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“Effect of the European Union Emission Trading Scheme (EU ETS) on companies:
Interviews with European companies”

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Effect of the European Union Emission Trading Scheme (EU ETS) on companies:

Interviews with European companies

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Abstract

We visited Belgian and Dutch companies that are covered by EU ETS in November 2007, in order to conduct interviews regarding the impact of the scheme and the resultant performance of these companies.

The problems of the EU ETS that emerge from this interview are as follows: ① the redundancy of emission allowance dampens the incentive to reduce the emission of CO₂, ② the allocation scheme fails to consider inter-industrial and/or inter-district fairness, and ③ since the duration of the National Allocation Plan is too short and highly uncertain, it is difficult to implement a long-term reduction investment plan.

As European company officers pointed out, the current EU ETS has several problems. However, the recent political debate on the EU ETS seems to have entered a new dimension toward the second period of the National Allocation Plan. For instance, the cap of CO₂ emission in the second period has tightened in comparison with the case in the first period, when the allowance excessive. Furthermore, in January 2008, the European Union set the goal of reducing emission by 20% from the 1990 level, by the year 2020. Moreover, the EU intends to introduce the complete auction of emission allowance after the year 2013 excluding the sector that is expected to experience serious leakage problems. The current EU ETS can be regarded as a CO₂ reduction scheme in transition. The policy makers of the Japanese government should behold and draw upon the experiences of the European Union in order to implement appropriate policy measures against global warming in Japan.

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Introduction

The EU countries have implemented fairly active climate change policies including the EU ETS, which was introduced in 2005 by means of a market mechanism, in order to reduce CO₂ emissions. Australia, which had refused to ratify the Kyoto Protocol and reduce GHG, changed its climate change policy at the end of 2007, ratified the Kyoto Protocol, and began to consider the introduction of emission trading. The US is also considering introducing emission trading schemes in some states as well as in the federal parliament. It seems as if emission trading has become one of the main policy measures for climate change problems.

In contrast to such developments in other countries, Japan has still not introduced market based policy measures to reduce GHG, and mainly depends on the voluntary GHG reduction activities of both industry and household sectors; as a result, the performance with regard to reducing GHG has not been satisfactory.

Emission trading is a scheme that intends to integrate both environmental and economic aspects. It is advisable for Japan to explore and learn the workings of this scheme.

In this regard, a study team from the Research Center for Advanced Policy Studies of Kyoto University visited Belgian and Dutch companies that are covered by EU ETS in November 2007, in order to conduct interviews regarding the impact of the scheme and the resultant performance of these companies.

During the interview, the following three questions were asked: ① how do you evaluate the introduction of the EU ETS? ② has the EU ETS affected the performance of your company? ③ do regulations such as the EU ETS lead to innovations in environmental technology? General aspects of the EU ETS were also discussed. In this paper, the results of the interview are reported.

The results of the interview

The companies that participated in the investigation are listed in Table 1.

Table 1 Candidate companies

Company	Location	Date
Company A / Chemical	Brussels (Belgium)	Nov. 12 th
Company B / Power	Geleen (Netherlands)	Nov. 12 th
Company C / Chemical	Walloon Brabant (Belgium)	Nov. 13 th
Company D / Energy	Brussels (Belgium)	Nov. 13 th
Company E / Refinery	Rotterdam (Netherlands)	Nov. 14 th

The responses to the inquiries are as follows:

(1) Company A

① How do you evaluate the introduction of the EU ETS?

- In the first period (2005–2007), the EU ETS was ineffective because of over allocations and low prices of CO₂. In the second period (2008–2012), the scheme can be effective if the quotas are appropriately allocated.

② Has the EU ETS affected the performance of your company?

- In the first period, the EU ETS indirectly burdened us such that the electricity generator transferred the CO₂ cost to us.

③ Do regulations such as the EU ETS lead to innovations in environmental technology?

- In our industry, the EU ETS can encourage innovations with respect to R&D; however, the scheme is, in some case, burdensome for us.

④ Other issues

- In the first period, there was no need to calculate the marginal costs of CO₂ emissions reduction since our actual emissions are well within our quotas. However, as for the second period, we are examining how the CO₂ price series will change in the future because, under the stricter capping of CO₂ emissions, it is important to compare the CO₂ prices with the investment returns, in order to increase energy efficiency.

- The scheme of the so-called benchmarking is not applicable to Belgium. Although the

benchmarking scheme has been applied in the electricity generation sector in Germany, it is a very rare case.

- We are developing new technologies related to renewable energy by utilizing, to a great extent, our experience and expertise in chemistry.
- I am not so convinced by the opinion that regulatory entities such as the EU ETS can trigger economic prosperity through technological innovations. The EU ETS is a very good scheme if we are not dead.

(2) Company B

① How do you evaluate the introduction of the EU ETS?

- The current method of allocating CO₂ emission has problems in certain respects, namely, with regard to the fairness of burden share and concerns regarding competitiveness. We think there is room for improvement in the current scheme.

④ Other issues

- We propose a scheme that combines cap and trade on the basis of grandfathering and benchmarking.
- We think that it is possible to reduce CO₂ emission more efficiently by regulating each absolute value of CO₂ emission and CO₂ physical unit of product.
- The introduction of an auction is irrelevant from the viewpoint of pressures on and competitiveness of the industry.

(3) Company C

① How do you evaluate the introduction of the EU ETS?

- So far, the EU ETS has not been very effective in reducing CO₂ because the quotas have been over allocated; had it not been for lobbying activities and other pressures, the EU ETS could have been a more efficient and better scheme.
- The EU ETS has two distinct aspects: it is both a constraint and an opportunity for growth, particularly in terms of improving energy efficiency.

② Has the EU ETS affected the performance of your company?

- Yes, it has. We are one of the major actors in the chemical industry in Belgium and cannot afford to deviate from the recommended target of the scheme. Damage to our image can be quite expensive.

③ Do regulations such as the EU ETS lead to innovations in environmental

technology?

- We have invested in recirculation facilities, cogeneration, renewable energies (solar cells, wind turbines, and so on), etc., as a user. In that sense, the answer is probably “yes.”

④ Other issues

- We are not large emitters of CO₂; however, we emit some CO₂ through boilers, which are mainly powered by gas, to obtain steam and heated water.
- The ways in which the Belgium government translates the EU directives with regard to CO₂ reductions into domestic legislations are somewhat complicated because Belgium has three regional governments. The Flemish region (the northern part of Belgium) is obliged to reduce CO₂ emissions by 5.2%; the Walloon region (the southern part of Belgium), by 7.5%; however, the Brussels district (the areas around the capital of Belgium) is allowed to increase CO₂ emissions by 3.475% in comparison with the emissions level in 1990.
- There is a voluntary agreement between the Essencia, the representative organization of chemical companies in the Walloon region, and the Walloon local government. The commitments are as follows: (a) the Essencia must reduce CO₂ emissions by 16% (in absolute value, compared with the BAU emissions level) by 2012, (b) the Essencia must improve the EEI (energy efficiency indicator) by 13% by 2007, and (c) the Essencia must improve the GGI (global warming gas indicator) by 13% by 2007.
- We are developing new facilities at this site. Therefore, we are requesting a larger quota of CO₂ for this site in the second period (2008–2012) than in the first period (2005–2007).
- Our mother company supports us and provides us with sufficient funds to invest in new technologies that reduce CO₂ emissions.
- Our payback period for environmental investments ranges from approximately five to seven years. This period is at least our objective even if sometimes it can be exceeded when the image of the company needs it.

(4) Company D

① How do you evaluate the introduction of the EU ETS?

- Since the duration of the National Allocation Plan is too short and highly uncertain, it is difficult to implement a long-term CO₂ reduction investment plan.
- Since electricity is not internationally tradable, the power industry cannot move

production bases outside the European Union. At the same time, because of the existing regulations concerning the power industry, the EU ETS critically impacts the power industry.

- The allocation scheme in Belgium has some problems regarding interdistrict emission allocation.
- Although it may be desirable to introduce an auction, it would be expensive for the industry. Consequently, some benchmarking is preferable.

② Has the EU ETS affected the performance of your company?

- Through introducing green and CO₂-free power generation, our company has become image conscious regarding environmental friendliness.
- A profit might be achieved by the trading emission allowance.
- The company has become aware of the need to alleviate the burden of the EU ETS by diversifying the portfolio of energy production.

③ Do regulations such as the EU ETS lead to innovations in environmental technology?

- The EU ETS may encourage innovations in technology. However, because green power is more expensive than thermal and nuclear power, newer policies such as subsidies for green power are needed.

④ Other issues

- Roughly speaking, there are political and economic reasons that explain why the European Union was able to introduce the EU ETS.
- The political reason is that the member states of the European Union recognize the unavoidable reality that no states can decide and act on their own accord against the backdrop of globalization and decentralization.
- The economic reason is rather rational. The costs of environmental degradation through climate change are very high in the long run.
- Moreover, there may be strategies that support global competitiveness through the introduction of environmentally friendly technology.

(5) Company E

① How do you evaluate the introduction of the EU ETS?

- Environmental problems are not limited to CO₂ emission. NO_x or SO_x emissions also constitute environmental problems. The current discussions are rather biased in

favor of topics related to CO₂ emission. Environmental problems should be addressed with respect to the overall pollutants.

- The allowance of CO₂ emissions should be allocated based on the efficiency of the CO₂ physical unit of product. By introducing benchmarking, CO₂ emission should be reduced wherever the marginal abatement cost of CO₂ emission is low.
- The CO₂ physical unit of product of our plant is already efficient compared to other plants; therefore, it is difficult to reduce the amount of CO₂ emission in a situation in which sales are growing.
- If the absolute abatement of CO₂ is a problem, the carbon tax should be introduced. Emission trading is expensive in terms of time and money because of the monitoring entailed.

② Has the EU ETS affected the performance of your company?

- The introduction of the EU ETS has not impacted the performance of our company.
- Our company conducts its business activities including energy conservation from the viewpoint of management.

③ Do regulations such as the EU ETS lead to innovations in environmental technology?

- The company merely reduces CO₂ emission in relation to cost reduction.
- Expectations from technologies such as carbon capture and storage should not be too great. Such technologies are more suited to large institutions such as governments rather than individual companies.

④ Other issues

- The introduction of the EU ETS by the EU is politically motivated. From a practical perspective, the current EU has failed to consider the allowance allocation scheme and monitoring.
- We calculate the marginal abatement cost of CO₂ emission. However, we have not established a method for calculating the marginal abatement cost of CO₂ emission.

Main results of the investigation

The main results of this investigation are summarized as follows:

- ① In response to the question "How do you evaluate the introduction of the EU ETS?" company officers pointed out that the redundancy of the emission allowance of the EU ETS dampens the incentive to reduce the emission of CO₂.

Further, since the duration of the National Allocation Plan is too short and highly uncertain, it is difficult to implement a long-term CO₂ reduction investment plan. Moreover, benchmarking should be added to the existing EU ETS. They also felt that there is a room for improvement in the current scheme via the introduction of certain measures.

- ② In response to the question “Has the EU ETS changed the behavior of your company?” while some officers claimed that the EU ETS had no impact on the company’s performance, others acknowledged that their company became more conscious of its image concerning environmental friendliness with regards to stakeholders.
- ③ In response to the question “Do regulations such as the EU ETS lead to innovations in environmental technology?” several officers indicated the possibility of developing innovative environmental technologies. Moreover, they felt the need for supplementary measures such as subsidies to alleviate the potential burdens associated with the increased costs of research and development investment.

Discussion

The problems of the EU ETS that emerge from this interview are as follows: ① the redundancy of emission allowance dampens the incentive to reduce the emission of CO₂, ② the allocation scheme fails to consider inter-industrial and/or inter-district fairness, and ③ since the duration of the National Allocation Plan is too short and highly uncertain, it is difficult to implement a long-term reduction investment plan.

As European company officers pointed out, the current EU ETS has several problems. However, the recent political debate on the EU ETS seems to have entered a new dimension toward the second period of the National Allocation Plan. For instance, the cap of CO₂ emission in the second period has tightened in comparison with the case in the first period, when the allowance excessive. Furthermore, in January 2008, the European Union set the goal of reducing emission by 20% from the 1990 level, by the year 2020. Moreover, the EU intends to introduce the complete auction of emission allowance after the year 2013 excluding the sector that is expected to experience serious leakage problems. The current EU ETS can be regarded as a CO₂ reduction scheme in transition. The policy makers of the Japanese government should behold and draw upon the experiences of the European Union in order to implement appropriate policy measures against global warming in Japan.