

**A Proposal of Domestic Policies and Measures Portfolio
to Address Climate Change Mitigation in Japan**

Strategic Institutional Design for Entities
to Enhance their Capacities in Business
under the Carbon Constrained World

IGES Climate Policy Project

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supported by

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Preface

This report is the executive summary of the policy proposal report of IGES climate policy project released in July 2002. The full report (170 pages) is only available in Japanese.¹

In November 2001, the international fora succeeded in agreeing the Marrakech Accords as the rule book of the Kyoto regime. This implies that the world has transited from international institutional arrangement to implementation and domestic framework building.

Japan ratified the Kyoto Protocol on June 4, 2002. At the time of releasing the Japanese version of this report, ratification was made by 75 countries and has increased to 105 countries now. Still uncertainties remains for ratification by Russia, we believe it is a matter of timing.

As for the domestic institutional arrangement in Japan, the New Guidelines² was released but no additional incentive schemes were introduced (nor announced) in it. It only says that after policy review in 2004, the second step will be introduced (and the third step comes from 2008).

As the marginal cost to reduce GHG is one of the highest, Japan tends to realize itself as a loser in the Kyoto framework. However, Japan's technology levels (both current implementation level and potential for innovation) are also highest amongst the world. In other words, Japan should recognize that it has a big potential to be a winner in the *business* environment where the climate mitigation will be strengthened.

From the perspective to tackle this climate issue for hundreds of years globally, innovative technologies development and diffusion is the key. Japan should play an important role as a front-runner in this field.

¹ The full report can be downloadable from <http://www.iges.or.jp/jp/cp/report5.html> and http://www.climate-experts.info/New_Publications.html.

² The current policy framework of Japan can be found in the third National Communication (downloadable from <http://unfccc.int/resource/natcom/nctable.html#a1>).

0.0. Preface

However, in order to fully utilize such a potential, Japan should have a clear vision backed by the proper institutional framework arrangement. The vision should promote the business opportunities in this climate mitigation field by private sector.

This objective of this report is to propose a portfolio of policy instruments by integrating their merits, and find a solution on this question in designing the policies and measures framework.

This report put emphasis on the industrial theory aspect in climate mitigation, other than claiming the Kyoto target only. As the marginal abatement costs in Japan is extremely high, this report includes rather unusual proposal, although taking into account the feasibility of surrounding political conditions.

The essence of the proposal includes the huge resource shift among sectors and creation of new value-added associated on climate to back the climate mitigation business activities. It also takes care of other policy objectives than climate.

After releasing the Japanese version, some progress has been seen in Japan (which are not considered in this English version). One is the broadening the targeted energy sources (especially coal) in the energy tax system. Although the revenue has kept almost neutral (a little bit increase), such a change is in line with this proposal. Another one is the introduction of the RPS (Renewable Portfolio Standard). It is too early to judge this scheme, but many problems are pointed out now. As for the domestic emissions trading scheme, two pilot trading schemes are to start in FY 2003 and 2004 (under Ministry of Economy, Trade and Industry and Ministry of the Environment).

As the emissions are apparently much more than Kyoto target level, I believe that Japan is going to introduce new type of schemes, especially emissions trading from 2005 in the second step. Political and technical aspects may emerge on the table or below the table in 2003. Japan is now facing to the turning point.

The private sector in Japan is now struggling to change its structures and way of thinking. Addressing climate change is one of the *driver* to have successful structural reform. As the regulation is getting stricter, Japanese companies' potential advantage is strengthened (!), if the government and the private sector consider it as the big opportunity.

The report is a fruit of my long history in the research of climate policy instruments started at the Institute of Energy Economics, Japan. This version has its basics in my presentation at the IGES Brainstorming Forum on Emissions Trading and the Open Forum on Climate Policy Design supported by my colleagues in

IGES. I thank many people of think tanks and private sectors who participated in this domestic policy design project for valuable discussions.

I hope that the elements of this report stimulate many people who are involved in domestic policy design in all over the world.

At office in Hayama,

Institute for Global Environmental Strategies (IGES)
Climate Policy Project

A handwritten signature in black ink, reading "Naoki Matsuo". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Naoki MATSUO

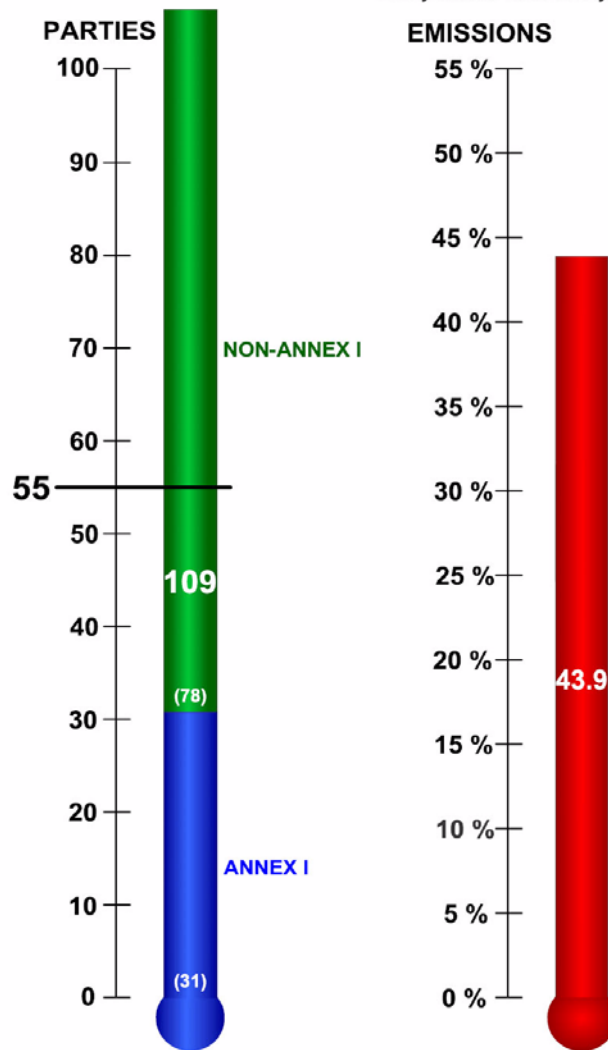
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KYOTO PROTOCOL THERMOMETER

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Chapter 0 Table of Contents



1

Executive Summary

The subject of this proposal is which systems would help Japanese companies to comply with the Kyoto target (which is relatively stringent) in a cost-effective manner, while striving as a “winner” under the CO₂ constrained world, using their energy efficiency technologies at one of the world’s highest level.

The key to achieve this objective is how we can organically combine policy instruments to maximize their strengths, and how to incorporate not only “sticks” but also “carrots” in it.

This executive summary presents the outline of the entire proposals, summarizing just the essence of them. Please see the following chapters for the details of the proposals, while Japanese version only is available now.

We hope this proposal from IGES will provide a trigger to promote discussions on domestic policies and measures in Japan, as well as in other countries.

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..... **1.1**

Basic Idea of the Proposal

Given that international climate change initiatives based on the Kyoto Protocol have now entered an implementation stage, with which domestic P&Ms (policies and measures) framework should Japan take action?

This paper discusses this important issue mainly from the approach of industrial theory, and presents proposals in the form of specific policy recommendations. This paper summarizes the outline of the proposals, specifying their framework—from their visions to the specifics of the actual P&Ms portfolio proposal.

1.1.1 Introduction

The Kyoto Protocol finally succeeded in defining its operational rules in the form of “the Marrakech Accords” at COP 7 in November 2001. In response to that, countries have started their ratification processes. It can be said that at last, the international community has shifted from “Design of Institutions” stage to “Implementation of Measures” stage, —in other words, from the “low” gear to the “second” gear.

The next challenge we are facing at is “how (developed) countries would comply with their Protocol targets under these rules”. In some countries, specific programs and action plans have already been launched. There are a number of business sectors that have started their own actions without waiting for their governmental regulations. On the other hand, the Japanese government revealed their intension to seriously tackle with this issue through the revision of the Guidelines of Measures to Prevent Global Warming in March, the Diet resolution on ratification in May, and its approval by the Cabinet meeting in June 2002, though they do not seem to perform the extensive review of their policies and measures until 2004. Even if they succeed in introducing new systems from 2005, they have only three years before 2008, when the first commitment period will start. It must be admitted that it would be rather difficult to change the course of ongoing emissions trend.

In that sense as well, it must be necessary to envisage clear future visions and to design domestic systems to realize them.

Design Stage of
Institutions →
Implementation
Stage of
Measures

1.1. Basic Idea of the Proposal

This paper discusses and proposes desirable domestic systems that should be established before 2008, keeping an eye on a period after 2008.¹

1.1.2 Future Visions

Future Vision as industrial theory

Generally, when people discuss the theory of policies and measures or their specific contents applicable for climate change, they often address this issue in the context of “in order to achieve the Kyoto target² . . .” Here, let us first view this issue from the approach of industrial theory.³

How to utilize Japanese high-tech?

The characteristic of Japanese industries is their high/advanced technological skills (both technological level and capacity for technological development and innovation) especially in manufacturing sector, which can be said as the strongest weapon for Japanese industries to compete in the global market.⁴ In the area of energy conservation as well, Japan has capability to utilize as well as to develop its energy conservation technology, which is at one of the highest level in the world. In principle, therefore, it should have a potential to be

Potential to be a winner

a winner in a society where carbon emissions are constrained somehow. This paper takes a position that it is necessary for Japan, which aims to be an environmental nation in the 21st century, to make full use of this strength of its industries, and at the same time, this would be also beneficial for tackling the climate change issue, which is the global challenge to be addressed over hundreds of years.

On the other hand, regulations related to climate change mitigation are not at all likely to be eased in the future. Instead, they would rather be reinforced and

¹ Most of them, of course, continue to be applicable even after 2008, and are based on the recognition that the climate change is an issue of 100 year-scale.

² Especially in Japan, people tend to illogically jump to a conclusion that the compliance of the Kyoto target means to reduce its “domestic” emissions below the Kyoto target level. As the Protocol allows the use of the Kyoto mechanisms (acquiring emissions allowances/emission reduction credits from other countries = acquisition of tradeable permits), this assumption is misleading.

³ This does not mean that individual efforts are not respected, but reflects an idea that it is more essential and effective for climate change measures to be put on economic principles that actually controls the society, —which should be placed greater emphasis than individual efforts. With the change of “social systems”, the lifestyles of individuals living in that society should be changed automatically.

⁴ This paper does not take a position that it is more desirable for Japan to have its industrial structure overly shifted to the service industry (although this may reduce energy consumption). Rather, it considers designing systems that will enable Japanese companies to make the best use of their high technological skills and capacity for technological development.

expanded, and technological development would be promoted. In other words, it is expected that the “market”⁵ in this field would continue to grow over the hundreds of years in the future.

Future Vision
from business
view points

Therefore, this paper holds the followings as our “Future Visions” to aim for:

1. The climate change related business (the business supporting others’ climate mitigation efforts) will grow domestically in Japan, while at the same time, giving Japan significant competitiveness and share in the global market of this business to be a market leader;
2. Japanese industries will maintain and further develop their current high potential in technological development/innovation to explore the frontiers in this field;
3. Climate change measures by Japanese companies (for compliance with domestic regulations) can be implemented domestically at least at the same cost level with other developed countries;
4. Many Japanese companies will come to sell their tradeable permits in both domestic and international emissions trading markets.

Of course, Japan’s compliance with its Kyoto target (commitment)⁶ and its use of the Kyoto mechanisms are the prerequisite.

On the other hand, from the broader viewpoint of “the modality of industrial competition”, it is obvious that we have been ushered into a new era in the 21st century. Therefore, such systems should be required that allow companies seeking to make the best use of their new business opportunities based on their creativity, while taking risks into consideration, to do so in the field of climate mitigation related business. In other words, a new P&Ms portfolio should aim the following:

Targeted system

Systems that encourage Japanese companies to view the climate change issue as one of the “new changes in the business environment”, and to develop as well as expand their new business both domestically and internationally based on their high technological skills and potential.

⁵ “Market”, here, means not only the market of tradeable permits or emission reduction credits but also the larger market of “climate related business” that include the above.

⁶ An approach here is to design systems that would facilitate domestic emission reductions as much as possible in addition to ensure “automatic” compliance (introducing mechanisms where one’s excess emissions are compensated by others’ over-achievement).

1.1. Basic Idea of the Proposal

1.1.3 Challenges to Overcome

However, there remain several challenges to overcome in order to realize such “visions”.

How to overcome high-cost structure?

First, the Kyoto target for Japan is considered to be at a relatively strict level compared with that of other developed countries, and its marginal cost for domestic GHGs emissions reduction is at a substantially higher level than theirs. It is partly because energy efficiency and fuel conversion implemented in the industrial sector since the past two Oil Crises and efficiency increase in equipment in the building and transportation sectors seem to have been saturated. In addition, in the building and transportation sectors, which are very close to people’s lives, an energy consumption level is lower compared with that in Europe and the US and still increasing.⁷ Thus, Japan is relatively disadvantageous both in terms of “intensity” and of “total emissions amount”. Therefore, it is not at all easy for Japan to realize Point 3 (to keep the compliance cost of companies lower) and Point 4 (the sale of tradeable permits by Japanese companies to overseas).

Low-cost permits acquisition
→
Negative incentive for technology development?

Secondly, in order to satisfy Point 3 (at least in terms of the marginal cost), it would be necessary to actively utilize the international emissions trading, and to acquire the substantial amount of allowances and emissions reduction credits (which are cheaper than domestic reduction costs) from other countries. As this means to secure the compliance of domestic regulations by the acquisition of cheaper tradeable permits, it would risk Japan’s relative advantage in the Point 2—capacity for technological development/innovation. It can be said that this issue contains a great “contradiction” in a sense.

In addition, the consistency with an energy price reduction trend associated with “the liberalization/deregulation of energy market”, which is another aspect of energy policy, would be another issue to be considered.

1.1.4 Basic Approaches

This paper applies the following approaches in designing P&Ms to overcome the dilemmas stated above and to realize the “Visions”:

⁷ It should be also because of the increase of individual income, low energy prices since 1986, and the loss of morals that value energy and resource conservation that has been driven by the bubble economy. By the way, CO₂ emission level in Japan for FY 2000 is 10 % increase from the 1990 level, and total GHGs emission level is 8 % over the level of the reference year in the Kyoto Protocol (14 % over the level of the Kyoto target).

Chapter 1 Executive Summary

- Basic Approaches of the Proposal
1. *To give multiple rewards to companies doing something “good” (not only for the climate mitigation but also for other values-added);*
 2. *To emphasize the design of “carrots”, not only the “burden” of complying with domestic regulations;*
 3. *To get involved in free competition and to utilize market mechanisms;*
 4. *To realize low cost reduction options first.*

Multiple reward system by policy objective

“Good” in the first point means to create “new additional values”. The GHGs emissions trading system is a system making GHGs emissions reduction (or the enhancement of sinks) a new economic additional value. There can be many policy objectives other than to address the climate change. By fully taking not of such objectives and putting them on the economic principles, we can recognize such actions that could multiply contribute to several policy objectives—kill-two-birds-with-one-stone solutions—to be more desirable in the economic mechanisms. Such values may include the intrinsic value of renewable energy, the value of contributing to energy security, and the value of conserving resources, in addition to that of GHGs emissions reduction.⁸

Carrot-type incentives to maximize leverage

A “carrot” represented in Point 2 aims a “leverage” effect, which means that the implementation of emission reductions would not only facilitate the compliance with regulations but also bring some kind of rewards (financially or in the form of tradeable permits). Regarding energy consumption in the industrial sector, for example, as well, its high marginal reduction cost can practically be lowered by providing a “carrot”. In addition, continuous emissions growth in the building and transportation sectors could be lowered by giving such incentives to companies for selling energy-efficient products. This can also contribute for bringing out the creativity of the private sector and making full use of it.

Free competition in emission reductions as new market

“Free competition and market mechanisms” in Point 3 means that the systems should facilitate companies to take strategic actions on the base of their own wills and creativity, which is the new modality of business operation and development in the 21st century. (A forward-looking strategy and risk management is especially emphasized here). In other words, it aims to introduce a competitive environment in the world of climate change measures as business opportunities, and in fact,

⁸ These values are often mixed up as the same thing, but they should be considered as different values by nature. Though their relative importance is a matter of controversy, if some regulations or targets are introduced by a policy that takes such values in account as additional values in the market economy, their significance will be determined by the market. (The government need not designate their significance).

1.1. Basic Idea of the Proposal

many multilateral companies in the world have demonstrated this principle. This would include the utilization of the market, such as emissions trading (but this is not the only one).

Correcting
the market failure

“To realize low cost options first” in Point 4 intends to utilize market mechanisms as much as possible, and to let the market (not designated by the government) search, find and realize (domestic/international) low-cost reduction options. Here, the government role is considered as “correcting the market failure” so that appropriate information would be disseminated and that necessary deregulation could be carried out smoothly.

Each of the above approaches should be designed so that they will complement each other to create synergy.

1.1.5 Strategy: Responsibility Share and Resource Shift among Sectors

The realization of “Future Visions” mentioned in 1.1.2 above may sound too much idealistic and, in some sense, contradictory. In order to pursue compliance at low cost, it would be necessary to make full use of the Kyoto mechanisms, —which is the massive purchase of overseas allowances (AAUs) and emissions reduction credits (CERs, ERUs)—, and in such a case, companies would rather choose to buy such GHG units than to enhance their technological skills, which may result in the loss of the technological advantage of Japanese companies in the market of GHGs emissions reduction. In addition, there would be little possibility for Japanese companies to be the sellers of the tradeable permits.

On the other hand, it is also true that the Japanese industries are extremely frustrated because climate change regulations target the industrial sector with a low growth in a concentrated manner (because it is easy to regulate), and measures for the building and transportation sectors with a continuous growth are insufficient.

Equity and
responsibilities
among sectors
are key in design

This can be summarized into a question of how we should address “equity and responsibilities among sectors” in emissions reductions.

Here, this paper takes a position of respecting efforts to increase energy efficiency implemented by the industrial sector since the 1st Oil Crisis, considering that “the main responsibility” of emissions increase since 1990 and in the future is at the building and transportation sectors. In fact, the question of how to reduce the emissions increase in the building and transportation sectors is recognized as

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the main problem discussed at government councils *etc.*, but a magic wand that could be a fundamental solution has not been found.

Fulfilling
responsibility
= Paying costs
Resource shift:
Building/
Transportation
→ Industry

This paper adopts an approach of “paying costs” to fulfill the “responsibility”, rather than “implementing actual reductions”. This means to design a scheme where resources will be partially transferred from the building and transportation sectors to the industrial sector to facilitate further emissions reductions in the industrial sector.

With such incentives (this will be the resources of a “carrot”), it can be expected that emissions reductions can be implemented at lower cost in the industrial sector in such an amount that is enough for selling to other countries. It can also be expected that even high-cost reduction options will become (economically) feasible, which will enable Japanese companies to maintain and develop their technological advantage in the relevant field.

This idea, of course, still includes controversial issues in terms of “equity”, and seems to require consensus making among the people.

1.2. Portfolio of P&Ms (Policies and Measures)

..... 1.2

Portfolio of P&Ms (Policies and Measures)

Portfolio of
Instruments

This section designs specific policies and measures based on the approaches to realize the visions envisaged in the previous section. The P&Ms should be structured as a systematic portfolio of instruments so that they can make use of their strength while complementing their flaws each other.

1.2.1 Ground Design

In designing the whole picture of the systems, the core idea is what sort of P&Ms package will be most desirable for the industrial sector or companies. Under the Energy Conservation Law, the industrial sector has preceded with a substantially detailed scheme-making for energy efficiency in the form of the Type I and II designated factories system, and the energy manager system, in which the Law has established the trained experts as well as implement energy saving measures. Therefore, in terms of physical energy intensity, the level of energy saving in Japanese companies (especially those consume substantial amount of energy including the energy supplying sector) is the highest in the world. In addition, voluntary targets setting in the form of the Keidanren's Voluntary Action Plan and their follow-up processes have been implemented.

It is indicated by various models and others that the marginal cost to improve its already high energy efficiency in order to achieve the Kyoto target is probably at the highest level even among developed countries. It is also true that the growth rate of GHGs emissions in the industrial sector is substantially lower than that in the building and transportation sectors, —though it is difficult to say that it has improved in terms of energy intensity per unit of IIP (Index of Industrial Production). In addition, the industrial sector has already been exposed to international competition, which should also be noted.

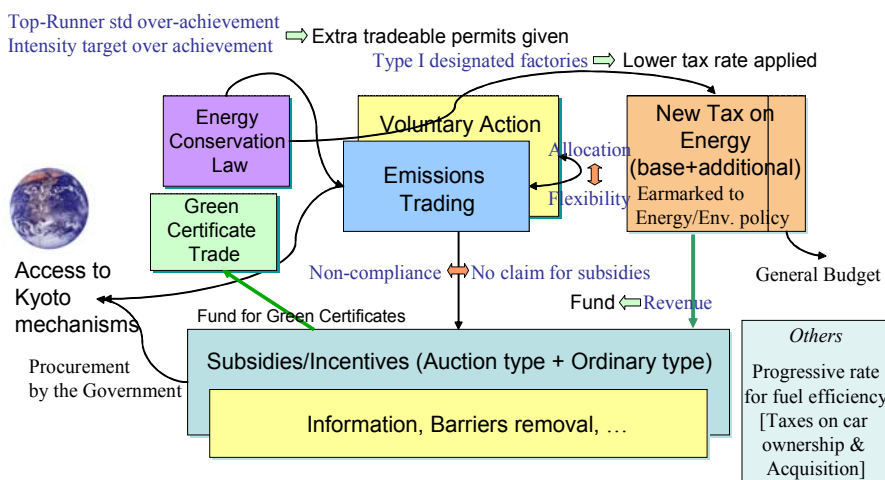
This paper attempts to provide a platform for Japan to design new systems, where Japanese companies could reduce emissions as cost-effectively as possible, while effectively making use of the emerging international emissions trading market. Therefore, this paper proposes a system where companies with relatively

Platform to utilize Kyoto mechanisms

higher energy consumption would introduce emissions trading (as a domestic system) to enable the most cost effective measures, and at the same time, to easily incorporate the use of an emissions market in their operational strategies. Of course, it goes without saying that this domestic system should necessarily link with the international market—which means that tradeable permits acquired from international markets can be used for domestic compliance. A system to be designed here respects companies' self-initiative by letting them do that through the upgrading of the Keidanren's Voluntary Action Plan, and utilizes its existing targets, if possible. Of course, participation in trading is to be at each company's discretion, and without participation in trading, the new system would be just the same as the existing Voluntary Action Plan. If one wishes to trade, it should accept its company-level allowance, (which should be consistent with the specific target for its industrial sector of the Voluntary Action Plan), but it can be given substantial flexibility (of securing low-cost reduction options outside the company) in return. Those that have not participated in the Voluntary Action Plan are to be allowed to participate in trading after setting their own targets (designated by the government). They may choose intensity targets, but they must be converted into absolute emissions amount based on estimation, and the balance with the actual values will be adjusted in a subsequent year. Monitoring and others are to be prepared by enhancing the current reporting system for the designated factories under the Energy Conservation Law.

How to make portfolio of various instruments organically?

Figure 1.2.1 Ground Design of P&Ms Portfolio



1.2. Portfolio of P&Ms (Policies and Measures)

In addition, as the “carrot” side institution, this paper proposes to establish an “Auction-type Subsidy”, which is most characteristic in the proposals in this paper. Generally, subsidies are mainly designated their purposes by the government. However, in order to encourage the market to find which kind of low-cost options are available and to materialize them, this paper considers introducing auction for subsidies—without designation of emissions reduction methods. In this system, bidders will present bids on the cost and feasible reduction amount of low-cost options, and then the government adopts the one with the lowest-cost first in order to realize the largest emission reductions with the limited amount of resources. Then, options that have been realized will be paid their costs as declared. As extremely radical efforts are required to reduce Japanese emissions substantially, the scale of such subsidies is estimated here to be around 1 trillion yen (8 billion Euros).

In addition, this paper proposes that ordinary-type subsidies, auction-type Green Certificates, the dissemination of information related to energy saving, and the removal of barriers (including deregulation, *etc.*) should be combined at the same time. Especially regarding the removal of barriers, an institutional framework should be introduced to review and implement it based on public requests. In the meantime, companies that have failed to achieve their targets of the above Voluntary Action Plan or the emissions trading system cannot apply for these subsidies.

From the perspective of facilitating the introduction of renewable energy, this paper proposes to introduce the trading system of Green Certificates and to promote it by adopting competitive bidding for subsidies.

The resources of these subsidies are to be financed by tax revenues from the “New Energy Taxation” that is imposed on final energy consumption in all sectors. The tax rates, however, should be lower for Type I designated factories that have already been under the strict control of the Energy Conservation Law (base rate), a little bit higher rate than this for Type II, and the highest rate for the building and transportation sectors according to their consumption rate of increase. By this, the ear-marked taxes for energy policies—the existing petroleum tax (for oil and gas) and the promotion of power resources development tax—with the total revenue of approximately 1 trillion yen—will be restructured to be doubled. It means that the taxes will be restructured as the new ear-marked taxes for energy and environmental policies, and approximately a half of the revenue will be used to finance climate change measures (mainly as the resources for the above auction-type subsidies) to provide incentives for proceeding with emissions reductions.

Regarding the criteria for the rate setting, it might be possible to combine various factors relevant for different energy and environmental policy objectives, such as carbon contents (for the climate change) or the portion of Gulf oil (for the energy security).

In addition, this revenue can be used for the resources for the government's acquisition of GHG units when emissions outside of the domestic trading scheme—which have no access to Kyoto mechanisms—increase, so that Japan's achievement of its Kyoto target will be guaranteed in principle. The Japanese government will be able to secure “flexibility”—or be a buffer—in implementing measures to comply with the Kyoto target based on this substantial amount of revenues. In case the revenue from this source increases further due to the review of taxation for road-use revenue, including the gasoline tax, that would be added to the general revenue.

As for non-energy use taxation, it should increase dependency on fuel economy in the tax on the acquisition and ownership of cars, while keeping its revenue neutral.

Finally, another system should be introduced as another carrot that enables companies selling products that have over-achieved the top-runner energy efficiency standard set by the Energy Conservation Law to receive the equivalent amount of tradeable permits to the reductions (calculated based on a certain formula). In addition, companies that have over-achieved the current (non-mandatory) energy intensity target of 1%/yr in their Type I designated plants, would also be able to receive the equivalent amount of tradeable permits to their reductions (calculated based on a certain formula).

These systems would set an incentive that especially encourages companies to implement, facilitate, and develop voluntary emission reductions including even those with high costs, and share such a burden of supporting the resources by all people—especially by the transportation and building sectors. At the same time, through the introduction of the emissions trading system that respects companies' self-initiative, this proposal intends not only to utilize the market as a low cost solution but also to provide a platform for Japanese companies to participate actively in this emerging international emissions market.

Now, let us see such instruments one by one and in detail as follows.

1.2.2 Ear-marked Tax for Energy and Environmental Policies

Current Energy Tax System

Taxes that are currently imposed on energy in Japan are “the Customs of Petroleum” and “the Petroleum Tax”, which are with a wide coverage and a small burden (both of them are imposed at the stage of importing petroleum and natural gas), and “the Promotion of Power Resources Development Tax” (paid by electric companies at the supply of power). Their tax rates are ¥2,255/ℓ for the customs of petroleum and the petroleum tax, and ¥0.445/kWh for the promotion of power resources development tax, and there are no tax reductions in principle.

They are made to be the energy tax for ear-marked tax revenues, which is exclusively dedicated to energy policies (supervised by the Ministry of Economic Trade and Industry), the customs of petroleum and the petroleum tax (approx. 500 billion yen p.a.) are used for petroleum, alternative energy for petroleum, and coal; and the promotion of power resources development tax (approx. 400 billion yen p.a.) is for power plant siting, the diversification of power sources, and nuclear power (partially from general revenues as well).⁹

In addition, there are ear-marked taxes for road-use revenue which are huge in scale but with limited types and usage: the Gasoline Tax (rate: ¥53.8/ℓ, revenue: 3 trillion yen p.a.), the Diesel Fuel Oil Tax (rate: ¥32.1/ℓ, revenue: 1.3 trillion yen p.a.), and LPG Tax (rate: ¥9.8/ℓ, revenue: 30 billion yen p.a.). (In addition, tax levied on the acquisition and ownership of cars is also an ear-marked tax for road-use revenue). These taxes—politically tinged—are expected to be examined in future in a review on taxation by the current Koizumi administration.

This paper would not step into the discussion on these ear-marked taxes for road-use revenue (which is quite a political issue), but would rather focus on re-designing the above ear-marked taxes for energy policy objectives (their current revenues are approximately 1 trillion yen in total). If a tax on transportation fuels for the road-use revenue should be reinforced by a political decision, this additional revenue should be incorporated into the general revenue.

⁹ In addition, the aviation fuel tax is imposed on fuels for domestic aviation, to be used for the maintenance of airports (with revenue of 100 billion yen).

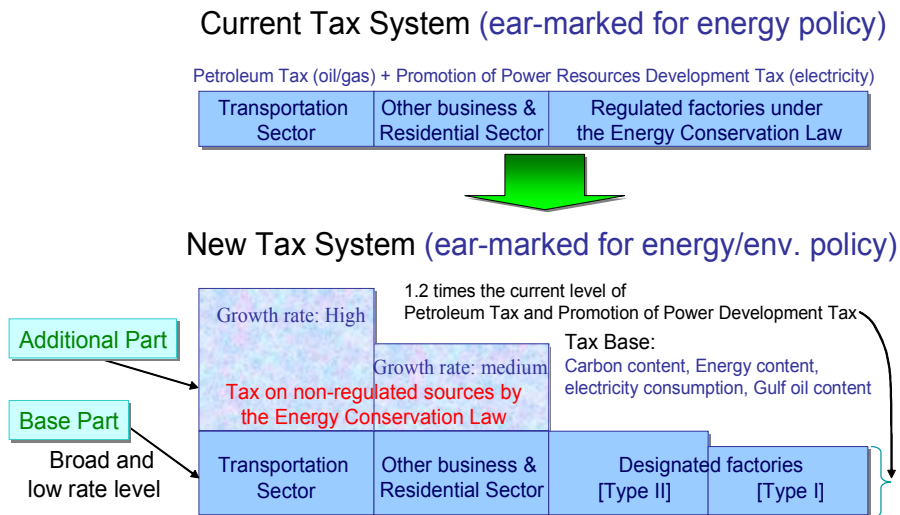
New Proposal

The current petroleum tax, customs of petroleum and the promotion of power resources development tax are energy taxes paid by the supply side, imposing small burdens on the large number of taxpayers. A proposal here is to restructure these ear-marked taxes for energy polices for special account, differentiating the share of burden by sectors, in order to make the total revenue (*i.e.*, average tax rate) double of the current level, and to be imposed on the consumption side.

As for the tax rate setting by sectors, this paper proposes to keep the current taxation with a small burden and a wide coverage as the “base load”, making differentiation in “additional portions”. Specifically, for energy consumption by Type I designated factories, that has been subject to the Energy Conservation Law—which might be most strict one in the world—, the new rate would be set at a level a little bit higher than the current one (*e.g.*, 120%), and for Type II designated factories, it would be set at a little higher than the former. For those that have not been subjected to the designated plants system under the Energy Conservation Law, —which are the remaining part of the industrial sector and the building sector (business and household)—, the tax rate would be still higher. And for the transportation sector with the highest growth rate, it would be highest, so that the total of these additional revenues will be made 1 trillion yen per annum (almost the double of the current level).

Broad but differentiated tax based on each sector's responsibility

Figure 1.2.2 New Ear-marked Tax for Energy and Environmental Policies



1.2. Portfolio of P&Ms (Policies and Measures)

The above illustration is just the outline of the concept. Therefore, the details would not be specified in this paper. For example, it might be possible to differentiate the tax rates between passenger and cargo uses in the transportation sector, or to keep the tax rate lower for public transportation. It might also be possible to differentiate the rates among the consumption, business and household in the industry that is not included in the category of designated factories¹⁰ However, this paper would present just only the concept of keeping the common rate for the base part and making differentiation for additional parts, taking account of the current regulations or the growth of consumption, and would not mention about the specifics of the design to leave the robustness or flexibility in system designing.

Tax rate setting reflecting many policy objectives

Regarding criteria for tax rate setting by energy type, it should be reviewed including that for the base part. Here, several policy objectives are to be identified first, and then the tax bases appropriate for each objective are to be considered. If a policy is aimed to tackle with the climate change issue, taxation based on carbon contents would be reasonable, and if it is for energy conservation to save resources, it would be based on energy intensity. If the energy security issue can be viewed from the perspective of our dependency on the Middle East oil, taxation on petroleum imported from the Middle East would be reasonable. For power plant siting, it has been considered that the resources should be financed uniformly from power consumption. A decision to set a limit for taxation on energy for material-use (which would have an impact on international competitiveness) up to the current level would be reasonable from the industrial perspective. This paper would not discuss how they should be coordinated—to leave flexibility in system designing—but would rather point out the importance of “the process of discussion (on the appropriateness of their objectives and scales).” about how much resources would be required for achieving respective policy objectives and how we should impose taxes on energy to finance them, making clear distinction between each policy objective. (However, this does not mean to be rigid about their usage).

Another important thing is that this is just a proposal of introducing a little differentiation on taxation originally with a wide coverage and “a small burden”, and the substantial reduction of energy consumption itself cannot be expected. Rather, its main objective is to secure financial resources to implement energy and

¹⁰ In February 2002, METI proposed the introduction of another designated factory system similar to the existing one, also for large-scale energy consumption facilities in the business/commercial sector in order to reinforce the Energy Conservation Law. This was established in June.

Tax ear-marked
for energy and
environmental
policy

environmental policies, and the “responsibility” of each party is represented in the form of tax rate.

The usage of the tax revenues, in addition to the current usage, is as follows—which are also explained in the previous section “Ground Design.” The additional revenue (directly or indirectly) related to the climate change is estimated to be around 1 trillion yen per year.

- Auction-type subsidies for energy conservation and fuel switching (for the climate change)., (to be explained in the next section);
- Incentives for the dissemination of renewable energy (resources for Green Certificates Auction (to be explained below), *etc.*);
- Resources for the utilization of sinks and forestry (appreciating the additional values of forests);
- Resources for purchasing additional tradeable permits by the government to cover excess national emissions;
- Resources specified for energy security (the increase of the national reserve and the decrease of the private reserve of petroleum);
- Measures for coal;
- New measures for nuclear power (the expansion of the governmental role under the deregulation of the power market).;
- Reinforcement of electric systems (the introduction of common carriers by the government).

This idea to limit the usage of the revenues for some usage, not for general expenditure, would not always be desirable from the perspective of public finance. However, considering the deep-rooted distrust of the public on the lack of transparency in the current government’s spending, this paper would rather take the position of considering that the clear designation of their usage and the enhancement of the review process (to ease rigidity). would be a desirable and easier way to get a public consensus on this new burden,¹¹ and in that sense, they should be made ear-marked even though the same amount of money would be expensed from the general revenue.

¹¹ This paper will not explore into a matter whether the additional tax revenue of 1 trillion yen should be offset by other tax reduction. As its influence on GHGs emissions is small and it requires a broad perspective beyond the matter of how to deal with the climate change, this issue should be left at political decision on financial and tax policies.

1.2. Portfolio of P&Ms (Policies and Measures)

As the sudden introduction of additional 1 trillion yen tax would cause some trouble, it would be more realistic to increase the amount gradually from the base part over three years (2005–2007). It should be desirable to impose an amount calculated back from the 2008's prospect.

Finally, regarding an issue of “regressiveness”, which would be a problem in taxation on energy consumption, *etc.*, this paper takes a position that it should not be addressed through energy taxation but the by the use of other measures.

1.2.3 Subsidies Capitalizing on Markets

Given the additional resources of 1 trillion yen financed by new energy taxes explained above, let us consider the introduction of a large-scaled subsidy that is aimed to reduce GHGs emissions. This is the key element of the proposals, which forms the core of the “carrot” in the P&Ms portfolio.

Generally speaking, when the carbon tax is evenly and widely imposed on the whole economic activities, options with higher cost than the tax rate would not be implemented. On the other hand, if subsidies allow intensive investment in such GHGs reduction options, from low-cost options first, far more expensive options would be feasible under a condition that the revenues from the carbon tax and the resources of the subsidies are the same amount.

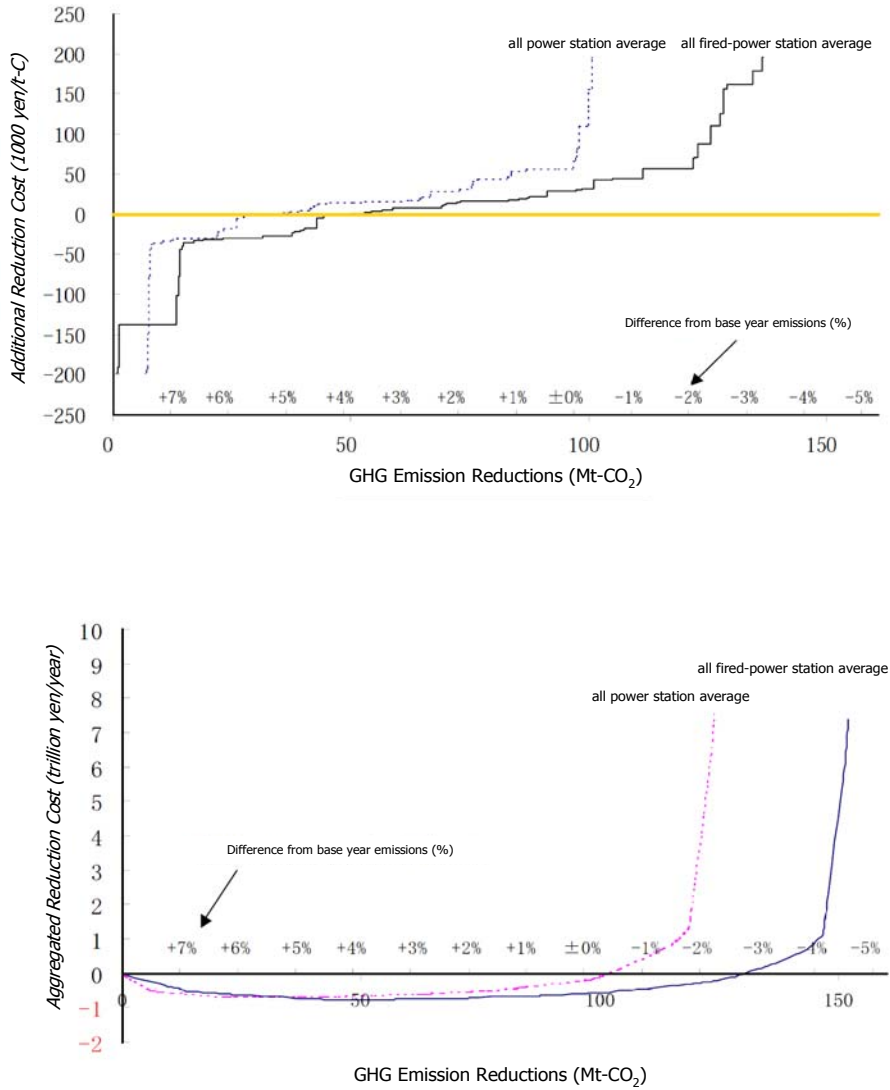
AIM model at National Institute for Environmental Studies estimates that CO₂ emissions would be lowered by 2% below the 1990 level in 2010 through the introduction of the carbon tax of ¥3,000/t-C (which is tenfold smaller than the tax level enough to suppress the energy use by price effects) and intensively allocating its revenue (approx. 1 trillion yen) to the climate change options from the negative or low-cost options first.¹² AIM has a detailed technology database, and reached to that conclusion by adding up the potentials of options. A report by the Subcommittee on Scenarios in the Central Environmental Policy Council, which has calculated similar estimates based on technologies data base, also shows that the reduction of 4% below the reference level would be feasible only through domestic measures. (For the case of introducing maximum seven units of nuclear reactors, see Figure 1.2.3.).¹³

¹² See <http://www.env.go.jp/earth/report/h13-05/>, for example (in Japanese). AIM does not actually implement a feasibility check on the introduction of these options.

¹³ See <http://www.env.go.jp/council/06earth/r062-01/> (in Japanese).

One trillion yen subsidy can make great reductions up to high-cost options

Figure 1.2.3 Examples of Estimating Costs of Measures (Marginal and Total Costs)



These are estimates on potentials and do not explore much about the feasibility of each measure. However, if the resources of 1 trillion yen scale could be input intensively to reduction measures from the negative and low-cost ones first, it

1.2. Portfolio of P&Ms (Policies and Measures)

would be certain that the substantial amount of emissions reduction would be available domestically (in terms of potentiality), —though it might be impossible to achieve the Kyoto target only through domestic measures. In that sense, the value of 1 trillion yen can be some indication.

Of course, 1 trillion yen is tenfold larger compared with the conventional subsidies of this type, and is quite radical in that sense.¹⁴ However, without such bold measures, it would be difficult to reverse the trend of emissions increase in Japan with a high marginal cost structure.

Then, starting from negative and low-cost options first, how much cost would be the maximum for options that could be introduced within the resources of 1 trillion yen? The estimation by the Subcommittee on Scenarios in the Central Environmental Policy Council shows that there is a ceiling around the accumulative cost of 1 trillion yen, and that the cost effectiveness seems to decline sharply thereafter. The cost around the ceiling is quite high, which is about ¥300,000/t-C. (The European Commission estimates that EU would be able to achieve their targets within their boundary through options with the marginal costs of maximum \$70/t-C). Although this figure can be modified depending on different assumptions, it can be expected that even options with quite high costs can be feasible in Japan (their introduction will be economically feasible) and that this would enable the Japanese industry to implement, maintain, and develop its high level technologies if this 1 trillion yen can be used effectively. (And the costs are to be shared among the public—especially by the transportation and building sectors). In addition, it is also expected that many Japanese companies will be the sellers of tradeable permits.

It is assumed here that the resources are financed by the above mentioned new energy taxation. The next step is how to realize such potentially sound reduction options in an order from negative to high-cost options. This paper especially takes note of designing the system that would capitalize on creativity and new business opportunities in the public sector.

If the government has various types of enough information on such emission reductions (costs, potentials, and barriers, *etc.*), it would be able to set subsidies with an appropriate amount and an appropriate total scale for each reduction option, and to remove barriers, as appropriate. In reality, however, their information is limited, and you cannot expect the government to play all of the roles mentioned

¹⁴ The budget for the climate change issues in METI for FY2002 is approximately 130 billion yen, in which the share for the introduction of new energy is quite significant.

above. (This is also true for approaches for the “stick” side incentives. Not everything can be covered by the command-and-control approaches including efficiency standards).

Market finds
low cost
options through
auction-type
subsidy

To be free from such restrictions, you can use market mechanisms. For example, the carbon tax and the emissions trading system are instruments where the “market” tries to find and implement low cost options (not designated by the government). On the “carrot” side as well, the same kind of market mechanism is available, and this paper aims to realize it in the form of “Auction-type Subsidy”.

Auctioning
the reductions

(The smaller version of this has already been introduced in the UK’s emissions trading system).

The basis of a system designed here is as follows. First, the government widely invites people to propose possible reduction measures (not designating how to implement them). Applicants would present bids for the cost and emission reductions of the relevant options (and how to implement them). Then, (in principle) the government would select the most appropriate options after a brief feasibility check, to realize the maximum emission reductions within a limited amount of resources. (If you fail to realize it, you must pay back the subsidy or you cannot receive it).

The above mentioned approach allows a number of variations and may incorporate additional steps. The basic idea is to make market mechanisms work as effectively as possible and to realize the maximum reductions within a limited amount of resources. Therefore, in addition to making market mechanisms function by the use of auctions in such an obvious way, the removal of market failures should also be emphasized. The market failure here means that regardless of the actual existence of low cost options, they have not been known, or their materialization is hampered by unnecessary regulations, *etc.* In fact, the government does not have enough knowledge on such market failures, and it will let the private sector to find them. What will be required for the government as its main role is system designing and maintenance to facilitate the active use of reduction options by the private sector as business opportunities and information providing to share the experiences of good practices.

Auctioning
the ideas

It might also be effective, for example, to scout for ideas on which option might be available and how it can be implemented in the form of an essay contest. It might also be possible to let several entities compete in a form like auction, *etc.*, to select the entity to operate. (Therefore, such an operational entity might not be the same party that has presented an idea). In addition, it might also be possible to let ESCOs (energy service companies) to propose which kind of deregulation or preferential tax incentives can be introduced to greatly develop the business

1.2. Portfolio of P&Ms (Policies and Measures)

based on their actual experiences. The only thing the government should do will be just to determine which to be adopted from such ideas or proposals, not to design them from scratch. It might also be effective to publicly invite ideas on this approach itself. This approach can be used not only for the industrial sector, but also for each of the other sectors including business, household, transportation, agriculture, and forestry.

This paper considers that the existing subsidies (*e.g.*, for the purchase of energy efficient equipment) and preferential tax incentives (*e.g.*, Tax Incentives on Energy Conservation) are not necessarily to be abolished. However, their relevance to the above approach should be examined. In addition, subsidies related to R& D on future technologies are not necessarily appropriate for this approach by their nature, but they are, of course, important and required to be enhanced.

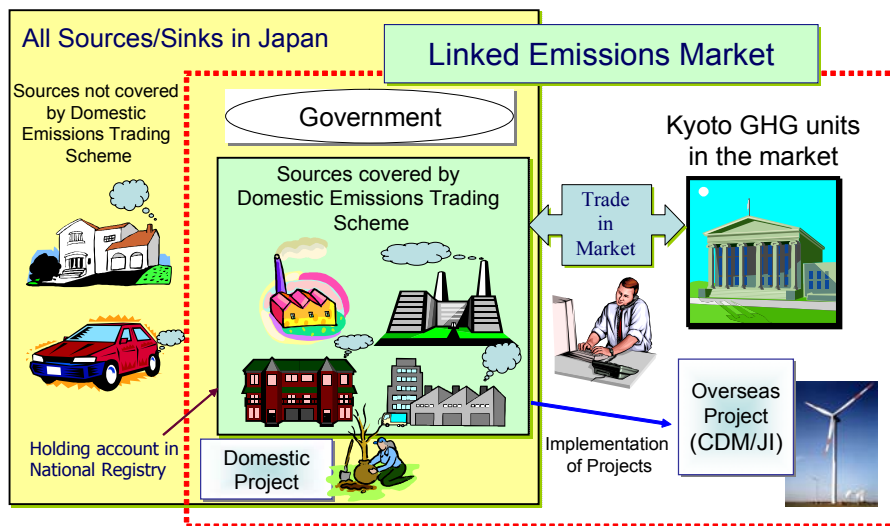
What should be recognized here is the issue of their overlap with the stick-type regulations. In other words, it is a question, for example, whether these subsidies may be used for emission reductions to achieve the target in the emissions trading system to be explained in the next section. This paper takes the position of rewarding the practice of GHGs emission reductions as highly as possible (thinking especially highly of its success as a business), and not caring about the overlap based on this perspective. On the other hand, it is also possible to prohibit the use of emissions trading in order to comply with the requirement of subsidies, or to set the penalty with a moderate rate, viewing this issue from the purpose of subsidies.

Finally, let us consider the possibility of a conflict between these subsidies and WTO. It is expected that there would be no problem as long as they have directly nothing to do with export. Nevertheless, the possibility of a question being raised on specific products cannot be excluded. However, given that how to achieve the Kyoto target is up to each country in principle, the assertion that Japan is going to achieve its target through the resource shift among domestic entities may be acceptable to some degree. In any country, it is certain that there would be some resource shift (including the use of subsidies for energy conservation purposes) and some impact on its competitiveness, given that some measures are taken. It might be possible to argue that this is our unique method appropriate for the Japanese unique structure with high marginal cost.

Linking to the international market is a must

1.2.4 Domestic Emissions Trading and Voluntary Action Plan

Figure 1.2.4 Emissions Trading as Domestic Regulation Linked with International Market



In the following, let us design our domestic emissions trading system as the extension of the Keidanren’s Voluntary Action Plan. “Domestic” here means that it is the emissions trading system for industries as a domestic (voluntary) regulation. And as “the market”, this system is linked with the international market (enabling the acquisition of overseas tradeable permits and credits to use for compliance with domestic regulations). Especially a link with the EU-wide emissions trading system¹⁵ to be started in 2005 would be a very important one.

The Keidanren’s Voluntary Action Plan and Its Development

In December, 1996, the Japanese industries designed “the Keidanren’s Voluntary Action Plan on the Environment”, and set quantified targets for GHGs or CO₂ emissions or energy consumption by industries, either in terms of an absolute value or an index per unit output that should be achieved by 2010. This plan has been recognized as a main effort to address emission reductions that Japan’s

¹⁵ As several Central/East Europe countries are expected to participate in the EU-wide emissions trading system, this would be considerably overlapped with a system after 2008. For the linkage of the markets, the Japanese government needs to have prior consultations.

1.2. Portfolio of P&Ms (Policies and Measures)

industrial and energy conversion sectors are responsible for (though it is not a government's policy), as seen in a fact that the New Guidelines of Measures to Prevent Global Warming issued in March 2002 pays a special attention to this effort. It has now grown to a substantially large-scaled and important effort, covering 36 industrial categories, 43 % of Japan's CO₂ emissions, and 77 % of the industrial and energy conversion sectors¹⁶

The total voluntary target value of emissions for all targeted sectors is $\pm 0\%$ compared to the 1990 level in 2010,¹⁷ representing its social contract characteristics. The actual figure for 2000 is +1.2 % over the 1990 level, showing that it is almost on the right track of achieving the target.

From the above, it can be said that this Keidanren's Voluntary Action Plan is one of the most successful programs (though it is supported by the Energy Conservation Law at work-sites), and that there would be no need for correction. In such context, the third party's verification to enhance the objectivity of emissions monitoring, *etc.*, as well as an examination in addition to the Keidanren's own follow-up and the report to the Industrial Structure Council to reinforce the achievement of the target is also under consideration.

How to develop
Voluntary
Initiative?

It might well be said that it is the best time to have some new actions—though this may not necessarily be something to reinforce regulations—toward 2010 after these four self-review processes.

Adding flexibility

The point is which option would be desirable. The answer presented here is “to give flexibility”.

In other words, it is to allow the acquisition of tradeable permits or emission reductions credits (GHG units) from outside—from other industries, or from other countries through the Kyoto mechanisms—, as a means to achieve the current voluntary targets, in addition to the current effort of target achieving only within each industry. However, such tradeable permits and emission reductions credits are to be transferred to the government through the compliance of the voluntary regulations.¹⁸

¹⁶ See <http://www.keidanren.or.jp/japanese/policy/2001/051/> (in Japanese).

¹⁷ Federation of Electric Power Companies sets intensity targets. But their coverage goes beyond that of the entire Keidanren coverage, extending over the building and transportation sectors. This means that they cover all CO₂ emissions associated with power generation. Under the Keidanren's criteria, however, only internal loss and transmission/distribution loss will be counted as the consumption from the building and transportation sectors.

¹⁸ It is unreasonable to allow companies to hold credits even after they have complied with the commitment (*i.e.*, allowing the reuse of credits), or to transfer them to the government for

The Essence of Emissions Trading

Here, let us think about how we can understand and utilize the emissions trading system, responding to the existing concerns of industries, by approaching not only from the economic perspectives such as the mere internalization of the environmental external cost but also from the “practical” perspective.

What are the Tradeable Permits under Business Operation?: The emissions trading system is a tool to allow the free utilization of both internal and external (especially international) low-cost options, and its combination with derivatives may facilitate risk management related to this issue. The easiest way to understand the tradeable permits is to recognize it as “a production element” in a company’s production activity, —that is, one of “materials”. Usually, material prices fluctuate according to the market condition, and the tradeable permits can be considered as another one of them. It is also possible to consider it as a risk, but for those who have enough knowledge about what the market is all about, it is nothing but a business opportunity.

Does the Emissions Trading System Strengthen the Regulation?: Generally, the emissions trading system is established in order to “add flexibility” to some existing regulations. In other words, it can be an instrument to facilitate compliance with environmental restrictions when they are required. In addition, even if the emissions trading system has already been introduced, a judgement on whether to actually trade or not will be at a company’s discretion. If it judges trading unnecessary, it may not participate in trading.

Does the Emissions Trading System Have the Nature of Controlled Economy?: A system allocating tradeable permits but not allowing trading them should be said that it has a strong tendency toward controlled economy, but things would be totally changed through the introduction of “trading”. By paying the corresponding amount of cost through trading, a company may increase its emissions as much as it likes, if necessary. Emissions trading, therefore, can be a system allowing companies to increase their emissions.¹⁹

value. In order to contribute for domestic reduction in Japan, they should be transferred to the government (that takes responsibility to comply with the Protocol) for free.

¹⁹ In other words, objection to a regulation on CO₂ emissions for itself and objection to a “trading” system should be considered as totally different.

1.2. Portfolio of P&Ms (Policies and Measures)

Is the Initial Allocation of Tradeable Permits Unfair?: Some people point out that it is difficult to guarantee equity in the initial allocation to companies. However, it is not the case specific to the emissions trading system, but also true for any policies and measures because they may cause some “change” that requires assessments and measures for them. We should understand, however, that the emissions trading system with allocation would most manifest this aspect. On the other hand, it should be noted that the “trading system” would rather function to “soften” the sense of inequity at initial allocation, because this system benefits more to those with higher marginal cost through trading. In addition, in the case of grandfathering with gratis allocation that values past performances, the absolute scale of inequity would substantially be smaller than that of the carbon tax, *etc.*, because it only requires the purchase to cover an “excess portion”, instead of a gross amount of energy as in the case of the carbon tax or emissions trading system with distribution of permits by auction.

Is Emissions Trading Not Appropriate to Address the Climate Change Mitigation?: Some people say that the success of the SO₂ emissions trading system among the US’s power companies do not necessarily guarantee the effective function of the emissions trading system for the climate change issue in Japan. Of course, it is true that emission monitoring, *etc.* would be more difficult for CO₂²⁰ because sources are more diverse. However, CO₂ can make better use of the benefit of the emissions trading system than SO₂ because the diversity of sources provides various reduction options, giving choices for the market to determine which of them to be realized.

Each point discussed above is premised on the “existence of the emissions market”. In designing a system, it is required to have the positive perspective of how to form the market with liquidity in order to let it function effectively, instead of questioning the effectiveness of the emissions trading system because of its flaws.

How to utilize
the merits of
emissions
market?

Domestic Emissions Trading as Upgraded Voluntary Action

This paper has maintained a position so far that Japanese companies should utilize the attractive—though not so much popular—characteristics of the emis-

²⁰ Regarding the monitoring of emissions amount as well, the monitoring of CO₂ that allows the use of “fuel consumption (purchase) records” is much easier than that of SO₂ requiring “actual measurement” of emissions.

In order to be a front runner in new market of environmental value-added...

sions trading system as mentioned above, while ensuring not to get behind of the globally emerging new market of environmental values.²¹

Let us get back to the main topic and think about an upgraded version of the Keidanren's Voluntary Action Plan, as the base to utilize the characteristics of the emissions trading system.

Let us take a look at this issue from the aspect of "the relationship with the government". Although it is possible to implement the trading system within the closed circle of Keidanren, it is more desirable to have some agreements with the government, given the compatibility with the Guidelines of Measures to Prevent Global Warming and plans to achieve the Kyoto target, which is going to be designed in the future. (Otherwise, the government may introduce new regulations that have less compatibility with industrial efforts). A system proposed here respects the self-initiative of companies, allowing those wishing to be in the status quo to choose it.

Points to be considered in the relationship with the government will be as follows:

- The forms of the agreements;
- The types of quantified targets (on absolute level and/or intensity);
- The coverage of the trading system and the monitoring of emissions;
- Provisions for non-compliance;
- Treatment for the power sector;
- Others (incentives, *etc.*).

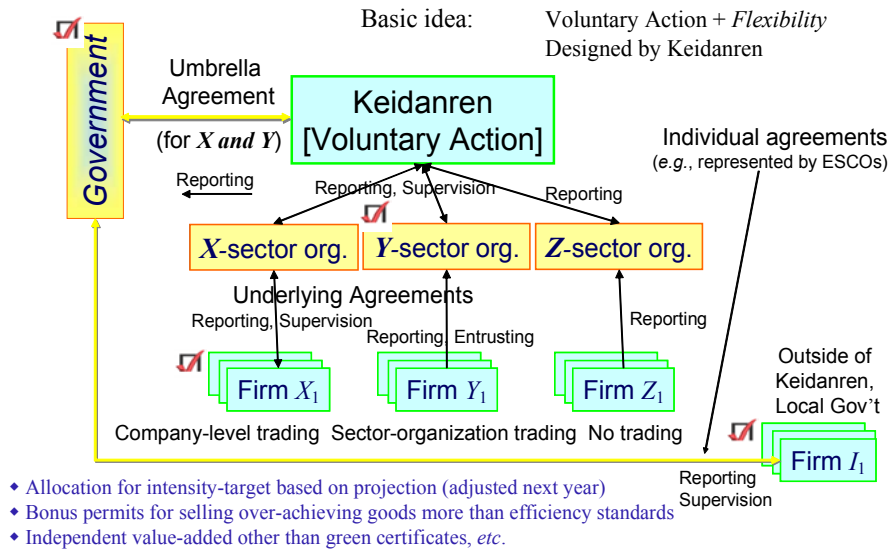
In addition, banking is to be available (even after 2008) in this system.²²

²¹ From the business point of view, mistiming is fatal. As the process of trial and error cannot be avoided in an actual operation (for example, BP, which introduced an internal emissions trading system has experienced a decent number of failures), an opportunity to get the right timing should not be missed.

²² The banking of excess reductions before 2008 (a period without the Kyoto target) for future use may conflict with the consistency with international institutions. This paper assumes that the government would play a role of buffer and acquire extra reductions from somewhere in such cases. This means that the government will take the risk, but this should be justified in that it would promote "early emission reductions".

1.2. Portfolio of P&Ms (Policies and Measures)

Figure 1.2.5 Emissions Trading—Agreements between Keidanren and the Government



Agreement is needed to access trading

As the forms of the agreements, Keidanren, on behalf of industries wishing flexibility provided by emissions trading and banking, will contract an umbrella agreement with the government as illustrated in Figure 1.2.5. Industries not wishing to have such a flexibility may choose to keep the status-quo and do not have to make such a contract with the government. In addition, industrial groups wishing to have emissions trading among companies may choose to do so. In such a case, the current target for industry group should be divided for companies under its umbrella. This system, allowing the industrial groups and companies to choose the status-quo at their discretion, is expected to be highly acceptable.

Multi-layer type structure

However, this requires a reporting system (on emissions inventory and compliance status) illustrated in Figure 1.2.5 following the flow of “Company → Industrial Group → Keidanren → Government”, and at the same time a supervising system flowing backward (forming multiple layers). Keidanren is expected to decide by themselves (with the consultation with the government) how it should be designed to be most desirable. Through this practice, companies will have a positive attitude and responsibility to proactively solve problems by themselves instead of being passive. The capacity building effect of this process for itself might also be important. As for the reporting system of emissions inventory, it is practical to modify the existing reporting system under the Energy Conservation Law.²³

²³ Designing a completely new system may cause confusions at work-front and the problem of

Companies and municipalities that do not have targets under the Keidanren's Voluntary Action Plan may enjoy the benefit of the tax rate reduction of the earmarked tax for energy and environmental use (the same rate as that for Type II designated factories will be applied) and emissions trading if they individually or collectively conclude agreements with the government. ESCO, *etc.*, may conclude agreements on behalf of them. It might be expected that new business would be developed in this field. The government is to prepare the forms of such agreements, it might be necessary to consider their specific situation, as appropriate.

Utilizing existing
voluntary targets

The types of quantified targets (absolute amount and/or intensity) and indices (energy, CO₂, CO₂-equivalent GHG) may be freely chosen by entities. For an operation purpose, the target figures are to be converted to the absolute amount of CO₂-equivalent emissions instead of intensity (using estimates for output values). Differences with actual figures are to be adjusted in targets in the subsequent year. Annual targets to be set are calculated back linearly from the values for 2010—the current Keidanren's industry specific goals set their target years in 2010—after they are converted into absolute emission levels. When targets are set in terms of intensity, they should be adjusted in the subsequent year based on their actual output. In addition, the target year is to be extended to Year 2012, which is the end of the first commitment period. Checking and making these target figures publicly available is the government's responsibility.

The reason why target values in terms of intensity improvement are not used is that intensity targets require the *ex-post* determination of target achievement (after actual figures get available), and only a portion that has been determined as overachieved can be sold (credit type). In order to maximize the benefit of trading and to activate the market, it might be more desirable to have a system where the trading of tradeable permits is available as appropriate at *ex-ante* basis (allowance type).²⁴ In that sense, the system proposed here is devised in such a way that

inconsistency with the current reporting system. In the industrial world in the West, the standardized monitoring system called GHG Protocol advocated by WBCSD and WRI is under preparation (<http://www.ghgprotocol.org/>). This may be useful for a country that has no existing sophisticated reporting systems or in dividing internal sources in a company, but it may require further consideration before being applied in Japan as it is.

²⁴ *Ex-ante* trading before an output or an actual emissions amount is finalized does not amplify an environmental concern. This concern can be addressed within the compliance system including a monitoring system. In addition, it is theoretically possible to gain the same effect by using derivatives instead of the physicals of tradeable permits. However, this paper proposes to give priority to the establishment of the “physical” market because of the physicals-oriented characteristic of Japanese companies and the “risk” of establishing the exclusive market for derivatives (without enough supply of physicals) at the onset.

1.2. Portfolio of P&Ms (Policies and Measures)

companies with intensity targets can also enjoy this merit. In addition, from the perspective of risk management based on future uncertainties for companies in designing their project plans, it would be easier for them to make a plan if clear target values for absolute emissions amount have been given in advance.

As for **the coverage of emissions trading**, Type I and Type II designated factories are to be within its coverage. As for the other part (office buildings, for example) of facilities, it is to be at entities' own discretion as long as they comply with guidelines to be defined by the government. In that case, documents to support the consistency with the Keidanren's Action Plan will be needed.

As for *the monitoring of emissions inventory*, in the case of CO₂ derived from fossil fuel energy combustion, it is to be calculated with this formula based on absolute emissions: Purchased Amount of Fuels *minus* Sold Amount *minus* Increase/Decrease in Stocks. In Japan, as there is a good reporting system also under the Energy Conservation Law, that is to be applied for CO₂ emissions calculations. As for other facilities than designated factories, the simplified methods are to be defined by the government. As for CO₂ from industrial process and other gases as well as sinks, the government is to establish the company version of methods consistent with IPCC "Good Practice Guidance and Uncertainty Management in National GHG Inventories" for use. This is to ensure compatibility with national emissions inventory (in terms of coverage).²⁵

Non-compliance
= no access to
subsidies

Regarding **the provisions for non-compliance**, prohibiting an application to major subsidies stated above and publicizing the entity's name are possible ideas. Restriction on an access to benefits, instead of penalties should rather be emphasized.

Who should be
responsible for
CO₂ from power
stations?

The treatment of the power sector is the key in designing the emissions trading system. This can be interpreted as a discussion based on the perspective of "who should be responsible for CO₂ from power plants?" In other words, it is "how much of the responsibility of CO₂ emissions related to power generation should be taken by power companies (how much should be counted for the target) and how much should be taken by end users?"²⁶

²⁵ As for energy derived CO₂, the total of bottom-up estimations at the consumption stage cannot be expected to completely match with the top-down estimations (based on statistics by the supply side of fossil fuels) that are used for the preparation of national emissions inventory. As for the balance, the government should take responsibility (playing a role as buffer), while continuing efforts to enhance statistical accuracy.

²⁶ The assumption here is that "horizontally integrated" power companies take care of all functions from power generation to retail unless otherwise stipulated. Actually, various types of

In the case of electricity, only a part of calorie inherently contained in fuels is converted to electricity. Losses in the process that cannot be converted to electricity include heat loss related to power generation (energy not converted to electricity), internal loss necessary to operate power plants, and transmission/distribution loss, and the remaining part is used by end users as electricity.

Another perspective is how much of them would be covered by the emissions trading system. It means that treatment would be different inside and outside of a regulatory framework, such as the emissions trading system. As this might be complicated and difficult to understand, let us consider this issue with the help of illustration.

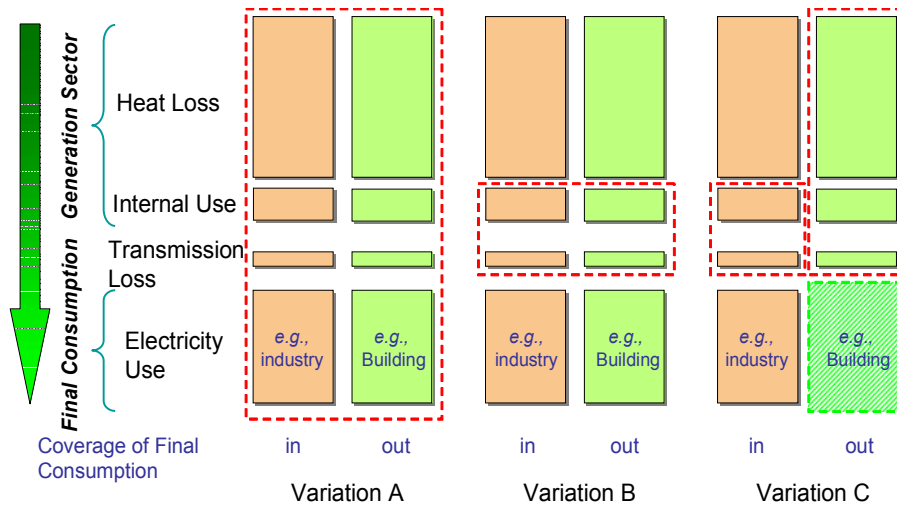
Let us consider two variations in Figure 1.2.6 as examples. “Variation A” here shows an idea that all of CO₂ emissions related to power generation is to be counted for the target of the relevant power company, which is the basic concept for the targets of Federation of Electric Power Companies (intensity targets). On the other hand, “Variation B” shows an idea that only those related to internal and transmission/distribution losses should be counted, which is the basic concept for the responsibility of Federation of Electric Power Companies within the entire Keidanren’s target (to reduce emissions to the 1990 level in 2010). In “Variation C” idea, a power company is responsible for emissions derived from (1) internal and transmission/distribution losses for sectors with targets (those under the emissions trading system), and (2) all emissions from sectors without targets. (It would be possible to set different targets for power generation companies and distribution companies, when their current integration is unbundled).

Although there might be variations like above, let us take a different approach here (Figure 1.2.7). In Figure 1.2.6, it is assumed implicitly that an entity allocated tradeable permits is the same one with an entity reporting to the government on its compliance with domestic regulations—which means that it has corresponding amount of tradeable permits with its emissions amount. On the second thought, however, you may find that an actual situation can generally be different from that.

utilities, including autoproducers (they can be covered by the industrial sector at the end user’s side), IPPs and other wholesale providers, will be involved.

1.2. Portfolio of P&Ms (Policies and Measures)

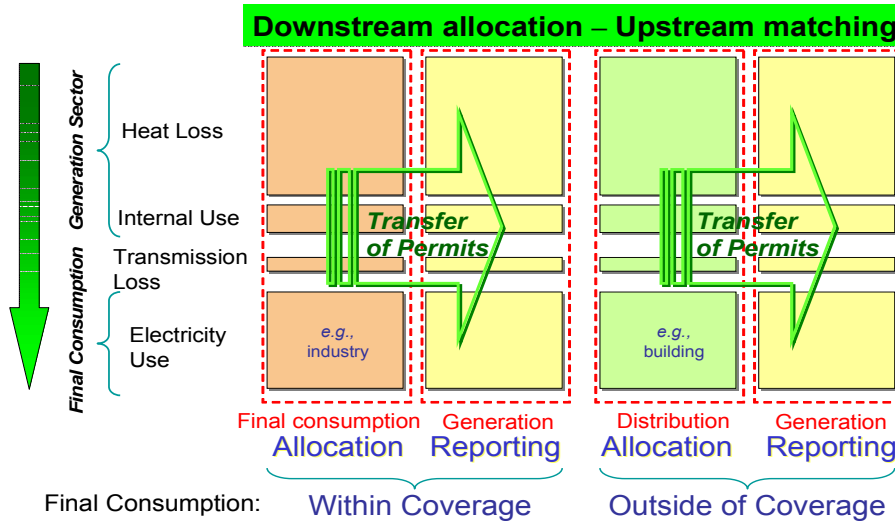
Figure 1.2.6 Variations in the Treatment of the Power Sector in the Emissions Trading



Here, let us take a position that the coverage of the emissions trading system should be as wide as possible and that it would be more desirable to have more entities (both from upstream and downstream) involved in the system. In particular, for a sector with its target set at downstream (at the end user's side), the corresponding amount of tradeable permits are to be grandfathered, and the downstream sector is to pay corresponding amount of tradeable permits together with power rates to the upstream sector (the power generation sector). (In this case, the required amount of tradeable permits is to be determined by upstream companies). The upstream sector will acquire necessary amount of tradeable permits for power generation from the downstream and the market, and have responsibility to make a report to the government. As for sectors without targets, tradeable permits are to be grandfathered to power companies, which is the same case with Variations A and C in Figure 1.2.6. When power generation and transmission/distribution are unbundled, allocation is to be made to distribution companies and the tradeable permits are to be transferred to power generation companies.

In this scheme, companies in both the end use sector and the power generation sector can fully participate in the emissions trading system to enjoy benefits from it. In other words, downstream companies can acquire tradeable permits from initial allocation and the market, while upstream companies can acquire them from downstream and the market, to develop their own business in this system.

Figure 1.2.7 Downstream Allocation / Upstream Regulation for Electricity



Getting bonus credits by selling energy efficient products

As for **others (incentives, etc.)**, companies that have sold products over the top-runner standard²⁷ under the Energy Conservation Law are to be provided the corresponding amount of tradeable permits from the government, after their emission reductions effect is estimated in a certain method. In addition, companies that have overachieved the target of intensity improvement (1% p.a.) imposed on Type I designated factories under the Energy Conservation Law are to be later provided the incentives of the corresponding amount of tradeable permits. Especially for the former proposal, synergy can be expected in a sense that companies' practice oriented to production increase can be directed to increase a share for energy-efficient products.

Emissions Trading by Local Governments

The Metropolis of Tokyo is considering to serve as a regulatory authority and to introduce emissions regulations and the trading system of reductions to com-

²⁷ The revised Energy Conservation Law currently sets a standard for each of the 12 types of equipment that requires higher performance than the product with the highest consumption efficiency in each category, which is quite unique in the world. An achievement check is done for each category and for each manufacturer, based on the average value of energy consumption efficiency weighted by the volume of shipment of the products. A target year and a reference value are set for specific type of equipment. (They also require further elaboration). This paper will not explore whether the target should be somehow broken down (linearly calculated back, for example) to annual targets, or the original value should be applied for annual targets as it is.

1.2. Portfolio of P&Ms (Policies and Measures)

panies with large amount of energy consumption.²⁸ However, there are a lot of challenges to overcome including compatibility with national regulations or companies' voluntary action plans, and it is unlikely to see its realization.

Decentralized
bottom-up
trading scheme
by local
governments

Here, let us propose a decentralized emissions trading that makes use of municipalities' "horizontal relationship", instead of regulating big firms subject to the Energy Conservation Law.

Those regulated here are not companies but offices owned by municipalities themselves, which are offices, plants owned by public enterprises agencies, and hospitals. *etc.* Administrations that should set an example are to actually comprehend their own emissions²⁹ and to bring market economy to their bureaucracy that has been criticized as inefficient. Through this, GHGs emissions are expected to be reduced in a more cost-effective manner (in other words, with less tax money).

The merits of such practices will be as follows:

- A regulation that targets companies has a lot of challenges to overcome and it takes time before realization
- Voluntary expansion of the market in various forms can be expected.
 - It can be extended to the facilities of prefectures, local municipalities, the national government, and voluntarily participating companies.
- A regulation targeting administrations are more easily introduced than that for companies, especially from the perspective of incentives.
- It can be an incentive for the early promotion of afforestation.

As municipalities (instead of companies) are to be initially regulated, it might be appropriate to place cap-and-trade type regulations as a basis and to mix credit type regulations as appropriate.

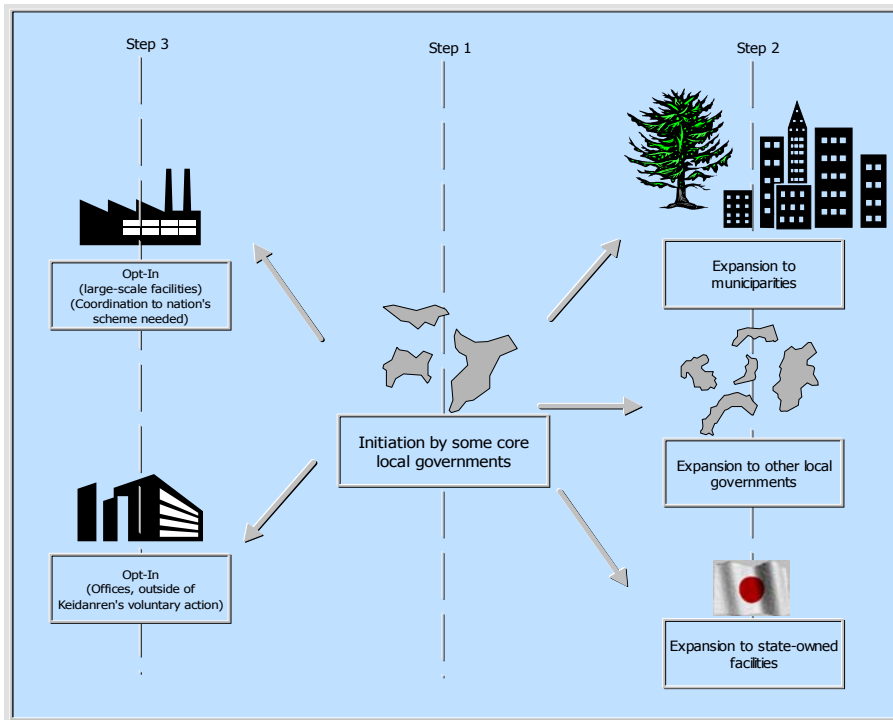
As for the voluntary participation of companies, the compatibility with the national system or the Keidanren's system should be considered. In addition, the timing of introduction might be important. In terms of detailed management as the merit of a system handled by municipalities, how it can incorporate business units smaller than those controlled by the national government under Energy Conservation Law and make them contribute for reduction by the large emitter—the

²⁸ This almost corresponds to the level over Type II designated factories under the Energy Conservation Law.

²⁹ Unlike ISO, municipalities accurately comprehending their GHGs emissions are actually very few.

business/commercial sector—will be the key to success. In case that the emissions trading system at an *individual* level is to be introduced in the future (See Chapter 6 of the original Japanese version), this system can provide a rehearsal for it.

Figure 1.2.8 Voluntary Expansion of Municipality Based Emissions Trading System



1.2.5 Energy Conservation Law and Green Certificates

Energy Conservation Law

Japan's energy saving related to the industrial sector (including equipment efficiency in the building and transportation sectors) is at the highest level in the world mainly because of its Energy Conservation Law (Law Concerning the Rational Use of Energy). The Energy Conservation Law is roughly based on two main objectives: (1) providing structures for energy management in factories, and (2) setting efficiency standards for energy consuming equipment.

1.2. Portfolio of P&Ms (Policies and Measures)

As for the second “energy consumption efficiency standards” (so-called top-runner approach), this paper will not propose anything more than to give incentives in the form of tradeable permits equivalent to overachieved reductions as stated in the previous section. There might be other options, including to increase the number of the targets from the current 12 types of equipment (if this incentive effectively works, companies themselves might offer such proposals), or to tighten the efficiency standards for equipment (in the next target period), but this paper will not explore them.

Energy Conserva-
tion Law as a self-
capacity building
program

The first objective has also significantly characterized the Japanese systems and has greatly contributed to the promotion of energy conservation in plants. No matter how appropriately incentives are set, a system would not function effectively if engineers who actually implement energy conservation measures (the introduction of equipment, maintenance and control, and system integration, *etc.*) do not have sufficient knowledge and experiences.³⁰ In that sense, The Type I and II designated factories system, the energy manager qualification system, and the substantially detailed communication system of energy management information will continue to be valued as truly important.

Utilizing expertise
in energy
management

Energy managers who are skillful engineers, however, might be experts on the facilities of their own factories based on their long time experiences, but it might not always be easy for them to apply their expertise to other businesses. In the meantime, it is proposed that the energy manager system under the Energy Conservation Law should be revised (by METI) to be extended to other sectors than manufacturing. This paper has taken a position that it would be desirable to promote energy conservation by combining it with business as much as possible, and proposed to create various additional values and institutional back-ups to this end. In that sense, for excess energy managers that are threaten to be laid-off in the recession these days,³¹ this paper proposes to institutionalize their re-training so that they can set out for new business including ESCO.

³⁰ Economically, when the market is “perfect”, an economically reasonable amount of energy conservation should be implemented, but the real market can never be perfect. It can be interpreted that the energy manager system in factories under the Energy Conservation Law has played a role to let the market effectively function (so that it can be as perfect as possible) as a self-capacity building system to complement the lack of information and knowledge.

³¹ 31. Japanese engineers are hard-workers and many plants have more energy managers than legally required. This paper holds a position that a system should be designed to make full use of their capacity. In addition, the provision of workplaces to make use of their creativity not only for maintenance works may be useful for them to find a new way of life.

Provision of Information

There are still a lot of other existing systems and information that have not been well known, including “Energy Conservation Labeling System”, “Energy Star Program”, “Green Purchase System”, “Awarding Systems”, “Information Provision through Lists of Energy Conservation Performances”—which are not directly related to the Energy Conservation Law.

In addition, various ideas like introducing households’ good practices that enjoy energy conserving lives, providing various tips and FAQs, enhancing awarding systems, and introducing yardstick type competitions (an approach to induce competition by presenting yardsticks) can be feasible. It might also be effective to invite specific examples of ideas through essay contests, *etc.* In PR activities as well, further creativity, including the strategic use of advertisement business, will be required.

The enhancement of such PR activities to a several times larger scale (using a part of the previously mentioned revenues from the ear-marked tax for energy and environmental policies) would enable an “appropriate information supply” for consumers to act rationally based on the energy-conservation and environmental perspective in using energy, and would contribute to bring out suggestions and creativity to this end.

Green Certificates Trading

Green Certificates trading is drawing people’s attention in developed countries as an instrument to increase the supply of renewable energy (especially electricity). In Japan as well, RPS (Renewables Portfolio Standard), which requires the use of a certain amount of renewables as the supplier’s responsibility of power companies, is adopted. This is a system like the emissions trading system of an allowance type, where companies are given a certain amount of quota, and they are allowed to trade it to comply with their obligation.

What should be considered here is a truly basic point: “For which purpose” are you going to introduce such a system? If it is just for addressing the climate change, Green Certificates are not necessary (as a double regulation) as long as it is already addressed by CO₂ regulations (*i.e.*, the emissions trading system).

This paper lists up points to be noted for the Green Certificates system and just presents their proposed solutions. As for the details, please refer to the Chapters in the full report in Japanese.

1.2. Portfolio of P&Ms (Policies and Measures)

Points to be noted in designing the Green Certificates system and similar systems for the dissemination of renewables are as follows:

1. Which “value” of the relevant renewable energy will be targeted in the system? [**the Premiums of Renewable Energy**];
2. Who will bear that cost? [**Locus of Responsibility**];
3. Who will implement it? [**Implementers**];
4. How can business risks for implementers be reduced? [**Business Guarantee**];
5. Incentives for demanders [**Modality of Demanders’ Participation**];
6. How can competitiveness be introduced? [**Introduction of Competition**].
7. How can it be reconciled with the deregulation of the power market? [**Reconciliation with Market Deregulation**]

This paper proposes the following system as a solution to the above issues:

First, the desirable scale of introduction is to be considered for each type of renewable energy.³² Then, additional costs required for such introduction are to be estimated.³³ The resources are to be financed by a part of the above mentioned revenues from the ear-marked tax for energy and environmental policies and to be auctioned (in a manner that is open to foreign companies as well) under the condition that projects should be located in Japan. (Power companies can also participate as part of their business). As in the case of the above mentioned competitive bidding for emission reductions, auction here is also executed in a manner that bidders declares kWh to be generated and its cost (*i.e.*, how much should the government pay for it), so that competition will be introduced in a manner that secures the maximum amount of power generation with the limited amount of resources. However, the payment of such cost is to be fixed, for example, for 15 years.

Carrot-type
green certificate
system

³² Given power generation is to be the target for the time being, they will include wind power, mini or micro hydro power, solar power, biomass, and solar water heaters. This can be applicable for other fields than power generation (*e.g.*, heat generation by biomass and geothermal) or renewable energy.

³³ Japan Natural Energy Company Limited (<http://www.natural-e.co.jp/>) presents ¥3.5/kWh (fixed rate for 15 years) for wind power generators.

After the amount of generated power is verified by the third party, companies will receive the corresponding amount of Green Certificates (certified by the government).³⁴ They have to offer the contracted amount of generated power to the government. When the amount of generated power is more or less than the contracted amount, they can sell or buy such difference in the form of Green Certificates. In this case, the “green premium part” of electricity which is generated from renewable energy is an additional value to the “physical part” of the electricity. Such premium is to be represented in the form of Green Certificates, which is purchased by the government. When the shortage of power generation or the soaring of Green Certificate price is expected, a wind power generator, for example, may establish wind power generation units without making a bid, and get the corresponding amount of Green Certificates after the third party’s certification. Existing utilities can receive the corresponding amount of Green Certificates with their power generation from the government when this system is launched, and existing Green Certificates in the private sectors will be made compatible with the government’s certificates.

Solutions for the above mentioned issues are as follows:

1. **[the Premiums of Renewable Energy]**

The non-climate values of renewable energy include energy conservation and energy security, as well as the provision of more ecological social infrastructures. The degree of their (absolute and relative) importance should be represented in terms of “who can bear the cost and how it can be done”. This paper proposes to show their importance through the allocation of the revenue from the ear-marked tax for energy and environmental policies. In other words, the degree of importance is to be reflected in tax rating for energy. In addition, regarding intrinsic premiums for renewable energy, their relative importance in this context will be addressed, and policy priorities will be given accordingly.

2. **[Locus of Responsibility]**

Unlike the case of RPS that attributes responsibility to power companies, the cost is to be included in the above mentioned ear-marked tax for energy and environmental policies so that the entire nation would bear the responsibility (based on their energy consumption patterns).

³⁴ There are several types of Green Certificates for different types of renewable energy addressed in programs.

1.2. Portfolio of P&Ms (Policies and Measures)

3. **[Implementers]**

Any companies that actually implement wind power generation, including power companies, may participate in competitive bidding.

4. **[Business Guarantee]**

According to examples from Europe, *etc.*, it seems to business entities that risks in business operation would be reduced more and that its smooth operation would be facilitated more when the purchase at a fixed rate for a long-term is guaranteed. This paper also assumes that the costs of successful bidding would be paid at a fixed rate by the government over relatively a long-term (*e.g.*, for 15 years).³⁵

5. **[the Modality of Demanders' Participation]**

This program can be developed more greatly through the purchase of Green Certificates by demanders. Possible ideas to attract such demanders include a participation style suggesting a "Green" image, and the introduction of wind power generation projects as investables. In addition, their role in supporting the project's financial feasibility can also be expected.

6. **[the Introduction of Competition]**

The application of competitive bidding will introduce competition among wind power generators. Competition among different types of renewable energy is not to be introduced because they have different conditions and situations by types.³⁶

7. **[Reconciliation with Market Deregulation]**

As this system will not impose some duties on power companies, it is unlikely that the power market will be distorted. Sometimes, the "quality" of electricity may have an influence on the price in the power market, which is a matter on "power" trade contracts between power companies and wind power generators, but it will not have any impact on Green Certificates. In addition, if the frailty of system integration (a technical aspect) is a problem, such bottle-necks can be removed by using the revenue of the ear-marked tax for energy and environmental

³⁵ If programs develop, the payment of shorter-term such as five or ten years can be introduced.

³⁶ In the case of the government's RPS, for example, they seem to let waste power and wind power compete in the same arena. Waste power generation is supported by various subsidies, and in addition, it has not yet gained any consensus that it has the same intrinsic value with wind power generation. This may be also true for solar power generation (which is quite expensive now).

Chapter 1 Executive Summary

policies, as appropriate.³⁷

The Green Certificates system presented here is positioned as part of the carrot-type system design, which is the backbone of the proposals in this paper.

³⁷ As for transmission lines, this paper holds a position that additional lines would better be set by the government with the public money as “common carriers”.

..... 1.3

Companies' Behavioral Patterns

Here, let us get a little bit off the truck of system design, and consider “how companies will behave” or “which type of behavior will be considered as desirable” in such systems.

When GHGs emissions regulations (including voluntary targets) are placed, the expected behavioral patterns of companies with emission reductions targets will be roughly categorized into the following four steps:

Rational steps
under regulations

1. **[Comprehension of the Company's Emissions Status and Reduction Options]**
 - (a) **[Comprehension of Emissions Status]** First, it is necessary to comprehend its internal emissions status. This includes not only the comprehension of the total emissions within the company (those subjected to regulations), but also the comprehension of specific emissions status, knowing which plants, systems, or devices, emit how much (directly or indirectly) with the projections in the future with scenarios.
 - (b) **[Comprehension of Reduction Options]** Then, identify internal emission reductions options as well as their costs, a reduction amount, timing, and barriers for introduction to analyze specific or integrated options.
2. **[Consideration of External Options]**

Consider the status of the emissions market, the feasibility study of external reduction projects (CDM, *etc.*), and the prospect of other external factors including regulations.
3. **[Design of Portfolio Strategy Using Both Internal and External Options]**

Consider how to make the best strategy through the portfolio of the above options that would minimize risks while maximizing benefits.

4. [Exploration of New Business Opportunities]

Consider if there is any opportunity to develop business, making the best use of the company's strength, if possible.

How to utilize
new business
opportunities?

The above behaviors are the models of desirable process (or those considered as rational), but in fact, not all of the companies subject to emissions regulations are in a situation that rational judgement is fully available. In other words, there are business needs that other companies should achieve their emission reductions targets, and a big market that can serve such needs is expected to emerge.

Multiple
incentives

In fact, the proposals here have tried to facilitate the market to find various options of emission reductions including tradeable permits, while trying to provide various kinds of multiple incentives for launching such new business (*i.e.*, an institution emphasizing not only burden sharing but also incentive sharing). Therefore, it is expected that related business that has been limited to ESCO, *etc.*, before will be recognized as service with more additional values, and will be developed to maximize Japan's high technology.

These proposals count on new ideas and creativity fueled by the substantial amount of subsidies as incentives. At the same time, it is expected that such subsidies will reduce the cost of domestic reduction and will disseminate a number of low-cost alternative measures in the market that are competitive with the international price of tradeable permits, which will then promote further technological innovation.

..... 1.4

Consensus Building

In this section, let us discuss the desirable form of future climate policies from the perspective of challenges in policy-making process in Japan.

1.4.1 Challenges in Policy Coordination among Ministries and Agencies

Japanese climate change policies have been addressed as an issue controlled mainly by the Ministry of Environment and the Ministry of Economy, Trade, and Industry,³⁸ and this has made policy coordination between both Ministries (or with any other ministries and agencies) substantially time-and-cost consuming. In fact, councils, committees, and working groups addressing similar issues are held simultaneously, and their members are tend to be fixed within each ministry or agency. If the time, efforts, and costs required for such coordination among ministries and agencies could be spent effectively for policy-making discussions, more practical policy-making process could be established.³⁹

Let us take a look at an example to see strategies and effectiveness in policy making. For example, in complying with the Kyoto target, nobody objects about the necessity of definite promotion of CDM projects (especially in Asia). The implementation of a number of CDM projects can drive the bargaining power to buy tradeable permits from Russia—which is called OPEC of allowances—in the future, and also can provide bases for developing countries to voluntarily accept their appropriate commitments. It is also strategically important that CDM

Institutional arrangements of policy coordination for strategic policy design

³⁸ Of course, almost all of the other ministries and agencies are involved in this issue. For example, sinks are taken care by the Forestry Agency, the carbon tax, *etc.*, is by the Ministry of Finance, negotiations on the Framework Convention on Climate Change is by Ministry of Foreign Affairs, and the insulation standard for buildings as well as transportation matters are by the Ministry of Land, Infrastructure, and Transport.

³⁹ As for now, the Headquarters for Measures to Prevent Global Warming (with almost the same significance with the Cabinet meeting) led by the prime minister, and the joint meeting of related Councils exist as the highest decision making groups for designing climate policies. However, due to the low frequency of the meetings and less adaptability, they have not worked as a forum for detailed and flexible discussions.

projects in Asia have not yet attracted much attention of other developed countries. It is almost certain that Japan will need a substantial amount of tradeable permits or emission reductions credits in the future. Of course, it is obvious that project activities require substantive time, and in that sense, what is most important now is the early setting of incentives for companies to implement CDM projects.⁴⁰ In addition, Russia may not be able to participate in emissions trading unless we cooperate on their preparation of the national inventory system at an early stage. If we succeed in establishing cooperative relationship and mutual understanding now, we can get more benefits when we purchase tradeable permits from them in the future. All of such practices should be harmonized as the “strategy” of Japan, but there are a number of cross-ministerial challenges. Unfortunately, however, at this moment, there is no such function in the government that can take a leadership in such strategy-making and coordination.

Taskforce for
climate strategies
as the brain

Therefore, in order to minimize that harmful effect, it is proposed to establish cross-ministerial “Taskforce for Climate Strategies” for policy-and-strategy making and designing, which does not only coordinate differences among ministries and agencies at a policy discussion stage, but also link them systematically to create synergy.⁴¹

One possible way to operate this system is organizing a taskforce as a sub-organization of the Council on Economic and Fiscal Policy, serving for the unification of diplomatic and domestic policies and strategy-making. It would be desirable to make it serve as the “brain” of the prime minister as the group of experts from inside and outside of the government.

1.4.2 Demonstration of Policy Visions and Directions

Generally speaking, the distrust of industries toward the government regulations seems to be strong. It might be partly because of the absence of such a taskforce as mentioned above. In general, the Japanese government is not willing to make even its directions clear until it defines something definite. In that sense, its consensus making mechanism does not work effectively, giving an impression to the public that policies and measures are “suddenly” imposed on them. In other

⁴⁰ The New Guidelines of Measures to Prevent Global Warming does not mention anything about these incentives. This may imply that they are quite politically sensitive. However, it is obviously difficult to expect the actual promotion of projects without any incentives.

⁴¹ In the US, this kind of taskforce has operated under the White House.

1.4. Consensus Building

words, a system of playing a catch between policy-makers and the public does not fully function.

For example, there is a fear in the industrial world that their past efforts are not evaluated but only used to make future regulations more stringent.

Basic policy
direction to be
announced earlier

Therefore, some of the basic directions in policies should be made public to address people's concern, so that they can take strategic actions in advance at an early stage.

Regarding the promotion of the early implementation of CDM projects mentioned above, for example, although it may not be possible to set incentives right now, it should be possible to announce "directions" and "strategies" that will enable the private sector to take immediate actions. There should be a number of things that can be done at this moment, including, for example, the issue of credits ownership (some people are concerned that the government may seize them), and a promise to permit the use of credits in future regulations. As for the above mentioned concern about their past efforts, just an announcement that the government would give full consideration to such a concern might be effective enough.

Needs for identification of risks
to lose timing and
strategic policy
design

In that sense, the existence of above mentioned "Taskforce for Climate Strategies" should be essential. It is well known in the world of business that the gain of 100 can be 0 or negative if you miss a good timing. What is expected is the preparation of systems that enable prompt and strategic policy-making, taking account of such opportunity costs.



1.4. Consensus Building



