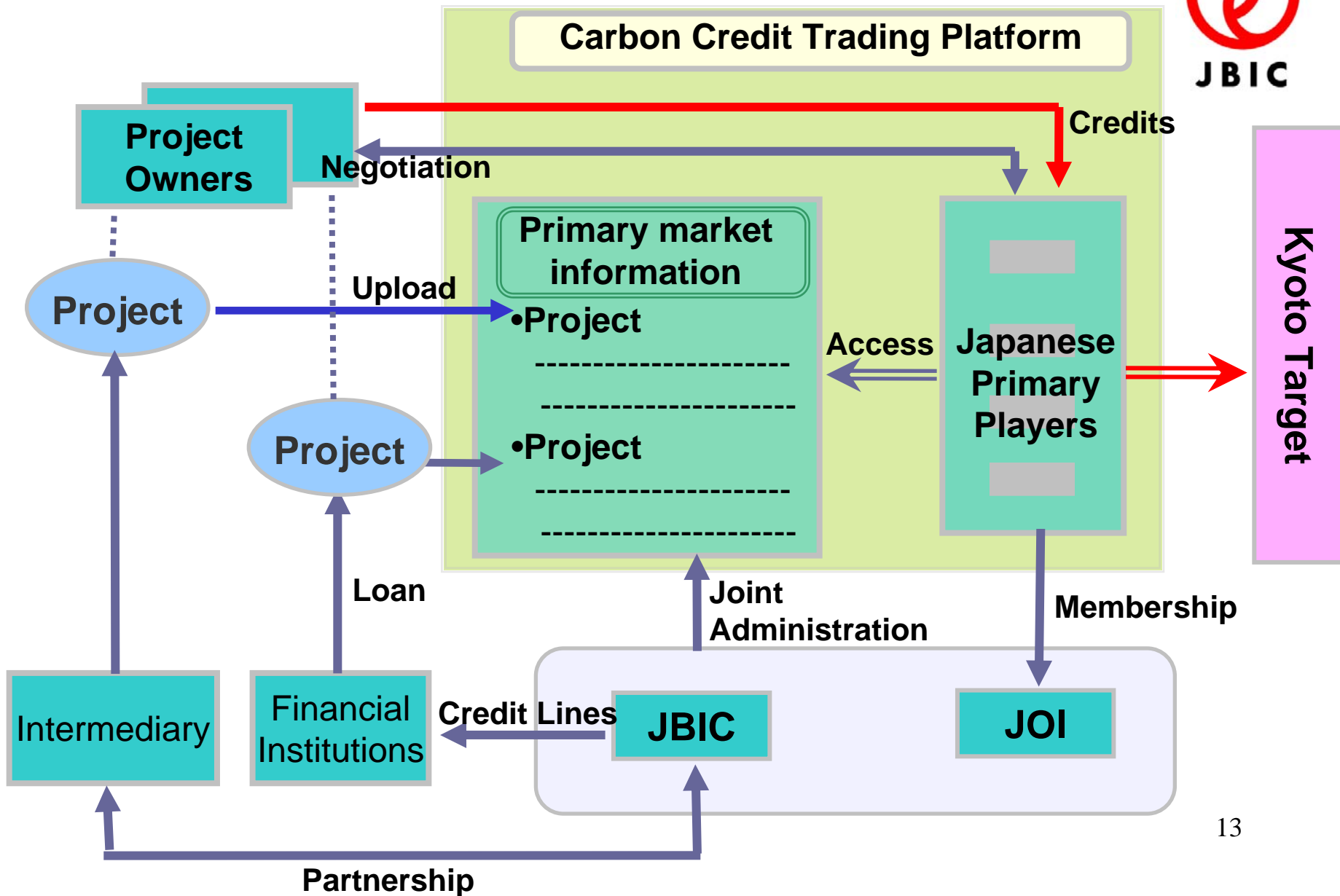
Jointly operated by JOI and JBIC

2. Service Menu

- Issued Credits Window(From November 2007)
- Primary Information Window(From November 2008)
Trading Partners and additional Partners
- Nikkei-JBIC Carbon Quotation Index(From April 2008)
Every Monday 12:30 Tokyo time
Partners : Eco Securities、Fortis、J P Morgan, NatSource Japan
- Documentation
Standard form for Spot transaction(for small scale transaction)
Standard form for trust scheme

Primary Market Information

~ Gateway to Japanese Market ~



Carbon Credit Trading Platform

- Administrated jointly by JBIC and JOI
- CDM projects identified by JBIC business partners
- Issued credit information (From Nov.2007)
- Primary CDM projects (From Nov.2008)
- Nikkei-JBIC Carbon Quotation Index (From Apr.2008)

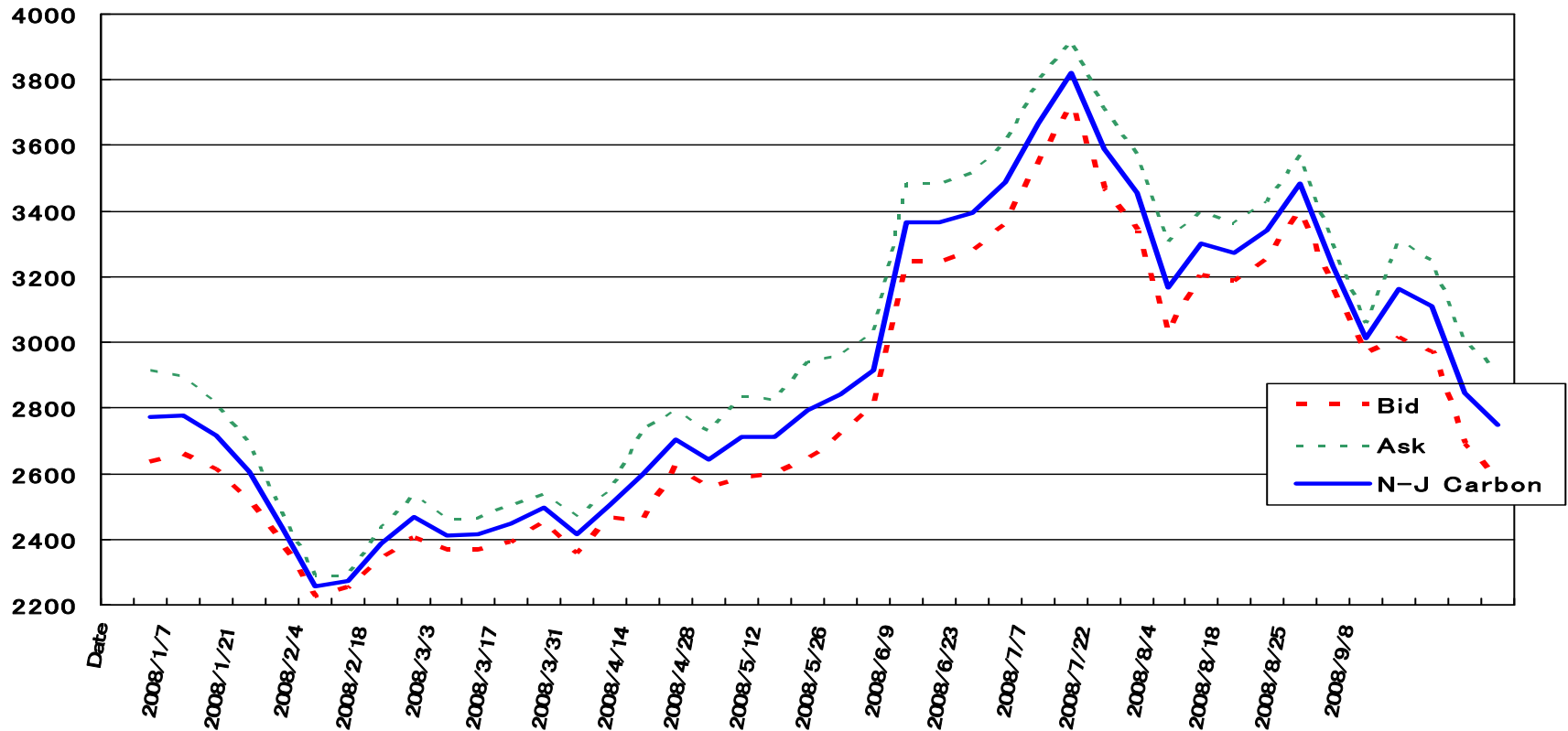
Procedures for primary CDM projects information

- Partnership Agreement with JBIC (Partners)
- Submission of project information by Partners
- Project information on the Carbon Credit Trading Platform
- Providing the first negotiation right to potential investors to CDM
- Negotiations between project owners and potential investors
- Conclusion of ERPA

Carbon Price (Nikkei-JBIC Carbon)



Every Monday 1230(Tokyo time)



Partners : Eco Securities, Fortis, J P Morgan, Natsource Japan, Marubeni



Scaling up of the use of Sustainable Energy

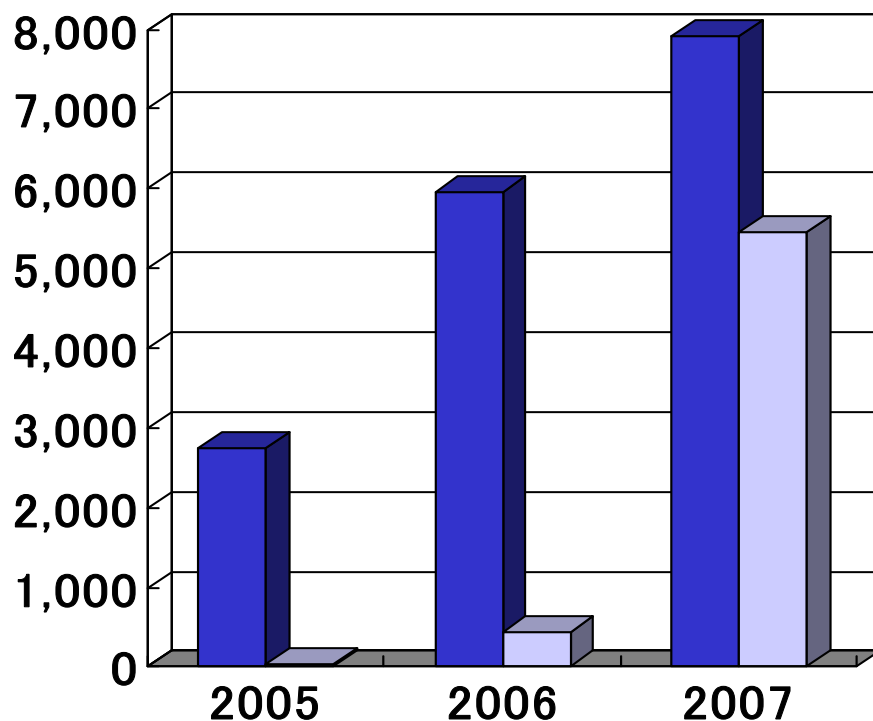
Potential of Carbon Finance

Investment through carbon market



JBIC

(USD Million)



Barriers for scaling up

1. Transparency, Predictability
2. Business as Usual
3. Post Kyoto



Price of Carbon Credits

Issued : JPY2749/ton(14.Ocr)

Primary : EURO8.75/ton(16.Oct)
(before Validation)

Source World Bank

Source Nikkei-JBIC Carbon Quotation,
IDEA Carbon

Large Scale Biomass Energy Development



Under the constraint of water and land resources

Avoiding the negative impact on food security is needed.

For individual project - Environment Guideline of JBIC

Pollution Control

Natural Environment

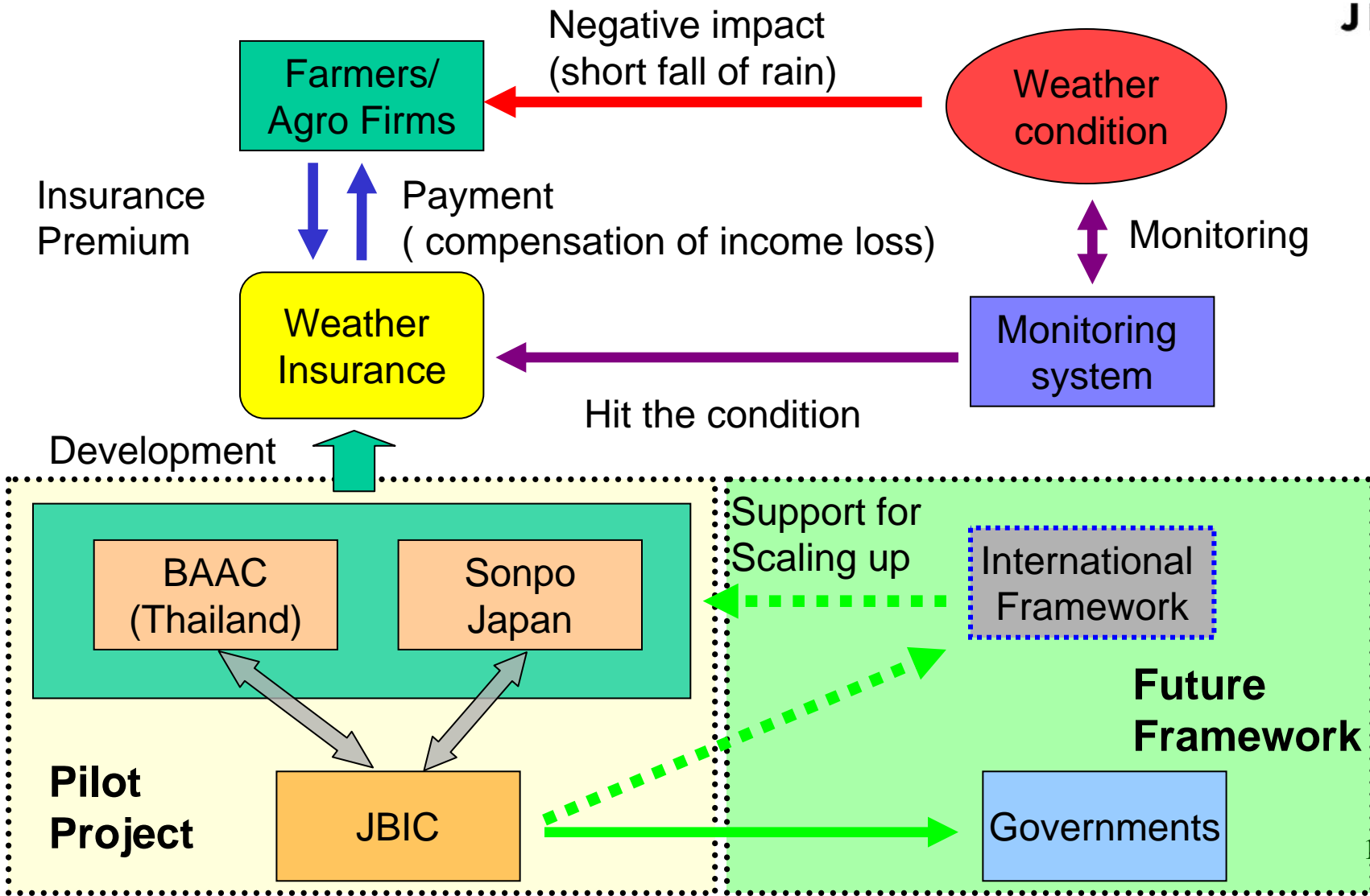
Social Environment

Sustainability Criteria – Recommendation by GLOBE International

Be Sustainable environmentally and socially

- ✓ Net life cycle greenhouse gas emissions
- ✓ Protection of biodiversity
- ✓ Preservation of water and water quality
- ✓ Social Sustainability

Mitigation of Weather Risk



Incentives and Technology Innovation



1 Renewable incentives

- **Feed-in-Tariff or Market Approach**
 - ⇒ **Green Certificate System(GC)**
- **Tax incentives (for initial investment or bio-energy)**

2 Technology innovation

- **Encouraging R&D investment**
- **Diffusion of higher technology**
- **Removal of incentives (when and how?)**



Conclusion

**Renewable energy could be a key solution
for Climate Change Mitigation and
Energy Security.**

Go with JBIC!

Contact in JBIC



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