

Significance of the Kyoto Mechanisms as a Countermeasure to Global Warming - Putting the Mechanisms to Good Use and Future Perspective -

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Summery

At the seventh session of the Conference of the Parties (COP7) to the United Nations Framework Convention on Climate Change, the Marrakech Accords were adopted, and there was an increasing trend among the parties toward ratification of the Kyoto Protocol. Each member state is to take specific measures towards achieving the reduction objectives as stipulated in the Kyoto Protocol.

In Japan, shortly after COP7, the Global Warming Prevention Headquarters decided to carry out research including a review of the Guidelines of Measures to Prevent Global Warming currently in force, while keeping the ratification of the protocol in view. With the United States of America breaking away from the Protocol, the Kyoto Mechanisms is even more important as a means of lightening the economic burden required for achieving the Kyoto Target.

This report demonstrates the significance of the Kyoto Mechanism's use; future perspectives for international emissions trading and points to be discussed; and identifies issues and directions for promoting full use of the Kyoto Mechanisms in the future.

The main conclusions are as the following:

(1) When discussing the ratification of the Kyoto Protocol as a result of the Marrakech Accords, it is necessary to study the policies and measures that can lead to attaining the objectives while also minimizing, where possible, the economic burdens. The economic influence of the United States' breakaway from the Protocol also needs to be taken into consideration. Japan, in particular, due to the high marginal abatement cost incurred in order to meet the Kyoto Protocol objectives, has a greater proportional economic burden than other member states. It is important to lighten this economic burden by making full use of the Kyoto Mechanisms. With the departure of the United States from the Protocol, the future trading price in the international emissions trade market is expected to drop. This will create a situation where economic burdens can be further minimized by way of the Kyoto Mechanisms. Japan, at the earliest possible moment, needs to indicate its stance in order to make broad use of the Kyoto Mechanisms and start improving the conditions for concrete ways of using the Mechanisms.

(2) On the other hand, following the breakaway of the United States, the importance of Russia and the former Eastern Europe, countries that will become suppliers of emission credits in the future international market, will increase. Taking the Kyoto Protocol Banking provision into consideration, each party may control the supply of emission

credits to the market in order to maximize its own profit. Japan is likely to be the largest purchaser of emission credits in the future. It is therefore important that Japan secures diverse options through JI and CDM in other regions than those in question in order to maximize the benefits derived from trading.

(3) Even if the application rules for the Kyoto Mechanisms are established, this will not nullify the different sorts of business risks legal entities will encounter when undertaking CDM and JI projects. It is important, at an early stage of promoting a project, to offer certain incentives enabling legal entities to proceed in an active manner with the project. In addition to providing information to legal entities, and building-up cooperative relationships with host countries in order to make best use of the Kyoto Mechanisms, measures such as a government's provisional purchase of emission credits and counting those credits attained by legal entities who meet the objectives required by legislation, the Energy Conservation Law for example, would be an effective incentive encouraging legal entities to take early action.

(4) Collecting knowledge and experiences from actual businesses and gradually improving organizations that can support legal entities that wish to join businesses from now on, will reduce the risks and expense burden of CDM and JI businesses, and would thus contribute to effective deployment of the Kyoto Mechanisms in the future.

(5) The key issue now is to review the early application results before the first commitment period. Japan needs to be able to evaluate the concrete policies and measures in order to make maximum use of the Kyoto Mechanisms, especially those which would be the optimal incentive-enabling legal entities to make full use of the Kyoto Mechanisms, and how best to incorporate the Mechanisms into the domestic measures which will be drawn up from 2005.

1. Positioning of the Marrakech Accords (Table 1)

The 7th Conference of the Parties of the United Nations Framework Convention on Climate Change (COP7) took place in Marrakech, Morocco, from October 29, 2001 for two weeks. The conference adopted accords on application rules for the Kyoto Protocol, namely the Marrakech Accords. These were based on political accords, called the Bonn Agreement, reached during the second part of COP6.

Under the Marrakech Accords, with the United States continuing to express its intention to break away from the Kyoto Protocol, parties agreed to apply the Kyoto Protocol. Basic conditions for ratification made by each party were deemed to have been met, and attention is now focused on whether the Kyoto Protocol can come into force before the World Summit on Sustainable Development (WSSD), scheduled for August 2002.

Following these Accords, each party is currently studying the ratification of the Protocol while implementing the policies and measures required achieving the Kyoto objectives in their own country. In Japan, a meeting of Global Warming Prevention Headquarters was organized for November 12, 2001, just after COP7. At this meeting it was decided:

- (1) To start preparing for the conclusion of the Kyoto Protocol and for the relevant domestic systems.
- (2) That the achievement of the objectives and studies could include a review of the existing Guidelines of Measures to Prevent Global Warming.

2. Outline of the Application Rules for the Kyoto Mechanisms Decided

The Kyoto Mechanisms consists of Emissions Trading, JI, and CDM. It has been decided that each party will be able to minimize their economic burdens. The Marrakech Accords indicated the direction for concrete applications of these mechanisms, and the environment is ready for starting considering methods for making best use of the Mechanisms in each country.

As to emissions trading, although there are clauses stating that this is a supplementary action for domestic policies and measures, since there is no restriction on the unit counted as domestic reduction, each party can take actions to achieve the objectives by making wide use of the trading system.

With regard to JI, when issuing emission reduction unit (ERU) deriving from joint implementation, the host country (recipient country for investment) can take the option of issuing ERUs by converting them from its own assigned amount unit (AAU). This is done in cases where it is judged that the verification system in that country is adequate. Depending on the readiness of the parties' project management conditions, JI can be undertaken rather smoothly. As from 2000, any project initiated before the first commitment period can acquire ERU through that project starting from 2008 provided it satisfies ERU conditions of issue.

With regard to CDM, the outline of procedures for undertaking practical projects and the formalities for issuing emission reduction credit associated with CDM, (called certified emission reduction (CER)), are stipulated. It has been reconfirmed that any project meeting CDM conditions, started in or after 2000, is entitled to issue CER. As a result, the acquisition of credit through projects undertaken before the first commitment period is now authorized. At the same time, it is foreseen that rules aimed mainly at the promotion of small-scale projects, are to be studied for the time being, and official CER will be issued as early as possible in 2005. On the other hand, as to supplemental funding for projects (the discussion being whether to limit the eligibility to only those projects that cannot do without a CDM scheme), it has long been argued, and has now been concluded virtually unquestioned, that the timing for establishing application rules and invitations for early promotion of projects mean that conditions are almost ready for legal entities to initiate serious studies.

3. The Japanese Situation and Importance of Using the Kyoto Mechanisms

Japan's Guidelines of Measures to Prevent Global Warming, established in 1998, state that Japan is due to attain 1.8% equivalent against the Kyoto Protocol's GHG emission reduction target (6% reduction from 1990 level) by making use of the Kyoto Mechanisms (Table 2). However, the cost incurred in attaining this objective is high in comparison with those of other countries. This is due to developments already made to improve energy consumption efficiency. There is concern that the effort of fulfilling commitments by depending on domestic measures could weaken Japan's economic competitiveness, and eventually cause a large impact on the domestic economy (Figure 3). The absence of the United States from the Kyoto Protocol, as has been revealed, will

impose additional economic burdens (Figures 4, 5).

On the other hand, the United States' breakaway from the Kyoto Protocol means the removal of a country with the world's largest demand for emission credits in the future international trading market. As a result the original credits price will be forced lower. In conjunction with this, to enable Japan to attain the objective of the Kyoto Protocol with the least economic burden, it will be necessary to change the GHG reduction scenario based on the Kyoto Mechanisms which is incorporated into the Guidelines of Measures to Prevent Global Warming currently in use. The change will be to one which can make wider use of the Mechanisms, as well as improve the environment through improved registry, clarification of the legal basis for credits, etc.

4. Future Perspectives of the International Market, and the Need for Promoting the Kyoto Mechanisms

(1) The United States' Breakaway: Its Impact on the International Market (Figure 6)

The withdrawal of the United States from the Protocol is expected to cause the trade price of international market to fall, which will impact the market environment for emission credits trade as well as the feasibility of CDM projects.

So far Russia and the former Eastern Europe have been seen as future suppliers of emission credits in the trading market, but the drop in emission credits price caused by the United States' breakaway will reduce that profit. However, by employing the "banking" rule of the Kyoto Protocol, it will be possible to maintain the price adjustability in the trade market by controlling the supply volume, taking the prices of the second commitment period and after, into account. Also, the drop in the credits price will weaken CDM projects' economic equilibrium, creating the possibility that sufficient amounts of CER supply in the future cannot be secured, and that Russia and other countries could intensify their control over the market (Figure 7).

Accordingly, in order to secure economic emission credits, Japan and other emission credits purchasing countries need to search for various options in order to acquire emission credit in compliance with CDM and JI to strengthen the effect through the Kyoto Mechanisms. Amongst the EU countries, diversification in credit acquisition options is being made to promote JI activities with the former Eastern Europe.

(2) The Need for Promotional Measures for JI, CDM and Other Systems

Legal entities are likely to become the main appliers of the Kyoto Mechanisms in the future. For them the present situation, where the application rules have been clarified for the Kyoto Protocol, is useful since it provides more concrete conditions for projects compared with the situation to date where the rules have been undecided. However, projects carried out under Kyoto Protocol rules are not much different from conventional investment activities abroad with regard to their characteristics, and various risks associated with projects remain. For example, in case of the Asian region as an object for a CDM project, risks in carrying out investment activities are always high compared with those in advanced countries at present. In addition, the fall in the emission credits price in the future following the absence of the United States will lower the "emission credits value". This contrasts with conventional investment activities, and will also reduce the relative improvement effect of the project (Figure 8).

At the moment, motivations for legal entities to undertake projects, such as CDM, etc.,

are derived from the future value of the emission credits price and cost lightening measures in the domestic policy. However, for the domestic policy, the coming years will likely be used to review existing measures, and activities such as CDM will not be promoted. Because of this, at the review stage of the domestic policy, it is necessary to establish support measures, including those to enable legal entities to make active moves abroad.

More concrete support measures could include: offering information on procedures for realizing CDM and JI projects which are more complementary than ordinary investment activities; enabling host countries to assess the effectiveness of the Kyoto Mechanisms; and procedural supports such as bilateral cooperative agreements facilitating legal entities to study and realize projects smoothly. At the same time, economic supports enabling legal entities to evaluate project feasibility more readily would be an effective measure. For example, the ERUPT system used by the Netherlands. This is a way of thinking through which governments purchase emission credits created by projects, and can judge the feasibility of the project by the price at which the government has purchased the credits. It might also be worth considering promoting early project development by allowing the credit count created from CDM and others as achieving energy saving target measures at designated legal entities following the stipulation of the legislation concerning the Energy Conservation Law(Figure 9).

Notwithstanding this, authorization of this kind of incentives should be introduced at an early stage of applying the Kyoto Mechanisms. When establishing the domestic policy, scheduled to be studied in, and after, 2005, these experiences and knowledge, gained during the early period need to be taken into consideration. Methodological studies need to be made to give enduring motivation to legal entities to use the Kyoto Mechanisms.

6. Studying the Domestic Policy to Use the Kyoto Mechanisms as the Principle Object (Figure 10)

(1) Gradual Improvement of Supporting Systems for JI and CDM Projects

The project activities, which make use of the Kyoto Mechanisms, will basically pursue profit, thus excessive interference and limitation should be avoided with regard to the exploitation and management of the projects. But, if Japan, as a whole, realizes the rationalization of additional operations and expenses peculiar to the use of the Kyoto Mechanisms, it will be considered to be a Japanese contribution to expanding use of the Kyoto Mechanisms.

“The Kyoto Mechanisms Help Desk” and manuals on use the Kyoto Mechanisms, currently available at the Ministry of Economy, Trade and Industry, will encourage sharing of common information on using the Kyoto Mechanisms among legal entities. In the future, information and knowledge regarding early projects undertaken by Japan and relevant to CDM and other systems will be gathered. Japan will make a long-term contribution to establishing an environment for rational use of the Kyoto Mechanisms by gradually improving organizations that have the following missions:

(a) To extend procedural supports to Japanese legal entities, especially those who intend to start new and facilitate more efficient JI and CDM projects; (b) Maintain and strengthen cooperative relations with host countries through information exchange and study interchange; and (c) Work with host countries to improve the Protocol application

rules through joint studies on more rational project procedures.

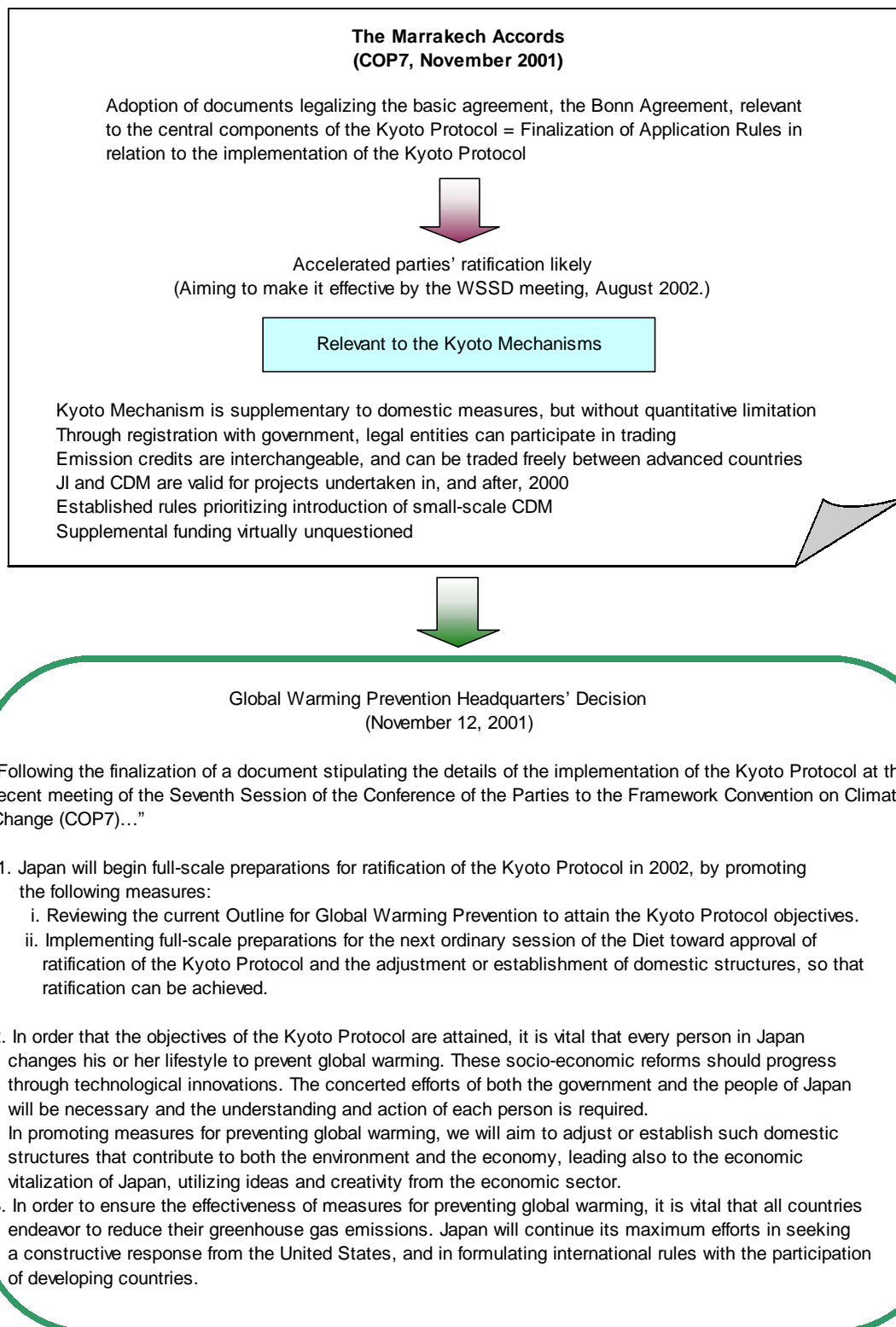
(2)How the Domestic System Should Use the Kyoto Mechanisms

The Japanese government is determined to finish reviewing existing relevant policies by around 2005, and will then make a judgment on the need for introducing policies and measures for the eventual fulfillment of the Kyoto Protocol objectives. In doing so, one of the evaluation standards to be taken into consideration in studying domestic systems is how to fulfill the objectives of the Kyoto Protocol while minimizing the economic burdens. Studies on the domestic system are necessary in order to determine how to make full use of the Kyoto Mechanisms.

However, as stated above, it is not easy to get sufficient evidence as to whether the effect of the Kyoto Mechanisms can theoretically be achieved. It is therefore necessary to promote project activities that can be realized in the short-term. Based on their results, both the government and private sector will be able to evaluate their usefulness for Japan, and then develop methods that will reflect on the domestic systems.

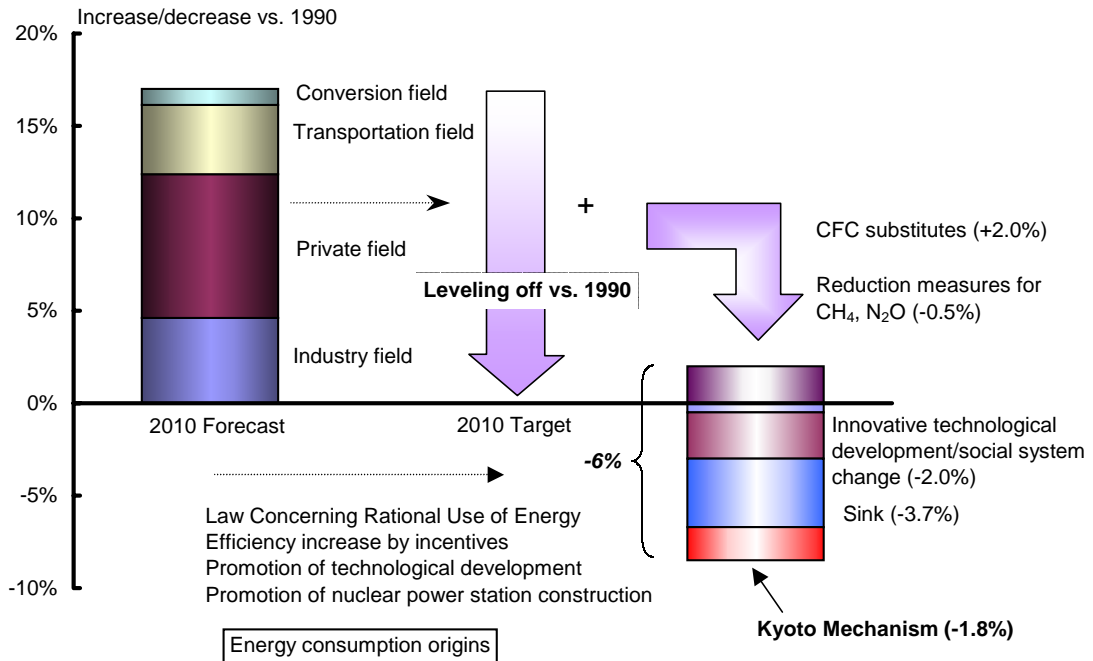
The biggest question is the “motivation” of legal entities to use the Kyoto Mechanisms. The previously mentioned government’s purchasing system, which by making use of the private sectors’ voluntary efforts, and the introduction of the domestic emission trading system are concrete examples. Depending on the motivation method, it is likely that legal entities will be unable to make a clear decision and Japan, as a whole, will not make maximum use of the Kyoto Mechanisms. The domestic systems need to be studied with regard to quantitative efficiency; application cost system; and the fair distribution of burden among enterprises. The reality and possibility of using the Kyoto Mechanisms through experiences gained at early stages of this enterprise must also be considered.

Figure 1 Japan's Way of Coping with the Application Rules for Marrakech Accords and Kyoto Mechanisms



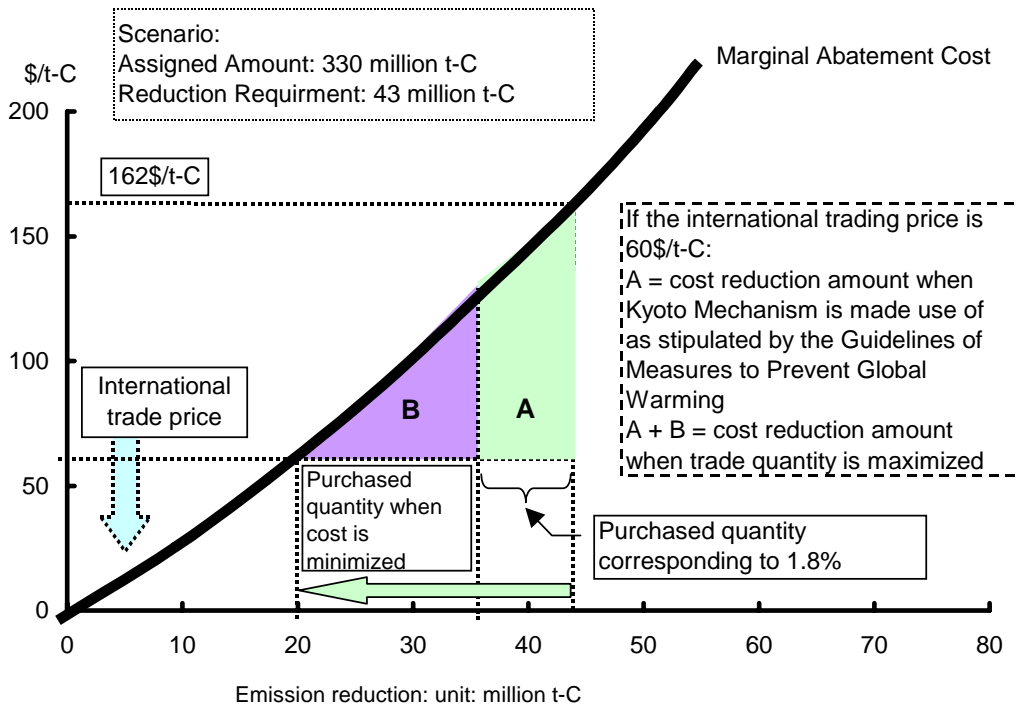
Sources: Made from various data

Figure 2 Current Conceptual Image of Japanese Attainment of the Kyoto Objectives



Sources: Made from various data.

Figure 3 Marginal Abatement Cost in Japan to Meet Kyoto Target Attainment and the Effectiveness of the Kyoto Mechanisms



Source: Made from data based on MIT, Report 41, 1998 (The Effects on Developing Countries of

the Kyoto Protocol and CO₂ Emissions Trading by A.D. Ellermann, H.D. Jacoby, A. Decaux)

Figure 4 International Trading Comparison: Japan, U.S., and EU

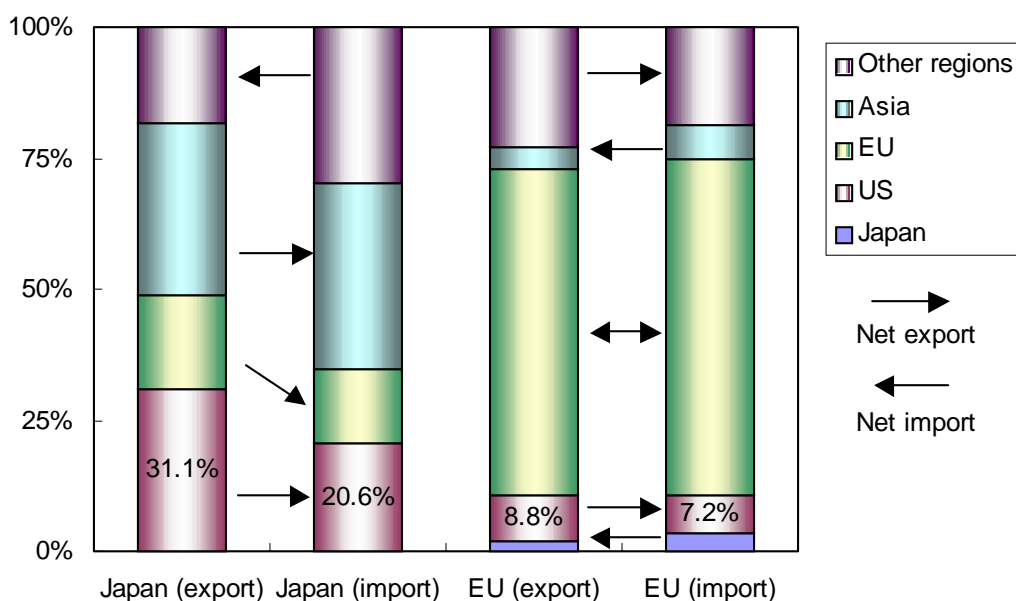
(F.O.B. price, unit: \$ million)

	Japan	U.S.	EU	Asia	Others
Japan (Export)	/	130,195	74,542	137,888	76,606
Japan (Import)		57,733	39,246	100,213	82,891
Total Export Import		72,462	35,296	37,675	-6,285
EU (Export)	39,246	191,176	1,345,750	95,462	493,866
EU (Import)	74,542	151,862	1,345,750	132,816	396,790
Total Export Import	-35,296	39,314	0	-37,354	97,076

Note: Asia Export-Import data includes NIEs 1998, all the rest are for 1999

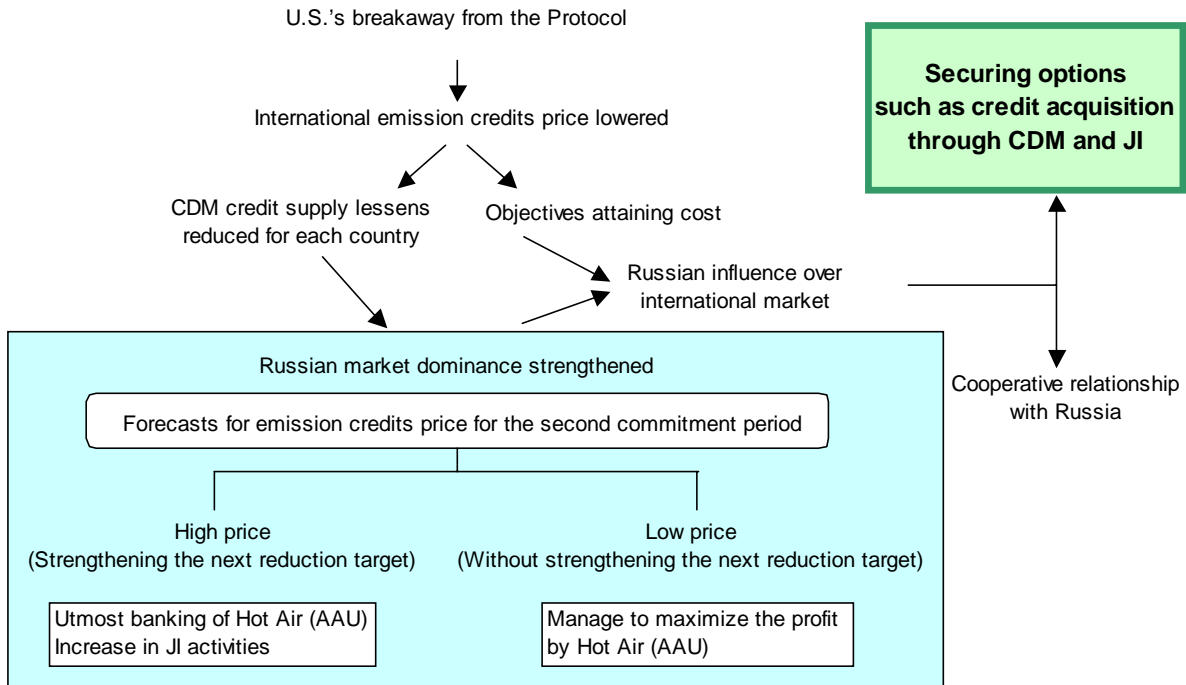
Source: "International Comparative Statistics 2000", International Department, The Bank of Japan

Figure 5 Trade Relations: Japan/EU by country/region



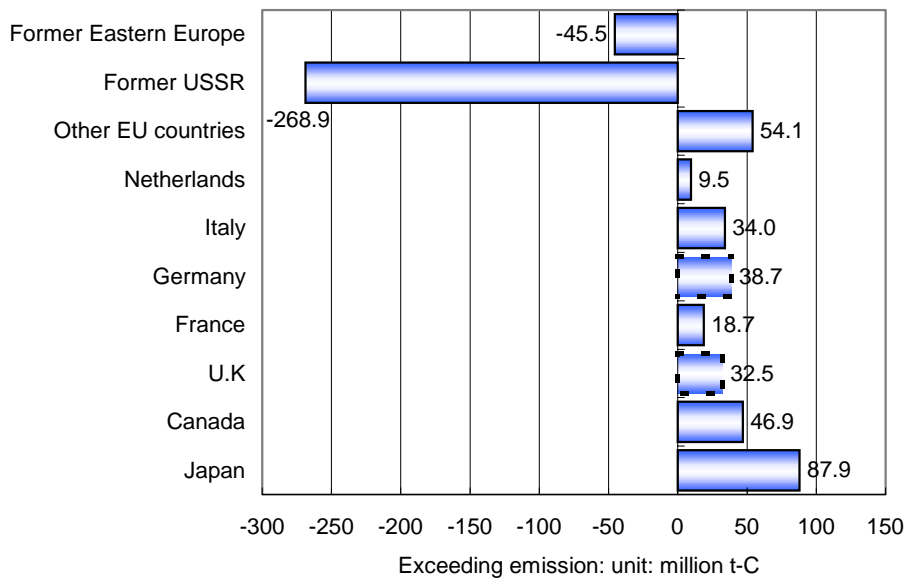
Source: "International Comparative Statistics 2000" International Department, The Bank of Japan
 Comment: Influences on international trade caused by the United State's breakaway from the Kyoto Protocol are more likely to affect Japan, whose trade proportion with the United States has higher trade surplus levels than the European Union. The European Union's inter-regional trade is also proportionally high, and if each of the EU member states carries out the policies under the Kyoto Protocol Objectives, the EU will suffer little negative influence on trade. Apart from trade with the United States, Japan has a proportionally high trade with Asian countries that do not have emission reduction targets under the Kyoto Protocol. As a result, Japan is considered to be comparatively more affected than the European Union.

Figure 6 Emission Credits Trade Market Scenario Following the U.S.’s Breakaway from the Kyoto Protocol and Questions for Japan



Source: Made based on “International Emissions Trading, From Concept to Reality,” 2001, IEA

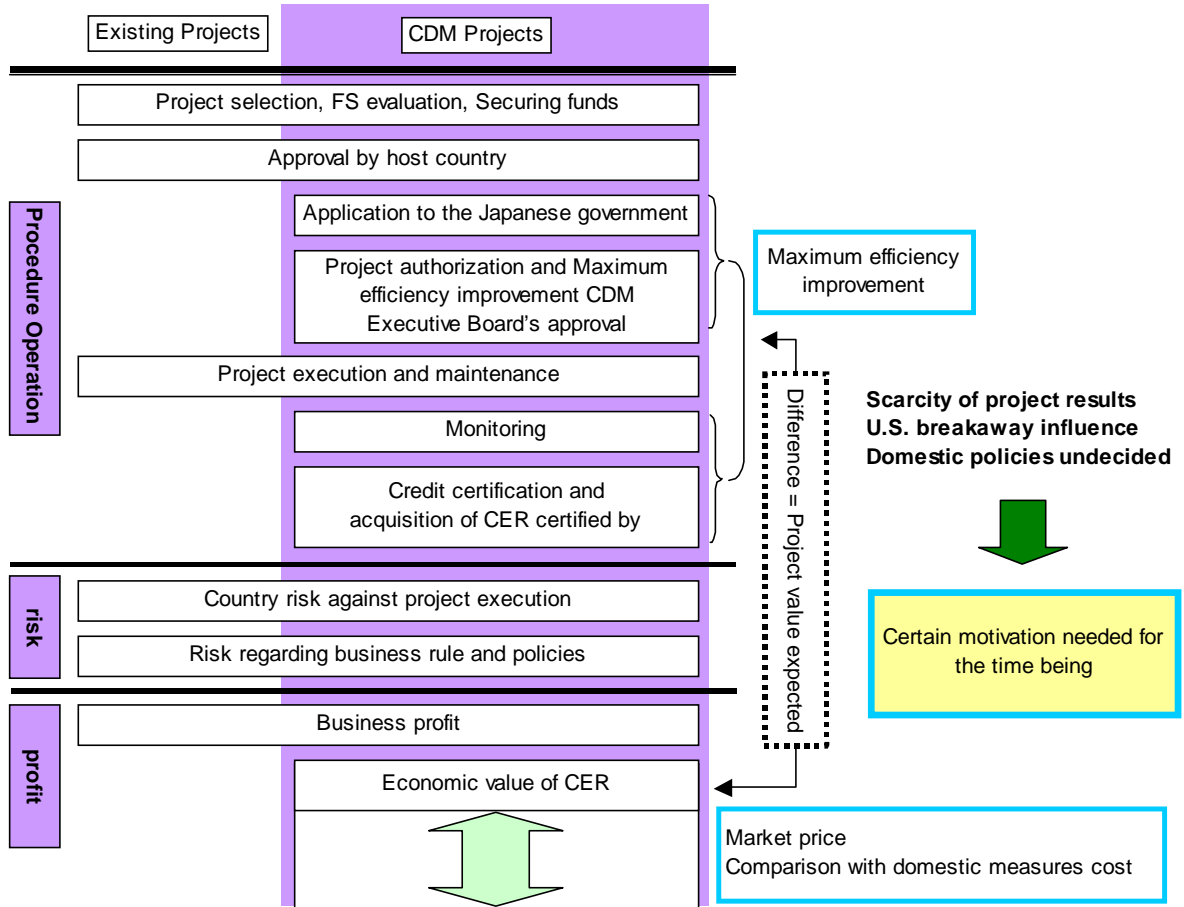
Figure 7 CO₂ Emission Projection in 2010 by Advanced Countries: Excess from the Kyoto Target



Note: U.S. excess approx. 58 million t-C according to the same estimation.

Source: Estimation based on data from “International Energy Outlook 2001,” DOE, U.S.

Figure 8 Comparison between CDM Projects and Existing Projects



Note: Only exemplary items listed.

Source: Made from various data

Figure 9 Incentives for Legal Entities to Make Use of the Kyoto Mechanisms

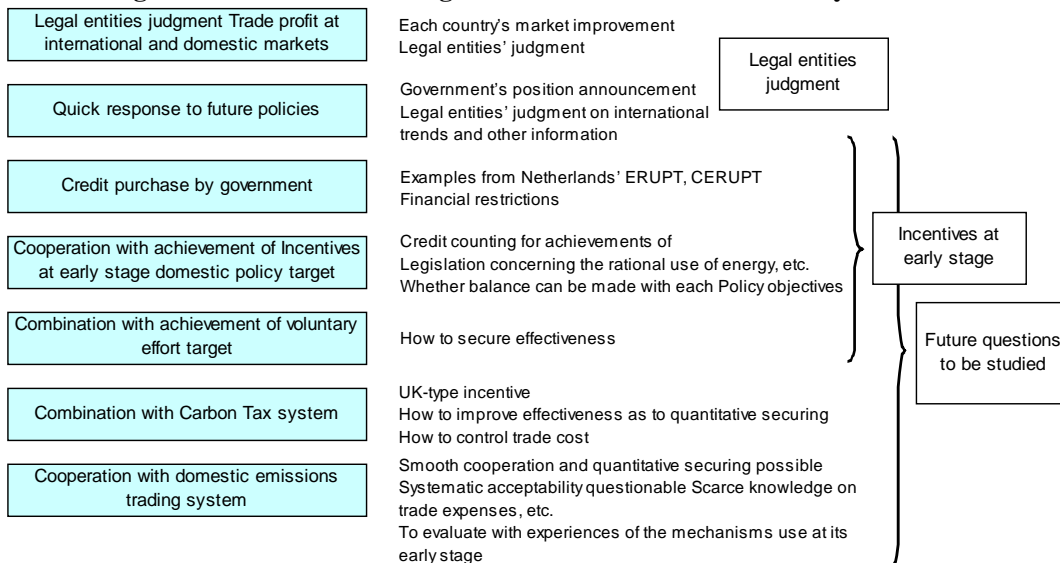
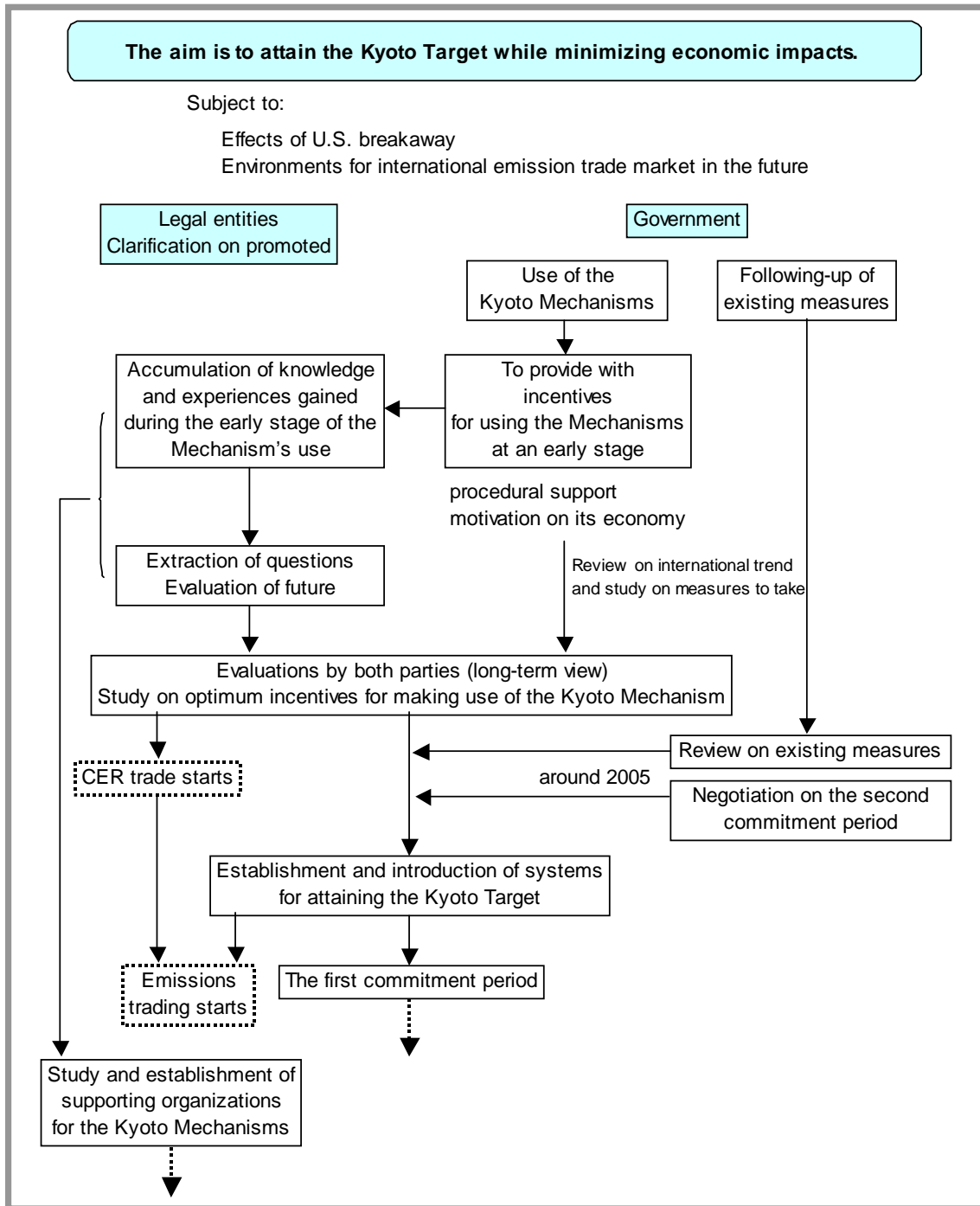
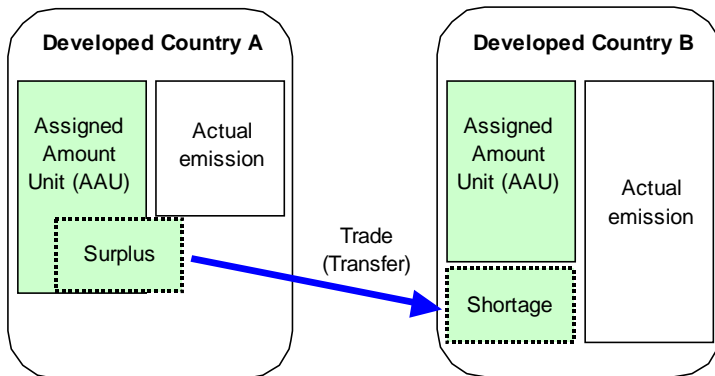


Figure 10 Direction of Future Policy Studies



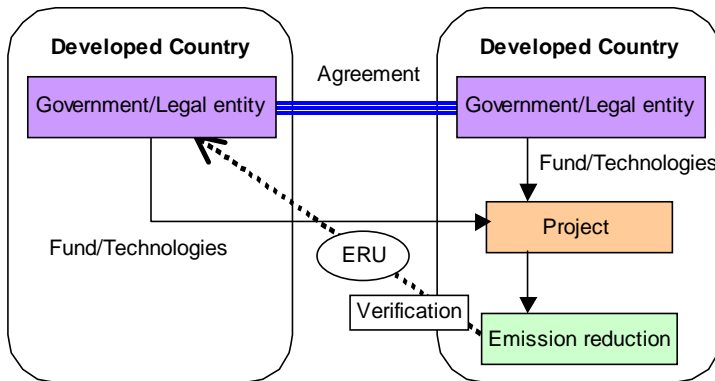
Reference: Outline of the Kyoto Mechanisms

1. Emissions Trading



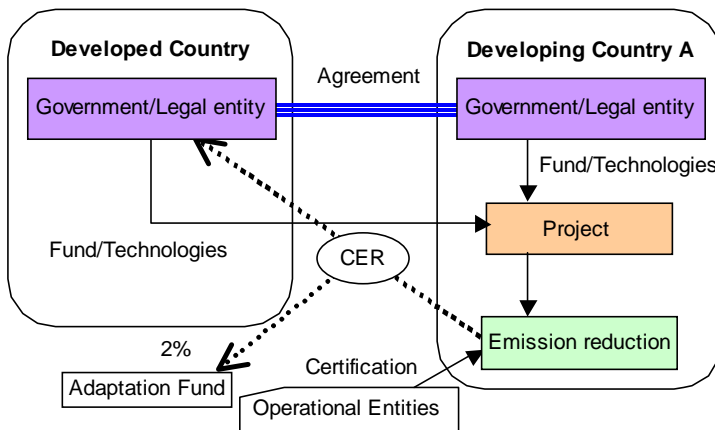
According to this system, Developed Country A, whose emission result is less than its Assigned Amount Unit (AAU), sells the surplus AAU to Developed Country B whose actual emission result excess own AAU. As a result both countries attain their emission targets.

2. Joint Implementation (JI)



Developed Country A, or the legal entity of that country that needs emission credits, undertakes a GHG emission reduction project in Developed Country B, and acquires reduction achievement in the form of credits called Emission Reduction Units (ERU). Advanced Country B, the host investment country, converts their own AAU to ERU and transfers this to Developed Country A.

3. Clean Development Mechanism (CDM)



Developed Country A, or the legal entity of that country, that needs emission credits, undertakes GHG emission reduction projects in Developing Country A, and, after having achieved its reduction effectiveness, certified by the Operational Entities, acquires reduction achievement in the form of credits called Certified Emission Reduction (CER). The investing country, Advanced Country A, funds 2% of CER to the Adaptation Fund.