

Kyoto Mechanism Group
Japan's strategy to get Kyoto Mechanism Credits

The 6th Keio-Tsinghua Student's environmental seminar

*The Japanese government's strategy to get
Kyoto Mechanism credits to achieve the
target of the first commitment period*

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Introduction

According to the IPCC third Assessment Report that was published in 2001, the earth's surface would rise by 1.4 to 5.8 degrees and sea level would rise 9–88 cm by the year 2100. This report made the world strongly recognize that the global warming is serious issue for human beings. To prevent global warming, United Nations Framework Convention on Climate Change has already come into force in 1994. In 1997, the Kyoto Protocol was adopted. This Protocol sets numerical targets to reduce the amount of greenhouse gases emitted by developed countries by 5.2% below 1990 level between 2008 and 2012. And the characteristic of this protocol is that it introduces Kyoto Mechanism, consisting of international emission trading, CDM (Clean Development Mechanism,) and JI (Joint Implementation), which are the ways to achieve the target cost-effectively. However, even now the Kyoto Protocol has not entered into force. In this situation, the Japanese government had already made "Guidelines of Measures to Prevent Global Warming" to achieve the target of 6% emission reduction from 1990 level. However, the Japanese government does not have any concrete strategy to get Kyoto Mechanism credits for certain. And without introducing any additional policies concerning Kyoto Mechanisms, the Japanese government may fail to achieve the Kyoto target cost-effectively and certainly. Then this paper argues what kind of strategy the Japanese government should have to get Kyoto Mechanism credits and what kind of additional measures the Japanese government should introduce to realize that strategy.

The structure of this paper is as follows. The chapter1 will outline the Kyoto Protocol and the international situation about ratification issue of Kyoto Protocol. The chapter2 will prove the reason why Japan should achieve the target of the first commitment period and then evaluate whether Japan's current policies especially about Kyoto Mechanism is adequate or not to get the necessary amount of credits. The chapter3 will propose the strategy and policies about Kyoto Mechanism that should be introduced by the Japanese government.

Chapter1 International situation about the Kyoto Protocol

This chapter will outline the Kyoto Protocol that was adapted to prevent global warming. The first section will explain what the Kyoto Protocol is. Then, the section 2 will show the international situation about ratification issue of this protocol.

1. What is the Kyoto Protocol?

The IPCC first assessment report that was published in 1990 pointed out the seriousness of global warming. In 1992, United Nations Framework Convention on Climate Change was adapted and two years later, it entered into force. The objection of this framework convention is that "The ultimate objective of this Convention...is to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". However, there were not any concrete measures to prevent global warming. In 1995, the IPCC second assessment report was published and it stated that "immediate stabilization of the concentration of carbon dioxide at its present level could only be achieved through an immediate reduction in its emissions of 50-70%..." This report urged the world to have concrete measures against global warming. In 1997, the Kyoto Protocol was adapted at COP3 (Conference of parties) that held in Kyoto, Japan. Even now, this protocol has not entered into force but it has two important characters. First one is that the developed countries (Annex I) have the target to reduce or limit greenhouse gas emissions between 2008 and 2012. On the average, the amount of emission by developed countries will be decreased by 5.2% from 1990 level. These targets were decided by political negotiations. For example, Japan has to reduce 6%, USA7% and European Union's target is 8% reduction. The second character of this protocol is that using the Kyoto Mechanism is admitted to reduce emissions cost-effectively. Kyoto Mechanism includes international emission trading, CDM (Clean Development Mechanism,) and JI (Joint Implementation). It is said that for most of the developed countries, using Kyoto Mechanism is more cost-effective way than depending only on domestic actions to reduce emissions.

2. The necessity of Russia's ratification for the Kyoto Protocol to come into force

The Kyoto Protocol has not entered into force at this moment (2004/1/6). According to the article 25 of the protocol, this protocol enters into force on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties

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included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I have deposited their instruments of ratification. The current situation is that the number of parties that have already ratified reached to 119 parties. However, the rate of the total carbon dioxide emissions for 1990 of the Parties included in Annex I is still 44.2%. The Annex I countries that has not ratified the protocol are Lichtenstein, Monaco, Australia, Russian Federation and the United States of America. Among these countries, USA¹, that has 36.1% of the total carbon dioxide emissions for 1990, declared their withdrawal from the Kyoto Protocol and Lichtenstein (0.0%), Monaco (0.0%), Australia (2.1%) do not have enough ratio of the amount for 1990. The only country that can make this protocol come into force is Russian Federation, which has 17.4% of the total carbon dioxide emissions of the Annex I parties for 1990. At this situation, Russian President Vladimir Putin declared at the opening of the World Conference on Climate Change that the decision (whether Russia will ratify it or not) will be made after this work(considering and studying this issue) has been completed, and of course the Russian government will take into account the national interests of the Russian Federation. According to the interview we had with a public officer of the ministry of the Environment, Russian Academy of Sciences that oppose to ratify the protocol insists that theories (of IPCC reports) linking global warming to greenhouse gas emissions ignored numerous other factors and human activity consists of only 8% of total impact on climate change, and some oil companies are also against Russia's ratification. All things considered on this ratification issue, it may seem that the situation is unfavorable for the protocol to come into force. The Japanese government had consulted with some participants of the Russian government about ratification issue and got positive observation about it. According to this observation, there are no ministries and government offices in Russia that oppose to ratify the Kyoto Protocol and committee of these ministries and offices have already agreed to ratify the protocol. The Japanese government recognizes that Russia is trying to exchange ratifying the protocol for being a member of WTO and promising to buy their credits. As is stated above, there is some uncertainty about Russia's ratification issue. However, the Japanese government makes allowances for Russia's ratification and had already started their efforts to achieve the target of the first commitment period. The next chapter will outline the current policies of the Japanese government to achieve the target and point out the problems about it.

¹ In 2001, the United States declared their withdrawal from the Kyoto Protocol due to the reason that this protocol exempts developing countries like China and India and would cause serious harm to the US economy. After that, Bush administration proposed new global warming plan that is setting a goal of cutting by 18 percent that compares greenhouse gas emissions with gross domestic product.

Chapter2 The Japanese government's current policies to achieve the target of the first commitment period

As is stated in the Chapter 1, the Kyoto Protocol has not entered into force. However, the Japanese government has already started their efforts to achieve the target. In this chapter, first section will prove the reason why Japan should achieve the target of the first commitment period as long as Japan is a member of the protocol. The second section will outline the Guidelines of Measures to Prevent Global Warming and focus on the Kyoto Mechanism. Then, it will prove the reason why getting Kyoto Mechanism credits in an early stage is the cost-effective way to achieve the target. Third section will explain the current strategy and measures to get Kyoto Mechanism credits and evaluate whether it is adequate or not to get at least 98million credits.

1. Why the Japanese government should achieve the target of the first commitment period?

As is stated in the Chapter 1, Russia's ratification is indispensable for the Kyoto Protocol to enter into force. This section argues the reason why the Japanese government should not withdraw from the Protocol and should create the probable situation to achieve the target. In 2002, the Japanese government, that is the host country of COP3, ratified the Protocol and they already started its efforts to achieve the target of the first commitment period. Even though it is difficult for Japan to achieve the target due to the high marginal abatement cost to reduce emissions, the Japanese government should definitely not choose the option to withdraw from the Kyoto Protocol. The reason is that if the Japan will withdraw from the protocol, it will make desperate situation for the protocol to come into force because Japan is the second biggest emitter in 1990 of Annex I countries. Japan should not be the country that collapses this international protocol that has been created by enormous efforts and time over 10 years.

Then, below is the reason why Japan should achieve the target of the first commitment period as long as Japan is a member of the protocol. The first reason is that there are very strict provisions against parties that will fail to achieve its target. The following three provisions are prescribed on the article 24 of the Marrakech agreement that was agreed in 2001. These three provisions are (1) Deducting from the party's assigned amount for the second commitment period...equal to 1.3 times the amount in tones of excess emissions (2) the party has to develop compliance action plan to achieve the target and (3) The party has to be suspended of the eligibility to make transfer under international emission trading. Whether these provisions will have legally binding force

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or not plans to be decided at the first conference after the Kyoto Protocol will come into force. If these provisions will have binding force and the party will not comply with all of them, it is going to be the violation of international law. The second reason why Japan should achieve the target is that the target of the protocol has legally binding force. It means that if the protocol will enter into force and a country fail to achieve it, it is considered as the violation of international law. If some country will get into this situation, other member of the protocol may sue that country at the international court of justice based on regulation 36 and 38 of this court. There is also a possibility that these countries will be criticized in the world. This is why Japan should do its best to achieve the target regardless of whether Marrakech agreement will have legally binding force or not.

In terms of these two reasons, the Japanese government should do its best to achieve the target of the first commitment period. The next chapter will prove the reason why getting Kyoto Mechanism credits are effective way to achieve the target.

2 . The outline of “New Climate change policy program” and position of utilizing Kyoto Mechanism.

In March 2002, the Japanese governments adopted “New climate change policy program” instead of former climate change policy that was adopted in 1998. This program indicates more than 100 concrete measures of Industry, commercial/residential and transportation sectors to achieve the target of the first commitment period. The other feature of this program is the step by step approach. The period from 2002- 2012 is divided into three terms. The first term is from 2002-2004, the second term is from 2005-2007 and the third term is from 2008-2012. This program plans to be reviewed and amended in 2004 and 2007. The utilization of Kyoto Mechanism consists of 1.6% (98millions of credits) of total 6% reduction. The following figure shows breakdown of 6% reduction.

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The breakdown of 6% of reduction

CO2 emissions from energy use	±0%
CO2 emissions from non-energy use, methane emissions, and nitrous oxide emissions	- 0,5%
Emissions of HFCs, PFCs and SF6	+ 2%
Reductions by innovative technologies and change of lifestyle	- 2,0%
The use of Sinks	- 3,9%
The utilization of Kyoto Mechanisms	- 1.6%
Total	- 6%

As this figure shows, the Japanese government plans to cover 1.6% of total 6% reduction by utilizing Kyoto Mechanism. Using only 1.6% may be unreasonable way for Japan whose marginal abatement cost is highest in the world. There is a possibility that this amount will be increased in revision in 2004. However, in this paper, we will estimate whether current strategy and policies are adequate or not to get 98 millions of credits.

The Current Situation about Kyoto Mechanism in Japan

Kyoto Mechanism consists of three mechanisms, International Emission Trade, Joint Implementation (JI)², Clean Development Mechanisms (CDM)³ and Emission Trading (ET)⁴. JI or CDM projects starting from the year 2000 are eligible and as for the CDM, “certified emission reductions” can be obtained since the year 2000.

The Japanese government's ongoing policies to utilize Kyoto Mechanisms can be divided into four parts.

² JI is based on the Article 6 of the Kyoto Protocol. JI allows an Annex I Party to acquire from another Annex I Party, as “emission reduction unit”, the emissions reduction or the removals resulting from emissions reduction projects or sink projects.

³ CDM is based on the Article 12 of the Protocol. CDM allows an Annex I Party to acquire from a non-Annex I Party, as “certified reduction emissions”, the emissions reduction or the removals resulting from an emissions reduction project or a reforestation project in the non-Annex I Party.

⁴ Et is based on the provisions of Article 17 of the Protocol. ET allows trading of a part of the assigned amounts between Annex B Parties.

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- (1) Setting up a project approval system for approving the JI and CDM projects
- (2) Setting up the national registry system etc.
- (3) Supporting the private industries which will promote JI and CDM
- (4) Cooperating internationally

Regarding (1) setting up a project approval system for approving the JI and CDM projects, and (2) setting up the national registry system etc, these policies aim to meet the eligibility requirements to make use of the Kyoto Mechanisms. The Japanese government already established 'Liaison committee for the Use of the Kyoto Mechanisms', which consists of relevant government agencies and set up 'JI/CDM Project Approval Guidelines'. Regarding (4) cooperating internationally, a member from Japan has been appointed to the CDM Executive Board and the Japanese government has endeavored to contribute for making international rules of Kyoto Mechanism. And also the Japanese government has tried to take initiatives to promote the understanding of governments of the countries involved in projects. For example, the Ministry of the Environment in Japan has held Asia Pacific Seminar on Climate Change, Environmental Congress for Asia and the Pacific and so on, in order to accumulate knowledge and experience and to improve the understanding about the Kyoto mechanisms of the governments of the key partner countries where JI and CDM projects will be conducted.

The explanations of policies concerning (3) Supporting the private industries which will promote JI and CDM, are as follows.

A) Subsidizing the private industries

The Japanese government subsidizes the private industries which promote JI and CDM projects. The amount of the budget in 2003 is 2.1 billion yen (1,9billions yen contributed by the Ministry of Economy, Industry and Trade, and 300millions yen by the Ministry of the Environment). The subsidy is spent for the cost of the validation and the registration of CDM projects, the cost of the verification and the certification of emission reduction and the investment in the projects. And the feature of this subsidy is that the government can obtain credits corresponding to the amount the government subsidizes in a project.

B) Feasibility studies

The Japanese government has promoted feasibility studies on JI and CDM. GEC

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(Global Environment Centre Foundation) ⁵ subsidized by the Ministry of the Environment and NEDO (The New Energy and Industrial Technology Development Organization) ⁶ subsidized by the Ministry of Economy, Trade and Industry, have played an important role in this field.

GEC has implemented feasibility studies on Climate Change Mitigation Projects, CDM and JI in order to explore effective projects and to accumulate the necessary knowledge to formulate international/domestic rules on the CDM and JI framework.

And NEDO has implemented feasibility studies to identify potential projects and offer additional incentives to Japanese corporations which aspire to execute the projects.

C) Japan Carbon Fund

The Ministry of Economy, Industry and Trade of Japan is going to establish Japan Carbon Fund. The Japan Carbon Fund will invest contributions made by private industries in JI and CDM projects. And contributors in the Japan Carbon Fund will receive Emission Reductions corresponding to the amount they invest in Japan Carbon Fund. The amount of the fund will range from 5 billion yen to 6 billion yen. And the point is that the Japan Carbon Fund will be designed for private industries to obtain carbon credits, not for the government.

The evaluation on the Japanese government's ongoing policies and strategies to get carbon credits

Shigetaka SEKI, Director of Environmental Affairs, Ministry of Economy, Trade and Industry, explained "Japan's current position" in an interview⁷ as follows, "Japan's current position on JI and CDM is that companies, not the government should develop projects and obtain the credits for themselves". It is possible to say that the Japanese government does not have any clear strategies to transfer carbon credits into the Japanese government's account now.

And it makes an absence of strategy clear that the Japanese government's ongoing policies above are centered on establishing infrastructure to utilize Kyoto Mechanisms and supporting private industries. It means that the Japanese government has no ways but subsidiary system to transfer carbon credits into the government's account. Without introducing any additional measures, the Japanese government needs to buy carbon credits in the international emission trading market starting from 2008. In

⁵ <http://www.unep.or.jp/gec/>

⁶ <http://www.nedo.go.jp/english/>

⁷ http://www.ghg.jp/pointcarbon/doc/CDM_Monitor_6_August_2003.pdf

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that international trading market, there are many risks and the Japanese government may fail to get carbon credits certainly and cost-effectively. Then the section below argues what kind of risk the Japanese government would face.

(a) The risk of getting the necessary amount of carbon credits certainly

In the international emission trading market, Russia is expected to become the largest seller of carbon credits as a result of drop in emission level due to economic stagnation in the 1990s. According to the F. Pralong, D. Van Regemorter, P. Zagamé (2003), hot air would reach nearly 1 billion ton carbon during 1st commitment period if Russian economy grows at 2% from the year 2000 to 2010.

On the other hand, it is also indicated that Russian may not have any hot air during the 1st commitment period because of high economic growth from the year 1999. According to the F. Pralong, D. Van Regemorter, P. Zagamé (2003), if Russian economy grows at more than 5.2 % from 2000 to 2010, Russian hot air would be eliminated completely. In fact, Russian economy has grown at much high rate from the year 1999 as is showed in the table 1. It means that Russia, the largest seller of carbon credits, disappears in the international emission trading market and the amount of carbon credits sold in the market may be too little. In this case, the Japanese government may fail to acquire the necessary amount of carbon credits in the international emission trading market starting from 2008.

Table 1; Russian GDP growth

	1992	1995	1997	1998	1999	2000	2001	2002
GDP	-14.5%	-4.1%	0.9%	-5.3%	6.4%	10.0%	5.0%	4.3%

Source: the Ministry of Foreign Affaires of Japan

(b) The risk of getting the necessary amount of carbon credits cost-effectively

The price of carbon credits is considered to be getting higher and higher as the 1st commitment period nearing.

According to the study GHG solutions⁸ did, the range of current prices is from 3-5 dollars and in 2010, that is included the first commitment period, it will be from 5-20 dollars.

⁸ operated by J-Power and Fuji Research Institute Corporation

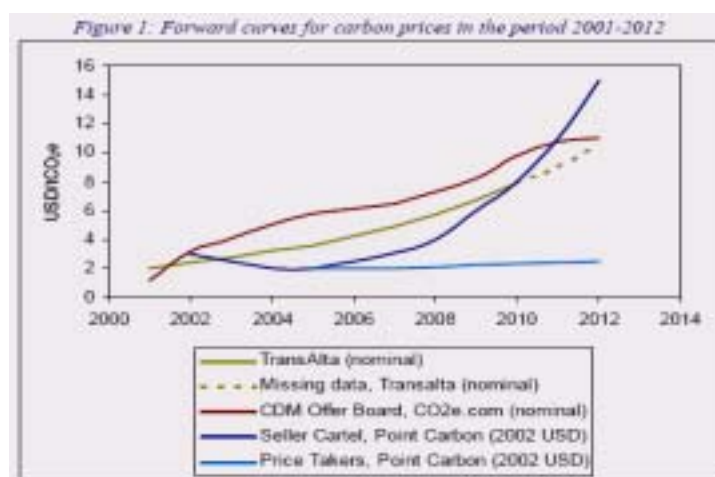
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*The predicted prices of KM credits. (\$/1ton CO₂)

	2003	2005	2010
AAU	3-5	4-6	5-14
ERU	2-4	5-8	5-20
CER	3-5	3-5	5-20

<http://www.ghg.jp/er/pdf/er200306.pdf>

And also “Forward curves for carbon prices under the Kyoto framework”, written by Point Carbon, shows high possibilities that the price of carbon credits would be getting higher and higher.



http://www.ghg.jp/pointcarbon/doc/2002July_forwardcurves.pdf

Even though the preconditions these two reports set are different, these two reports predicted that the price of carbon credits is getting higher and higher. In this case, the Japanese government may fail to get carbon credits cost-effectively.

2. The Japanese government's strategy to get Kyoto Mechanism credits.

The basic strategy that the Japanese government should take is “getting Kyoto Mechanism credits at as lower price as possible in an as earlier as possible” in order to hedge two risks above.

Chapter 3 provides 4 options the Japanese government can take to realize this strategy.

Chapter 3 Our proposal for the Japanese government

This chapter will show our proposal for the Japanese government. The Japanese government should get credits from now, not to depend so much on international emission trading (IET). The Japanese government should introduce two policies, "The policies to get Kyoto Mechanism credits cost-effectively", and "The policies to increase the total amount of KM credits".

1. The policies to get Kyoto Mechanism credits cost-effectively

The Japanese government should get credits cost-effectively and certainly, to utilize credits to achieve the target of the Kyoto Protocol. There are four options for the Japanese government to get credits. This section will analyze these four options.

Option1. The system such as ERUPT/CERUPT in the Netherlands
(Purchasing carbon credits thorough tenders)

Option2. Investment in PCF (Prototype Carbon Fund)

Option3. Increasing the existing subsidy for CDM/JI projects

Option4. Requesting Japanese companies to contribute their KM credits to the Japanese government account

Option1. The system such as ERUPT/CERUPT in the Netherlands **(Purchasing carbon credits thorough tenders)**

ERUPT/CERUPT is carried out by the Dutch government. The content of this system is purchasing carbon credits of JI and CDM in different countries thorough tenders. ERUPT is for JI projects and CERUPT is for CDM projects. The responsible institution for ERUPT is Ministry of Economic Affairs and for CERUPT is Ministry of Environment. Tenders have been carried out twice for ERUPT (ERUPT2000, ERUPT2001) and once for CERUPT (CERUPT2001).

Merits

The Japanese government can get credits at low prices, because this system is on tender base. (About 5 to 10 EUR/t-CO₂)

There is certainty of acquiring credits.

The Japanese government can decide which CDM/JI projects will be chosen.

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Demerits

There are no projects of ERUPT/CERUPT whose new methodology are approved by the CDM EB.

The Japanese government's money will be transferred from Japan to foreign countries.

Option2. Investment in PCF (Prototype Carbon Fund)

PCF is prototype carbon fund managed by World Bank. JBIC and eight Japanese firms have invested in PCF. The Japanese government should invest in PCF as a government to get credits.

Merits

Japanese government can acquire credits at low prices. (3dollar/t-CO₂)

PCF promotes technology transfer to developing countries.

Japanese government does not need to investigate in CDM/JI to do project.

←The Japanese government can get credits only by investments.

Demerits

The Japanese government cannot stock knowledge to do CDM/JI projects.

Disapproval of baseline-monitoring methodology by CDM EB will delay issue of credits.

The amount of Credits that can be acquired by PCF is limited to about 60 million tones credits.

(The amount of investments in PCF is limited to 180 million US dollars.)

Option 3.Increasing the existing subsidy for CDM/JI projects

The subsidy system is the only existing policy to get credits for the Japanese government. This option can increase the amount of credits that Japanese government can hold. As is mentioned in the last chapter, the scale of this subsidy system is 2.2 billion yen (1.9 billion from Ministry of Economy, Trade, and Industry, and 300 million from Ministry of the Environment).

Merits

There are no administrative costs.

Subsidy system is an existing policy, no additional cost are needed to create new system.

There are no transfer of national budget to foreign countries

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It can ease the barriers for firms to carry out CDM/JI projects.

Demerit

It may be not a cost-effective way

Option 4. Requesting Japanese companies to contribute their KM credits to the Japanese government account

The committee of METI is now discussing how to utilize Kyoto Mechanism. In this committee, they reached up to one answer that when a Japanese private company contributes a credit and transfers it to Japanese government account, it will be possible for the companies to treat the donation as a loss.

According to the interview we had with an officer of ministry of environment, if the Japanese government will be in the difficult situation to achieve the target in the first commitment period, the government may ask companies to contribute their credits to government account.

Merits

No budget are needed to buy credits.

No administrative costs are needed

There are no transfer of national budget

Demerits

No certainty to get necessary amount of credits

There is no certainty whether Japanese companies will contribute their credits or not, because there may be no incentive for the companies to contribute their credits.

Conclusion

The section below evaluates 4 options above from three criteria, the certainty of getting credits, the cost-effectiveness and the risk of transfer of national budget. And point is that the last one is less important than the former two.

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	ERUPT/CERUPT	PCF	Expanding the subsidy system	Contribution
.Certainty of getting credits				
.Cost effectiveness			×	
.Risk of transfer of national budget				

*1. In criteria ,decision of methodology panel in Executive Board is risk for these four options

*2. In ERUPT/CERUPT, it is possible to get credits cost-effectively, however, there are some administrative costs to set up the system.In this table, administrative costs are considered.

According to the table above, ERUPT/CERUPT and PCF will be important options, because of the certainty of getting credits and cost-effectiveness. These two criteria are most important, as is mentioned above. Therefore, this table suggests that the Japanese government should introduce ERUPT/CERUPT and PCF as main measures to acquire credits.

Especially, many countries have invested in PCF. However, in PCF, the Japanese government can get credits at the maximum 60 million C/t (the potential of PCF is small, because PCF is prototype). This shows that the Japanese government cannot fulfill the target only by investing in PCF. The potential of ERUPT/CERUPT is considered to be larger than PCF. Therefore, ERUPT/CERUPT can be the main measure to get credits cost-effectively and certainly.

When you consider policy mix, it is possible to introduce these four options if there are no limits of budgets. However, the option4 is less cost-effective than ERUPT/CERUPT and PCF. Also, it is hard to set a target of acquiring credits. On the other hand, option3 (Upgrading and expanding the bounty system) is an important policy to eliminate the barrier for companies to carry out CDM/JI. However, this option cannot be a main option, either

In conclusion

1. ERUPT/CERUPT and PCF should be main measures to get credits certainly and cost

effectively

2. Option cannot be a main measure, but it is important to ease the barriers
3. Option should not be introduced

2. The policy to increase the total amount of the Kyoto Mechanism credits

The amount of the Kyoto Mechanism credits should be sufficient to carry out policies we mentioned before. Therefore, other policies are necessary to increase total amount of credits in the world. These are policies which increase the total amount of Kyoto Mechanism credits. The following measures are options to increase them.

Option1; Carry out Capacity Building

Option2; Suggestions to Executive Board

(1) Implementation of Capacity Building (including F/S)

In this paper, Capacity Building is

1. Creating institutions and streamline domestic firms in developing countries
2. Improving interest and understanding of CDM
3. Joint research of CDM potential in developing countries
4. Case study by validating model project

In the present situation, the budget of Capacity Building is 590 million, and carrying out by Ministry of Economics, Trade and industry. We think that the investment in Capacity Building should be increased by using ODA funds. ODA is not approved to use for carrying out CDM, and this is not profitable for the Japanese government. However, as for Capacity Building, there is no barrier to appropriate ODA fund. In 2001, the Japanese government budget 9.8 billion for ODA. In the year 2000, the number is about 13 billion. Compare these two years, it is clear to say that ODA fund is decreasing rapidly. One of the reasons is that there is strict criticize against the existence of ODA. However, if ODA funds will shift to environmental issue it will be easier for the Japanese people to agree it. If ODA shift to CB, CDM may be accelerated, in the future, it make developing countries be able to attend GHG reduction resume, at the same time, it is the chance for domestic companies in Japan to get KM credits. In this way, Japan should run it very effectively.

Credits supply is necessary for making maturing CDM credit market. So now, many investing countries and international organizations run CB in host countries. The Japanese government will run its activity in mainly Asia. However, for Japanese

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government, the issue of running it is how they can reduce overlapping CB run by other countries. So it is necessary to actualize the potential of CDM credits by effective actual research.

(2) Suggestions to EB

Actually the firms plan to carry out CDM must use baseline monitoring methodology approved by CDMEB (Executive Board). In the case these are not approved, there is need to submit new methodology, and to be approved these methodologies in EB. In 9th CDMEB new methodologies were evaluated at the first time, all 14 methodologies weren't approved as (A) rank. And 2 methods in 10th CDMEB, 4 methods in 11th were approved. In general, it is not easy to be approved in EB. In the present situation, it takes almost 4 months to approve methodologies. So it is considered that if methodologies evaluated under (B) rank once, it takes 8 months. If it will not be approved twice, it takes 1 year to start projects. In this way, judging of CDMEB tends to take long time and be very strict.

Concretely, the proposal that CDMEB should not take such a strict standard is considered to be one of the options. However, the Chairman of CDMEB said "The board must strike the right balance between ensuring that the CDM delivers credible emissions reductions and encouraging investors to engage in CDM projects. Without investments, there will be no CDM, but if CDM were to lose its credibility, no actors would wish to meet their commitments through CDM investments" Namely, it is essential to judge strictly to keep credibility of CDMEB. It is not easy for EB to stop using strict standard to approve methodologies.

So our proposal is that CDMEB should judge speedier. If judging speedier than now, it can reduce the risk for companies that would like to carry out projects. Now, CDMEB members are 10 persons. Methodology Panel consists of 12 members. Methodology Panel takes form that it introduces methodologies at first, then it chooses the experts to review it. Finally the experts submit recommendation of methodologies to the EB. But most of them have another job to do. This is one of the reasons why it is not easy for them to do it speedy. To get rid of the situation, it is need that many experts should belong to CDMEB, and the members of panel should be increased.

3. Carbon Tax

The government needs to budget for these measures. This section proposes the Japanese government appropriates tax revenue from carbon tax for the budget of those policies above.

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In the revision of "New climate change policy program" in 2004, there is a high possibility of introducing carbon tax. It seems to be an effective policy to reduce GHG from domestic and transport department during the first commitment period. The concrete plan is discussed on carbon tax exploratory committee. It estimates 2% reduction in CO₂ in energy use from 1990 level by introducing low rate tax not to have negative effect on economy. According to the report that was published by this committee, there are ways to use revenue that can get by this tax, and utilizing KM effectively is considered as one of the ways. If the Japanese government set the target in 98 million ton credits, and the cost to reduce one tons of GHG is about \$8, the government needs 83.8 billion yen to achieve it.(In fact, this price might not collect because this price doesn't consider the cost of CB, and there will be a risk of fluctuating carbon prices.) In the report, the tax income estimates 950 billion yen in case of low rate. So, it is possible to use budget for utilizing Kyoto Mechanism. From this point of view, introducing carbon tax is considered to be very useful to promote Kyoto Mechanism.

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Epilogue

To get KM credits is very important to achieve the target of the first commitment period cost-effectively. It is necessary to have concrete strategy to get credits and carry out specific policies as soon as possible. At the same time, If Japan which has second biggest economic power in the world work on getting KM credits, it will contribute to solve climate change problem itself. If the total amount of CDM credits increase in the world, the latest technologies for reducing GHG will be transferred to developing countries. In the long term, this can solve the “Non-participation of developing countries”. If this issue will be solved, it will be hard for USA to sit out from Kyoto Protocol. The president of the United States declared their withdrawal from Kyoto Protocol because of non-participation of developing countries, especially China and India. So, if developing countries will participate into Kyoto Protocol or other global climate change regime in the future, it will be hard for USA to reject participating in these regimes.

The international situation about KM is changing every day. So, it is true that there are various uncertainties about this issue. However the Japanese government should take this situation as a chance, and should do its best to be the top runner in this field.

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