Why Cap & Trade scheme has not been introduced in Japan?

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Abstract

While EU has introduced EU ETS and more than 10 bills have been submitted to the US Congress that include Cap & Trade scheme to cope with climate change, Japan has no plan to follow the suit during Kyoto Protocol 1st commitment period at the moment. This paper explores the reasons in five aspects of Cap & Trade introduction: (1) Justification in adopting policies and measures; (2) Principles of corporate behavior; (3) Credibility of economic models; (4) Policy Priority; and (5) Mutual communication between Government and Industry.

Because of its unusual tendency to weigh less on cost-effectiveness, Japan does not find Necessity (factor 1), nor Priority (factor 4) in introducing the Cap & Trade, which is the only cost-effective way, besides the carbon tax, to reduce emissions. Its corporate principle (factor 2) and well-established communication link between Government and Industry (factor 5) provide one of the most effective and largest scale industrial voluntary initiative in the world, as the paper will explain to some extent about its current situation. In other words, this can be an alternative to Cap & Trade in Japan. Furthermore, the perception of economic models (factor 3) is likely to hamper the Government's effort to set the initial allocation in Cap & Trade. Japan may introduce either direct regulation or Cap & Trade, only when its industry's inability to comply with the commitment becomes clear.

Key words

Cap & Trade, efficiency, equity, initial allocation, corporate behavior, profit maximization, voluntary initiative

Preface

Japan's Greenhouse Gas emissions in 2006 have exceeded its base year emissions by 6.3%. As the target under the Kyoto Protocol is minus 6%, this means Japan needs to reduce its emissions by almost 12%. With this result, Japanese Government is going to revise its implementation plan to reduce GHG emissions for the 3rd time by the end of this year after intense discussions at the Government Committee.

Whether to introduce Cap & Trade has repeatedly been take up at the Government Committee meetings. After lengthy discussions, it was agreed in the Draft Final Report of the Committee that the issue should be reviewed from broader perspectives, including the comparison with other measures about their impacts on economic and industrial activities, and how it can help Japan's strategy to contribute to

the stabilization of GHG concentration in a long term. Further review means that the Government will not introduce Cap & Trade scheme during 1st commitment period of the Kyoto Protocol unless some unexpected situation arises.

The purpose of this paper is to explore the reasons why Cap & Trade scheme has not been introduced in Japan as one of climate policy measures by comparing 5 aspects between EU, USA and Japan.

1. Five aspects (comparison among EU, USA and Japan)

From the in depth analysis of the situations in EU, USA and Japan, this paper identifies the differences in the following aspects as the reasons of no Cap & Trade introduction in Japan.

1) Necessity of justification in adopting any policies and measures
2) Principle of corporate behavior (belief in the market)
3) Credibility of economic models
4) Priority among policy criteria
5) Mutual communication between Government and Industry

Needless to say, the above differences are not in absolute terms. Still, the comparison study elicits significant differences between the EU and the United States as well as between member countries in the EU. All the above differences apply well between the EU and Japan but this is not always the case between the United States and Japan. Bearing those in mind, this paper explores the reason of non-introduction of Cap & Trade in Japan.

2. Analysis of five aspects

2-1 Necessity of justification in adopting any policies and measures

It is interesting to know how EU has introduced EU ETS. Though the EU at first was against the idea of emissions trading, they found this to be a good tool to attain their target at the least cost. The European Commission (The Commission) calculated using the "PRIMES Model" that by introducing EU ETS, member countries as a whole would be able to save 20% (Euro 1.7B) of abatement cost (EU 2000).

As stated in IPCC report, "four main criteria are widely used by policymakers to evaluate policies: environmental effectiveness, cost-effectiveness, distributional effects (including equity) and institutional feasibility" (IPCC 2007). Among them, environmental effectiveness (i.e. to comply with the Kyoto Target) can be best guaranteed by both direct regulation and Cap & Trade. There is no methodology to numerically measure distributional effect. Cost effectiveness (efficiency) can be

achieved both by Cap & Trade and tax. However tax is not institutionally feasible in the EU as demonstrated in their failure to adopt common carbon and energy tax more than a decade ago. With no effective voluntary agreement in place as an alternative, the only conclusion has been that Cap & Trade is the measure to be applied. In addition, economic efficiency can be shown numerically. If the Commission (or the European Council or the European Parliament) must justify their choice of policy to all parties concerned, they can easily demonstrate in numbers that Cap & Trade is the best and most efficient[1].

How about the situation in the United States? President Bush, in his State of the Union Speech in January 2007, promulgated the policy of "Twenty in Ten" i.e. to reduce gasoline consumption by 20% in next 10 years. In order to achieve the target, the US proposed to tighten CAFE (Corporate Average Fuel Economy) standards and to promote alternative fuels. This means they are to use direct regulation (standard) and subsidy to implement the policy. Although they may introduce Cap & Trade between automobile manufacturers for CAFE, it is very clear that current Bush administration will have no intention to introduce economy-wide (or industry-wide) Cap & Trade. On the other hand, more than 10 bills have been submitted either to Senate or House of Representative that include Cap & Trade scheme. Some of them have economy-wide cap. Will there be any good prospective that any one of them becomes a law? If the US values cost-effectiveness (efficiency) as important as the case in the EU, there is a high probability that one of them will.

Generally speaking, both the Government (administration) and Congress seem to consider efficiency as one of the most important criteria in selecting a policy. Past experience tells, however, this is not always the case. Hahn et al. (2003) compared the cost per statistical life saved from 12 selected EPA regulations during the period of 1984-1994, and found that it varied from $5 (for benzene fugitive emissions in 1984) to $40,700 (for solid waste disposal facility criteria in 1991).

In the United States, the Congress has relatively greater power than those in the EU and Japan with respect to the power balance with the Administration. Based on this assumption, it is important to know what the priority of "efficiency" is in evaluating a bill. In other words, what will be lawmakers' behavioral principle? It is understandable that one of their main concerns is to be re-elected for the next election. This is called as "electoral incentive paradigm". Bailly (1998) analyzes in detail the process of enactment of the Clean Air Act Amendment of 1990. One of the most controversial issues was the introduction of cap (& trade) on SOx emissions from power generators. The analysis showed that the members of Congress behaved reflecting more

or less their respective interests of their electorate. Actually, those whose constituency would suffer from acid rain (North Eastern States) or could benefit from the regulation (Western States) were in favour, but those with the constituency who would bear additional costs (Mid-west and Appalachia States) were against the bill whether they were Republicans or Democrats. Senator Byrd, famous for the Byrd-Hagel resolution, was against it because more strict control of SOx emissions "would lead to job losses in mines of Appalachia and the Ohio Valley and higher electricity prices throughout the Mid-west" (Bailly 1998).

From the above description one can draw common understandings. Firstly, in the United States it is the Congress that has real power in deliberation of a bill. Secondly, though efficiency matters, "electoral incentive paradigm" plays a big role, and as a result even when economic instruments are adopted, "those that are introduced are often designed in such a way as to be unsuitable for actually realizing the expected cost-effective benefits" (Bressers and Huitema 2000).

Having said that, it is also true in the United States that the criterion of cost effectiveness plays an important role in justifying environmental policy.

Japan sits at the opposite extreme. Believe it or not, Japan's Diet (both Upper and Lower Houses) did not address the issue of the cost accompanying the ratification at all, even at the last stage of debate before adopting the resolution to ratify the Kyoto Protocol. Moreover, no one, general public, news media, industry, NGO or even academic circle criticized the absence of discussion on costs. There are many more evidences that show people's indifference on the cost.

What is important in Japan is an environmental effectiveness and equity. People pay least attention to cost effectiveness. This may sound strange. Everybody knows that if the set target can be attained at the least cost, remaining resources can be used for other equally important purposes. In reality, however, people pay little attention to the cost. Under such situation, there is no enthusiasm toward adopting (cost effective) Cap & Trade[2].

2-2 Corporate behavior

In general, economic theory assumes that all economic actors pursue the maximization of (in most cases short term) profit or utility. This is considered to be rational behavior. Those behaviors will lead to Pareto optimal situation in the open market. This is the typical case of what we call "market belief". Of course it is well known that not all the entities will pursue short-term profit maximization. Company's behavior based on the Corporate Social Responsibility (CSR) does not fall in this

category, and the same can be said in case of 46% reduction of toxic substances during 1988 to 1998 under Community Right-to-Know law in the United States (Hahn et al. 2003). In comparison to Japanese corporations, however, the corporate behavior of most western corporations (especially Anglo-Saxon corporations) is reasonably assumed to incline toward short-term profit maximization. Corporations will react better to incentives or disincentives. From this view, Government role should be limited just to allocate allowances and let the market work efficiently.

The above discussion explains why voluntary initiative or voluntary agreement without penalty does not work in both EU and the United States. There are many examples. The first one is the Climate Change Action Plan promulgated by then President William J. Clinton in October 1993. The plan, aiming to return the US CO2 emissions to 1990 level by 2000, consisted of around 50 measures. Almost all of these measures were comprised of voluntary initiative (industry/Government partnership) neither with interim review nor penalty. As a result, US GHG emissions in 2000 exceeded by 17% over base year emissions. On the contrary, acid rain program (Cap & Trade program for SOx) was successful to achieve its target. There were several factors for the success. One should not forget, however, the penalty provisions included in the program. In addition a corporation must offset the excess portion next year. The same idea was included in EU ETS. The documents for the introduction of EU ETS clearly stated that in order to ensure compliance, strict penalty had to be imposed (EU 2000, EU 2001). Penalty under CAFE standards is another example. Mercedes-Benz alone had been charged $ 19Million (GATT 1994).

All those examples show that heavy penalty that hampers profit maximization lead to compliance of regulation. This being the case, it is quite natural to come to the conclusion that voluntary measures without penalty never works. Under the situation, either cap (direct regulation) or Cap & Trade is the measure left to ensure environmental effectiveness, as tax can not.

On the contrary, in Japan, it is not penalty that leads to compliance with both regulations and voluntary measures. Top runner approach for automobile fuel efficiency urges rest of the cars in respective category to catch up the top runner. The maximum penalty under this standard is Yen 1 million (Approx. $8,300) per manufacturer (for example, Toyota). Many automobile manufacturers have attained the target before deadline. Penalty does not matter, but sense of shame matters.

Another example is Japanese industries' voluntary initiative (Keidanren Voluntary Action Plan or Japan Business Federation's Action Plan) where participating sectors have not only declared their own targets but also committed to stabilize their

total emissions in 2010 at the level of 1990 (base year). 35 sectors in energy and industrial fields have participated in the initiative and the total emissions from these sectors in 1990 was 508 Mt-CO2, which corresponded to 44% of total Japanese CO2 emissions of the base year and 83% of CO2 emissions from industrial and energy-conversion sectors respectively. Fiscal 2006 data shows their total emissions are 1.5% less than those in 1990 (Keidanren 2007). In this sense, and in view of other sectors' emissions increases (17.0% for transport, 41.7% for commercial and 30.4% for household), it is reasonable to infer that the initiative works well.

This voluntary initiative is quite different from those in Europe or the United States. Firstly the initiative forms a part of the Government's Kyoto target implementation plan. Secondly, as a result, the Government Committee reviews regularly whether the initiative works well or not. Representatives from Japan Business Federation as well as participating sectors are repeatedly asked to attend the Government Committee meetings to explain their perspective in attaining their own commitment. Figure 1, presented to the Committee by the Ministry of Economy, Trade and Industry in November 5, 2007, shows the most recent situation of the voluntary initiative. Horizontal axis indicates whether each sector has achieved its goal or not, and vertical axis shows whether their CO2 emissions exceeded the level of base year or not. The figure also illustrates each sector's increase/decrease ratio compared to the base year of 1990 (refer to the column "changes in CO2 emissions (%)"). Sectors with star mark are the ones that have revised their targets upward even though they have already achieved their targets. Double circled sectors are the ones that achieved their targets and circled sectors are the ones not achieved yet but are expected to clear targets. Sectors with triangle mark are the ones with difficulty to attain their targets without additional efforts. Sector-specific targets and whether they are absolute unit (either CO2 emissions or energy consumption) or efficiency (whether CO2 emissions or energy consumptions) are shown. The Figure illustrates the situation of each sector.

It is voluntary in the sense that there is no penalty provision. Also no agreement has been made among participating sectors on the obligation of each sector. For instance, it is not clear which sector assumes responsibility if the initiative as a whole fails to stabilize CO2 emissions in 2010. Also if sector specific target will be missed, there is no agreement on which company in the sector should take responsibility. In this sense, the initiative is quire obscure. Under such situation, companies can easily take a free ride. As a result of the Committee hearings, power generation sector and iron & steel sector are singled out as the ones with the hardest targets to comply. The former has suffered from the delay in the construction of new nuclear power plants. The

latter is struggling hard for energy efficiency improvement and technology development, but high demand from China and Asian countries push them in the verge of non-compliance. Some leading companies of these sectors have exerted extensive efforts to comply with their own targets, as demonstrated in their large purchase of CERs from CDM projects, reportedly at around 164 Mt-CO2. This figure is bigger than the total volume Japanese Government is planning to purchase during 2008-2012.

There is only one reason to explain their behaviors. They believe that continuing voluntary initiative will be the best way for Japanese industry's long-term prosperity and fear that failure of the initiative will lead to Government intervention (including Cap & Trade). This means that these companies prioritize long-term profit to short-term one. If this is their behavioral principle, today's gain by selling and buying allowances does not work as incentive. This may be the second reason why Cap & Trade has not been adopted in Japan.

2-3 Credibility of economic models

When Japanese Government first introduced the Kyoto Protocol target implementation plan in 1998, economic model played an important role. Based on the CGM (computer equilibrium model) by Keio University, BAU emissions were calculated. Against this baseline various measures were planned and actually adopted. When calculating baseline emissions, however, Government intention had to be taken into account. For example model experts were bound to follow Government economic forecast (3% annual growth until 2000, and 2% thereafter). Because of the burst of economic bubble in 1990's, and 110 MT/CO2 planned reduction due to the increasing capacity of nuclear power plants, which would not likely take place, reflected in BAU emission, many questioned the accuracy of baseline emissions estimates from the very beginning of the implementation plan. This may have led to the distrust in an economic model. As a matter of fact, the plan was forced to revise in mere 4 years after the introduction. In 2007 the third revision is under way.

There is another reason why people do not rely on economic model in Japan. As a matter of course, an economic model normally assumes that every economic actor will behave rationally (profit maximization in case of corporations). As explained above, however, the corporate behavior of Japanese companies does not necessarily conform to the theory. This leads to the situation where model figures often differ substantially from actual ones. This difference, along with the Government intervention, explains why Japan lacks confidence in economic models.

Situation is quite different in EU. The European Commission, in deciding

allocations to the covered sector under National Allocation Plan in Phase II, used only one formula (based on the PRIMES model) throughout all 27 member countries (EU 2006). A member country, when submitting their NAP to Brussels, should first divide national emission budget into two, i.e. that of covered sector and the rest. Then the former is allocated to each sector and each facility. Considering the vast differences in economic/industrial structures and histories among member countries, it is noteworthy that the Commission never conceded to any claims from member countries on this point.

As a result, average gap between proposed and allocated allowance is 4.1% for EU 15 (countries that are members of the EU bubble), whereas the average gap for new members is 25.7%. This seems to indicate that the PRIMES model well fits EU 15 but not new member countries. Consequently, seven new members (including Poland and Czech Republic) have brought the case to the European Court of Justice.

The most important momentum in EU, however, is the resolve to integrate Europe. Even if several new members have complaints against the Commission for their allocation, they find more advantages in keeping EU membership. From the discussions above, allocation based on an economic model is an only way for EU to minimize the discontent among member countries.

What will happen if the EU ETS-like Cap & Trade will be introduced in Japan? As a country Japan has a cap. What the Government has to do first is to allocate certain allowances to those sectors subjected to the scheme. Then within the limit of these allowances, the Government has to make allocation to energy and industry sectors as well as to individual installations of those sectors. Without having reliable economic model, how the Government can do this? Different from direct regulation where Government set a cap, cap in ETS means the distribution of tradable property rights. It is the Government who decides who are winners or losers. Companies that receive comparatively less allocation are losers in that they have to purchase allowances and vice versa. Neither Government nor corporations have any confidence with the outcome. This leads to the conclusion that it would be extremely hard to introduce EU ETS-like Cap & Trade in Japan[3]. To accept full auctioning will solve the issue, but this surely invites strong resistance from industry and lacks political feasibility. Even EU has dared not to introduce full auction yet.

The United States is in a similar, situation as they have no reliable economic model for allocations. Though the Cap & Trade (for SO2) was successfully introduced in the power generation sector in the United States, it will be more difficult to introduce economy-wide Cap & Trade scheme for CO2. As of November 2007, eleven bills have been submitted to either Senate or House of Representatives. Among them four cover

only power generation sector. Except for the Bingaman/Specter bill (S1766), all remaining bills that include economy-wide Cap & Trade provisions plan to give the USEPA authority of allocation. Whether the USEPA, without credible economic model, can succeed in allocation works are or not is yet to be seen. On the other hand, draft allocation among covered sectors is included in the Bingaman/Specter bill, but it has no scientific base[4] and certainly leads to serious struggles in search of more allocation among covered sectors.

In conclusion, a country like Japan, where no credible economic model exists but an effective alternative option of voluntary initiative does work well, is likely to find considerable difficulty in introducing economy-wide Cap & Trade scheme.

2-4 Priority among policy criteria

There are other policy criteria than efficiency. When legislature or Government thinks of implementing an environmental policy, "cost effectiveness is not necessarily the primary, or even a major, concern" (Bressers and Huitema 2000). Equity matters more when one considers political and administrative feasibility. Bressers and Huitema (2000) argue that initial allocation does not affect efficiency but it does affect income distribution among players, hence feasibility.

EU climate policy is designed by the Commission and is discussed in the European Parliament. The climate-related subjects they discuss at the parliament are usually Europe-wide issues. As ordinary people living in the constituency of parliamentarians are not overly interested in such broad-ranged issues, unless they directly suffer or benefit from them, the Members of the Parliament pay comparatively less attention for their constituency in voting the issues. Under the situation, cost-effectiveness will be one of top priority criteria, and so that it is easier to introduce Cap & Trade scheme.

As explained before, situation differs considerably in the United States where Congress is a main actor in policy debate and they pay serious attention for "electoral incentive paradigm". This behavioral principle has its own rationale, however. If a law maker wish his or her policy to be accepted and implemented as a law, it is not enough to draw a bill that perfectly fits (economic) theory. He or she needs to make compromises and incorporate several other factors into a bill in order to gain large support to make the bill into a law and later to enforce the law. Through that process, efficiency is likely downgraded as just one of policy criteria. In the end, even if the provision of cost effectiveness narrowly survives, that will be quite different from what economic theory tells.

Japanese society is characterized as a society where equity is the most important, and the harmonization with others is important. This makes clear contrast with western society where individualistic behaviors are highly appreciated. Even if a firm does not like government intervention, the same firm dares to accept a rule if all firms in the same sector do so. This is quite inefficient from the economic view point, but lawmakers or general public seldom argue against it. In Japan, equity matters the most and less for cost effectiveness. This will be another reason why Cap & Trade has not been introduced in Japan.

2-5 Mutual communication between Government and Industry

Though it is almost impossible to quantify, the relationship between Government and industry in Japan is quite different from that in EU and the United States. While the relationship in Japan is based, generally speaking, on mutual trust, those in EU and the United States are more confrontational. In this paper, the author would like to suggest that these tendencies are the result of the differences in the intensity of communication between the two. The close communication between the Government and industry in Japan enables the Government to be well aware of industrial activities and the level of technologies. Such close ties are especially evident between METI (Ministry of Economy, Trade and Industry) and industry. Of course the relationship can be confrontational as demonstrated in the case in 1970's when the Government tried to introduce truly stringent regulations for emissions of hazardous air pollutants from automobiles, although the necessary technologies were not available at that time. But this is not always the case.

Voluntary initiative never works unless the Government maintains good communication with industry. Without good communication, the Government will not be able to thoroughly assess the degree of difficulty each industry faces with its target. Of course, this is a matter of comparison. Even Japanese Government does not know marginal abatement cost of participating sectors to achieve respective targets.

There are several examples. As explained previously, Keidanren (Japan Business Federation) made it clear in 1996 that they would stabilize their CO2 emissions in 2010 at the level of 1990. Their current (2005) emissions are 0.6% below the base year. The UK industry's voluntary agreement 'Climate Change Agreement', (CCA) over-achieved the target at the earlier dates. The CCA, enacted in 2000, set the target for year 2010 with interim targets set for every two years. While the interim target in 2002 was to reduce total participants' emissions by 3.4Mt-CO2, actual reduction far exceeded the target and reached 13.5Mt-CO2. Among participating sectors,

13 sectors achieved their 2010 targets at the end of 2002. These targets were not set solely by industries themselves, but endorsed by the Future Energy Solutions, a third party consultant, as reasonable targets. This clearly showed that the Government did not have accurate emission data of participating sectors[5].

Without good mutual communication between Government and industry, it is impossible for Government to assess the validity of voluntary agreement. And in that case voluntary agreement cannot be an alternative to any mandatory measures. In order to reduce total emissions to a certain level, only option (alternative) available for the Government will be to set a cap (direct regulation) or to allow trading of caps. This may be another factor why Cap & Trade was introduced in EU.

3. Conclusion

This paper highlighted five aspects to explain the reasons why Japan has not adopted Cap & Trade and why its voluntary initiative has worked as a measure to cope with climate change. Through the discourses of above matters, it became clear that the differences between Japan, EU and the United States stemmed from their cultural, historical and social background. The Cap & Trade system best fits the EU's fundamental make-up, followed by the United States, and then Japan.

For the United States, it may be difficult to introduce economy-wide Cap & Trade. If the United States is to implement a Cap & Trade, it is more plausible to assume the introduction of a Cap & Trade system that targets a specific sector (such as power generation sector).

Situation in Japan is similar to that of the United States. One important difference is that there exists a workable full-fledge voluntary initiative. If the target of the initiative is sufficiently convincing to both the Government and other sectors of the economy, and if the target is warranted for full compliance, then, the initiative that covers most of energy and industrial sectors can be more environmentally effective than Cap & Trade in a particular sector (such as power generation).

In the case of voluntary initiative, however, society has to bear the cost. The voluntary initiative is never efficient. On the other hand, with the Government, the Parliament and people themselves showing less interests in the efficiencies of regulatory systems, the best option for Government is to let an environmentally effective voluntary initiative continue, while reviewing the situation regularly through the Government Committee and to intervene, if necessary. In any case, industry must achieve its target by all means in order to let their voluntary initiative continue.

In concluding the paper, the author would like to draw readers' attention to the

following. There were two cases in the past, in which the Government of Japan attempted to control the total emissions of pollutants: one was the HAPs (Hazardous Air Pollutants) and another was VOCs (Volatile Organic Compounds). It was remarkable that, in both cases, the Government chose voluntary initiatives by industries as the effective policies. The former started in 1997 with participation of 35 sectors and consisted of two stages. In both stages the initiative succeeded to attain the original targets. The latter aimed to reduce VOC emissions by 30% by year 2010 from the level of 2000. Whether the measures will achieve the target or not is yet to be seen (Kishimoto & Fujita 2004, Kishimoto 2007). Kishimoto (2007) also found that pursuing environmental effectiveness by combining direct regulation and voluntary initiative could sacrifice economic efficiency. These two case studies suggest that, in Japan, both the Government and industry itself conceives that voluntary initiative is an environmentally effective option and do not overly value the economic efficiency.

So far this paper explored the reason why Cap & Trade scheme has not been introduced in Japan as a measure to comply with the Kyoto Target. As to the post-Kyoto period, there are so many uncertainties including the design of future framework. It is yet to be seen whether industry would like to continue their voluntary initiative regardless of stringency of the target. Same thing can be said for the EU ETS, however. Whether the covered sectors can live with the scheme, even under much stringent cap, is also yet to be seen. There are possibilities both EU and Japan may be able to find alternative policies, such as technology based benchmarks in energy intensive sectors.

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Notes

1. This does not necessarily means that the EU ETS (Phase 1) was really efficient in view of its design, such as grandfathering based on historical emissions, provisions of new entrant reserves as well as closure rule (Demailly, D. and Quirion, P. (2006), Neuhoff, K. et al. (2006).
2. As shown in footnote 1, Cap & Trade is not necessarily an efficient instrument with grandfathering under oligopolistic situation. But the following discussions are based on the assumption that it is efficient.
3. It will be still possible if covered sector is solely confined to power generation sector. As voluntary initiative with full fledge industry participation currently works well, there should be no reason to adopt Cap & Trade only for one sector.
4. Personal interview with a staff of Senator Bingaman
5. Confirmed by an interview with DEFRA staff

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Figure 1 Outcome of the review of the Government Committee of Keidanren Voluntary Action Plan

(Compiled by the author based on the chart by Ministry of Economy, Trade and Industry, October 2007)