Initiatives for Low Carbon Society
- Focused on ETS and Flexible Mechanisms -

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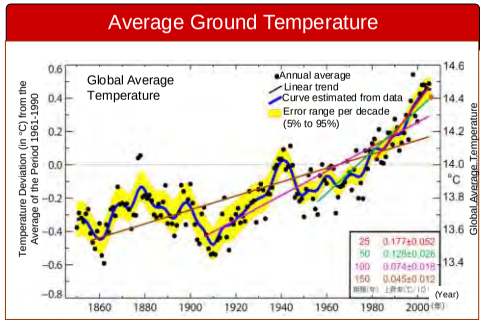
1. Climate Change Policy

Climate Change and its Impacts

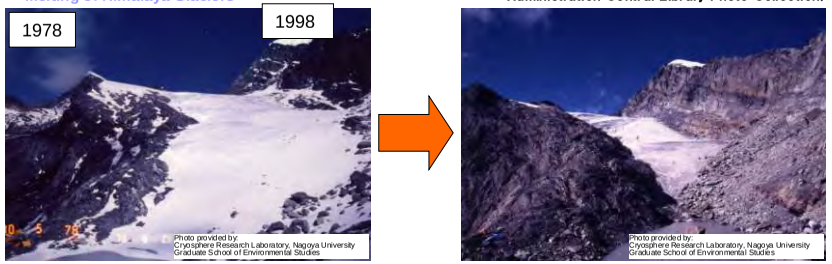
Average Ground Temperature



Polar bear affected by global warming

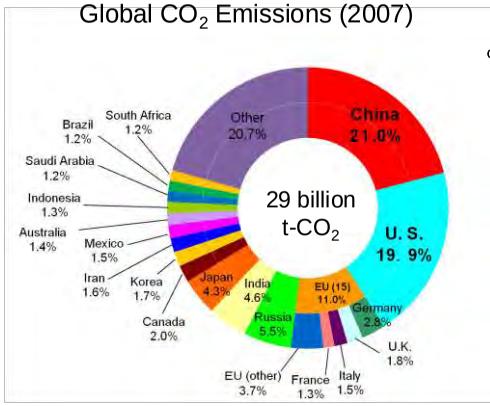
Source: Courtesy of the National Oceanic and Atmospheric Administration Central Library Photo Collection.

Melting of Himalaya Glaciers



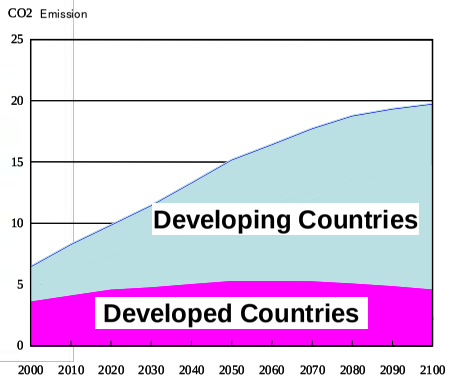
Global CO_2 Emissions

Global CO_2 Emissions (2007)



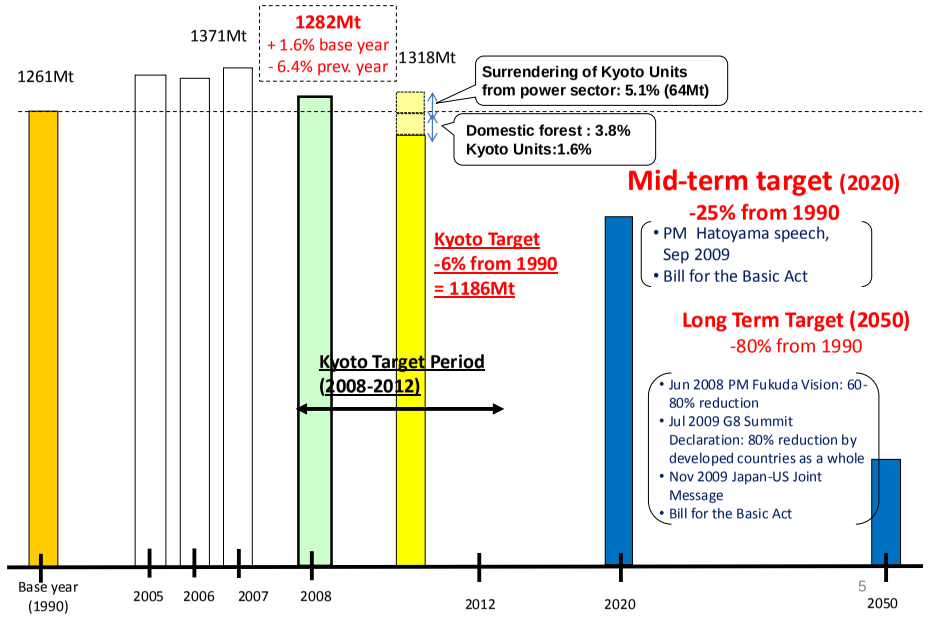
Source: MOEJ, based on IEA "CO2 Emissions from Fuel Combustion (2007 edition)"

Global CO_2 Emissions (prospect)



Source: Kainuma et al., 2002:
Climate Policy Assessment, Springer, p.64.

Japanese GHG emission and reduction targets



Development of Climate Change Policy in Japan

International	Japanese Policy
1992 UNFCCC adopted	
1997 Kyoto Protocol adopted	1998 Act on Global Warming ・Basic policy and responsibilities ・National and local action plans
	2002 Amendment of the Act ・Plan for achievement of Kyoto Target (-> Cabinet decision 2005, amended 2008)
2005 Kyoto Protocol took effect	2005 Amendment of the Act ・GHG emission reporting 2005 Voluntary ETS (JVETS) started
2007 Bali Roadmap	2006 Amendment of the Act ・Use of Kyoto Mechanism
	2008 Amendment of the Act ・Policy plans of local governments ・GHG reduction guidelines for companies 2008 Offset Credits (J-VER) started
2009 Copenhagen Accord	2010 Bill for the Basic Act

- Companies' responsibility for GHG reduction
- Companies' responsibility to establish and publish action plans.

- Companies requested to estimate and report GHG emission.
- Government to make the data publicly available.

- Domestic trading and surrendering of overseas emission reduction.

- Local government expected to develop energy policies.

A4-11

Summary of the Act on Promotion of Global Warming Countermeasures

KP Target Achievement Plan
- Establish the Kyoto Protocol Target Achievement Plan, providing basic direction of promotion of global warming countermeasures, countermeasures implemented by each entity, and other issues

HQ of Promotion of Global Warming Countermeasures

Action Plan by federal, prefectures, and municipalities
- Federal and local governments establish the Action Plan to make aggressive effort of emission reduction
- Promotes detailed initiatives
- Coordinates with other local plans

System for the Calculation, Reporting and Publication of Data on GHG Emissions
- Mandates factories above a specified threshold to calculate and report their GHG emission. Government publicizes the data
- Report is conducted by each entity and franchise chain
- Promotes usage of CDM credits

Trading in Kyoto Mechanisms (Registry)
- Stipulates transaction rule of Kyoto Mechanism Credits and protection of trade
- Provides procedure of A/R CDM credits usage

(National, Prefectures) Center for Climate Change Actions, Promoters of Climate Change Actions
- The center is established in some municipalities.

Visualization of CO2 emission

Promotion of appliances which emit less amount of GHG

Information provision to investors and people, promotion of life style improvement

Establishment of Emission Reduction Guideline

In Business	In daily life
・Highly efficient facilities ・Control of air condition, rationalization of OA usage	・Visualization of CO2 among appliances ・Promotion of 3Rs

Outline of the Bill for the Basic Law on Climate Change Countermeasures

Background

- To clarify all mobilized policies in order to achieve the 25% reduction goal and Japan's position
- Announced by Ministry of the Environment on Feb 17, this bill is under inter-ministerial consultation, and is scheduled to be proposed to the Diet in March

Summary of the Bill

Purpose
- Promote climate change countermeasures to conserve the global environment, and health and cultured living for both the present and future generations of the nation, through creating new industries and increasing job opportunities

Mid- & Long-term Targets
- **GHG reduction target: 25% reduction by 2020, 80% by 2050 compared with the 1990 level***
  * Assumes the establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets
- Renewable energy target

Principles
- Implement countermeasures with a view to establishing a low-carbon society through ensuring new lifestyles, etc.
- Promote policies under international coordination
- Develop industries and job opportunities that help prevent climate change
- Align with energy policy and consider the right balance between the environment and the economy

Basic Plan
- Establish a basic plan that comprehensively and systematically promotes climate change countermeasures

Policy Measures

Most important concrete measures
- **Introduction of emissions trading scheme**
- Review of taxation system as a whole including consideration of a global warming tax
- Expansion of a feed-in-tariff for renewable energy

Daily life
- Promotion of the use of renewable energy
- Promotion of energy-saving equipment and buildings
- Promotion of voluntary activities
- Promotion of education and learning
- Dissemination of information on GHG emissions

Manufacturing
- Promotion of the energy efficiency of equipment and buildings
- Promotion of transformation to less GHG energy
- Creation of new projects which will help tackle climate change
- Promotion of the development of innovative technologies

Regional development
- Promotion of the expansion of public transportation systems
- Enhancement of sinks
- Adoption of necessary measures by local government

Others
Taking measures to secure international collaboration and promote international cooperation
Taking measures to adapt to climate change

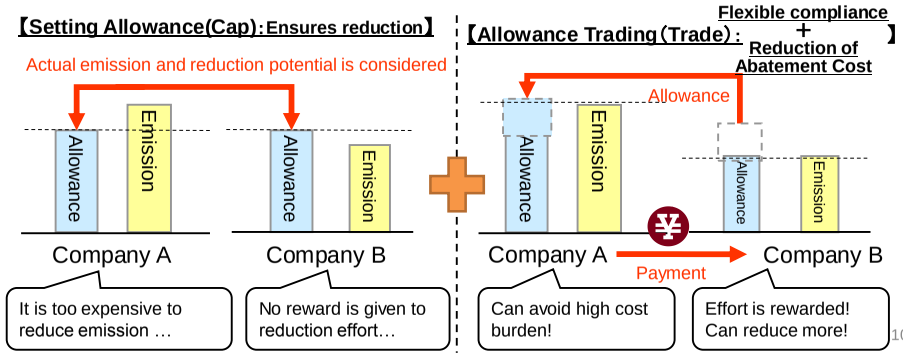
2. Emissions Trading

What is Cap & Trade Emissions Trading Scheme?

■Ensures fair and transparent emission reduction by setting cap on GHG emission.
- Ensures emission reduction by setting **emissions allowances(Limitation of GHG emission: cap)** on each company.
- Demand for emission reduction technology is called. Innovation is promoted.

■Admits allowance trading. Enables flexible compliance.
- Not only emission reduction, trading and other methods are available for **flexible compliance**.
- Responding to change of activity level through business cycle, **ensures development of growing industry.**

■Promotes efficient emission reduction through carbon pricing.
- Under equalized marginal abatement cost, **companies with efficient reduction technology take advantages.**
- Enables **management decision considering emission reduction** with recognizing cost of GHG emission.



Consideration of Emissions Trading Scheme in Japan

<2005->

Japan Voluntary Emission Trading Scheme (JVETS) by Ministry of the Environment (Apr 2005-)
- Aims at the accumulation of knowledge and experience in Cap and Trade and voluntary GHG reduction.
- Currently operating phases 4-6. So far 359 companies participated with reduction targets.

<2008->

Advisory Committee on the Emissions Trading Scheme, MOE (Jan 2008-)
- Published an interim report in May 2008, with discussion points and four scheme options for cap and trade.

Advisory Committee on Legal Issues for Emission Trading, MOE (Mar 2008-)
- Two interim reports on constitutional and administrative issues and legal nature of emission allowances etc.

Experimental Introduction of an Integrated Domestic Market for Emissions Trading, GOJ (Oct 2008-)
- Started by the previous government to achieve the Kyoto Target, without intention to introduce a mandatory system.
- Continued by the current government with necessary changes, though it will not form the basis of mandatory system.

Offset credits (J-VER), MOE (Nov 2008-)
- Verify emission reduction and removal by SMEs, agriculture and forestry as reliable credits for market transaction.

<2010->

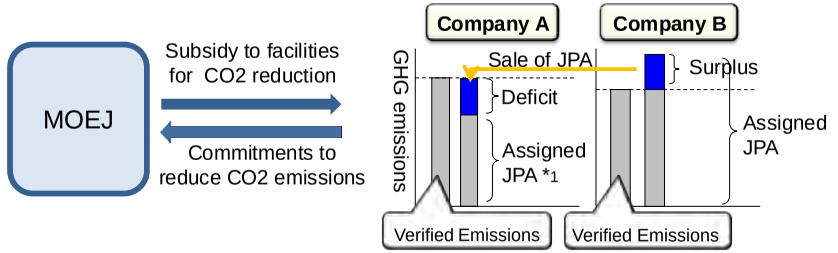
Bill for the Basic Act on Global Warming Countermeasures (Cabinet decision 12 Mar 2010, Passed the Lower House 18 May)
- Introduce a cap and trade, by producing draft legislative instrument within one year of the enactment of Basic Act.
- Consider absolute targets basically, and also consider intensity targets.

Domestic Emission Trading Subcommittee, Central Environment Council (Apr 2010-)
- Based on the Bill for the Basic Act, contribute to the scheme design by analyzing various discussion points.

Japan's Voluntary Emissions Trading Scheme (JVETS)

(1) Outline of scheme

- Launched by MOEJ in 2005
- Supports voluntary CO2 reduction activities by businesses to meet their emission reduction targets in a cost-effective way, with subsidies and emissions trading
- Participants of JVETS are a part of the Experimental Integrated ETS (2008~).



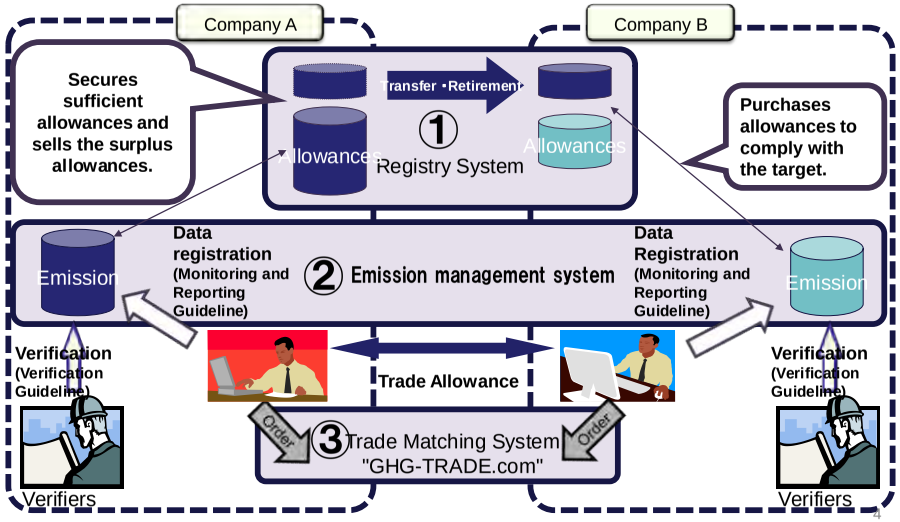
*1: Assigned JPA = (Base year emissions (average for past 3 years)) – (Committed reduction)

(2) Achievements

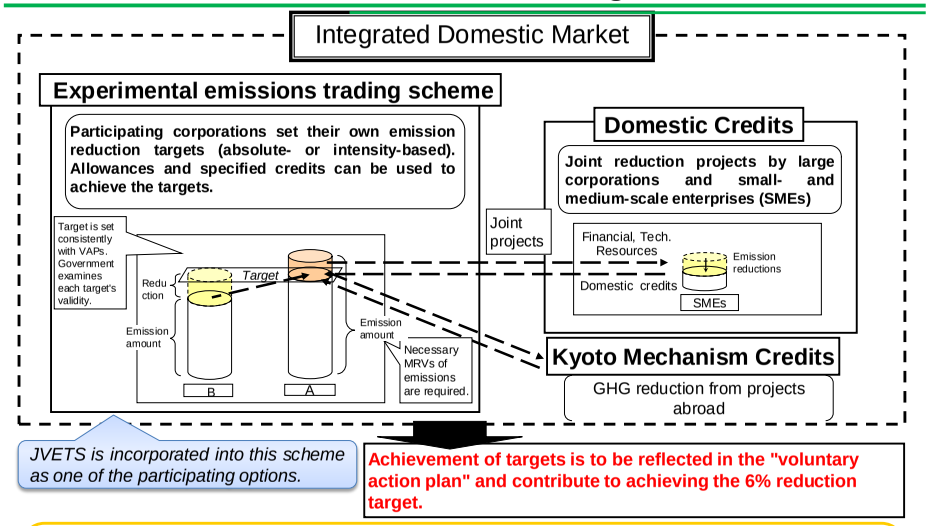
- Total participants: 359 companies
- Development of infrastructure: Monitoring, reporting and verification guidelines, third-party verification, emissions management system and registry for allowance

JVETS Operation Infrastructure

One of the major contributions of JVETS is that it has established basic infrastructure (emission monitoring, reporting and verification guidelines, registry system, emissions management system, etc.) which is essential for smooth operation.



Experimental Introduction of an Integrated Domestic Market for Emissions Trading



JVETS is incorporated into this scheme as one of the participating options.

Achievement of targets is to be reflected in the "voluntary action plan" and contribute to achieving the 6% reduction target.

- Started by the previous government as one of the means to achieve the Kyoto Target, without intention to introduce a mandatory system.
- Continued by the current government with necessary changes, though it will not form the basis of mandatory cap and trade system.

Official Documents Mentioning Establishment of ETS

Bill for the Basic Law on Climate Change Countermeasures (Cabinet Decision on Mar./Oct. 2010)

(Establishment of Emissions Trading Scheme)

Article 13. In order that the reduction of the emission of greenhouse gases be implemented steadily, **the Government shall establish a domestic emission trading scheme** (a scheme to set limits to the emission of greenhouse gases by emitters in a certain period, and to allow trading of emission amount with other emitters and other means for complying with the limits). The Government shall investigate legislative measures necessary for this, concurrently with the investigation on the tax for the global warming countermeasures stipulated in the next article, clause 2, and produce an agreed draft within one year after the enactment of this act as a milestone.

2 The investigation referred to in the previous clause shall include the investigation into the coverage of emitters, methods to set limits of greenhouse gas emission of the emitters within the coverage in a certain period, a scheme to disclose the situation of greenhouse gas emission of these emitters, and other matters that are needed for the appropriate implementation of the domestic emission trading scheme.

3 With regard to the methods to set limits of greenhouse gas emission in a certain period referred to in the previous clause, investigation shall be made basically into the method to set the limits as those to the total amount of greenhouse gas emission in a certain period, while also investigating into the method to set the limits as those to the amount of emission per a unit of activity such as production volume.

Environment White Paper 2010 (Cabinet Decision on June 1, 2010)

Bill for the Basic Law on Climate Change Countermeasures, submitted to the Diet on March 2010, **includes a provision on establishment of cap & trade emissions trading scheme**, in order to ensure steady GHG emission reduction. **The Government shall investigate legislative measures necessary for this**, concurrently with the investigation on the tax for the global warming, and produce an agreed draft **within one year after the enactment of this act as a milestone**.

New Growth Strategy～Revival Scenario to "Vigorous Japan"～ (Cabinet Decision on June 18,2010)

(Annex Table of New Growth Strategy "Growth Strategy Action Plan(Progress Chart)")
In "1 Promotion of Low-Carbonization(Basic Policy)" of "Ⅰ Environment and Energy Strategy," **"Establishment of Emissions Trading Scheme" is included as "Items which should be implemented in FY2011."**

Schedule of Emissions Trading Subcommittee, Central Environment Council

○April 23 (1st session) Recent situation about emissions trading scheme.

○May 13 ～ June 1 (2nd ～5th)

➢ Public hearings from stakeholders

(2nd : May 13, 2010) Kiko Network, Greenhouse Gas Assurance Association of Japan, Kochi Prefecture
(3rd : May 21, 2010) Japan Iron and Steel Federation, Japan Automobile Manufactures Association, Japan Electrical Manufactures Association, Keizai Doyukai, Japanese Trade Union Confederation, WWF Japan
(4th : May 25, 2010) Japan Cement Association, Japan Paper Association, Real Estate Companies Association, Federation of Electric Power Companies, Japan-CLP, Keidaren
(5th : June 1, 2010) Japan Chemical Industry Association, Petroleum Association, Japan Gas Association, Japan Chamber of Commerce & Industry, National Federation of Regional Women's Organizations, Tokyo Metropolitan

○June 8 (6th)

➢ Result of hearings and public comments

Also discussed results from other channels, as follows;
■Apl26～May26 Public Comments on Scheme Design Issues
■May18 Public Dialogue on Global Warming Policy (in Tokyo)

○June 14 (7th)

➢ Presentation by and discussion with climate policy officials from Europe and US

○June 25～July 23 (8th ～10th)

➢ Discussion of each design issues, considering results of public hearings and other channels

○August 31, September 10 (11th, 12th)

➢ Discussion on Scheme Options (draft)

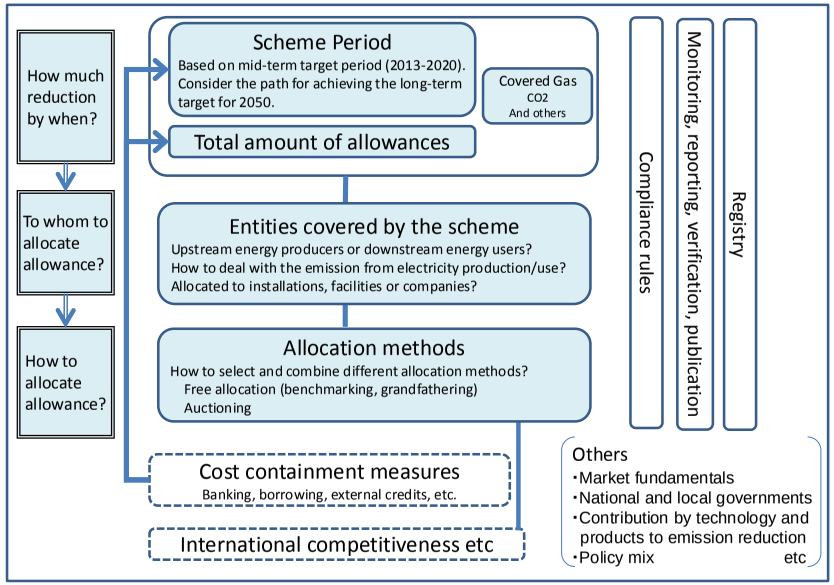
○October 18 (13th)

➢ Evaluation of Scheme Options, Policy mix
➢ Each issue (covered gas, scheme period, MRV, commitment period and compliance rules)

○November 1 (14th)

➢ Each Issue(cost containment measures, total amount of emission allowances, entities to which emission allowances are allocated treatment of electricity, allocation method)

Discussion Points for Future Cap and Trade Scheme in Japan



ETS Scheme Issues in Perspective: Overview

Issues pertaining to the scheme are classified into 1. those about which opinions will possibly converge in terms of direction, etc. and 2. those about which opinions greatly diverge. Different views on issues falling under 2 are summarized and organized into three options for further discussion.
In light of the result of such discussion, we will reconsider scheme issues and summarize the overall scheme.

I Basic concept for the Scheme Discussion

1. Role to be played by the scheme
2. Perspective for discussing each issue

II Elements about which opinion will possibly converge in the future

1. Elements about which opinions will possibly converge in terms of basic direction

○Scheme period ○Covered gas ○Entities to which emission allowances are allocated ○Cost containment measures (banking, borrowing, etc.)
○Commitment period and compliance rules ○Emission monitoring, reporting, and third-party verification ○Registry system ○Market surveillance

2. Elements about which common understanding can be roughly obtained in determining discussion direction

○Total amount of emission allowances ○Considerations regarding international competitiveness and carbon leakage
○Considerations for contribution by technology and products to emission reduction in Japan and abroad (life cycle evaluation) ○Roles of national and local governments ○Policy mix

III Elements about which opinions diverge greatly <Options >

○Treatment of electricity
・Indirect emission ／direct emission
○Allocation method
・Auction
/Free allocation (Grandfathering, Benchmarking)
・Absolute emission target/Intensity target

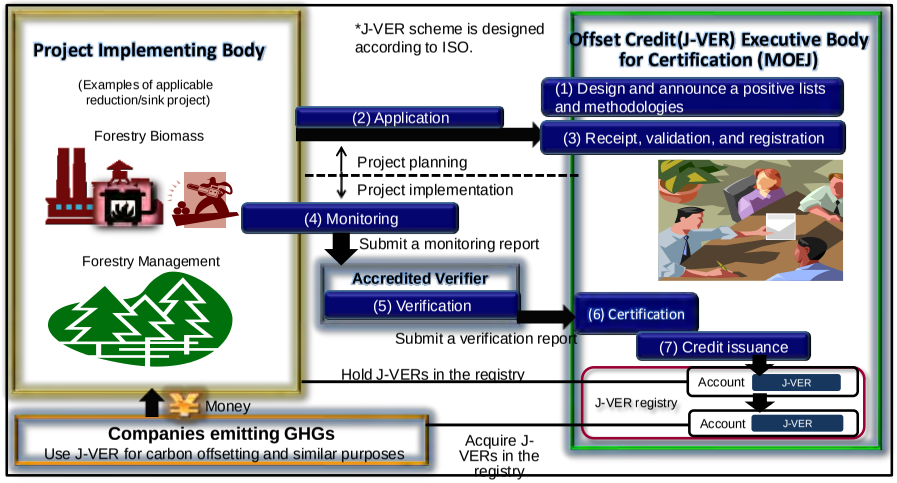
Three options are formulated from these elements from the viewpoints of environment conserving effects and consideration for economic activities

A	Electricity as direct emission + Absolute emission target (Auction)
B	Electricity as indirect emission + Absolute emission target (Free allocation) + Intensity target for electricity
C	Electricity as indirect emission + Intensity target

Offset Credit (J-VER) Scheme

- J-VER Scheme, established by MOEJ in November 2008, is a verification scheme for credits generated through the reduction/removal by sinks of greenhouse gases carried out via domestic projects.

- By utilizing the J-VER scheme, funds for carbon offsetting by individuals, businesses, local governments and others can be directed to domestic project propone ts in forest management or local industries. J-VER is a new mechanism to promote the domestic *Green New Deal* program through a global warming prevention campaign, expansion of job opportunities, and economic measures by using private-sector capital.



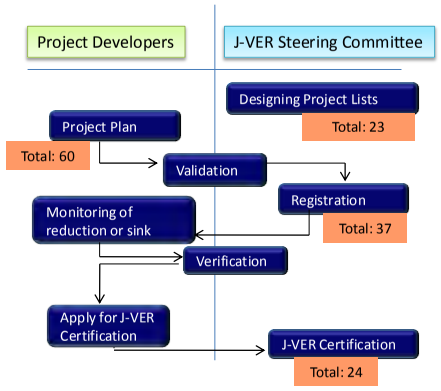
Offset Credit(J-VER) Scheme Certification and Registration

○ In September 2010, **37 projects are registered** in the J-VER scheme.

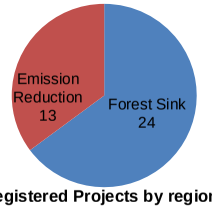
○ From these projects, **24 projects receive certification of Offset Credit(J-VER).The amount of total certified credit is27,017t-CO2**.

○ In addition, over 100 projects are expected to be registered and to receive certification of J-VER within FY2010.

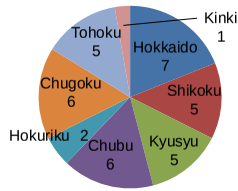
<Flow Chart of J-VER Scheme>



<Registered Projects by Type>



<Registered Projects by region>



3. New Flexible Mechanisms

Use of Kyoto Mechanisms in Japan

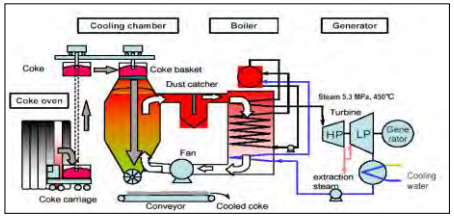
Plan for Achieving Kyoto Target (Cabinet Decision in 2005, amended 2008)

- National government to procure Kyoto Units for the deficit unavoidable by maximal reduction efforts (1.6%), based on the supplementality principle.
- Promote CDM/JI/GIS projects.
- Promote the use of Kyoto Mechanism by private sector to achieve their reduction goals.

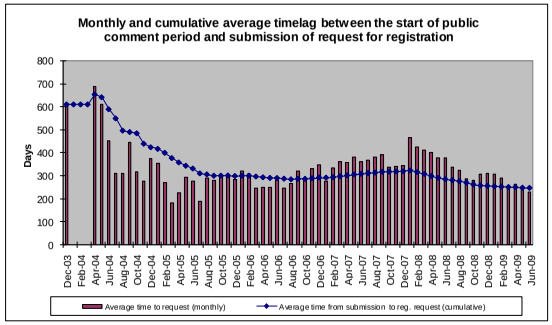
- Government has contracted 96.5Mt of Kyoto Units.
- Power and steel sectors plan to procure 300MT of Kyoto Units in 5 years.

Example of a CDM project: Building a Coke Dry Quenching (CDQ) equipment in a cokes installation adjacent to a steelwork, thus producing power using the heat from the coke oven.

Project proponent	Japanese corporation
Other project participants	Corporation in host country
GHG reduced	CO2
Annual reduction estimated	200,000 t



Problems with current CDM (1):Lengthy procedures



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

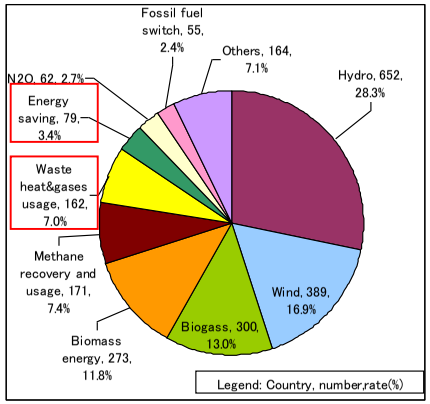
Average time lag in projects where CERs issued (estimated by Ministry of Environment, Japan)

- **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**

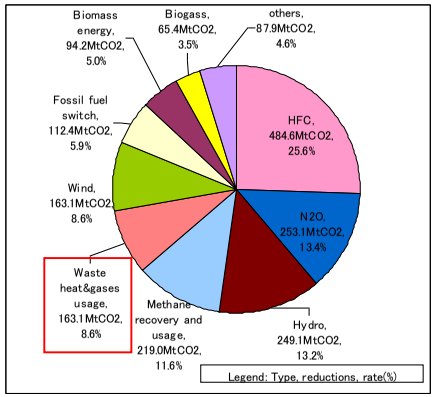
Problem with current CDM(2): Project types not reflecting the reduction potentials

Only 241 registered energy-efficiency projects (10% of all registered projects), expected emission reduction approx. 180 million t-CO_2 by 2012.

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



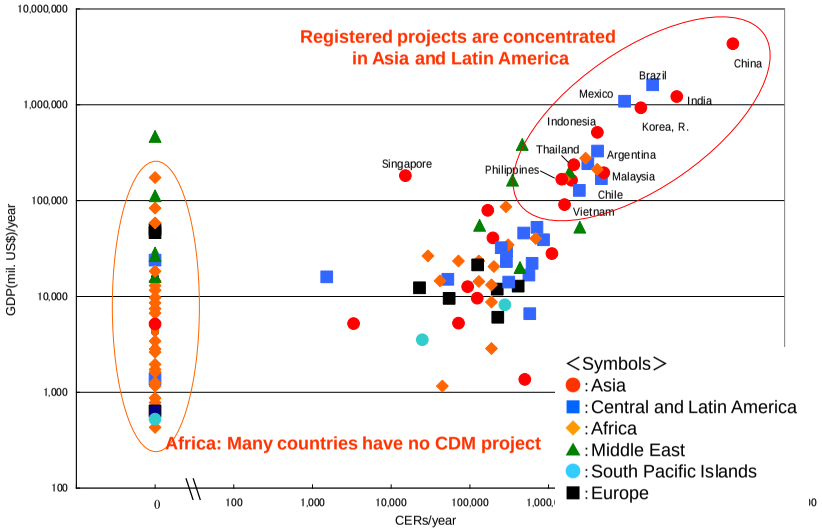
Number of projects (by type)



Expected emission reductions (by project type)

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

Problem with current CDM (3): Concentrated in countries with large economies



New international offset mechanisms: proposals already on board

NAMA (nationally appropriate mitigation action) credits
- Proposed by: Republic of Korea, New Zealand
- Methodology: Give emission reduction credits to a developing country's voluntary "nationally appropriate mitigation actions" (NAMAs)
- Challenges: How to secure verifiable methodologies for crediting.

Sectoral crediting mechanism (SCM)
- Proposed by: 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.
- Challenges: Methodologies for baseline setting, sector boundary, incentives for private companies.

Provisions of international credits in US Climate Change Bill
- Sector-based credits from a specific sector in a developing country
- UNFCCC credits approved by EPA administrator

New mechanisms: perspectives from developing and developed countries

For developing countries, new mechanisms should:

- Contribute to enhancement of development and employment
- Contribute to prevention of specific problems such as air pollution
- Contribute to capacity building for climate change mitigtion
- Ensure transparent and reliable MRV from the international perspective
- Enable developing countries to participate easily, and contributes to implementation of NAMAs as defined in Copenhagen Accord

For developed countries, new mechanisms should:

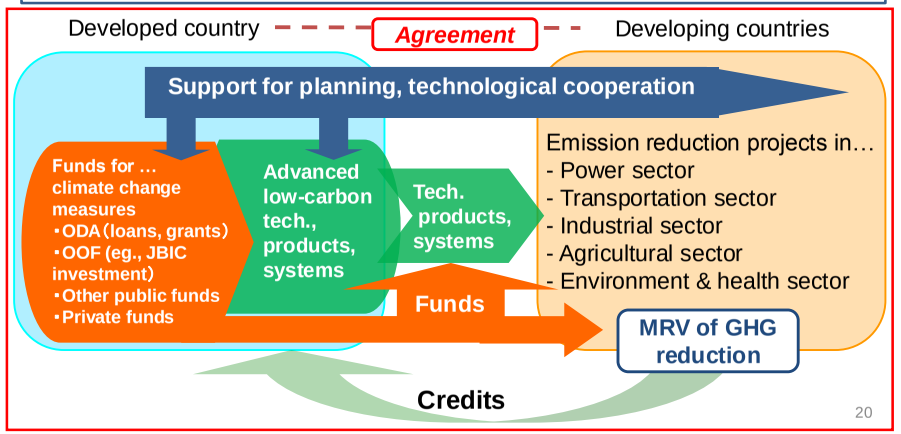
- Allow appropriate evaluation of advanced low-carbon technologies, products, and infrastructure from sponsor countries
- Be flexible enough to be adapted to actual situation in each developing country
- Make efficient use of existing institutions, with low social costs
- Ensure transparent and reliable MRV
- Towards a post-2012 framework, be a rational mechanism that can be accepted by other countries

Concept of a bilateral / multilateral mechanism

<Requirement>
Be internationally acceptable.
➢GHG reductions with environmental integrity and quantifiable evaluation
➢Able to conduct MRV under international standards

<Aim>
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 advanced technologies and/or products from developed countries with bilateral/multilateral agreement - are evaluated and certified as emission reduction credits to offset the emission from developed countries.



Feasibility Study on CDM/JI and New Flexible Mechanisms”
(Ministry of the Environment, Japan, 3 Aug 2010)

CDM/JI Feasibility Study

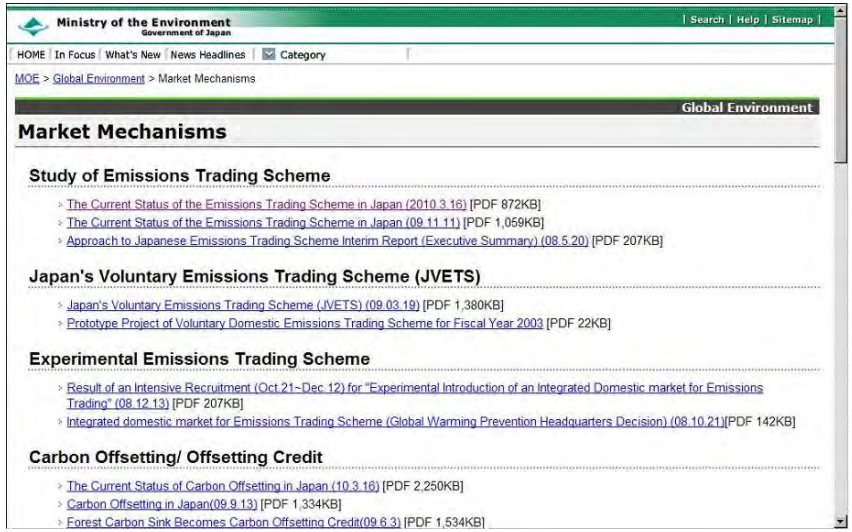
Category	Project
Mechanism development or new field	A/R in China, biogas in Bangladesh, biodiesel fuel in Viet Nam, energy efficiency in dye factory in China.
Methodology development	Stopping engine idling in China, motorcycle maintenance in Viet Nam.
Projects with high feasibility	10 projects using existing methodologies.

Feasibility Study on new Flexible Mechanisms

Project proponent	Project
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

“Market Mechanisms” (MOEJ’s website)

http://www.env.go.jp/en/earth/ets/mkt_mech.html



Japan's Activities to Promote A Co-Benefits Approach

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Environment Management Bureau
Ministry of the Environment, Japan(MOEJ)

November 1, 2010
Tokyo, JAPAN

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1. What is a Co-Benefits Approach?
2. Initiatives by the Ministry of the Environment
3. Conclusion

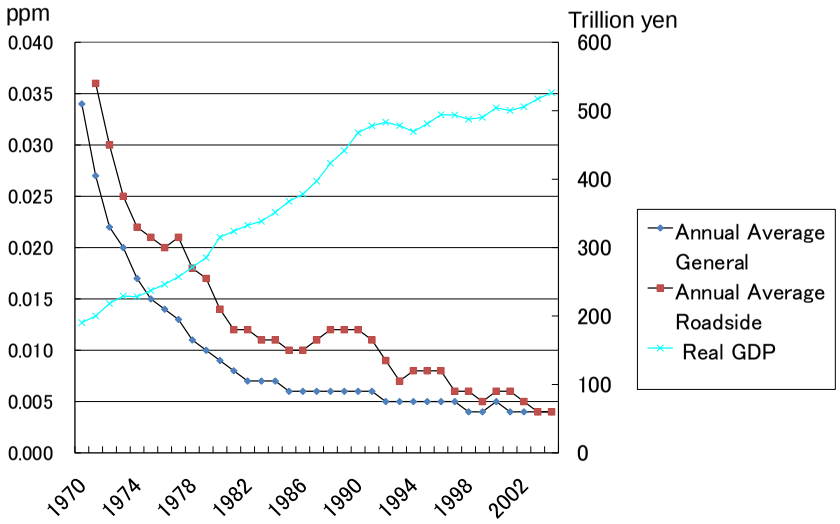
1. What is a Co-Benefits Approach?

Japan's Experience of environmental pollution

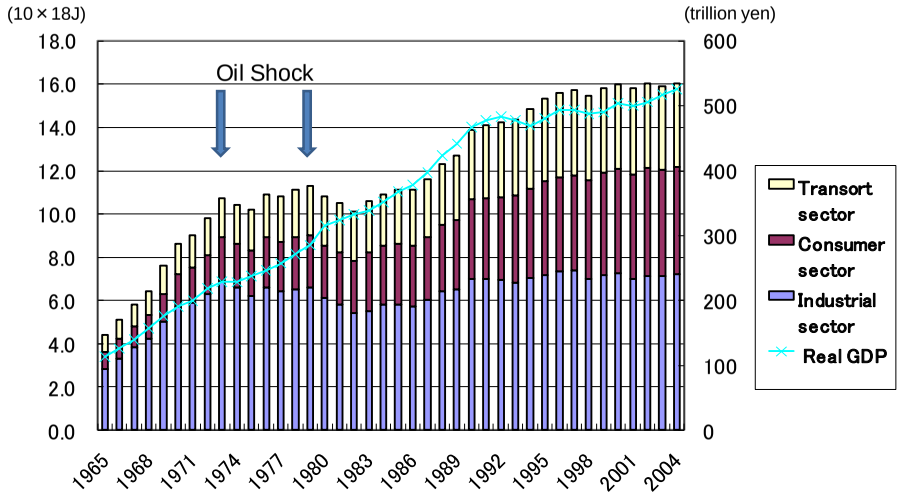
Air pollution in Kitakyusyu City

In the 1960s → **Today**

Change in Sulfur Dioxide concentration

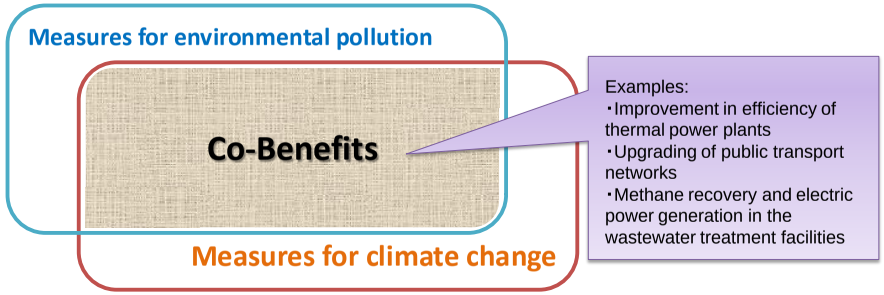


Trends in final energy consumption by sector



What is a Co-Benefits Approach?

An approach aimed at reducing greenhouse gas emissions and preventing environmental pollution at the same time.



- Achieving highest synergies between climate change mitigation actions and sustainable development actions
- Addressing developing countries' urgent developmental needs while achieving climate change mitigation

What are possible areas of Co-Benefits Approach?

Areas	Activities	Benefits
Air pollution	Save energy	P: Reduce SOx, NOx, dust C: Reduce CO_2 emissions
	Fuel Switching	
Water pollution	Wastewater treatment	P: Improve water quality, odor C: Reduce CH_4 (methane) emissions
	Methane recovery	
Waste related problem	Composting organic waste	P: Proper waste treatment, waste reduction C: Reduce CH_4 (methane) emissions
	Improvement of waste management	

P: Environmental Pollution
C: Climate Change

Market Mechanisms and Environmental Pollution Control Measures under Global Warming Measures

	Types of Market Mechanisms	Reference to Environmental Pollution Control Measures
United Nations Framework Convention on Climate Change	Activity Implemented Jointly (AIJ)	None
Kyoto Protocol	Joint Implementation (JI)	None
	Clean Development Mechanism (CDM)	One of the purposes: achievement of sustainable development
	Green Investment Scheme (GIS): emissions trading	Revenues on sales from emission allowance are subject to expend on measures including environmental pollution measures
Framework in and after 2013	Improvement of CDM	Insertion of co-benefits impact is one of the issues under negotiation.
	Credits on Nationally Appropriate Mitigation Action (NAMA) by developing countries	How could environmental pollution measures be related to them?
	Credit mechanisms by individual sectors	
	Bilateral credits	

2. Initiatives by the Ministry of the Environment, Japan

Japan-China Co-Benefits Cooperation

○ The Statement on the Joint Implementation of Co-Benefits Projects by the Ministry of the Environment of Japan and the Ministry of Environmental Protection of the People's Republic of China was signed. (December 2007)

■Panzhihua City, Sichuan Province

A joint study on evaluation of the impact of co-benefits on the environmental pollutant reduction plan, as well as training for capacity building were carried out.

The outcome of the joint study was presented at a side event of COP15 in December 2009, that the annual reductions of SO2 and CO2 by air pollution control in iron and steel industry were 56 thousand tons and 210 million tons simultaneously.

■Xiangtan City, Hunan Province

Training was conducted in the city in October 2010 and another will be planned in Japan in December. A joint study is under implementation.

Japan-Indonesia Co-Benefits Projects

○ The Statement on the Joint Implementation of Co-Benefits Projects by the Ministry of the Environment of Japan and the State Ministry of Environment, Republic of Indonesia was signed. (December 2007)

■A landfill in Banjarmasin city and a slaughter house in Palembang city were chosen as model projects.
■Feasibility studies were prepared on the two model projects, and further detailed study will be conducted.
■Training on the co-benefits approach was carried out and another will be planned in January 2011 in cooperation with Japan International Cooperation Agency (JICA).

Outline of Co-Benefits CDM Model Projects (Subsidy Projects)

■Purpose and Significance

To support co-benefits CDM model projects designed to make effective use of the environmental technologies in developing countries that are faced with environmental problems, such as air and water pollution.

■ Project requirements

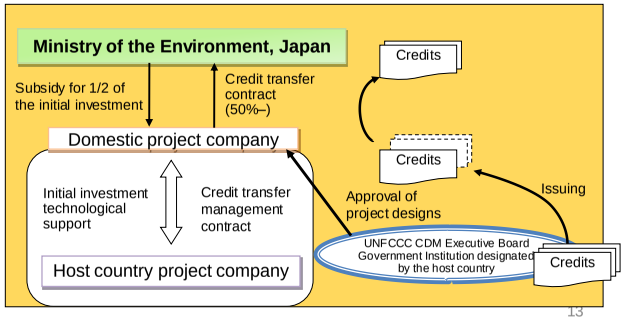
MOEJ provides a subsidy to cover half the initial investment for a CDM model project aimed at achieving co-benefits, on condition that more than 50% of the credits obtained from the project will be transferred to the government without compensation.

■ Subsidies provided

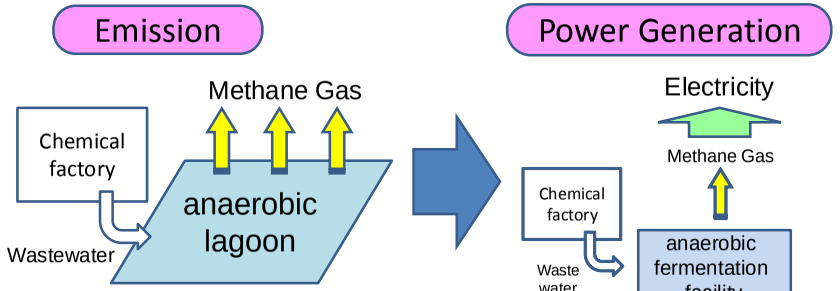
- Eligible candidates: private organizations
- Subsidy amount: **1/2** of the initial investment

Total project cost

Ministry of the Environment	Private organization
1/2	1/2



Co-Benefits CDM Model Projects in Thailand



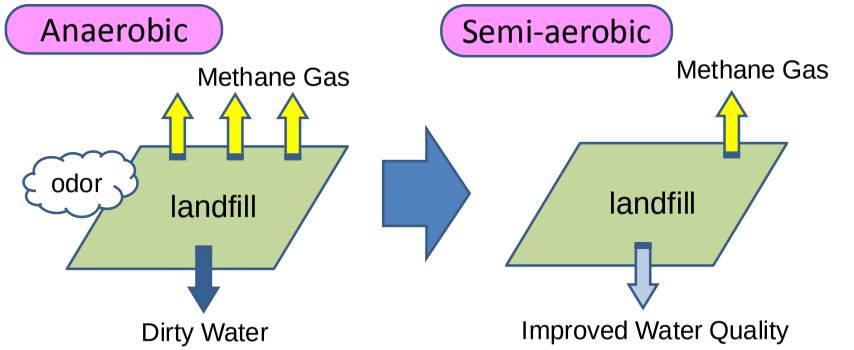
Open lagoon

Briefing for local residents

P: Improvement in the quality of wastewater and odor
C: Reduce CH_4 (methane) emissions

↑CDM Project

Co-Benefits CDM Model Projects in Malaysia



Landfill

Field survey

P: Improvement in the quality of water and odor
C: Reduce CH_4 (methane) emissions

↑CDM Project

Opportunities for Implementing Co-Benefits Approaches in Transportation Sector

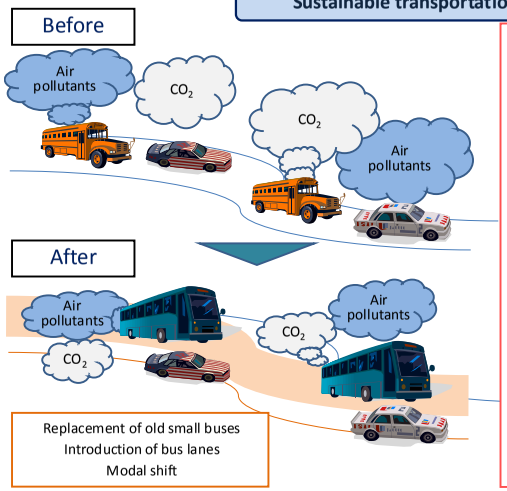
As the motorization progresses in Asia, air pollution and CO_2 emissions are increasing.

↓

Co-benefits approach in the transportation sector is essential.

↓

Sustainable transportation systems (EST)



EST Forum in Asia
United Nations Centre for Regional Development (UNCRD) and Japan

➢Participants

22 countries (Asian countries includ Japan, China, and South Korea)

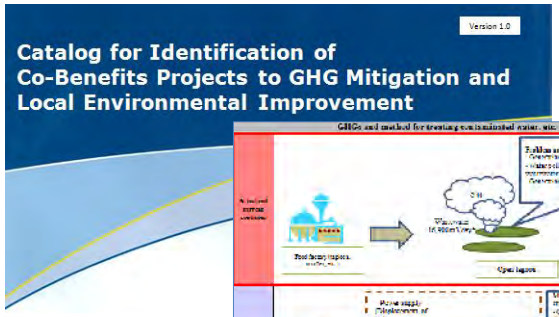
➢Major activities

- Exchange of information and opinions on EST policies in each country
- Supporting development and implementation of national action plans for EST strategy

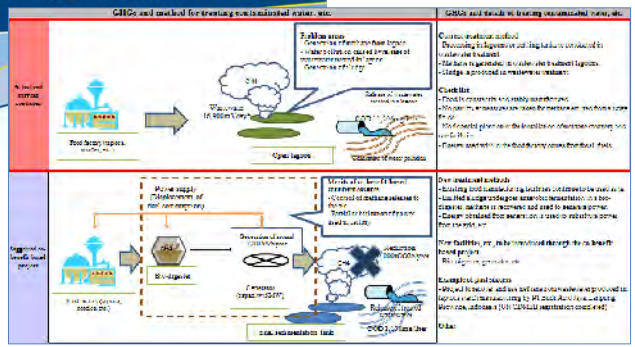
➢Recent forums

First (Nagoya, Japan in 2005)
Second (Yogyakarta, Indonesia in 2006)
Third (Singapore in 2008)
4th (Soul, South Korea in February, 2009)
5th(Bangkok, Thailand, 2010)

Potential Finding Tool for Co-Benefits



(Japanese, English & Chinese)



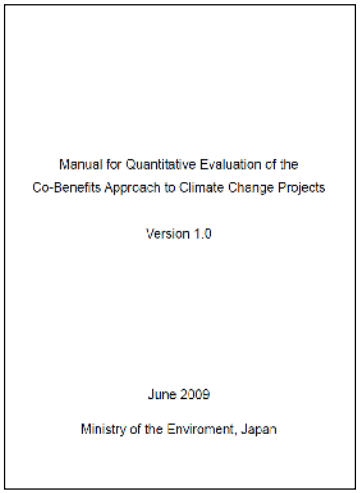
The pictures and the charts show the effects of GHG emissions and the benefits of contaminant mitigation to compare before and after the project.

Manual for Quantitative Evaluation of the Co-Benefits Approach to Climate Change

The Manual…

- Provides quantified and simple methods to evaluate effectiveness of Co-benefits, including environmental pollution improvement and GHG mitigation measures
- Promotes public/private entities to implement effective CDM projects with Co-benefits Approach

www.kyomecha.org/cobene/e/tools.html


Manual for Quantitative Evaluation of the
Co-Benefits Approach to Climate Change Projects

Version 1.0

June 2009

Ministry of the Enviroment, Japan

Evaluation Manual

Manual for Quantitative Evaluation of the Co-benefits Approach to Climate Change Projects

For what

- **To show qualitative methods to evaluate benefits of projects**
- **To meet measurable, reportable, and verifiable (MRV) actions required internationally.**

Objective

- **To encourage businesses to promote CDM projects with co-benefits approach.**

Effect

- **To contribution to sustainable development in host countries.**

Asian Co-Benefits Partnership

■The Asian Co-benefits Partnership will serve as an informal and interactive platform to improve information sharing and stakeholder coordination on co-benefits in Asia. The Partnership is planned to be launched in November 2010.

Envisioned outcomes of the Partnership

Knowledge base on co-benefits have been established to improved and disseminated to various stakeholders in Asia, especially to policymakers.

Effective communication structures on co-benefits have been created which include all major organizations and initiatives promoting a co-benefits approach

The Ultimate Goal is to support the mainstreaming of co-benefits into sectoral development plans, policies and projects in Asia

National and sectoral policies in Asia incorporate co-benefits and result in increased number of specific co-benefits projects

Cooperation among countries in Asia for further promotion of mutually-beneficial co-benefits approach/projects has been strengthened

Change for the future.
Change by Japan.
CHALLENGE 25

3. Conclusion

Conclusion

- Enables to reduce greenhouse gas emissions by introducing environmental pollution control measures with the co-benefits approach
- Measures taken are: feasibility studies, joint studies (quantitative evaluation of co-benefits), bilateral projects and capacity building/training
- Japan wishes to cooperate further on the promotion of the co-benefits approach with developing countries, especially in Asia.

The Development of the Carbon Offset Market in Japan and the Institutional Framework for Japan Verified Emission Reduction (J-VER) Scheme

Overseas Environmental Cooperation Center, Japan (OECC)

Makoto Kato

1. Japan's Carbon Offset Market

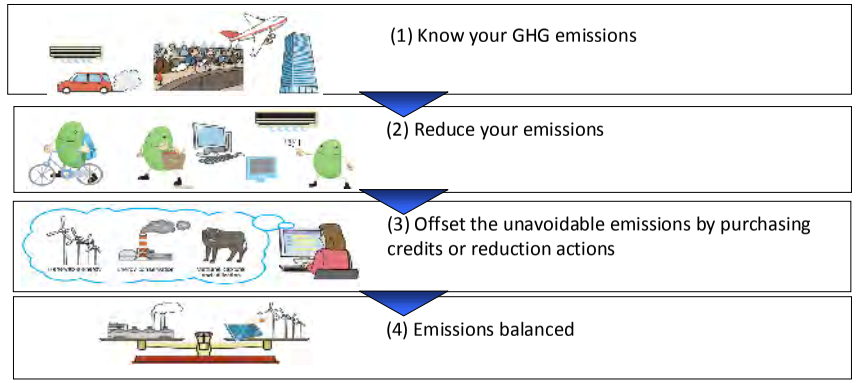
Outline

1. Japan's Carbon Offset Market
2. Institutional Framework for Japan Verified Emission Reduction (J-VER) Scheme)
3. Trends of J-VER Projects and Credit Issuance
4. Recent Case of Carbon Offsetting –CBD COP 10 (in combination of J-VER)

What is Carbon Offsetting?

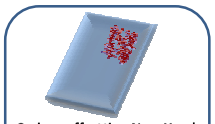
Carbon offsetting is defined as: (1) first knowing your GHG emissions, (2) then making efforts to reduce the emissions, (3) offsetting unavoidable emissions by purchasing GHG reduction credits or undertaking reduction activities.

The benefit of carbon offsetting includes:
(1)Promotion of proactive GHG reduction activities by companies and citizens;
(2)Shifting the corporate activities and lifestyles towards low-carbon society by visualizing the cost of GHG emission;
(3)Providing funds to GHG reduction/removal activities both domestically and abroad.



Examples of Carbon Offsetting

As of the end of Oct0ber 2010, there are over more than 1000 offsetting products & services, events or other initiatives in the carbon offsetting business in Japan (according to the press).



Carbon offsetting New Year's cards

Help the purchasers to offset their CO_2 emissions

Carbon offset tours

Offset CO_2 emissions from transportation (including airplanes) by additionally paying for credits

Carbon offset gasoline

Offset CO_2 emissions from consumer vehicle use

Offsetting conferences, e.g. Hokkaido Toyako G8 Summit (July 2008)

Offsetting sporting events

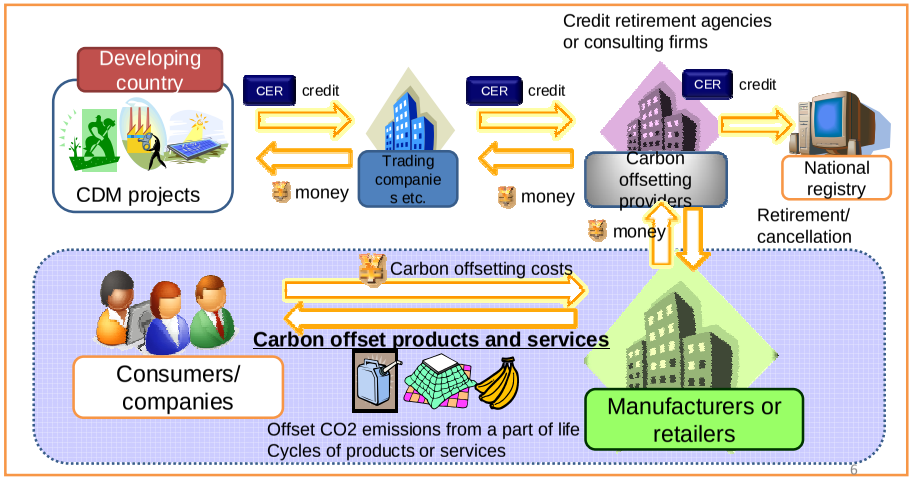
e.g. FIFA World Cup Germany

Offset GHG emissions from daily life

e.g. Offsetting CO_2 emissions from electricity consumption

How carbon offsetting works

This chart illustrates an offset scheme where the GHG emission from the production or use of products or services are offset by purchasing Certified Emission Reduction (CER).



MOE's Initiatives on Carbon Offsetting

① General guidance: Guidelines for Carbon Offsetting (February 2008)

② Publicity
- Establishment of Carbon Offset Forum (J-COF) to provide information and provide a help desk service. (April 2008)
- Cooperate with Carbon Offsetting Network (CO-Net) of companies that encourage carbon offsetting. (Since April 2009)
- Model projects to promote advanced carbon offsetting activities. (8 models adopted in September 2009)

③ Enhancing credibility
- Establish guidelines for calculating GHG emissions of activities to be offset, and guidelines on information provision on carbon offsetting. (Oct. 2008)
- Third Party Certification (Labelling) Standards for carbon offsetting. (Since March 2009)

④ Establishing credible emission credits for offsetting: Japanese Verified Emissions Reduction Scheme (J-VER) (Since November 2008)

⑤ International cooperation: Statement of Cooperation by DEFRA, UK and MOE, Japan on information exchange regarding carbon footprints and offsetting. (September 2008)

Carbon offsetting certification label

Promote and secure credibility of carbon offsetting

Guidelines for Carbon Offsetting in Japan

- Expert Group met five times since September 2007.
- Reviewed examples in Japan and abroad, as well as policies of foreign governments.
- After public commenting, published guidelines for carbon offsetting in February 2008.

Contents of the guidelines

Rationale of carbon offsetting:
- Promote voluntary emission reduction activities by citizens and companies.
- Contribute to raising funds for domestic & overseas projects to reduce or remove GHG and to achieve sustainable development.

Challenges in carbon offsetting
- Raising awareness, encouraging offset activities, and broadening markets
- Build credibility for carbon offsetting:
  1. Calculate GHG emissions to be offset accurately.
  2. Ensure the certainty and permanency of emissions reduction/sink which produce credits.
  3. Calculate emissions reduction/sink which produce credits.
  4. Avoid double-counting of the credits.
  5. Ensure transparency of the activities of carbon offsetting providers.
  6. Share awareness that carbon offsetting does not justify taking no action to reduce own GHG emissions.

Carbon Offsetting Certification Scheme

Scheme was launched by the Certification Center on Climate Change, Japan in April 2009.
30 projects have been certified by February 2010.

Purpose

To promote awareness of implementing carbon offsetting and build a fair market.

Requirements

① **Awareness of emissions**
Calculation methods (e.g. guidelines for calculation, carbon footprint, etc.)
Collection of various data, etc.

② **Carrying out reduction efforts**
Comply with the law (e.g. Global Warming Act), efforts to reduce emissions of target activities

③ **Purchase of credits for offsetting**
Types of credit (CER, J-VER, JPA, etc.), contracts related to credit purchase, etc.

④ **Compensation for emissions**
Handling credits vs. offset volume, methods of invalidating credits

⑤ **Provide information**
Information Provision Guidelines, etc.

Labeling

Issue label for projects approved by certification committee.

Safety Offsetting Provider Scheme

In this scheme, the Certification Center on Climate Change Japan periodically checks the offset providers' appropriate handling of credits, and discloses the information on a website. This ensures ongoing transparency and credibility to companies and consumers.

By using the providers who participate in this scheme, companies gain advantage in terms of period and cost for applying the certification scheme.

(As of October, 2009)

What is a Carbon Offsetting Provider?

In the guidelines established by MOE, it is defined as "firms that provide credits and consulting services when citizens or companies plan carbon offsetting."

A4-26

Carbon Offset Network (CO-Net)

What is CO-Net?

CO-Net is a **network mainly of businesses.** Its purpose is to recognize carbon offsetting as an effective means of vitalizing Japan's transition to a low-carbon society, and to ensure sustained, constructive activities for popularizing and promoting carbon offsetting.

Companies in the Council (In alphabetical order)

◆Aeon Retail Co., Ltd.
◆All Nippon Airways Co., Ltd.
◆Asahi Kasei Corporation
◆Dentsu Inc.
◆DOWA Holdings Co., Ltd.
◆Japan Post Service Co., Ltd.
◆Kajima Corporation
◆Lawson
◆Marubeni Corporation
◆Mitsubishi UFJ Trust and Banking Corporation
◆ORIX Corporation
◆Sompo Japan Insurance Inc.
◆Sony Corporation
◆Suzuyo Holdings & Co., Ltd.
◆Tokyo Electric Power Company

Administrative companies (In alphabetical order)

●Deloitte Tohmatsu Evaluation and Certification Organization Co. Ltd.
●Mitsubishi UFJ Research and Consulting Co., Ltd.

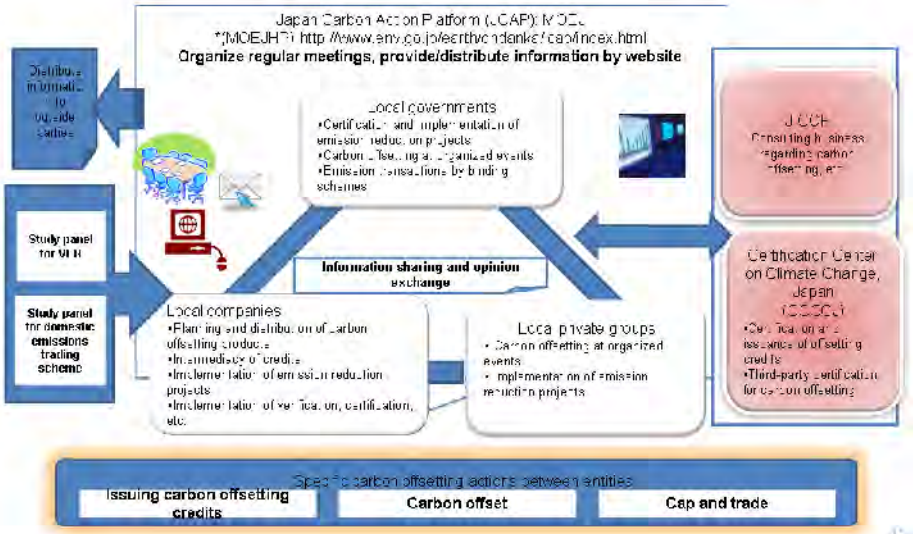
*85 participants (October 2010)

(Principal CO-Net businesses and activities)

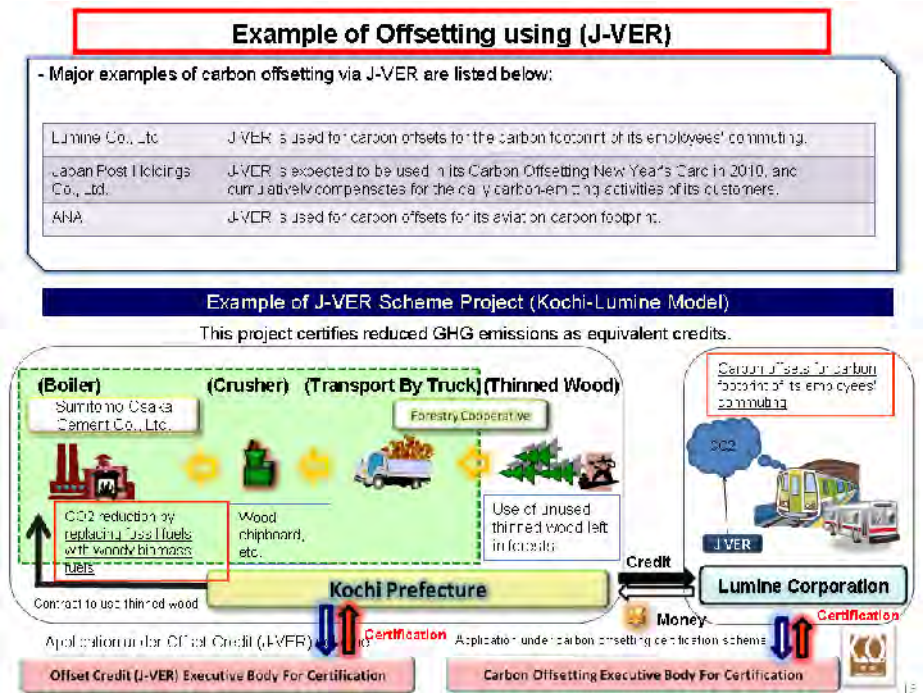
・Collaboration with other schemes and proposals for expanding the use of carbon offsetting
・Insistence on boosting and forming markets related to carbon offsetting efforts
・Development of carbon offsetting products and services as well as support for improving reliability
・Creation of projects to generate highly reliable carbon credits for GHG reduction/removal by sinks and support for project utilization

Contact:
・Carbon Offset Network Office (inside Overseas Environmental Cooperation Center)
・TEL: 03-5472-0144 e-mail: info@carbonoffset-network.jp
・Website: http://www.carbonoffset-network.jp/

Japan Carbon Action Platform (JCAP)



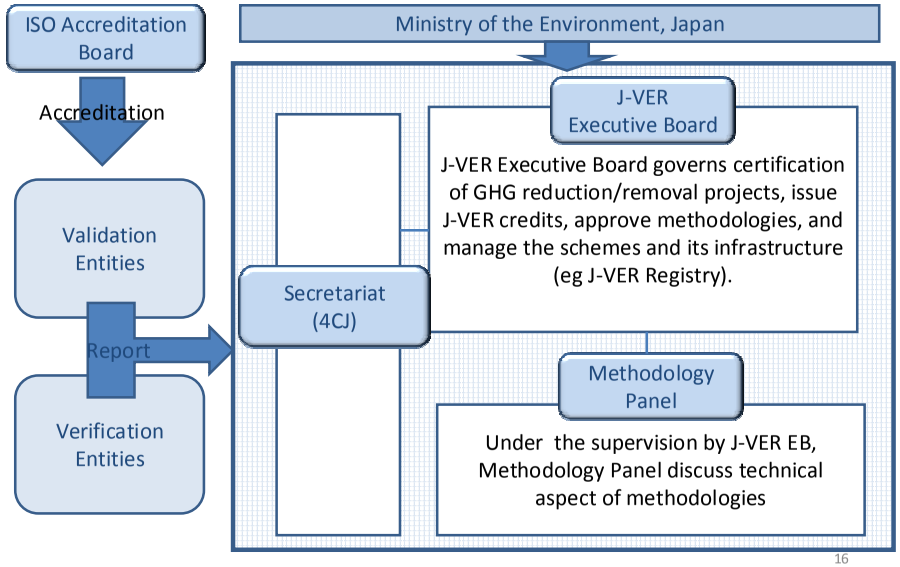
2. Institutional Framework for Japan Verified Emission Reduction (J-VER) Scheme)

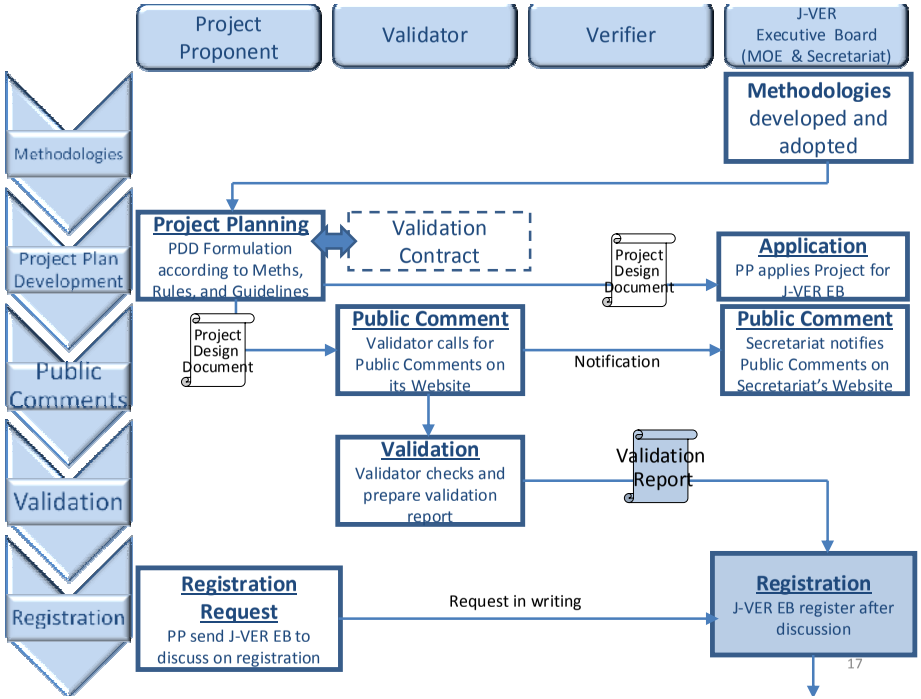


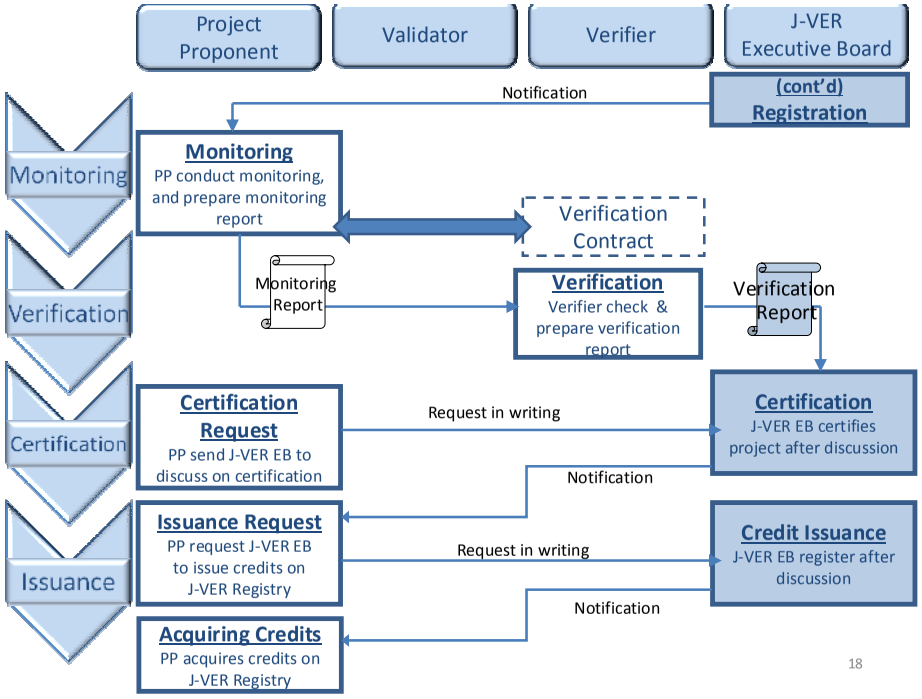
Japan Verified Emission Reduction (J-VER)

- Established by the Ministry of the Environment, Japan (MOEJ) in order to facilitate domestic emission reduction/removal projects, which generates carbon credits with higher quality to be used for carbon offsetting and others.
- To meet this purpose, the Protocol is designed based on ISO-14064-2, 3 and I4065, and validators and verifiers under the scheme must be accredited by ISO Accredited (Japan Accreditation Board etc)
- The J-VER Rule (principal rule) highlights Relevance, Completeness, Consistency, Accuracy , Transparency, and Conservativeness.
- The Secretariat is hosted by the Certification Center on Climate Change , Japan (4CJ), designated by the MOEJ.

J-VER Executive Board







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Positive List

- J-VER Schemes covers emission reduction/removal activities on Positive List, in which J-VER Scheme owner decides eligibility of such activities a priori.
- Those activities on the Positive List covers J-VER methodologies of GHG emission reduction/removal calculation

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J-VER Methodologies

	Methodologies
E-001	Fuel switch from fossil fuels to unutilized wooden biomass
E-002	Fuel switch from fossil fuels to unutilized wooden pellet
E-003	Wooden pellet use
E-004	Utilization of waste cooking oil for BDF for vehicles etc.
E-005	Collection and utilization of low heat
E-006	Use of firewood in firewood stoves
E-007	Energy efficiency Improvement in shipping activities with ICT technology
E-008	Energy efficiency Improvement in meter-reading activities with ICT technology
E-010	Upgrade of lighting facilities
E-011	Upgrade of boiler
E-012	Upgrading of compressor in air conditioner
E-013	Energy efficiency by introducing free cooling and outside air
E-014	Upgrade of irons

20

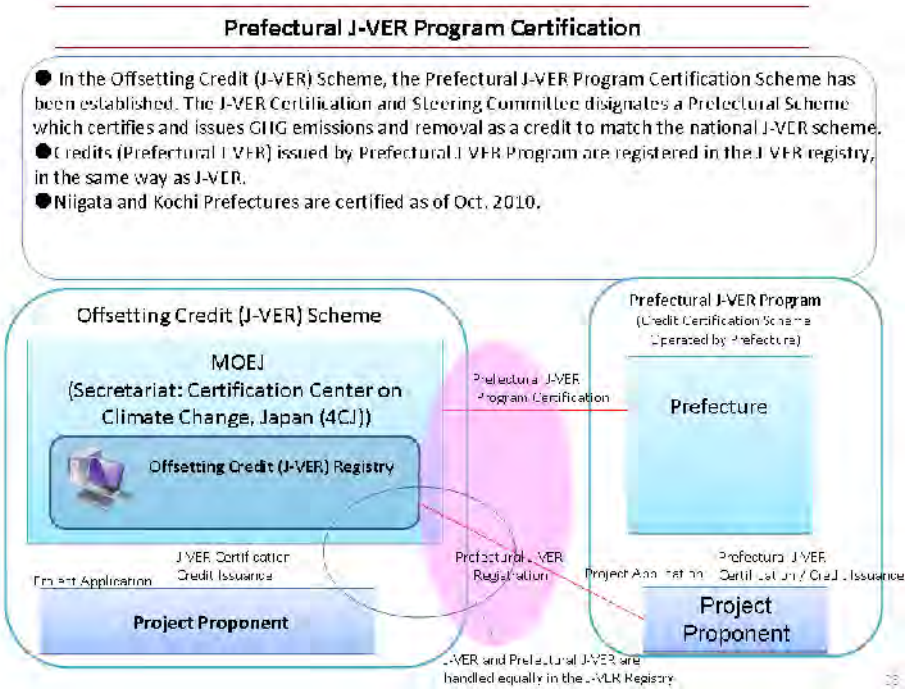
J-VER Methodologies

	Methodologies
E-015	Small scale hydroelectricity generation
E-016	Introduction of co-generation system
E-017	Replacement of fans and pumps, and/or introduction of inverter control system or facility number control system
E-018	Fuel switch from fossil fuel to biogas with waste origin (Heat or electricity supply)
E-019	Introduction of heat pump
E-020	Production and use of Refuse Paper & Plastic Fuel (RPF)
E-021	Use of oilified or gassified fuels through thermal deconposition
E-022	Use of recovered heat from waste by waste processing facilities
R-001	Enhancement of CO2 sequestration by forest management (thinning project)
R-002	Enhancement of CO2 sequestration by forest management (Sustainable Forest Management project)
R-003	CO2 sequestration by planning trees
L-001	N2O avoidance from swine manure by introducing low protein fodder

Rules and Guidelines

- J-VER Rule
- Positive List
- Methodologies
- Monitoring Guidelines
  (Emissions Reduction, and Removal, respectively)
- Validation/Verification Guidelines

Available in Japanese at http://www.4cj.org/jver/system_doc/index.html

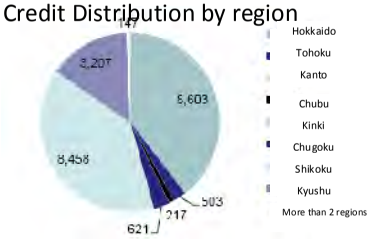


3. Trends of J-VER Projects and Credit Issuance

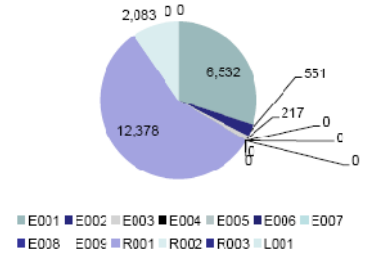
Trends of J-VER Projects and Credit Issuance

Trends of Credit Issuance(cumulative)

Credit Distribution by region



Credit Distribution by Methodologies

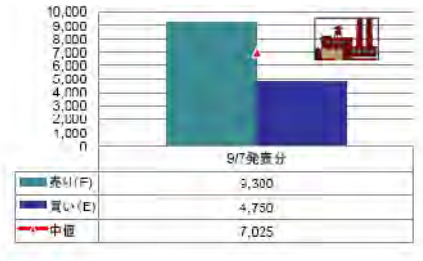


Source: Report Carbon Offset Forum (J-COF) as of Sept 2010

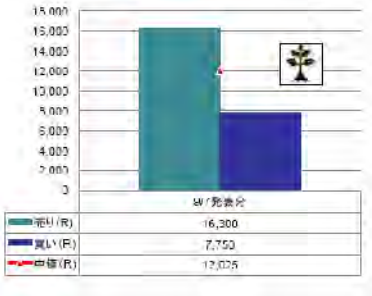
Price of J-VER Credits

J-VER credits are exchanged mostly in CSR markets, and actual price range is 5,000 to 30,000 JPY.

Emission Reduction Projects



Removal (Forest) Projects



Source: Report by Japan Carbon Offset Forum (J-COF) as of Sept2010

A4-30

4. Recent Case of Carbon Offsetting –CBD COP 10 (in combination of J-VER)

Basic Concept of “Greening” COP10/MOP5

- Actions to reduce Greenhouse Gases (GHG)
  - COP10/MOP5 integrated climate change mitigation measures
    - Climate change can affect ecosystem and biodiversity
    - Practice to reduce GHG has come to be common in organizing conferences, with governmental guidelines and methodologies
- Contents of Actions
  - Minimizing conference’s negative environmental impacts
    - Participatory approach involving conference participants and the local support committee
    - Measures to promote Energy Efficiency, Resource Management, Green Purchase, Public Transport, and 3R
  - Offsetting GHG emission by organizing COP10/MOP5
    - Estimation of GHG emission amount
    - Carbon Offset following GOJ’s guidelines and methods
  - Review of overall efforts
    - Internal review
    - Publicizing the results

Minimizing Negative Impacts : Electricity/ Transport

PV Panel at Local Residence generating RECs
(Aichi Carbon Offsetting Association)

- Electricity
  - ➢ Renewable Electricity Certificates (RECs)

    RECs generated with Photovoltaic Panel(PV) at local residence in Aichi-Nagoya
  - ➢ Solar Power Use

    Nagoya City provides COP10/MOP5 with PV Panels in order to introduce solar power electricity.

- Transport
  - ➢ Greening CBD Secretariat's transportation by providing Fuel-cell vehicles and Plug-in Hybrid vehicles
  - ➢ Greening participants transportation

    Local support committee distributed Subway free-ride pass to participants in order to promote the use of public transport.

Minimizing Environmental Negative Impacts : Green Purchase

- COP10/MOP5 introduced Green purchase prioritizing goods and services with least negative environmental impacts
  - ➢ Purchase by COP10/MOP5
  - ➢ Calling for participation by service providers to design green action plans
  - ➢ Use of thinned wood products in COP10/MOP5

Party flag made with hinned wood , bench , and desk
(CBD COP10 Support Committee)

Minimizing Negative Environmental Impacts : 3R

- **3R : 3 actions to promote efficient resource management**

  Reduce : reducing the generation of waste, Reuse : reusing products
  Recycle : recycling resources
  - **– Goods produced and distributed only for what is needed**
  - **– Trash separated in compliance with the standards of Nagoya. （11-item trash separation）**
  - **– The Skyview Restaurant in Nagoya Congress Center provides an all-you-can-eat buffet so that the participants will only take the food they will eat.**

Minimizing Environmental Negative Impacts : Calling for Participants involvement

- COP10/MOP5 promotes the use of public transport, and implementing measures for energy efficiency, waste-separation by conference participants

Offsetting Greenhouse Gases Emission

- Carbon offset in COP10/MOP5
  - ➢ COP10/MOP5 introduced a plan for carbon offsetting, following examples from G8 Summit and other large-scale conference and GOJ's guidelines.
  - ➢ Plan for Carbon offsetting in COP10/MOP5 acquired "Carbon offset certification" based on the scheme introduced by the Ministry of the Environment, Japan

(Reference)

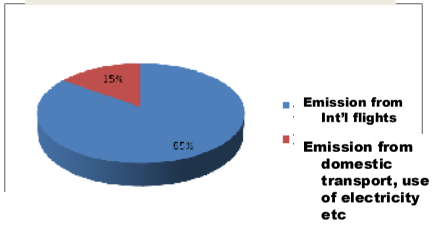
- Guidelines for calculating GHG emissions of activities for carbon offsetting (Ver.1.1) (Japan Carbon Offset Forum : J-COF)
- Guidelines on information provision on carbon offsetting (Ver.1.0) (Japan Carbon Offset Forum : J-COF)
- Case studies of Carbon Offsetting in organizing events (Ver.1.0) (Carbon Offset Network, Japan : CO-Net)
- Manual for of Carbon Offsetting in organizing events (Ver.1.0) (Carbon Offset Network, Japan : CO-Net)

GHG Emissions for offsetting

Sources	Stakeholders	Contents
Transport	Oversea Participants	Oversea airports ⇔ airports in Japan (Flight)
		Airports in Japan⇔ Aichi–Nagoya (Flight)
		KIX⇔Nagoya Sta. (Rail)
	Domestic Participants	Other cities⇔ Nagoya (Flight & Rail)
Accommodation	Participants & Local Committee	Hotels around Conference Site
Utility	Conference Site Operator	Use of electricity, gas, and water
Waste	Conference Site Operator/ Restaurants	Waste volume by 11 separation methods
Paper	COP10 Secretariat	Printed materials produced by Secretariat
Secretariat Vehicles	COP10 Secretariat	Vehicle used for Secretariat transport

- Various Emission Sources was examined and will be offset

Break Down by volume
** N.B prior estimation subject to verification*



Selecting Carbon Credits for Offsetting

- CBD COP10/MOP5 Carbon Offset Committee
  - Established for elaborating a policy and plan to purchase carbon credits in an appropriate manner.
- CER&J-VER
  - CER: Certified Emission Reduction, issued by the Executive Board of Clean Development Mechanism, established by the Kyoto Protocol. CER credits are generated from GHG emission reduction projects in developing countries, such as wind power projects
  - J-VER : Japan Verified Emissions Reduction issued by J-VER certification committee established by the Ministry of the Environment, Japan. J-VER credits are generated from domestic GHG emission reduction/sink projects, such as biomass fuel-switch projects
- Purchase Policy
  - CER for GHG emissions from international flights
  - J-VER for GHG emissions from domestic activities
- Special considerations
  - CER : Environmental Integrity (including biodiversity protection)
  - J-VER : Additional benefits such as promotion of biodiversity etc

Selected Projects

- 13 applicants from 22 organizations for J-VER, and 10 applicants for CER (September 17-24, 2010)
- The Committee decided 13 J-VER and 1 CDM Project for the first portion of the purchase plan(26,571 t-CO_2e)
- **NSL 27.65 MW Wind Power Project in Karnataka, India has avoided negative impact on wild species, (eg avoiding migratory birds migration areas)**

Carbon Credits	Project Name	Amount (t-CO_2e)	Providers
J-VER	Sumitomo Forestry co. ltd Project I (Miyazaki Yamase District)	800	Sumitomo Forestry co. ltd
	Forest Township Project (Cooperation project by the thinning activity supporters companies and Iwate Iwaizumi/Kuzumaki Towns)	486	Mitsubishi UFJ Lease & Finance Company ltd
	Forest Sink Project in Tokushima Pref. Naka Towm	183	Advantec co .ltd
	Monbetsu City Thinning Promotion Forest Project	200	Monbetsu City
	Kochi Prefecture Wood-biomass Utilization Project B	200	Kochi Prefecture
	Yusuhara Town Biomass-resource Circulation Project	200	Yusuhara Town
	Mie Prefecture Odai Town Miyagaya River Sustainable Forestry Project	217	Mie Prefecture Odai Town
	Kumamoto Pref Oguni Town Thinning Project	100	more trees
	KamikoaniVillage J-VER project for North Akita Local Revitalization	50	Green Plus co. td.
	Tottori Prefectural Forest J-VER Project	55	Tottori Prefecture
	Morotsuka Village Carbon Sink Forestry Project	60	Morotsuka Village
	Hokkaido 4 cities Collaboration Thinning Forestry Project	10	Forest Biomass-Sink Promotion Association
	Niigata Prefecture Sado Toki Forest Project	10	Niigata Prefectural Forest Corporation
CER	NSL 27.65 MW Wind Power Project in Karnataka, India	24,000	Daiwa Securities Capital Markets

J-VER Projects in Japan : Toki's Forest Credit

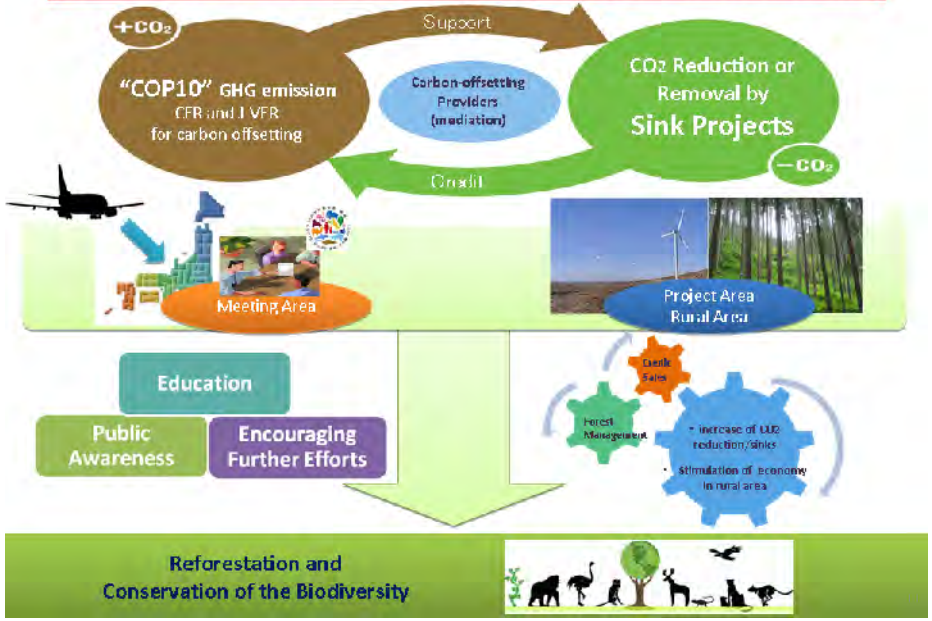
Project
Type: Forest Management Project (Shelterwooding)
Location: Sado Citym Niigata pref.
Credit (estimated) :6,337 [tCO2/year]

Key Words
Forest Management (Shelterwooding)
Conservation of Toki's habitat areas
Mitigation of Climate Change

Overview
As a consequence of increasing GHG emissions in Niigata prefecture, addressing GHG emissions reduction is becoming important. "Toki's forest credit" is a offset credit sold in Niigata prefecture in order to re-build the natural habitat of the Toki bird. The Toki bird is an internationally protected and were released on 2008 in Niigata. The credit is issued by the Execution Emission Reduction Project which is one of the Forest Management Project focusing on thinning in all of Niigata prefecture. Through the off-setting scheme, target companies purchase the credits and funds to be put back into the forest management project in Niigata prefecture.

Contact information: Niigata Agricultural and Forestry Public Corporation (TEL:+81-(0)25-285-7711) Hikima

COP10 Carbon Offset supports Better Environment



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Thank you for your attention.

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