



# **Suggestions for a New Flexible Mechanism**



**September, 2010  
Office of Market Mechanisms,  
Ministry of the Environment, JAPAN**



# **1. Kyoto Mechanisms: Current status and issues**

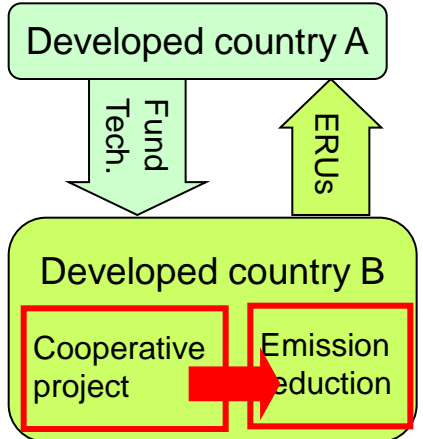
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# Kyoto Mechanisms

Kyoto Mechanisms help countries with Kyoto commitments to meet their targets by reducing or removing emissions in other countries in a cost-effective way.

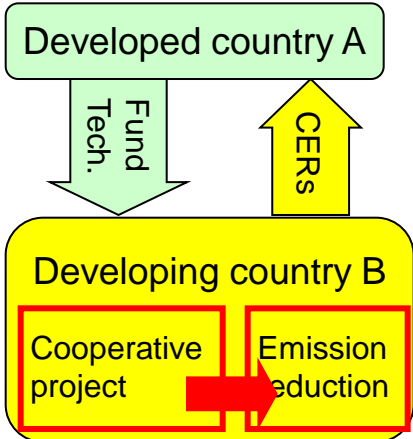
## Joint Implementation (JI)

Among developed countries  
Credit unit: ERU



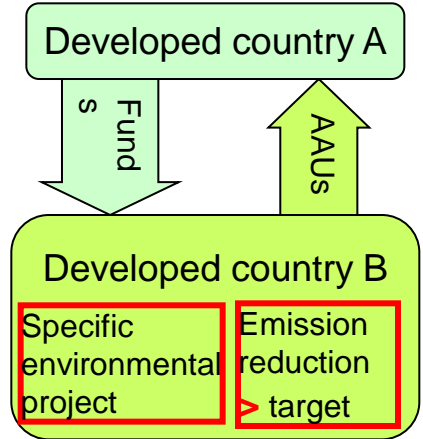
## Clean Development Mechanism (CDM)

Developed and developing countries  
Credit unit: CER

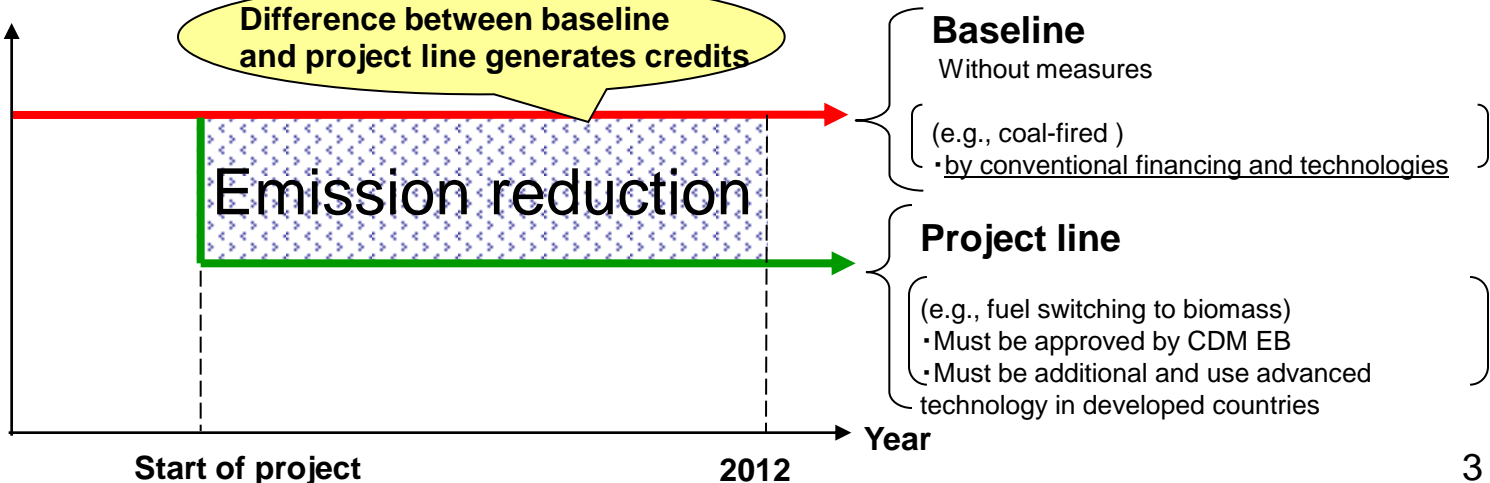


## Green Investment Scheme (GIS)

Among developed countries  
Credit Unit: AAU

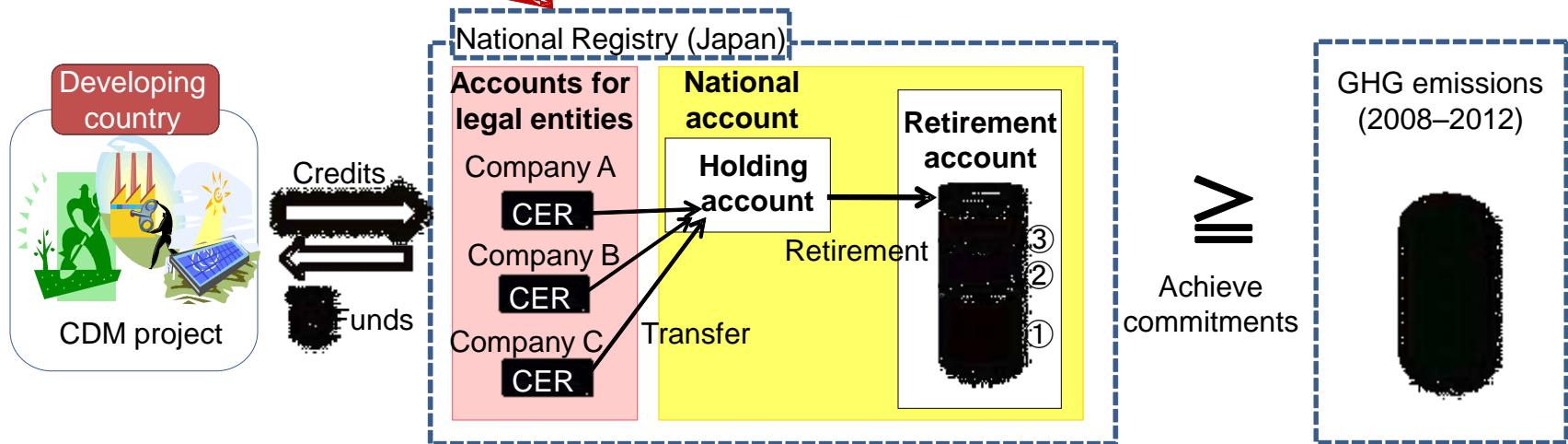
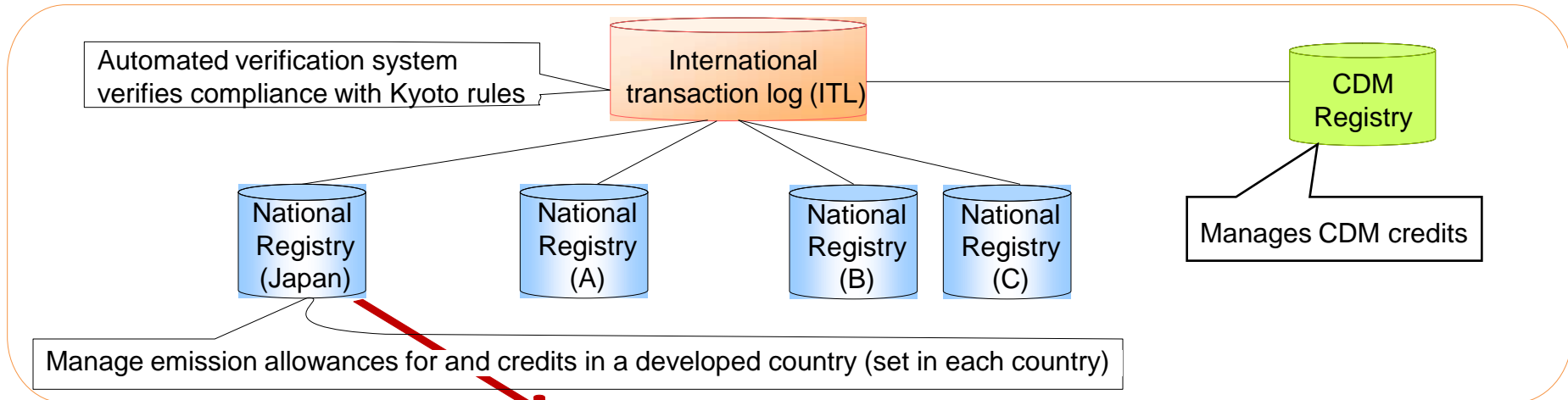


**Example:**  
Calculation of CERs in a CDM project



# National registry and management systems for compliance with Kyoto commitments

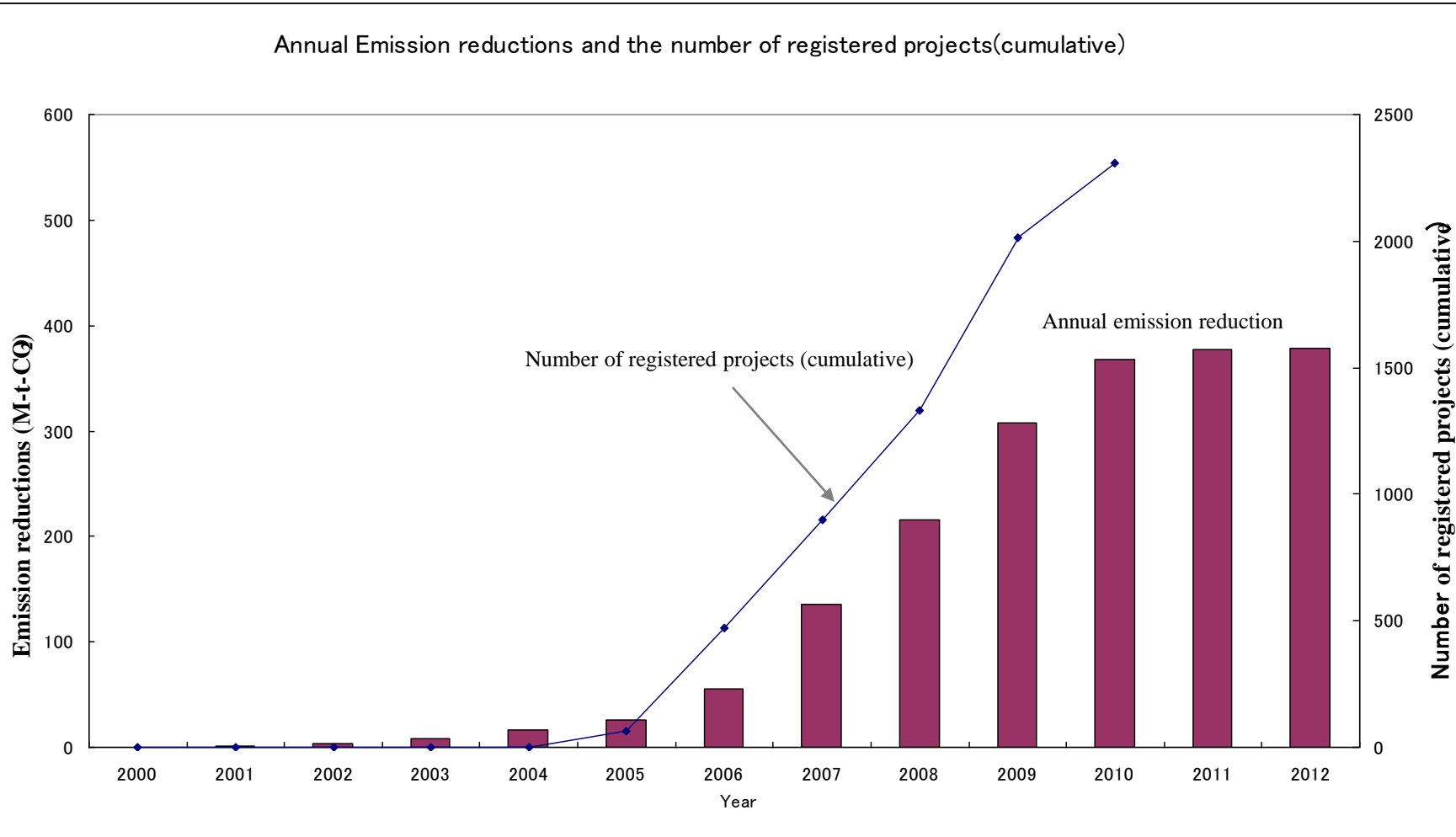
A registry system is an entire system to accurately and effectively manage emission reduction units. National registry systems are based on international transaction log (ITL) network for trading Kyoto credits.



- ① Assigned Amount Unit (AAUs)
- ② Removals by forestry
- ③ Kyoto Mechanism projects (CERs) by government

# GHG emission reductions using CDM

- 2,307 CDM projects are registered with UN (as of July 2010)
- CERs expected by end of 2012: Approx. 1,890 M t-CO<sub>2</sub> (as of July 2010)



Source: Created using data from UNFCCC website (as of July 2010)

# Current status of CDM: Many screening steps required before registration

Takes much time from start of planning a project for GHG emission control and reduction until issuance of CERs.

1. Preparation of Project Design Document (PDD)

2. Approval of new methodology by CDM-EB (where necessary) (unnecessary if approved methodology is available)

3. Letter of Approval (LoA) of host country and investment countries

4. Validation of project by Designated Operational Entity (DOE)

5. Registration of project by CDM-EB (reviewed by CDM-EB, if necessary)

Implementation of CDM Project

6. Monitoring of data to calculate GHG emission reductions

7. Verification and certification of emission reductions by DOE

8. Issuance of CERs by CDM-EB

9. Distribution of CERs among project participants

10. Transfer to accounts of parties and project participants involved

Total over  
4,200  
projects

611 projects  
approved by  
Japanese  
Government

2,329 projects (320 with a  
Japanese company)

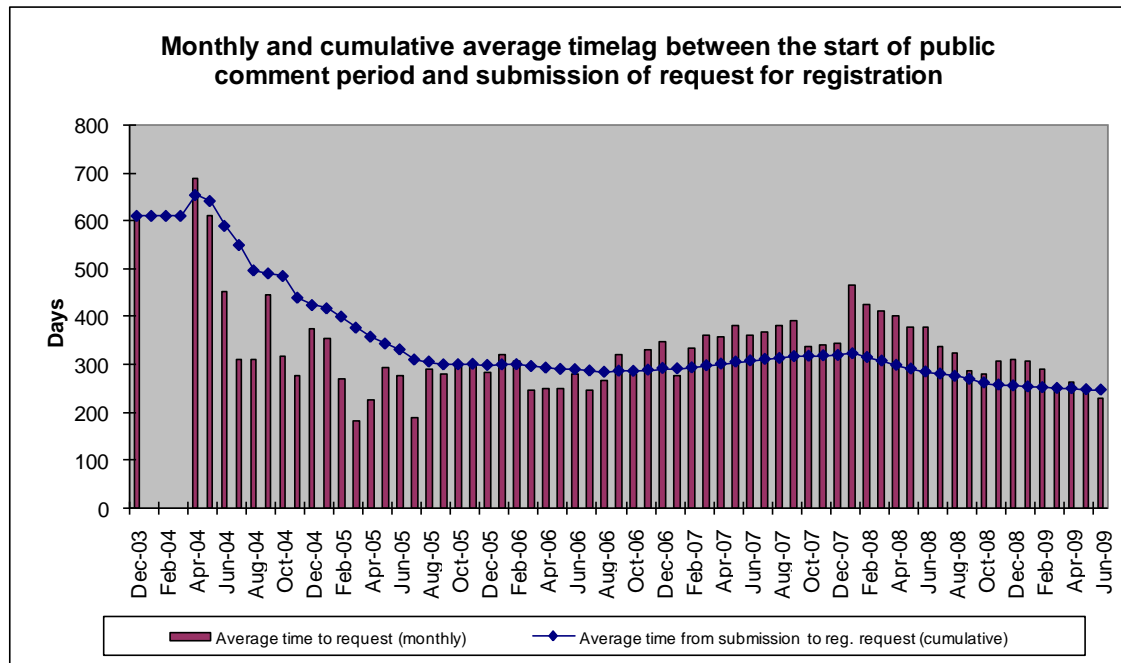
3,133 projects (587 with a  
Japanese company)

1,786 projects (343 with a  
Japanese company)

## ※ Baseline

Expected GHG emissions that would occur in absence of CDM. Emission reductions from baseline are issued as CERs.

# Current status of CDM: Long time from public comment to registration and issuance



Approx. **2.5 years** from public comment to first issuance.

Approx. **1.2 years** from registration to first issuance.

| Average times delays for all CDM projects                       | Days | Months | Years |
|---|------|--------|-------|
| Validation (from public comment until registration request)     | 320  | 10.7   | 0.9   |
| Registration (from registration request to actual registration) | 148  | 4.9    | 0.4   |
| Ave. days from registration until date of first issuance        | 443  | 14.8   | 1.2   |
| Total from start comment to first issuance                      | 910  | 30.3   | 2.5   |

Source: UNEP CDM pipeline

## Average time lag in projects where CERs issued (estimated by Ministry of Environment, Japan)

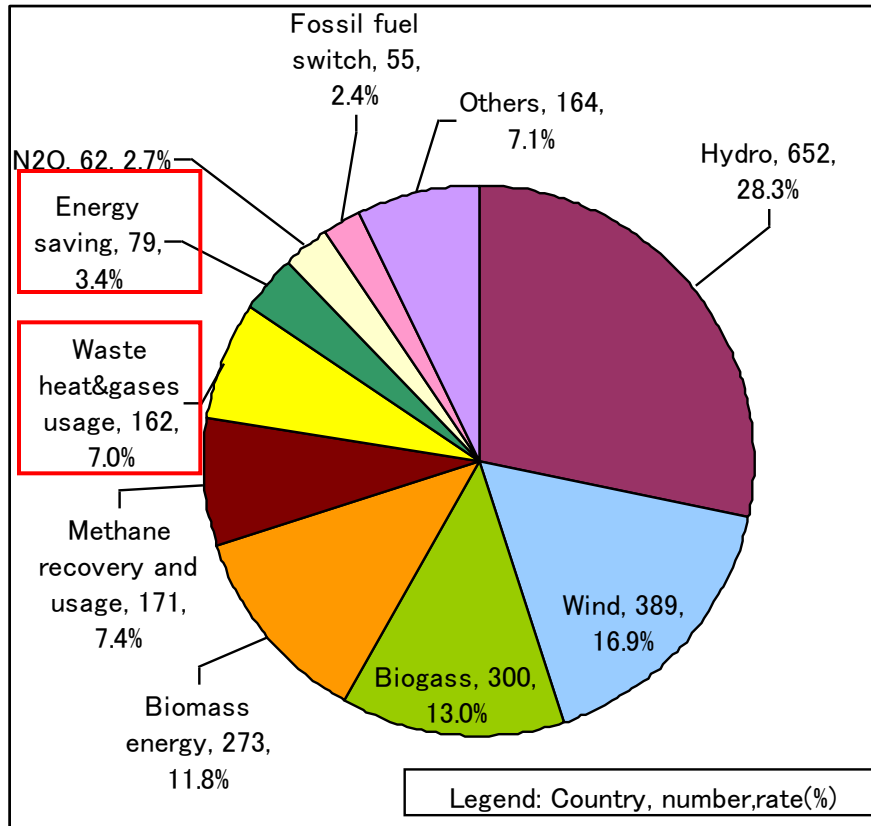
- Ave. days from public comment to registration: 343 days
- Ave. days from registration until date of first issuance: 467 days
- Ave. days from start comment until date of first issuance: 810 days

# Current status of CDM: Few energy-efficiency projects

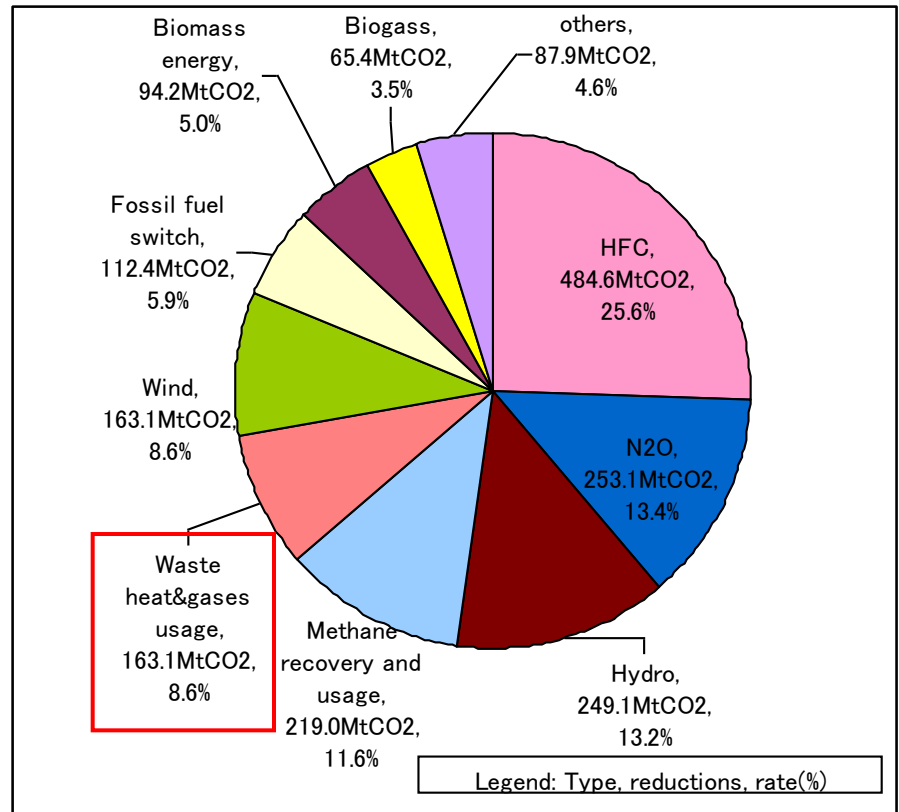
Only 241 registered energy-efficiency projects (10% of all registered projects), expected emission reduction approx. 180 million t-CO<sub>2</sub> by 2012.



Few energy-efficiency projects (only 10% of total)



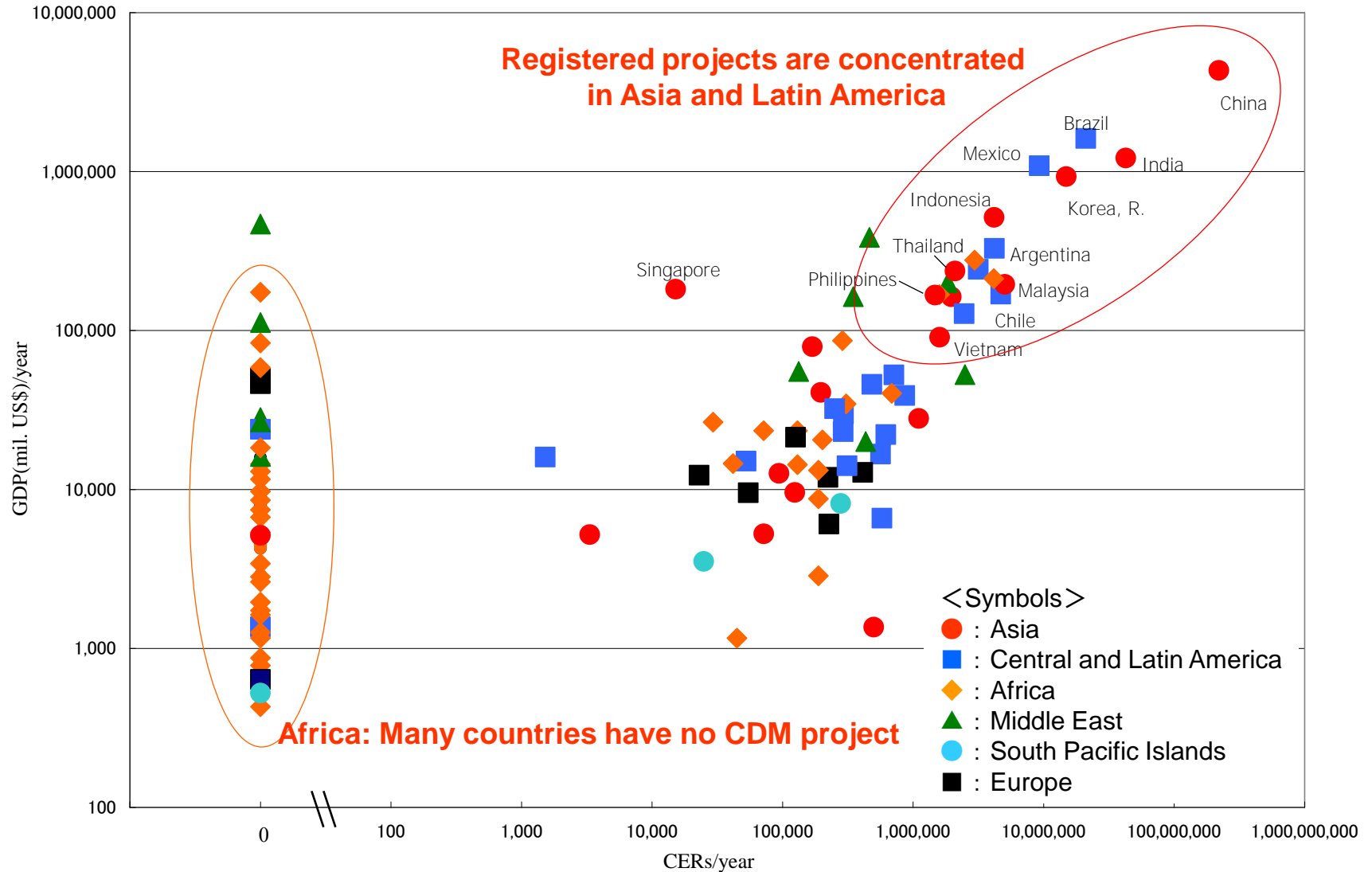
Number of projects (by type)



Expected emission reductions (by project type)

Source: Created using data from UNFCCC website, UNEP CDM pipeline (as of July 2010)

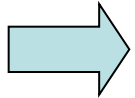
# Current status of CDM projects: Concentrated in countries with large economies



# CDM: Issues to be addressed

## ■ Lengthy, multi-step registration procedures

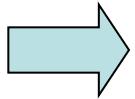
- ◆ Complex procedures required, hundreds of days until issuance of CERs. Could be rejected by CDM EB even after being validated by DOE.



Unpredictability for project participants

## ■ Low values placed on energy-efficiency projects

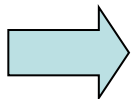
- ◆ Concentration on non-CO<sub>2</sub> projects, e.g., HFC destruction, due to requirements for financial and technical additionalities.



By contrast, projects dealing with energy-efficient products, technology and infrastructure are not likely to be approved in terms of additionality.

## ■ Uneven distribution of projects

- ◆ Concentrated in several countries in Asia and Latin America with large reduction potential, and no projects seen in many of least developing countries such as in Africa.



Lack of regional balance

# Copenhagen Accord

Government ministers, including former Prime Minister Hatoyama and Ozawa, Minister of Environment, attended top-level negotiations at COP15, which resulted in “Copenhagen Accord.”

## 1. Reduction target / mitigation action

- Long-term target
  - Agree that deep cuts in global emissions are required according to science, in order to hold increase in global temperature below 2 degrees Celsius.
- Medium-term target, etc.
  - Submit emission target for 2020 (Annex I Parties) and mitigation actions (non-Annex I Parties) to Secretariat until end of Jan. 2010.
  - Non-Annex I Parties’ mitigation actions with international support will be subject to international MRVs. Mitigation actions taken by Non-Annex I Parties will be subject to their domestic MRVs and communication with international consultation and analysis, and reported every two years.

## 2. Assistance to developing countries

- Fast-start funding
  - Developed countries commit to provision of new and additional resources of USD 30 billion (2010–2012).
  - Japan announced “Hatoyama Initiative,” committing about USD 15 billion for assistance, including USD 11 billion in public funds.
- Long-term funding
  - Developed countries commit to a goal of jointly mobilizing USD 100 billion a year by 2020.
- REDD
  - Scaled-up funding to reduce emissions from deforestation and forest degradation (REDD-plus).

○ Regarding Flexible Mechanisms, it states, “We decide to **pursue various approaches, including opportunities to use markets**, to enhance cost-effectiveness of, and to promote mitigation actions.”

# Suggestions from countries: NAMA Credit

## (NAMAs: Nationally Appropriate Mitigation Actions)

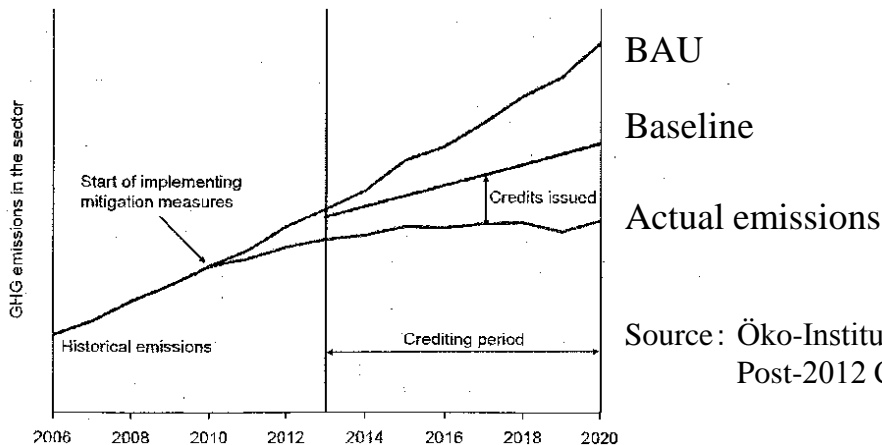
- **Suggestion from:** Republic of Korea, New Zealand
- **Methodology:** Give emission reduction credits to a developing country's voluntary "nationally appropriate mitigation actions" (NAMAs)
  - ※ The principal difference from CDM is that NAMAs are not necessary to be a project scale (e.g., program-based or sectoral CDM by efficiency standard).
  - ※ No clear definition of NAMAs at present, although credits could be given for Credited NAMAs, which is one of three types of NAMAs (Unilateral, Supported, and Credited NAMAs).

### Major issues

- Possibility to shorten current CDM registration procedures.
- Uncertainty over establishment of an internationally-agreed system.
- Major issue is to secure a verifiable methodology for calculation of emission reduction credits.

# Suggestions from countries: Sectoral Crediting Mechanism (SCM)

- Suggestion from: EU, etc.
- Methodology: Give emission reduction credits when actual emissions or emissions per unit from a sector are less than baseline set below BAU line.



✧ EU suggests baseline of absolute emissions be set by sector, plus a scenario of transition from benchmark to absolute amount.

Source: Öko-Institute: "A Framework for a Sectoral Crediting Mechanism in a Post-2012 Climate Regime"

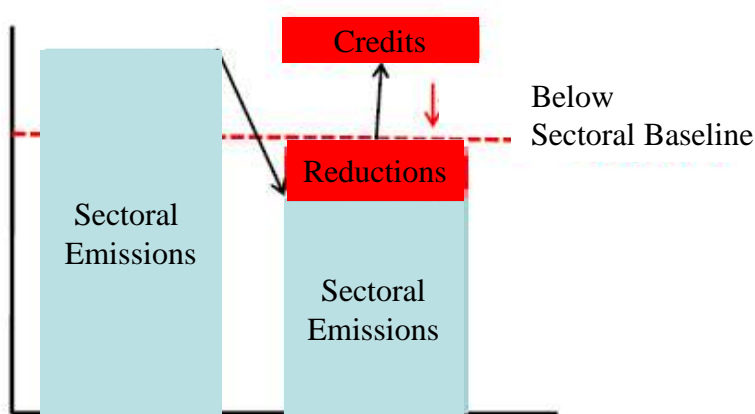
## Major issues

- Strong financial incentive for host countries.  
Potential to earn credits from national policies.
- Uncertainty over estimation of BAU and potential reductions.  
Difficult to set baseline.
- Where is boundary of a sector? How to define?
- How to give incentives for private companies?

# Suggestions from countries: U.S. climate change bill, usage of international credits

## Sector-based credits from a **specific sector** in a developing country

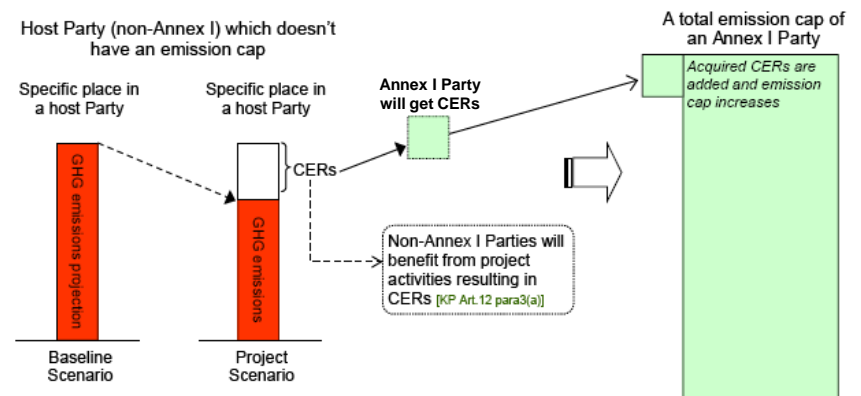
- Issue credits to industrial sectors in developing countries competing with those in United States.
- Prospective developing countries with which United States concludes bilateral/multilateral agreements must have capacity to conduct MRVs.
- Issue credits to reflect status of achievements of entire sector, not a single company or plant.



Source : IGES

## UNFCCC credits approved by EPA administrator

- Administrator of EPA designates some projects or credits available among those approved under international framework of UNFCCC, etc.
- If it is possible to use CDM, then procedures—including validation, registration, verification, and issuance agreed among Parties—are applied to projects.



Source : CDM in Charts (IGES 2010)

## **2. Japan's approach**

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# For establishing a new mechanism

## “Hatoyama Initiative to Support Developing Countries”<sup>(extracts)</sup> (announced on Dec. 16, 2009)

### 3. Supporting initiatives after 2013

#### <Establishment of Appropriate Credit Scheme>

In addition, private fund and technologies are indispensable to promote reduction of greenhouse gas emission by developing countries. In this context, **it is necessary to improve current flexible mechanisms**, considering effectiveness as climate change policy (Environmental Integrity), in the international negotiation. And, **Japan will propose establishment of new mechanism, in order to ensure appropriate evaluation of contribution by business entities which provide Japan's world-class clean technology, products, infrastructure, and manufacturing facilities**, with deliberating appropriate evaluation of **reduced emission from deforestation and forest degradation in developing countries** as climate change policy. At the same time, Japan will precede designing domestic scheme related to carbon credits, and aggressively investigate to explore new projects generating credits with promoting private investment, **through various frameworks including bilateral, multilateral schemes.**

## Bill of Basic Act for Global Warming Countermeasures<sup>(extracts)</sup> (Mar. 12, 2010, Submitted to the Diet)

### (Policy Measures for International Coordination)

Article 19. Recognizing importance of promoting global warming countermeasures under international coordination, the government shall work for establishment of fair and effective international framework ensuring all major countries' participation to prevent global warming, implement policy measures necessary to ensure international cooperation on mitigation and adaptation of global warming, to establish new framework related to international financial provision, **to establish a mechanism assessing contribution to greenhouse gas emission reduction and removal in other countries than Japan through initiatives such as provision of technology and products**, and to implement necessary measures to promote international cooperation, as well as implement other necessary measures such as information provision, in order to promote international cooperation related to mitigation and adaptation of global warming by local government and private entities.

## New Growth Strategy - Blueprint for Revitalizing Japan <sup>(extracts)</sup> (Jun. 18, 2010, Cabinet Decision)

### (1) Green Innovation

【Target: by 2020】

“Create over ¥50 trillion in new environment-related markets;” “Create 1.4 million new environment sector jobs;”

**“Reduce worldwide greenhouse gas emissions by at least 1.3 billion tons of CO<sub>2</sub> equivalent (equivalent to total emissions of Japan) using Japanese private-sector technology.”**

<Schedule>

**“Establish an appropriate mechanism that can evaluate contributions to emission reductions in overseas by providing Japanese low-carbon technologies including infrastructures and products.”**

# Approaches used by Ministry of Environment (Japan) to study new mechanisms

## CDM/JI Feasibility Study

Assigned to: Global Environment Center Foundation (GEC)

- Publicly seek and adopt feasible designs for CDM/JI projects and create PDDs (Japanese government has preferential negotiating rights).
- About 20 projects are adopted annually.

## Kyoto Mechanisms Consultation Service

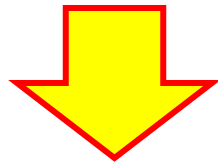
Assigned to: Overseas Environmental Cooperation Center (OECC)

- Operate a consultation service for companies wishing to engage in CDM/JI projects.
- Operate Kyoto Mechanism Information Platform website to provide latest domestic and international news.

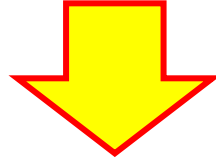
## Support capacity building for CDM/JI projects in developing countries

Assigned to: Institute for Global Environmental Strategies (IGES)

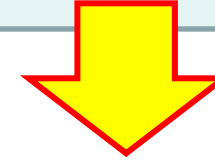
- Provide support to DNAs in developing countries.
- Support local authorities and companies with project construction.
- Publication of CDM guides (e.g., CDM in Charts) and creation of databases



**FY2010:**  
Feasibility studies on new mechanisms, including NAMA and REDD



**FY2010:**  
Provide information about new mechanisms, including SCM, NAMA, and REDD



**FY2010:**  
Consider ways to assist capacity building for new mechanisms, including NAMA and REDD

# Why a bilateral / multilateral mechanism?

- To reduce global emissions by half, **mitigation activities in developing countries are a must**.
- A new mechanism is needed for evaluating developed countries' contributions to developing countries, so that developed countries (including Japan) set ambitious targets **to contribute to global emission reductions**.
- But the Kyoto Mechanisms
  - ◆ have lengthy, multi-step registration procedures
  - ◆ place low value on energy-efficiency projects
  - ◆ tend to concentrate projects in certain countries

Also, the most appropriate mitigation measures differ depending on the developing country.

- **Japan should therefore show leadership in creation of a new “bilateral/multilateral mechanism” to promote effective mitigation actions specifically for developing countries, based on Copenhagen Accord. This should be reflected in an agreement of a new framework under the UN.**

# A mechanism desirable to both developing and developed countries

## What developing countries hope for in a new mechanism:

- **Contributes to enhancement of industrial development and employment**
- **Contributes to prevention of specific problems such as air pollution**
- **Contributes to capacity building for climate change countermeasures**
- **Ensures transparent, reliable MRV from the international perspective**
- **Enables developing countries to participate easily, and contributes to implementation of NAMAs as defined in Copenhagen Accord**

## What Japan hopes for in a new mechanism:

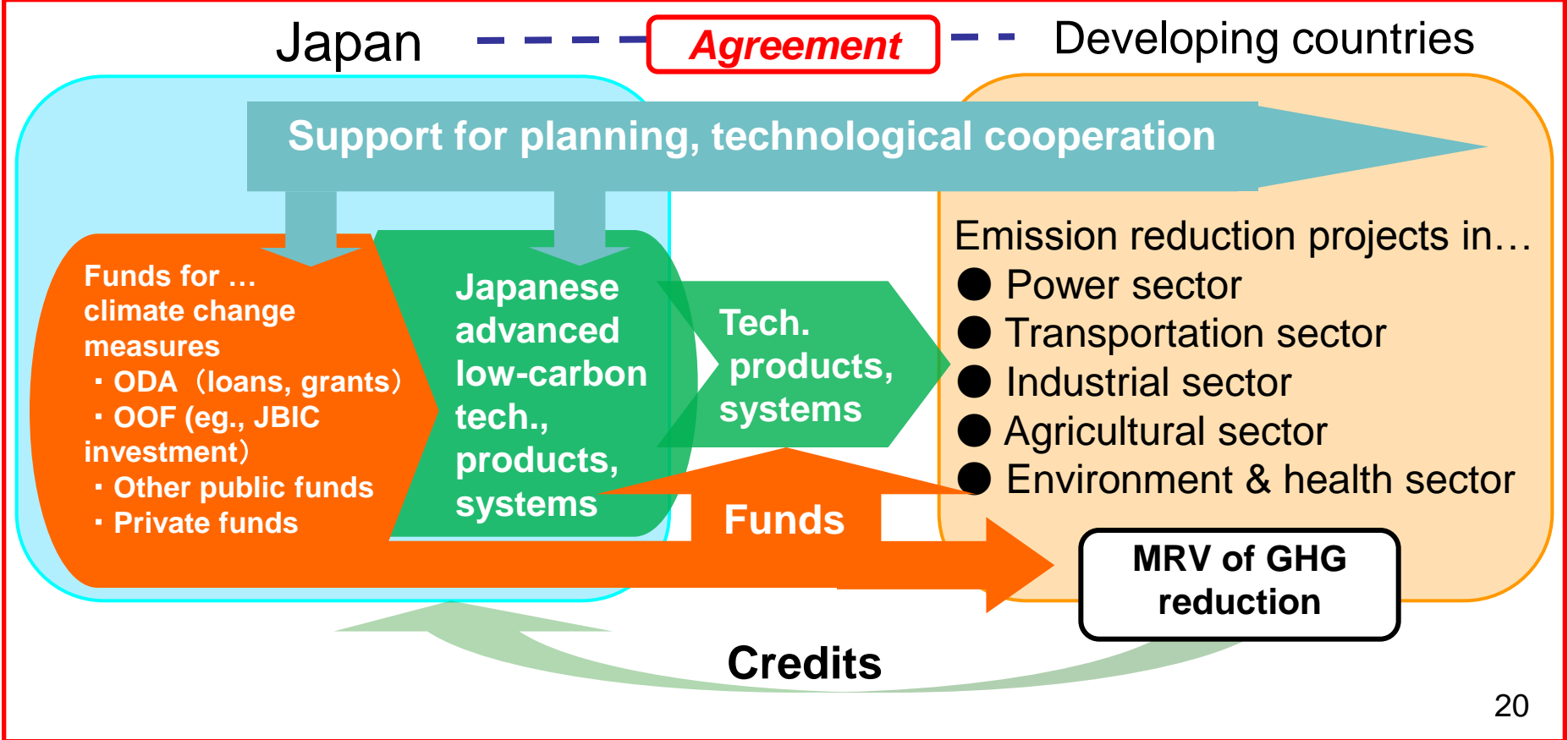
- **Allows appropriate evaluation of Japanese advanced low-carbon technologies, products, and infrastructure**
- **Flexible enough to be adapted to actual situation in each developing country**
- **Can efficiently make good use of existing institutions, with low social costs**
- **Ensures transparent and reliable MRV from the international perspective**
- **Towards a post-2012 framework, is a rational mechanism that can be accepted by other countries**

# Image of a bilateral / multilateral mechanism

【Factors required in a mechanism】  
**Be internationally acceptable.**  
 ➤ GHG reductions with environmental integrity and quantifiable evaluation  
 ➤ Able to conduct MRV under international standards

【Target】  
**Establish 'win-win' relations** between developed and developing countries through promotion of technology transfer and emission credits

GHG reduction activities in each sector in developing countries – implemented by provision of Japan's advanced technologies and/or products **with mutual agreement between governments of Japan and developing countries** – are evaluated, and then Japanese contributions in each sector are certified as emission reduction credits.



# Existing institutions applicable to a bilateral / multilateral mechanism

Search for opportunities/  
Support for project formation

- Overall, FS, etc.  
→ **Relevant ministries**
- Talk/Arrangement with partner country  
→ **JICA local office**
- Support for project planning  
→ **JICA/NEDO/IGES**
- Support for funding  
→ **JICA/JBIC**
- Support for business development of private companies  
→ **JBIC/NEXI, etc.**

Validation for registration

- Train Japanese validation entities  
→ **Relevant ministries**
- Assistance for establishment of validation entities in partner countries  
→ **JICA/4CJ/IGES**
- Continual capacity building for validation entities in partner countries  
→ **JICA/4CJ/IGES**

Measurement/  
Reporting/  
Verification

- Train MRV auditors  
→ **JICA/IGES**
- Assistance for establishment of MRV system  
→ **JICA/IGES**
- Continual capacity building for MRV auditors  
→ **JICA/NEDO/IGES**

Certification/  
Use/Trade

- Maintenance of Japanese national registry  
→ **Relevant ministries**
- Maintenance of partner countries' national registries  
→ **JICA/4CJ**
- Assistance for trading credits  
→ **NEDO/JBIC**

※4CJ: Certification Center on Climate Change, Japan

# Interim approaches

- Take the following approaches between Japan and developing countries or other countries:
  - ◆ **Promote better understanding of a bilateral/multilateral mechanism** while searching for project opportunities of a new mechanism, assuming and using existing channels such as capacity building.
  - ◆ **Put effort into making agreements** with developing countries or other countries with better understanding, in order to raise awareness of above efforts.
- In parallel with above approaches, consider detailed system design of a bilateral/multilateral mechanism, while keeping achievements of above efforts in mind.
- Advocate in international negotiations so as to **improve current flexible mechanisms** and **include a bilateral/multilateral mechanism in flexible mechanisms in a post-2012 framework.**

# Outcome of bilateral cooperation on a co-benefits approach

**Japan's bilateral cooperation on a co-benefits approach with the People's Republic of China and the Republic of Indonesia is based on Joint Statements between the Environment Ministers signed in December 2007.**

Japan-China cooperation → Joint study on the evaluation of effectiveness of co-benefits in a five-year plan (2006-2010) on the reduction of environmental pollutants

○Location: Panzhihua City, Sichuan Province (main industry: steel)

Joint study was carried out to evaluate effectiveness of co-benefits. Capacity building for local government officials.

○Scope of the study (air pollution prevention): Structural adjustments (plant closures) and projects (installation of fuel gas desulfurization systems).

Expected emission reduction of SO<sub>2</sub>: 55,800 t/year  
(reduction of about 53% of annual emission in Panzhihua City)



Expected emission reduction of CO<sub>2</sub>: 2,104,000 t/year  
(reduction of about 8% of annual emission in Panzhihua City)

○The outcome of the study was presented at the side event of COP15 (Copenhagen, December 2009).

Japan-Indonesia cooperation → Evaluation of effectiveness of co-benefits at final waste disposal sites

○Location: Banjarmasin City

A feasibility study was carried out on waste composting and countermeasures for leachate at a final waste disposal site.

○Expected that the proposed project contribute in achieving the GHG emission reduction target set by the Government of Indonesia

Indonesian Government's emission reduction roadmap (March 2010) in waste sector (2020, optimistic scenario):

**About 20 million t-CO<sub>2</sub>**

(Emission reduction target for 2010-2020 is 91.54 mt-CO<sub>2</sub>, 15.34% reduction compared to BAU scenario)

○A 42% reduction in COD in leachate is expected.

○Improvement in odors is expected.

Expected spillover effects from possible bilateral cooperation projects

Expected methane reduction in 2020 compared to 2010 level:  
**About 14 million t-CO<sub>2</sub>** (average of 2010 to 2020)  
About 70% of emission reduction scenario set by the Government

• Potential GHG emission reduction per site (based on the feasibility study):  
35,000 t-CO<sub>2</sub> (average of 2010 to 2020)

• Similar technologies are applicable to 387 sites in Indonesia

Source: Institute of Developing Economies, Japan External Trade Organization (2006)

※Assumption: Scale of the project at 387 sites is equivalent to the one in feasibility study

# List of research projects adopted in MOE's “CDM/JI FS and FS on New Flexible Mechanisms” (announced Aug. 3, 2010)

## CDM/JI Feasibility Study

| Segment                              | Group  | Research Title  |
|--------------------------------------|--|---|
| ① Mechanism development or new field | Hitachi Zosen Corporation                          | FS on a Eucommiales A/R CDM in Henan province, China  |
|                                      | PEAR carbon offset initiative, Ltd.                | FS on a biogas utility program CDM in an agricultural community in Bangladesh                               |
|                                      | Mitsubishi UFJ Research and Consulting Co., Ltd.   | CDM FS on a production of Jatropha BDF and its use for automobiles in Viet Nam                              |
|                                      | Kyusyu Electric Power Co., Inc.                    | Program CDM FS on diffusion of energy-efficient tenter in Zhejiang province, China                          |
| ② Methodology                        | Japan Weather Association                          | Program CDM FS on addition of idling-stop equipment on buses in Shandong province, China                    |
|                                      | Pacific Consultants Co., Ltd.                      | CDM FS on CO <sub>2</sub> reduction by introduction of motorcycle maintenance techniques in Viet Nam        |
| ③ High feasibility                   | Ichikawa Kankyo Engineering Co., Ltd.              | Program CDM FS on avoidance of landfill waste in Viet Nam   |
|                                      | Yachiyo Engineering Co., Ltd.                      | CDM FS on combined systems with waste disposal and methane generation in Ipoh, Malaysia                     |
|                                      | Eight-Japan Engineering Consultants Inc.           | CDM FS on use of process residues of pineapple and drainage water generation in Mindanao, Philippines       |
|                                      | EJ Business Partners Co., Ltd.                     | CDM FS on use of gas in a waste disposal plant and sewage disposal in Amoy, China                           |
|                                      | EX Corporation                                     | Program CDM FS on fuel switch to Gliricidia sepium tip at an industrial heat utilization plant in Sri Lanka |
|                                      | Industrial Decisions Inc.                          | CDM FS on rice husk generation in Chainat province, Thailand  |
|                                      | Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. | CDM FS on wind generation in Galapagos Islands, Ecuador   |
|                                      | E & E solutions Inc.                               | CDM FS on energy savings by humidity control of coal in Yunnan province, China                              |
|                                      | Tepia Corporation, Japan                           | CDM FS on generation by utilization of emission gases and residual heat in Shaanxi province, China          |
|                                      | PEAR carbon offset initiative Ltd.                 | CDM FS on generation by methane in coal mines in China  |

## Feasibility Study on new Flexible Mechanisms

| Segment                | Group  | Research Title  |
|------------------------|--|---|
| New flexible mechanism | Pacific Consultants Co., Ltd.                      | NAMA FS on wastes and wastewater management divisions in Thailand |
|                        | Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. | NAMA FS on transportation in Laos                                 |
|                        | Shimizu Corporation                                | NAMA FS on peat management in Indonesia                           |

# FY2011 budget request for a new mechanism

(Ministry of Environment )

○Program for establishment of a new global emission reduction/absorption crediting mechanism  
(Special account budget: 1.15 billion yen. General account: 70 million yen)

