FY2012 Research & Study Project for Development Assistance
Research & Study on the State of Market Mechanisms in the World
Summary of Research Report

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Mizuho Information & Research Institute, Inc.

1 Background and objective of this research

Global warming/climate change is an urgent global issue, and governments are expected to work on greenhouse gas (GHG) emission reductions, getting private sector involved while ensuring economic growth. For promoting such public-private collaboration, market mechanism based on economic incentive needs to be developed and facilitated under international cooperation.

In this context, Japan has made a proposal in international climate talks aiming to create new market mechanisms, in addition to the conventional ones such as Kyoto Mechanism including Joint Implementation (JI) and Clean Development Mechanism (CDM). Specifically, bilateral Joint Crediting Mechanism (JCM) and East Asia Low Carbon Partnership for multilateral market mechanism of the East Asia Summit (EAS) nations are proposed in Japan's statement for COP17 in 2011, titled as "Japan's Vision and Actions toward Low-Carbon Growth and a Climate-Resilient World."

This research/study is conducted in a following process: (1) overview current status of market mechanisms in major countries or regions, (2) discuss relevance between JCM and existing mechanisms in overseas countries or regions, and (3) consider potential for development of a market mechanism under the East Asia Low Carbon Partnership, making a proposal to conclude this report.

2 Current status of market mechanisms in major countries and regions

Current status of market mechanisms in EAS member countries, EU and Norway are reviewed in this research. The following table shows a classification of these mechanisms by UNFCCC status (Annex I/non-Annex I) and type of market mechanism (cap-and-trade (C&T), baseline-and-credit (B&C) or both).

UNFCCC	Type of market mechanism	Relevant country/region
Annex I country	C&T only	EU, Norway, California (US), RGGI participating states (US)
	B&C only	None
	C&T & B&C	Japan, Australia, New Zealand
Non-Annex I country	C&T only	South Korea (2015-), Beijing City (China), Hubei Province (China, 2013-), Shanghai City (China, 2013-), Tianjin City (China, 2013-)
	B&C only	Guangdong province (China), Thailand (2013-), Indonesia (under consideration)
	C&T & B&C	None
	Other/unknown	India, Russia (under consideration)
	No mechanism	Viet Nam, Lao PDR, Myanmar, Cambodia

3 Relevance of overseas market mechanisms and Japan's proposed JCM

Linkage under the JCM tying up with existing market mechanisms can be classified into six patterns, depending on combination of (1) if or not a host country introduces a regulation (or target) to reduce absolute emissions, and (2) type of existing market mechanism (C&T, B&C or both). Features of each linkage pattern are organized in the table below, evaluating explanatory adequacy in international negotiation and potential for bilateral agreement while giving similar examples from existing schemes.

Regulation for absolute emissions	Type of market mechanism	Explanatory adequacy in international negotiation	Potential for bilateral agreement	Example of existing scheme
with regulation (or target) for absolute emission reduction	C&T	moderate (absolute emission reduction is secured; not project-based)	low (number of potential host countries is limited)	Green Investment Scheme (GIS)
	B&C	high (project-based; absolute emission reduction is secured)	low (large burden on host countries)	JI Track 1
	C&T & B&C	high (project-based; absolute emission reduction is secured)	low (large burden on host countries)	International emissions trading and JI
without regulation (or target) for absolute emission reduction	C&T	moderate (project-based; absolute emission reduction is secured for sector)	moderate (limited burden on host countries)	NA
	B&C	low (adequacy of emission reduction needs to be proved)	high (no burden on host country)	CDM Current JCM
	C&T & B&C	low (B&C may hinder validity of absolute emission reduction under C&T)	moderate (limited burden on host countries)	NA

As shown in the table, there is trade-off between securing adequacy of emission reduction and possibility to reach agreement with host countries, and the biggest challenge for linkage of market mechanisms under the JCM is to overcome such trade-off relationship. In this sense, "linkage with C&T of a country that does not regulate absolute emissions" may provide a clue to clear the hurdle depending on direction of scheme design. Therefore, this report proposes a voluntary emissions trading scheme (VETS) based on this pattern, which allows host country to control absolute emissions but does not require a large-scale, nationwide or sector-wide regulation for absolute emission reductions, as described below.

<Outline of this proposal>

- A type of JCM in which operators from Japan and host country jointly participate in voluntary ETS conducted in host country, working together to meet target of the host country operator.
- Participants from both countries set a target (cap) on emissions of the host country operator, and submit it to Joint Committee (JC) to have a registration. Those participants of both sides jointly make a pledge to meet this target to the JC.
- Host country government allocates emission permits (equivalent to JC-registered target) to the host country operator at the time of participation. Upon expiration of participation period, the operator retires emission permits equivalent to actual emissions over the term to the host country government.
- Government of Japan provides subsidies to Japanese operators to participate in the scheme. The operators may utilize the subsidies in various forms to support host country operator to meet the target.
- When target is met at expiring participation period, remaining volume in emission permits is handled as JCM credits. In contrast, for excess emissions under non-compliance status, participants from both countries purchase additional permits from host country government to offset the excesses.

<Objective and points of this proposal>

- This scheme aims to encourage individual emitters in host country to set a voluntary target for absolute emission reductions, as persuading host country to introduce a national absolute target would be rather difficult.
- Target is nominally voluntary but practically mandate, as it requires offsetting excess emissions in case of non-compliance. Nevertheless, such obligation virtually goes to Japanese participants, which may lower a hurdle for host country operators to participate in the scheme.
- Benefit to host country: This scheme helps participants introduce low-carbon technologies at a low cost with supports from Japanese participants, which generates revenue for host country government from non-compliant operators.
- Benefit to Japan: this scheme provides participants a way to export their products and technologies to developing countries by using government subsidies. For the Government, credits can be obtained through assistance for Japanese companies to develop overseas business activities.

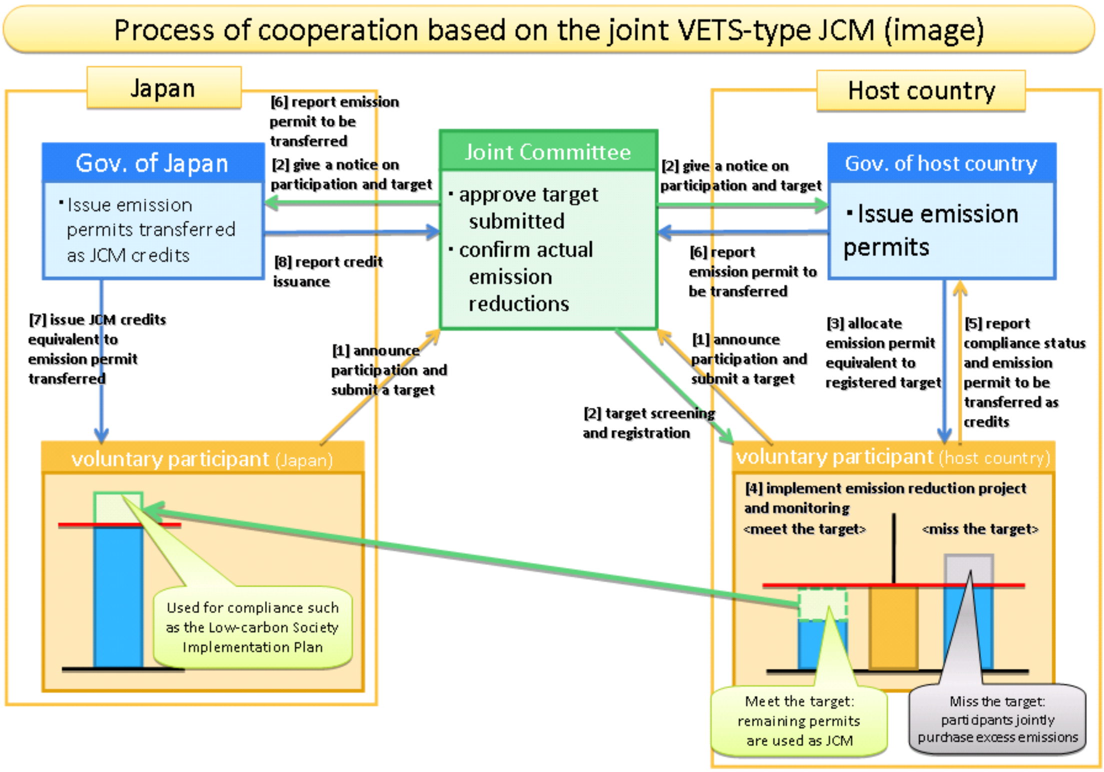

Figure: Process of cooperation based on the joint VETS-type JCM (image)

4 Potential for establishing a market mechanism under the East Asia Low Carbon Partnership

Options for multilateral linkage other than JCM are considered as an EAS-specific market mechanism, based on three patterns for C&T and B&C linkage, as shown in the table below.

Linkage pattern		**C&T + C&T**
Image of scheme linkage		・Introducing a common multilateral C&T (e.g., EU-ETS, Annex I countries under the Kyoto Protocol) ・Allowances are tradable between schemes. (e.g., linkage of EU-ETS and Australian ETS)
Feature	Taking Japan's initiative (influence on other parties)	high (involving in cap setting in other countries)
	Utilizing emission reduction potential in other countries at lower cost	low (emission allowances are relatively expensive)
	Promoting technological transfer	low (depending on direction of scheme design?)
	Feasibility	low (scheme design and consensus-building are necessary to get involved in cap setting.)
Linkage pattern		**C&T + B&C**
Image of scheme linkage		・B&C credits can be used for C&T compliance. (e.g., EU-ETS and CDM, Japan's Kyoto target and CDM)
Feature	Taking Japan's initiative (influence on other parties)	low (indirect influence on other countries' scheme design process)
	Utilizing emission reduction potential in other countries at lower cost	high (credit prices are relatively cheap.)

	Promoting technological transfer	low (depending on direction of scheme design?)
	Feasibility	high (the country conducts scheme design on its own.)
Linkage pattern		**B&C + B&C**
Image of scheme linkage		・Introducing a common multilateral B&C (e.g., CDM) ・Credits are tradable between schemes. (e.g., linkage of EU-ETS and Australian ETS)
Feature	Taking Japan's initiative (influence on other parties)	moderate (involving in B&C scheme design process in other countries)
	Utilizing emission reduction potential in other countries at lower cost	high (credit prices are relatively cheap.)
	Promoting technological transfer	low (depending on direction of scheme design?)
	Feasibility	low (needs to adjust other B&C schemes.)

Considering that "C&T+B&C" would be most feasible in the three patterns, a new scheme based on the "C&T+B&C" pattern is proposed, as described below.

1） East Asia Low Carbon Partnership Fund (provisional title)

（1-1） Review of issues under CDM and JI – discovery type and open-application type –

CDM and Japan's proposed JCM can be classified into "discovery type" scheme which is launched under initiative of a developed country that discovers emission reduction activities to select projects for investment (as a source of credits). This type often fails to utilize project funds in a more cost efficient manner over a larger area (e.g., across host country or East Asia), because of the lack of competition principle between projects.

On the other hand, "open-application type" scheme where a funding source selects projects from numbers of candidates applied for funding, like Russia's public tenders for JI Track 1, may provide funds to more cost-efficient projects.

In this context, a fund-based scheme is discussed as an "open-application" type scheme under the EAS, supplementing JCM while providing a lot more options for investment decisions.

（1-2） example: fund-based scheme

This scheme conducts investment to more cost-efficient emission reduction projects through establishing a fund that provides funding and issues credits. Emission reductions from such projects, conducted in other countries, are counted as Japan's emission reduction, which also contributes to low-carbon growth in the East Asia region. Points of this scheme are as listed below:

- "Open-application type" scheme provides wider options to select more cost-efficient projects. (injecting investments from Japan or other developed countries into projects with higher cost-effectiveness.)
- Emission reductions in other countries can be counted as Japan's emission reductions.
- This scheme does not overlap with CDM and JCM, but rather complement those schemes.
- Administration cost can be reduced as no need for scheme adjustment by country, unlike JCM.

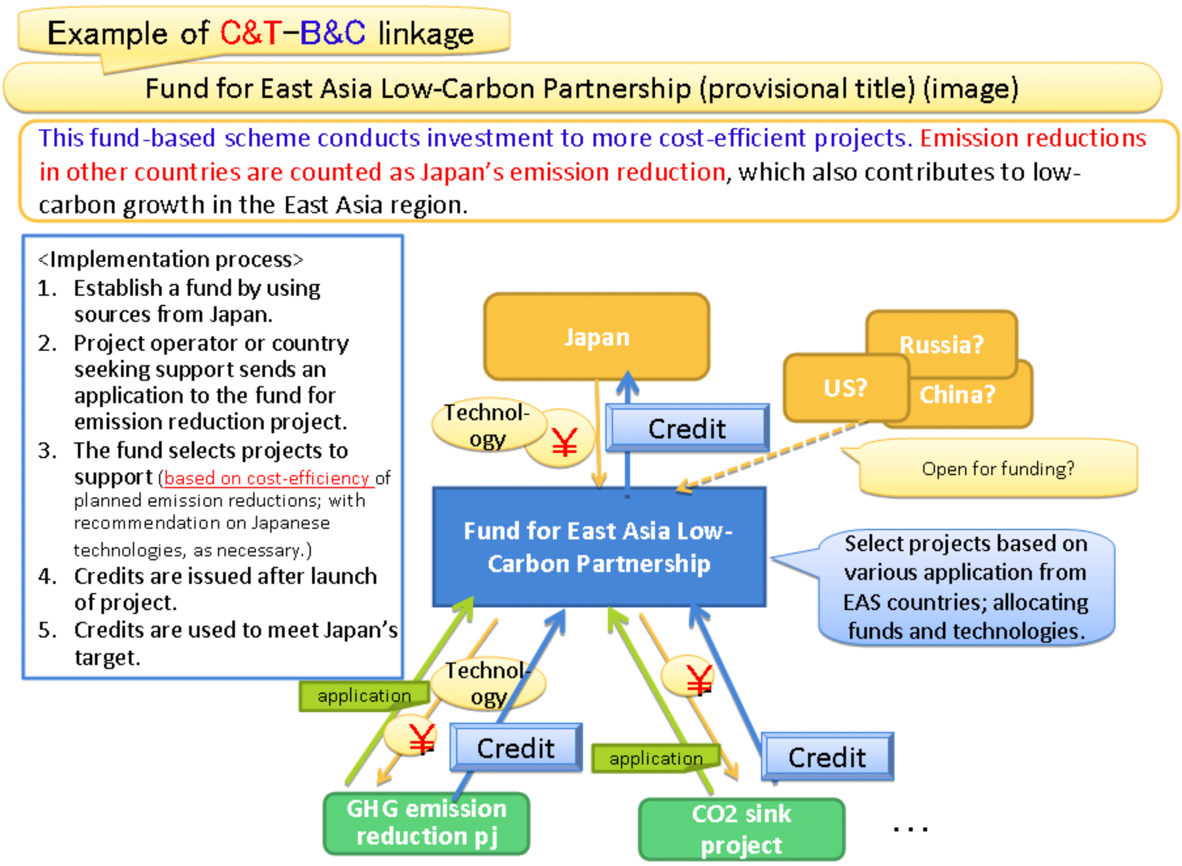

Figure: Fund for East Asia Low-Carbon Partnership (provisional title) (image)

2）Cooperation under the Fund for East Asia Low-Carbon Partnership (provisional title) (without crediting mechanism)

（2-1）Review of issues under CDM and JCM – crediting and MRV –

Under schemes with "crediting mechanism" in precondition, such as CDM, JCM and the fund-based scheme mentioned above, project types such as capacity building, promotion/campaign and technological development are often out of scheme coverage due to difficulties in quantifying emission reductions.

Even projects that have quantifiable emission reductions, big issues remain for how to evaluate emission reductions in terms of baseline setting and MRV method. Moreover, if incorporating crediting mechanism into a project as precondition for compliance under the Cancun Agreement, double-counting issue would be unavoidable. These complexities may require operators more time to complete scheme design or could exclude certain sectors from the scheme.

On the other hand, scaling up of financial flow is an urgent need in order to strengthen climate actions to stop global warming,

Therefore, a new scheme without crediting mechanism needs to be developed to promote climate activities while expanding coverage of project types.

（1-2）Example of scheme: fund-based scheme (without crediting mechanism)

This scheme aims to accelerate flows of funding and technologies to promote low-carbon growth in East Asia, through establishing a fund that provides financial/technological supports. Crediting mechanism is not included in this scheme so as to be applicable to wider range of project types, such as promotion/campaign activities with indirect reduction effects or profitable (i.e., no additionality) projects.

Discussions under CDM and JCM can be explained as how to generate credits with which developed countries meet emission reduction targets: in other words, discussion on "mitigation." However, not only "mitigation" but also "adaptation," "financing" and "technological transfer" are also pillars of actions against climate change. This scheme focuses on such dimension to facilitate Japan's initiative for low-carbon growth in EAS regions. Points of this scheme are as listed below:

➢ A scheme with no crediting mechanism aims to expand coverage of project types as well as accelerating flows of funding and technologies.

- Avoiding double-counting issue (which may provide an incentive to partner countries to participate in this scheme)
- "Open-application type" scheme provides wider options to select higher cost-efficient projects (injecting investments from Japan or other developed countries into projects with higher cost-effectiveness.)
- This scheme does not overlap with CDM and JCM, but rather complement those schemes.
- Administration cost can be reduced as no need for scheme adjustment by country, unlike JCM.
- An approach to promote "financing" and "technological transfer" to developing countries, rather than "mitigation."

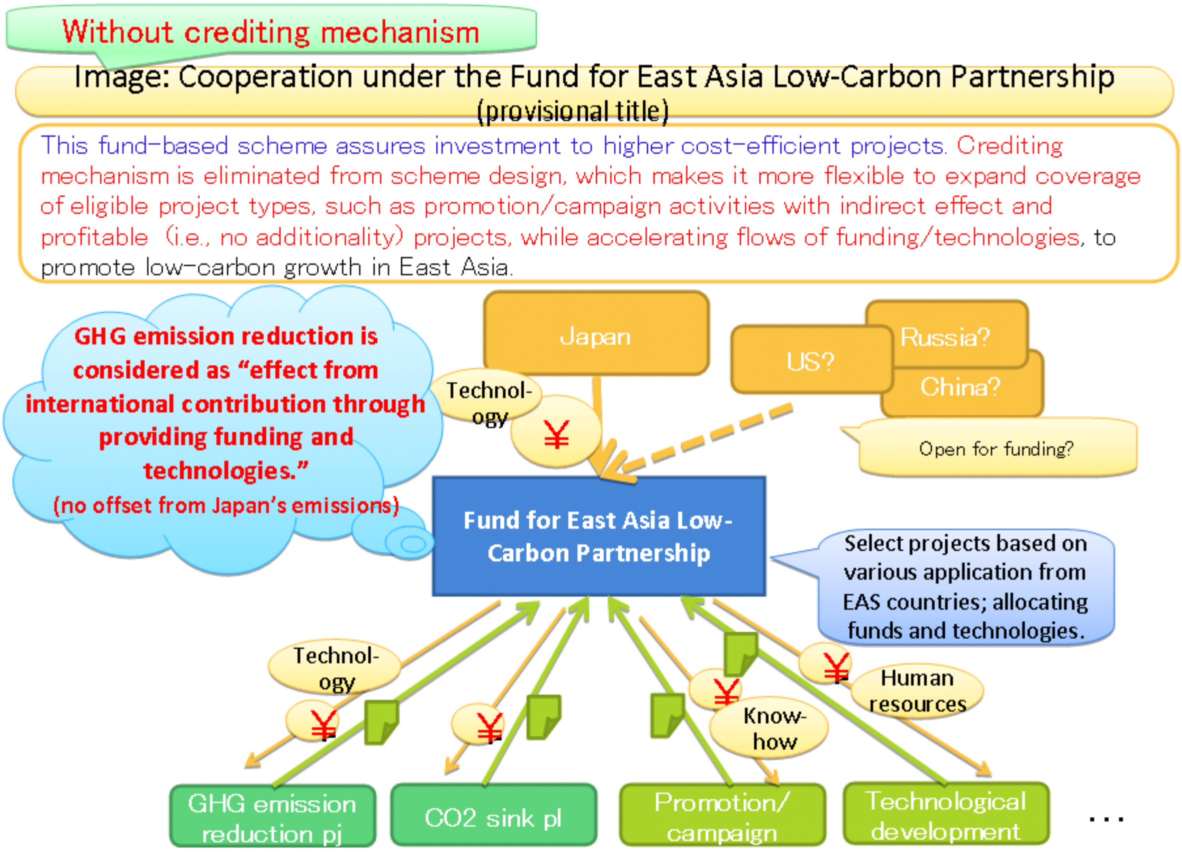

Figure: Fund for East Asia Low-Carbon Partnership (provisional title), without crediting mechanism (image)