Executive Summary

1 Background

Japan is currently facing difficulty in achieving its Kyoto target, because its greenhouse gas (GHG) emissions have increased since 1990 by 7.6 percent as of 2002. This means it has to reduce emissions by about 13.6 percent—corresponding to 168.232 million tonnes of carbon dioxide equivalent (Mt CO_2e) per year—in order to achieve its target of 6 percent below the 1990 level (set out in article 3.1 of the Kyoto Protocol, which was adopted in 1997 and entered into force on February 16, 2005).

In recognition of this situation, the Japanese government decided in its Kyoto Target Achievement Plan to procure certificates corresponding to 1.6 percent of its 6 percent reduction target by utilizing the Kyoto mechanisms, which can be broken down into three distinct options:

1. Purchasing emission reduction units (ERUs) generated by joint implementation (JI) projects in (a) the Central and Eastern European EU member states and EU accession countries, and (b) in other countries
2. Purchasing certified emission reductions (CERs) generated by Clean Development Mechanism (CDM) projects
3. Purchasing assigned amount units (AAUs) according to article 17 of the Kyoto Protocol

Moreover, since adoption of the protocol, the following two novel options for acquiring certificates have been developed:

4. Establishing green investment schemes (GIS)
5. 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)

The report consists of four papers, a conclusion paper and three background papers.

Background Paper 1 analyzes *Current Japanese Climate Policy from the Perspective of Using the Kyoto Mechanisms* Japan's GHG emissions have been increasing since 1990, and this trend will not change drastically under existing measures; therefore, Japan faces difficulty in achieving its Kyoto target. As well, effective policies and measures were not introduced after the review in 2004. Based on the current estimation, even if all the policies and measures are implemented as scheduled, there will still be a 1.6 percent shortfall, which will therefore have to be purchased in the form of credits from abroad. However, the current scheme cannot procure a sufficient amount of certificates to correspond to the envisaged 1.6 percent of its GHG emissions, and the government cannot utilize all the certificates acquired by Japanese entities for national compliance, since it currently has no means of drawing these certificates into its national account. As such, the paper highlights the urgent need to

quickly identify and act on the best option for Japan to acquire certificates from abroad and to utilize the certificates for national compliance.

Background Paper 2 analyzes *The EU Linking Directive and its Impact on the Potential for JI Projects in the New EU Member States and EU Accession Countries*. Potential JI projects in the energy and industry sectors now largely overlap with the EU ETS and are thus probably removed from JI. The feasibility of JI projects which are indirectly connected to the EU ETS and thus raise the danger of doubly counting emission reductions, such as renewable energy projects connected to the national grid, is not yet entirely clear. There is still significant potential for projects which are not connected to the EU ETS, such as end-use energy efficiency, small renewable energy and district heating projects. However, these types of projects typically do not reach critical size to be viable for JI. Their establishment will thus depend on developing instruments to bundle projects.

Background Paper 3 analyzes Demand and Supply on the Global Market for Emission Certificates. In theory, supply exceeds demand by far. However, several concerns regarding both supply and demand, such as the effectiveness of domestic policies and measures or whether seller countries will meet the eligibility criteria for participating in the Kyoto mechanisms, remain unresolved. In practice, there remains substantial uncertainty whether supply will be able to cover the total demand that will arise if the buyer countries do not rein in their emissions. These findings reinforce the urgency of devising a sound strategy for meeting Japan's Kyoto commitments.

A conclusion paper examines the pros and cons of each option—based on the analysis conducted in the three background papers of this project—according to five criteria (environmental integrity, cost, size of potential, political acceptability, long-term impact) with the aim of identifying the best option(s) for Japan to acquire and use certificates to achieve its Kyoto target.

2 Options—pros and cons

The result of the analysis of pros and cons can be summarized as follows.

JI is highly rated under most criteria. Negative aspects are transaction costs in the case of track 2, the current lack of clarity about the environmental integrity of track 1, and the long-term prospects of the scheme itself.

The Clean Development Mechanism is also highly evaluated under most criteria. Negative elements are the transaction costs involved and the long-term prospects of the scheme itself. There is also the problem of projects like HFC and methane projects, which reduce emissions but typically do not contribute substantially to sustainable development.

International emissions trading gains the most negative evaluation in terms of political acceptability, while the best in price and transaction cost. It is also negative in terms of the long-term prospects of the scheme itself.

GIS also gains good ratings under most criteria. It is highly evaluated in environmental integrity in the hard greening case, size of potential, and political acceptability. Negative elements are the cost for establishing the scheme and the long-term prospects of the scheme itself. Due to the dependence on a continuation of a Kyoto-like regime and the availability of surpluses in countries with reduction targets, it is expected that GIS will have a short life, although the idea of "hard greening" could be applied in the case of Annex I Parties with lower surpluses and non-Annex I Parties that might adopt commitments in the future, but possibly with a lot of surpluses. This could also be a model for bilateral cooperation for the reduction of GHG emissions even without the existence of a Kyoto-like regime.

The linkage of domestic emissions trading schemes costs the highest upfront for establishing the scheme itself, and it faces the largest opposition from industry. Once the system is established, however, it provides the lowest transaction cost, a very effortless way for the Japanese government to acquire certificates, and the best option in terms of long-term impact, including the fact that it could be a strong and viable instrument for emissions reductions even without a continuation of the Kyoto regime. In contrast to all other options discussed here, the ETS is not only an instrument for purchasing certificates from abroad but also for promoting cost-efficient domestic emission reductions.

Comparing all the available options, JI and the CDM are more promising in the short term, since they are cheaper in terms of price, and the mechanisms have largely already been established. Considering that the prices of all options will probably converge once the market is fully functional, "short term" means the period until the second half of 2007, when the Enforcement Branch of the Compliance Committee makes a decision on the eligibility requirement to use the Kyoto Mechanisms. After that, it will become much clearer which Parties fulfill the eligibility requirement for international emissions trading and JI track 1. Thereafter, international emissions trading and GIS will become viable. However, since GISs still need to be established, work would need to start now if this option is to be pursued. In the longer term, however, the linkage of domestic emissions trading schemes might well be the strategically most promising option, since it would provide easier access to the emissions reduction potential in the new EU member states and accession countries. Moreover, once the scheme has been established, the Japanese government would automatically obtain the foreign certificates acquired by Japanese companies without having to use taxpayers' money. Last but not least, linked ETS between the EU and Japan and possibly further countries could establish a framework for international climate policy independent from the Kyoto Protocol.

3 Proposed best options for Japan to achieve its target

In Section 4.2 of the Conclusion Paper, we propose the best option for Japan to acquire certificates from abroad based on the examination of the pros and cons of each option, considering the issues it faces in achieving its Kyoto target, as explained in background paper 1, i.e., (1) the current scheme cannot procure a sufficient amount of certificates to correspond to the envisaged 1.6 percent of its GHG emissions, and (2) the government cannot utilize all the certificates acquired by Japanese entities for national compliance, since it currently has no means of drawing these certificates into its national account.

As the best option for Japan to acquire certificates from abroad, based on the above analysis, it is recommended that Japan first establishes a national purchasing scheme, then establishes a domestic emissions trading scheme and links it with other emissions trading schemes.

A national purchasing scheme—which would enable Japan to systematically acquire the certificates necessary for compliance with its Kyoto target—should be established as soon as possible in order to purchase ERUs and CERs before the market is fully functional and the prices of all options converge. It is recommended that investments in JI/CDM projects be made up to the first half of 2007, and then shift to GISs after it becomes clear which Parties fulfill the eligibility requirement. In this regard, it is recommended that in the meantime Japan cooperate with countries that have surpluses to establish GISs. In order to ensure the environmental integrity of GISs, however, they should be limited to the hard greening case. Although soft greening is attractive in terms of flexibility—which is beneficial for both host countries and buyer countries in addressing the issue of eligibility requirements in host countries—there is a risk of distorting the environmental integrity of GISs and undermining their effectiveness in addressing the hot air issue in the normal transaction of AAUs. The institutional and capacity constraints of the seller countries should be addressed by means other than soft greening. One idea might be to conclude framework package agreements with seller countries that encompass capacity building measures on the one hand and hard greening GIS projects on the other. By establishing a national purchasing scheme, the government could also purchase the certificates acquired by Japanese entities.

In the long term, however, establishing a domestic emissions trading scheme and linking it with other emissions trading schemes is highly recommended. First, as a short-term benefit, it would make it easier to acquire certificates from the new EU member states and accession countries, since in this case Japanese entities would be able to utilize EUAs to achieve their targets set in Japan’s domestic emissions trading scheme. Therefore, Japanese companies as well as the government can acquire certificates as EUAs—thus bypassing the issues surrounding JI projects—which will be backed by the exchange of AAUs between national schemes. This also applies to the certificates of other countries if they also establish domestic emissions trading schemes. Second, Japanese companies will have

obligations to achieve their own targets for which they will utilize certificates acquired from abroad. Therefore, Japan's national account can absorb the certificates that private entities acquire from abroad without using taxpayers' money. In the long term this option could continue even after the first commitment period, once the system is established. The Japanese government could thus effectively install a permanent conduit of foreign certificates. Moreover, this option would support the international climate protection regime and even induce emission reduction efforts regardless of a continuation of a Kyoto-like regime.

Although this option is highly rated under most criteria in section 4.1, it will probably have distributional impacts on industrial stakeholders. In order to address this issue, discussion involving all stakeholders is necessary. Therefore, it will take longer to adopt this option than the others. Even so, it is highly recommended to start implementing it in the near future, considering that it would enable Japan to acquire certificates from Central and Eastern European countries, which are probably the most reliable among the countries with surpluses and inexpensive reduction potential. Besides, the cost to achieve the 6 percent target solely through a national purchasing scheme might be too expensive, and the option to link domestic emission trading schemes has a positive long-term effect regardless of a continuation of the Kyoto or similar regime.