



Author:
Ms. Rie WATANABE
Policy Researcher,
IGES Climate Policy Project
watanabe@iges.or.jp

Foreign Carbon Credit Purchasing Options Open to Japan to Achieve the Kyoto Target

Rie Watanabe

The Kyoto Protocol, adopted in 1997, committed industrialised countries to accept legally-binding targets to reduce greenhouse gas (GHG) emissions collectively by an average of 5% below 1990 levels in the first commitment period from 2008 to 2012. According to the latest report by the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat in May 2006*, the total emissions of industrialised countries that ratified the Kyoto Protocol had decreased by 6.2% in 2003 relative to the 1990 level – which means that the reduction targets for industrialised countries as a whole appear achievable. However, individual parties, including Japan and some EU member states, currently seem unlikely to meet their targets.

The Kyoto Target Achievement Plan (KTAP) adopted by the Japanese government in April 2005 estimates that the 2010 GHG emissions will be 6% higher than the 1990 level with existing policies and measures. Therefore it is necessary to reduce emissions by 12% in order to achieve the target of 6% below the 1990 level. Of the 12%, 6.5% is planned to be reduced by domestic policies and measures and 3.9% through the full utilisation of domestic sinks. The remaining 1.6% – which corresponds to about 100 million tonnes (Mt) CO_{2e} during the first commitment period – will be acquired from abroad by using the Kyoto Protocol mechanisms. To this end, the government has set aside 5.7 billion yen (54 million US dollars in FY 2005) and launched the Kyoto Mechanisms Credit Acquisition Program in July 2006. It is still uncertain whether credits corresponding to 1.6% will be achieved with existing measures to utilise the Kyoto mechanisms. Moreover, since there is also uncertainty on reduction through domestic policy measures and utilisation of sinks, it may be necessary to acquire additional emission reduction credits (ERCs).

Recognising the need to establish a mechanism in Japan to secure credits from abroad corresponding to at least 1.6% based on KTAP, I propose two parallel but interlinked stages: 1) **effective implementation of a national purchasing scheme and, 2) the establishment of a domestic cap and trading scheme linked to other domestic emissions trading schemes.**

* FCCC/SBI/2006/INF.2

Urgent action is necessary to acquire ERCs from abroad to meet the Kyoto target

The Japanese government reviewed its climate policies and measures in 2004 and adopted the Kyoto Target Achievement Plan (KTAP) based on a step-by-step approach in line with Article 9 of the 2002 Climate Change Policy Law. The plan postulates that emissions in 2010 will be 6% higher than the 1990 level if existing policies and measure are used; therefore Japan has to reduce its emissions by 12% in order to achieve the 6% reduction target. Of the 12%, 6.5% is planned to be reduced through domestic policies and measures, and 3.9% through the full utilisation of domestic sinks. The remaining 1.6% – which corresponds to a reduction of 19.79 Mt CO_{2e} per year (or a total of 98.96 Mt CO_{2e} for the first commitment period) – is planned to be procured by using the Kyoto mechanisms.

Copyright © 2006 Institute for Global Environmental Strategies. All rights reserved.

Although every effort is made to ensure objectivity and balance, the publication of research results or their translation does not imply IGES endorsement or acquiescence with their conclusions or the endorsement of IGES financiers. IGES maintains a position of neutrality at all times on issues concerning public policy. Hence conclusions that are reached in IGES publications should be understood to be those of the authors and not attributed to staff-members, officers, directors, trustees, funders, or to IGES itself.

Institute for Global
Environmental Strategies
財団法人
地球環境戦略研究機関

“The government initiated support for private companies to implement CDM/JI projects with a budget of JPY 5.7 billion (USD 54 million) in FY 2005. It also launched the Kyoto Mechanisms Credit Acquisition Program in July 2006.”

“Japan will have great difficulty acquiring credits worth about 100 Mt CO_{2e} from 2008 through 2012 as requested in KTAP unless it comes up with other measures to use the Kyoto mechanisms.”

“Increased GHG emissions especially in transportation and residential sectors, coupled with a lack of new countermeasures, mean that there is uncertainty about achieving a 6.5% reduction by 2010 through domestic policies and measures alone ... it may be necessary to acquire over 1.6%-worth of ERCs from abroad.”

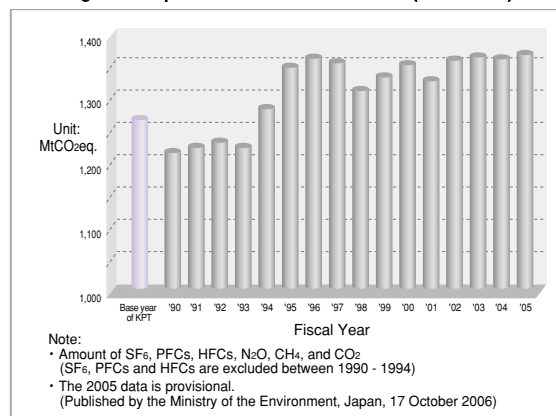
Both the Japanese government and the private sector have begun preparations to utilise the Kyoto mechanisms. The government initiated support for private companies to implement CDM/JI projects with a budget of JPY 5.7 billion (USD 54 million) in FY 2005. It also launched the Kyoto Mechanisms Credit Acquisition Program (national purchasing scheme) in July 2006. Through the programme, the New Energy and Industrial Technology Development Organization (NEDO), commissioned by the government, acquires CERs, ERUs, and Green AAUs to use for national compliance. The Ministry of Economy, Trade, and Industry (METI) and the Ministry of the Environment (MoE) have so far secured funds of JPY 12.2 billion (USD 115.6 million) including JPY 5.4 billion (USD 51.2 million) for the FY 2006 project budget from special accounts on petroleum. The private sector established the Japan Greenhouse gas Reduction Fund (JGRF) with JPY 14.8 billion (USD 141.5 million). It is unclear, however, how the ERCs acquired by the JGRF could be transferred to Japan's national account and utilised for compliance with the Kyoto Protocol.

Under the current regulations, ERCs to be transferred to the national account amount to 26.1 Mt CO_{2e}¹ at most (about 8.3 Mt CO_{2e} through the CDM/JI project assistance and 17.8 Mt CO_{2e} through the Kyoto Mechanisms Credit Acquisition Program). This is based on the assumption that the budget is used to the maximum as planned, which is doubtful given the limited success of CDM/JI in acquiring credits until now. Japan will have great difficulty acquiring credits worth about 100 Mt CO_{2e} from 2008 through 2012 as requested in KTAP unless it comes up with other measures to use the Kyoto mechanisms.

According to the latest data², GHG emissions for Japan in FY2005 were 1364 Mt CO_{2e}, which is 8.1% higher than the base year (Fig. 1). Increased GHG emissions especially in transportation and residential sectors, coupled with a lack of new countermeasures, mean that there is uncertainty about achieving a 6.5% reduction by 2010 through domestic policies and measures alone. Furthermore, domestic sinks might only deliver 2.9% to 3.1%, instead of the 3.9% originally planned³. Therefore, it may be necessary to acquire over 1.6%-worth of ERCs from abroad.

Japan urgently needs to review the possible options for acquiring ERCs from abroad (Box 1). The following section analyses the pros and cons of various options and identifies desirable ways for Japan to effectively utilise Kyoto Mechanisms.

Figure 1: Japan's GHG Emissions Trend (1990-2005)



Source: Greenhouse Gas Inventory Office of Japan/ National Institute for Environmental Studies and Ministry of the Environment, Japan

Box 1: Options to acquire ERCs

(Kyoto mechanisms)

- Emission reduction units (ERUs) from **Joint Implementation (JI) projects** in the central and eastern European EU member states and EU accession countries, and other countries. (Article 6 of the Kyoto Protocol (KP))
- Certified emission reductions (CERs) from by **the Clean Development Mechanism (CDM) projects**. (Article 12 of the KP)
- Assigned amount units (AAUs) by the **international emissions trading mechanism (IET)** (Article 17 of the KP)

(Other options)

- **Establishing green investment schemes (GIS)**; and
- **Establishing a domestic emissions trading system in Japan and linking it with other national emissions trading systems**, particularly the EU Emissions Trading Scheme (EU-ETS).

¹ Assuming a stable price of around EUR 5 (USD 6.5)/tonne CO₂.

² The provisional data on FY 2005 GHG emissions in Japan published by the Ministry of the Environment, Japan, 17 October 2006.

³ Interim Report on the Review on Current Measures for Utilising Sinks in the New Guideline to Promote the Measures to Prevent Global Warming "Gentaiko ni okeru onshitsu koka gasu kyushugen taisaku no shinchoku jokyō nit suite (zantei hyōka)," Ministry of the Environment, Japan, 7 April 2004.

Options - Pros and Cons⁴

Five criteria – environmental effectiveness, cost⁵, supply potential, political acceptability and long-term impact (Box 2) – were used to rate each of the five options: JI, CDM, IET, GIS and linkage of domestic emission trading schemes.

• Joint Implementation (JI)

JI provides for Annex I Parties to implement projects that reduce emissions of other Annex I Parties in return for ERUs. These units can then be used by Annex I Parties towards meeting their emissions targets under the protocol⁶. There are two procedures for implementing JI: track 1 and track 2. Track 1 is applied to the projects conducted by the host parties that fulfil the eligibility requirements to utilise the Kyoto mechanisms.⁷ In track 1, the host party can apply its own national rules and procedures to the selection of JI projects and the estimation of ERUs from them. Track 2 is applied if the host party does not fulfil the eligibility requirements. In track 2, the project and the quantity of ERUs generated from the projects must be verified by the Article 6 Supervisory Committee.

“The new EU member states and accession countries ... there is still a good chance of implementing JI in these countries.”

■ **JI is rated as positive especially in supply potential and environmental effectiveness.** The new EU member states and accession countries need to bring their national legislation in line with the *acquis communautaire* (the total body of EU law). This may adversely affect the supply potential of JI in these countries because the *acquis communautaire* is usually stricter than the former regulations. Despite this, there is still a good chance of implementing JI in these countries. The supply potential in Ukraine and Russia is even greater⁸ although neither country is generally considered to be ideal for foreign direct investment (FDI). JI is also rated as positive under the environmental integrity criterion, especially in the case of track 2, as JI track 2 projects yield emission reductions, which are verified by the Article 6 supervisory committee.

Box 2: Criteria for rating

- **Environmental effectiveness:** To maintain the environmental effectiveness of the system, there must be proper monitoring and verification procedures to ensure, that each ERC purchased by Japan is backed up by corresponding emissions reduction in the seller country.
- **Cost:** The cost is divided into the real price of ERCs and the administrative cost. The administrative cost is further divided into the cost of negotiating the transaction of ERCs and of establishing the scheme. In evaluating the cost of establishing the scheme, duration should also be considered.
- **Supply potential:** In order to acquire ERCs of 98.96 Mt CO₂e for the first commitment period effectively, the size of the potential supply must be considered.
- **Political acceptability:** This should be considered when selecting the option(s) most likely to receive cooperation from stakeholders, as it would ensure both smooth introduction and effective implementation. Political acceptability depends on the environmental effectiveness and distributional impact of burden sharing among stakeholders.
- **Long-term impact:** Addressing climate change requires a long-term strategy for giving the right signals to investors. The best option is the one that contributes to bringing about reductions in GHG emissions regardless of the existence of a Kyoto-like international climate regime after 2012. Long-term impact is evaluated based on reduction potential and lifespan of the scheme itself.

⁴ The evaluation of the five options is based on a report “Survey for Japan’s options to acquire credits from abroad”. The options are rated as highly positive, positive, neutral, negative, or highly negative.

⁵ Price of credits is an important element for the evaluation criteria. As the transaction of AAUs and ERUs is limited at this stage and the prices of CERs and EU Allowances (EUAs) are volatile, it is difficult to prospect credit prices. Moreover, when the market is mature in the near future, prices of various credits are expected to converge. Therefore, we did not conduct quantitative analysis in this policy brief.

⁶ UNFCCC. http://unfccc.int/kyoto_mechanisms/ji/items/1674.php.

⁷ To participate in the mechanisms, Annex I Parties must meet the following eligibility requirements: ratification of the Kyoto Protocol; calculation of the assigned amount, as referred to in Articles 3.7 and 3.8 and Annex B of the Protocol in terms of tonnes of CO₂-equivalent emissions; establishment of a national system for estimating emissions and removals of GHG within the territory; establishment of a national registry to record and track the creation and movement of ERUs, CERs, AAUs and Removal Units (RMUs) and reporting of such information to the UNFCCC Secretariat, and annual reporting of information on emissions and removals to the secretariat.

⁸ Supply Potential is estimated as 130 Mt CO₂e/year (upper estimate) from new EU member States and EU accession countries; and from 30 (lower estimate) to 500 (upper estimate) from Russia and Ukraine.

“If the Kyoto regime does not continue beyond 2012, host parties and investors may not be interested in projects that generate ERUs beyond the first commitment period.”

“Although the CDM potential is theoretically significant, it is uncertain whether its potential can be realised. This is mainly due to the slow approval process of the CDM Executive Board and the lack of implementation capacity in many host countries.”

“Ukraine and Russia will have substantial surpluses but may not fulfil the eligibility requirements to transfer or acquire AAUs.”

■ ***JI is rated as negative in terms of track 2 administrative costs and uncertainty over its long-term prospects.*** JI track 2 is likely to be the second most expensive option after CDM, as implementation of such projects might follow CDM procedures as described below. JI track 1, on the other hand, might contribute to reducing administrative costs of verification although the procedure depends on host countries. For new EU member states and accession countries, there will be additional costs related to the avoidance of the double-counting of ERUs and EUAs.⁹

The long-term prospect of JI and its impact on reductions depend on the continuation of the Kyoto Protocol or a similar regime. Under the JI framework, projects that generate emission reductions even after the first commitment period could be conducted. However, whether such projects can secure investment greatly depends on the continuation of the Kyoto Protocol or a similar regime. If the Kyoto regime does not continue beyond 2012, host parties and investors may not be interested in projects that generate ERUs beyond the first commitment period.

● **Clean Development Mechanism (CDM)**

The CDM provides for Annex I Parties to implement project activities that reduce GHG emissions in non-Annex I Parties, in return for CERs, which can be used by the former to partially meet their targets under the Kyoto Protocol.

■ ***The CDM is rated as positive, especially in terms of emissions reduction and price*** as it is designed to reduce emissions and contribute to sustainable development in non-Annex I Parties while reducing compliance costs for Annex I Parties. However, many of the projects currently approved are HFC23 projects or CH₄ projects which may not effectively contribute to sustainable development. In order to raise the environmental effectiveness of CDM as originally designed, renewable energy projects or energy conservation projects should be promoted. The price of CERs is expected to be less than that of other ERCs in the short term.¹⁰

■ ***The CDM is rated negative in terms of administrative costs, uncertainty over the long-term impact on reductions, and realisation of the potential.*** The CDM is probably the most expensive mechanism due to the costs of validation, approval, registration, verification and certification. Moreover, uncertainty over the continuity of CDM beyond 2012 may discourage investors from exploring new types of projects. Similar to JI, the future prospects of the CDM and its long-term impact on reductions depend on the continuation of the Kyoto Protocol or a similar regime. Although the CDM potential is theoretically significant, it is uncertain whether its potential can be realised. This is mainly due to the slow approval process of the CDM Executive Board and the lack of implementation capacity in many host countries.

● **International Emissions Trading (IET)**

IET enables Annex I Parties to acquire AAUs from other Annex I Parties to meet their emission targets. It enables parties whose domestic emissions reduction cost is higher than other countries to make use of lower cost opportunities, irrespective of where reductions take place.

■ ***IET is rated as positive based on criteria such as potential supply, price and administrative costs. However, it has some negative aspects.*** GHG emissions of all new EU member states and EU accession countries, except for Hungary and Slovenia, are expected to be below their targets. However, it is uncertain whether the significant surpluses they may hold will indeed be delivered to the market. Ukraine and Russia will have substantial surpluses but may not fulfil the eligibility requirements to transfer or acquire AAUs. Even if they qualify, they might decide not to deliver their

⁹ JI projects which affect an installation covered by the EU-ETS could result in the issuance of ERUs and the freeing-up of EUAs. Therefore, reduction would be rewarded twice.

¹⁰ Lecocq, F. and K. Capoor 2005 “State and Trends of the Carbon Market 2005,” World Bank, Washington D.C.

“ ... if parties with large surpluses, such as Russia and Ukraine, decide to maximise profits by controlling market sales of their surpluses, the transaction of AAUs might not be such a cheap option.”

“ Hard greening can achieve direct and verifiable emission reductions even after the first commitment period. Therefore this option is rated as positive in environmental effectiveness, political acceptability and long-term impact on emissions.”

“ GIS soft greening is positive in terms of the long-term impact on emission reductions if projects contribute to establishing institutions responsible for Monitoring, Reporting and Verifications (MRVs) of GHG emissions and capacity building.”

surpluses to the market.

As AAU trading has not fully started, information on the price of AAUs is limited. However, the price of AAUs is expected to be higher than CERs and ERUs but lower than Green AAUs and domestic emissions trading allowances. However, if parties with large surpluses, such as Russia and Ukraine, decide to maximise profits by controlling market sales of their surpluses, the transaction of AAUs might not be such a cheap option. Prices of AAUs could easily escalate if such parties took a bullish stance in the light of a last-minute scramble by buyer countries desperate to reach their compliance levels.

The transaction of AAUs does not require a procedure for validation, approval, registration, verification or certification, and so the administrative cost is expected to be lower than that for project-based CDM and JI. However, lack of standardisation means that actual negotiations may be long and administrative costs high. Any future standardised procedure for IET would mean lower transaction costs than those for project-based mechanisms.

■ ***IET is rated as the most negative option in terms of political acceptability and long-term impact on reductions***, as it does not ensure achieving additional GHG emission reductions through revenues coming from the sale of AAUs.

● **Green Investment Scheme (GIS)**

The concept of GIS was developed to address the issues of environmental effectiveness and eligibility requirements connected with IET. GIS is a systematic transaction scheme of AAUs with the condition that the money transferred be utilised either for GHG reductions, such as in mitigation projects, or for the effective implementation of certain pre-defined activities, including demand-side management programmes, the dismantling of energy subsidies, or capacity-building activities related to climate change. The World Bank defines the former as “hard” greening and the latter as “soft” greening.¹²

■ ***GIS is rated as positive under several criteria such as supply potential and the long-term impact on emission reductions. Hard greening is rated as positive in emissions reduction and political acceptability.*** Since GIS is only a variation of AAU transactions, its supply potential is large in theory, but its realisation depends on institution-building and the policies in the EIT countries.

Hard greening can achieve direct and verifiable emission reductions even after the first commitment period. Therefore this option is rated as positive in environmental effectiveness, political acceptability and long-term impact on emissions. However, soft greening projects do not lead to direct emission reductions and their contributions are difficult to measure. Therefore, such options are rated as negative in terms of environmental effectiveness and political acceptability. Despite this, GIS soft greening is positive in terms of the long-term impact on emission reductions if projects contribute to establishing institutions responsible for Monitoring, Reporting and Verifications (MRVs) of GHG emissions and capacity building.

■ ***GIS is rated as negative in terms of administrative costs and the long-term prospects of the scheme.***

GIS is more expensive to establish than the normal method of trading AAUs. Nevertheless, once the system is established, trading could be standardised leading to negotiating costs that are even lower than for normal AAU trading.

Owing to the dependence on (a) the continuation of a Kyoto-like regime and (b) the availability of surpluses in countries with reduction targets, GIS is expected to be short-lived. However, the idea of hard greening could be applied to Annex I Parties with lower surpluses. In the future, it may also be applied to non-Annex I Parties that opt to take on commitments.

¹¹ Decision 27/CMP.1 Procedures and mechanisms relating to compliance under the Kyoto Protocol XV, paragraph 4.

¹² World Bank “Options for designing a green investment scheme for Bulgaria.” Report no. 29998, 4 October 2004.

• Linkage of Domestic Emissions Trading Schemes¹³

Another way to acquire ERCs from abroad is to establish a domestic ET scheme and link it to other markets. The participants in the domestic scheme would then be able to purchase ERCs from the other schemes abroad, and use them to meet domestic obligations.

■ ***A domestic ET scheme is possibly the most expensive to establish initially*** since it will require decisions on the details of an allocation method. Furthermore, all technical issues must be resolved to ensure smooth linkages among various systems. Once the system is established, however, it will provide a lower administrative cost – an effortless way for the Japanese government to acquire ERCs.

■ ***The administrative cost and environmental effectiveness depend on the allocation method.*** Upstream allocation covers producers and importers of fossil fuels, and downstream allocation covers fossil fuel consumers.

The administrative cost of upstream allocation is low, as the number of covered entities is small (about 800¹⁴), but high under downstream allocation, since it covers all fossil fuel consumers. Limiting the coverage to energy intensive industries, as the EU does, is a way to address this issue for downstream allocation. It is necessary to closely examine the environmental effectiveness under upstream and downstream allocation: upstream allocation which indirectly controls emissions from fossil fuel consumers through price shifts, and downstream allocation which directly controls such emissions. The environmental effectiveness of downstream allocation may be limited if it covers only energy-intensive entities in order to save administrative costs.

■ ***In terms of political acceptability, ET is rated as negative.*** Upstream allocation would face opposition since the production, import, and sales of fossil fuels would all be controlled. Fossil fuel consumers would also oppose such measures since the producers, importers, and sellers of fossil fuels could raise the price of fuels above that of the price of certificates. The downstream allocation would face opposition from the covered entities unless fossil fuel use by non-covered entities is controlled to the same extent by other policies and measures.

Environmental effectiveness also depends on the stringency of targets, the modalities for MRVs, and on the compliance regime.

■ ***ET is probably the most useful in the long-term*** since the market becomes autonomous once the system is established, and the scheme does not directly depend on the continuation of a Kyoto-like regime. In contrast to the other options, ETS is considered not only an instrument for purchasing ERCs from abroad but also for promoting cost-efficient domestic emission reductions.

The foregoing discussion suggests that one should carefully evaluate the merits and demerits of each option and then decide on the most appropriate strategies.

The way forward

Recognising the need to create more credit flows into the national account, and based on the analysis of the merits and demerits of various options discussed earlier, I propose two stages to ensure the acquisition of the necessary ERCs to achieve the Kyoto target: the effective implementation of a national purchasing scheme and the establishment of a domestic ET scheme linked to other domestic ET schemes.

“ The administrative cost of upstream allocation is low, as the number of covered entities is small (about 800), but high under downstream allocation, since it covers all fossil fuel consumers.”

“ ... the market becomes autonomous once the system is established, and the scheme does not directly depend on the continuation of a Kyoto-like regime.”

“ Recognising the need to create more credit flows into the national account... I propose two stages to ensure the acquisition of the necessary ERCs to achieve the Kyoto target.”

¹³ Domestic Emission Trading Schemes have two approaches: baseline-and-credit and cap-and-trade. Since cap-and-trade is coming into the mainstream as seen from its introduction by the EU and north-east states of US, this policy brief takes cap-and-trade approach.

¹⁴ Report on the Feasibility Study for Rationalisation of Emissions Trading Markets “*Enerugi Shiyo Gorika Torihiki Shijo Sekkei Kanren Chosa*,” Research Institute of Market Structure, Tokyo, March 2004.

“In order to implement the proposal, it is necessary to overcome at least two barriers. First, implementing this stage will take time ... Second, differences among ET schemes will require various adjustments to link up with each other.”

“... it would be desirable to implement Stage 1 promptly, while also preparing for Stage 2, so that both stages will be implemented in a timely manner.”

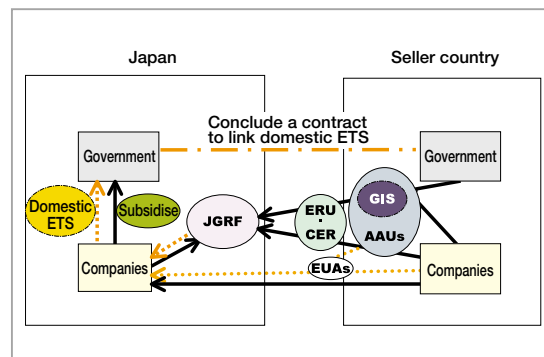
will require various adjustments to link up with each other. The compliance regime (mandatory, voluntary, or safety-valve [in which the government sets the upper price limit of credits in advance and supplies credits at that price even if the price rises]), strictness of MRVs, and types of credits are key elements to be taken into consideration.

In summary, this policy brief recognises the need for the Japanese government to acquire the Kyoto credits corresponding

to at least 1.6% in order to achieve the Kyoto target based on the KTAP and suggests two stages. Stage 1 will ensure that more Kyoto credits flow to the national account. However, relying solely on the Kyoto Mechanisms Credit Acquisition Program may hinder domestic reduction efforts and also require a huge investment. Stage 2 will enhance long term emission reductions through domestic policies and measures, although establishing a domestic ET scheme and linking it with other ET schemes will require time and money. Moreover, the system could continue even after the first commitment period. As entities covered by an ET scheme use Kyoto credits only when they cannot achieve their domestic targets, the amount of Kyoto credits to be transferred to the national account would not be fixed until the end of commitment period.

Taking the above into consideration, it would be desirable to implement Stage 1 promptly, while also preparing for Stage 2, so that both stages will be implemented in a timely manner.

Figure 3: The credit flows created by establishment of a domestic cap & trading scheme linked to other domestic ET schemes



■ ■ ■

Acknowledgement

The author wishes to express her appreciation to the Wuppertal Institute for Climate, Environment and Energy in carrying out the relevant survey, and to Dr. Shuzo Nishioka and Dr. Tae Yong Jung who guided its implementation. The author also received valuable comments from Dr. Ancha Srinivasan, Tomonori Sudo, Kazuhisa Koakutsu and Kentaro Tamura of the IGES Climate Policy Project.

Institute for Global Environmental Strategies
 2108-11 Kamiyamaguchi, Hayama,
 Kanagawa, 240-0115 Japan
 TEL : +81-(0)46-855-3700
 FAX : +81-(0)46-855-3709
 E-mail: iges@iges.or.jp
<http://www.iges.or.jp>