

The Impact of the European Union Emissions Trading Scheme : Interviews with European Institutions and Four Business Organizations in Finland*

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Abstract

This paper reports the results of interviews with four Finnish business organizations and five European business and government institutions outside Finland. They indicate that Finnish companies recognize the necessity of climate change mediation and agree with both the 2020 emissions reduction target set by the EU and the general framework of the European Union Emissions Trading Scheme, although most of them complain about the actual manner of implementation and concern about carbon leakage. Moreover, the results show that Finnish companies have started to change their behavior by the European Union Emissions Trading Scheme.

1. Introduction

From 2006 to 2009, the Research Center for Advanced Policy Studies at the Kyoto University's Institute of Economic Research held interviews with various European agencies and companies in Europe to determine the impact of the European Union Emissions Trading Scheme (EU ETS) on the attitudes and behavior of business organizations in Europe. Interviews were held in Germany and the United Kingdom in 2006, in Belgium and the Netherlands in 2007, and in

* This paper is based on the report for the research project titled "The economic aspects of measures against global warming 2009" for which the Research Center for Advanced Policy Studies at Institute of Economic Research of Kyoto University contacted the Ministry of Environment, Japan. See Ikkatani, Hori, and Kurita (2010).

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Germany and Denmark in 2009.¹

In line with these surveys, this paper reports the results of interviews with European institutions and Finnish business organizations, which were held February 8–12, 2010. The main objective of these interviews was to delineate the impact of the EU ETS on the Finnish economy, especially with respect to the attitudes and behavior of companies in Finland.

The interviewed institutions are as follows: (1) EU agencies, including the Directorate General for the Environment and the Bureau of European Policy Advisers in the European Commission and the European Parliament; (2) *BUSINESSEUROPE*, the most representative business association in Europe; (3) Germany's Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety; (4) the Confederation of Finnish Industries EK, the representative business association in Finland; and (5) three anonymous major companies in Finland. The first three of these institutions are not within Finland, but interviews with these institutions can lead to a better understanding of the context of Finnish business organizations, as part of the EU. We also interviewed four business organizations in Finland; since those organizations are major entities in Finland, the results of the interviews will be useful in understanding the impact of the EU ETS on the Finnish economy, in addition to the attitudes and behavior of Finnish business organizations.

This paper is organized as follows. Section 2 reports the results of the interviews with European institutions outside Finland, and Section 3 reports those of the interviews with four major business organizations in Finland. Finally, Section 4 concludes the paper.

2. European Institutions: Outside the Finnish Economy²

This section summarizes interviews with institutions outside the Finnish economy but within the EU. In Section 2.1, we report the results of interviews with institutions of the European Union (EU) and Germany's Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety.

1. See Ikkatai, Ishikawa, and Ohori (2007a, 2007b) and Ikkatai, Ishikawa, and Sasaki (2008a, 2008b, 2009).

2. Hereafter, the content of the interviews is rearranged and summarized by the authors in such a way that the speakers' intentions and meanings remain unchanged.

2.1. EU Institutions

The EU has three main institutions concerned with the legislative procedure by which directives and regulations are spearheaded, including those of the EU ETS: the European Commission, the European Parliament, and the Council of the European Union. The European Commission has the right to submit legislative proposals, and so it has a great influence on the EU's decision-making. The European Parliament has the right to censure proposals submitted by the European Commission, and its legislative power has grown considerably in recent years. Finally, the Council of the European Union represents the national governments of the EU member states, and thus it is the supreme authority of the EU. In this section, we summarize the results of interviews with a department and a service bureau of the European Commission and the European Parliament.

2.1.1. European Commission

2.1.1.1. The Directorate-General for the Environment

The objective of the Directorate-General for the Environment is to protect, preserve, and improve the environment; it also proposes policies concerning the EU ETS, via the European Commission. The following is a point-based summary of an interview with Ms. Vicky Pollard, a Policy Officer of Market-Based Instruments Including Greenhouse Gas Emissions Trading in the Directorate-General for the Environment of the European Commission, on February 8, 2010.³

- ✓ To achieve the ambitious targets of 20% emission reduction by 2020 and 50% by 2050, we need various regulations; thus, industry must be concerned that regulations will be more and more restrictive in the long term.
- ✓ On the other hand, the EU's incentive packages—including those within the EU's cap-and-trade system—stimulate industries to invest in the green economy. I think that rather than spend more money on green job training or such developments, a market should be created for those.
- ✓ However, we recognize the importance of the carbon-leakage problem in the transition of the cap-and-trade system and have taken measures to compensate

3. Market-Based Instruments Including Greenhouse Gas Emissions Trading in the Directorate-General for the Environment was separated from the Directorate-General for the Environment; it is now included in a new department, the Directorate-General for Climate Action, which was established in February 2010.

companies that face carbon-leakage risk. There are two ways of providing such compensation: a free allocation based on the benchmark, and through some provisions such as direct government aid to companies. With a free allocation based on the benchmark, all machinery is covered, but it gives incentives to companies to suppress output increases and thus not expend more allowances. The benchmark is an average of the top 10% of the most efficient equipment in each sector, and so a free allocation also gives incentives for companies to improve their performance.

- ✓ These policies are led by “comitology,” the EU-specific legislative process. Member states come together at a technical level and decide upon proposals made by the Commission.

2.1.1.2. The Bureau of European Policy Advisers

The Bureau of European Policy Advisers is one of the service bodies of the European Commission; its purpose is to connect the European Commission with think-tanks, academia, civil society, and the like, with the endpoint of furnishing the President of the European Commission with professional and well-informed advice. The following is a point-based summary of an interview with Dr. Ing. Pierre Dechamps, an Adviser of Energy and Climate Change in the Bureau of European Policy Advisers of the European Commission, on February 8, 2010.

- ✓ We think that the issues of climate change, energy security, and economic growth are fully integrated and cannot or should not be ranked: there is no first, no second, and no third. That is our position. There is no way that climate objectives can supersede our more important energy supply objectives, because we really need all three of them. That is our position.
- ✓ We adopted the European energy and climate change package at the end of 2008, and it has become in a sense what we have “put on the table” of international climate change negotiations at this stage. It has three main objectives: to reduce greenhouse gas (GHG) emissions by 20% in 2020, compared to 1990; to increase the share of renewables in final energy consumption to 20% (around 7–8% at present); and to increase energy efficiency by 20%, compared to the BaU⁴ level. The first two objectives are legally binding among the member states; however, the third one, regarding energy efficiency, is not—it is only an indication.

4. “BaU” is the abbreviation of “Business-as-Usual”.

- ✓ There is also burden sharing among the objectives of the 27 member states. In terms of per-capita GDP, there is a 10-fold range between the highest and lowest-ranking member states; thus, the burden-sharing targets of the member states were determined while taking into account their levels of economic development.
- ✓ We also have the European trading scheme (ETS), which covers half of the continent's CO₂ emissions. GHG emissions—most of which are coming from the use of fossil fuels—are a kind of externality, and the ETS is a way of internalizing such externalities. We can definitely do it by charging a tax on carbon, too. The carbon tax and the ETS are equivalent, in a broad sense. However, the carbon tax, on one hand, sets prices, instead of quantities; on the other hand, the ETS sets quantities, instead of prices.
- ✓ The ETS is already operational, but it has a few design flaws and problems, and so we have been working on the package for the next ETS phase, for after 2012. However, even in the next phase, the package has many exceptions; one is for some industry sectors that we used to call “energy-intensive industries.” Actually, they are carbon-intensive industries which are subject to competition from imports from outside the EU, or whose production could be delocalized easily outside the EU. The trouble is that the more exceptions you put into a cap-and-trade system, the less effective it is from an economics viewpoint.
- ✓ The ETS also has an international climate negotiation aspect. In other words, we want to push for the establishment of an international emissions trading scheme in the long term, where problems relating to competition from outside the EU could be rectified. For instance, as France's President Sarkozy is saying, there is the thinking that we should also have a carbon tax on imports, or a border-adjustment tax based on carbon, in order to avoid competition problems. The carbon tax on imports is fine from an economic perspective, but the trouble with this line of thinking at present is that it does not help us in international climate change negotiations, because everybody knows that we are already pushing for an international emissions trading scheme—and if we are pushing for that, no border carbon tax should be levied. The carbon tax, however, might be an option if the establishment of an international trading scheme were to fail to materialize.

2.1.2. European Parliament

The European Parliament is one of the main institutions of legislative

procedure in the EU, and it has the right to censure proposals submitted by the European Commission; its legislative power has grown considerably in recent years. The following is a point-based summary of an interview with Mr. Georgios Amanatidis, an Administrator of the Committee on the Environment, Public Health, and Food Safety of the European Parliament, on February 9, 2010.

- ✓ As is well known, the EU has a self-binding target of a 20% GHG emissions reduction, compared to 1990; that figure will be raised to 30% if there are comparable reductions made by developed countries. However, the European Parliament created a resolution that was voted on in November 2009, in Strasbourg; it said that the EU should have an unconditional 30% reduction target. This is the position of the Parliament at present. This resolution was supported by 77% of the members of the European Parliament (MEPs). Within Parliament, of course, there are different views: some MEPs are skeptical of climate change, and there are even MEPs who share the view that climate change does not really exist. There are also lobbying groups. However, everything was debated, and finally it was voted on. In this sense, there are no clear reasons for Parliament creating this resolution, but it was a majority opinion among MEPs, derived through democratic procedures; ultimately, a very strong majority of them (77%) supported it.
- ✓ One of the other important considerations is that with respect to the energy and climate package at all registered procedures, the Parliament co-decides together with the Council (e.g., the Lisbon Treaty). The European Parliament started from an advisory position, but has recently become an additional legislative power and now plays an important role in addressing climate change issues.
- ✓ The European Parliament will take a negative position on the Copenhagen Accord, because it is a very low-level, unambitious agreement.

2.2. BUSINESSEUROPE

BUSINESSEUROPE is the most representative business association in the EU. It consists of 41 central industry and employer federations from 35 countries in Europe, and it represents the interests of 20 million companies. The following is a point-based summary of an interview with Mr. Folker Franz, a Senior Advisor of Environmental Affairs in BUSINESSEUROPE, on February 8, 2010.

- ✓ Very roughly speaking, BUSINESSEUROPE is the European version of

Japan's Keidanren, in that it represents all industry sectors. As to the nature of our business organization, we really concentrate on policymaking. We guide the views of European industry and act as their communication liaison with European political decision-makers, while laws and law-making are being discussed.

- ✓ There was a general change in attitude among the players in European industry, from a rather hesitant position vis-à-vis the emission trading scheme and related issues, to a more productive position. We in general agreed with the climate and energy targets set by the EU for 2020—that is, a 20% emission reduction target, a 20% renewable energy target, and a 20% energy efficiency target. However, we had long discussions with policy-makers about the specific design of the emission trading scheme, especially with regard to the emission-trading scheme post-2012; there are still many points of controversy with the European Commission.
- ✓ There are different start points between the Environment DG (the environment department of the European Commission) and industry. In the first place, the Environment DG basically believes in a “polluter pays” approach to emissions—in other words, one must pay as soon as one emits GHGs. Secondly, it thinks the carbon price should be as high as possible. The European Commission estimated that the carbon price should be set to between 20 and 40 Euros per ton by 2020. However, European industries question these two points, believing it more important to create incentives for industry to invest in a green economy. The major political issue where those two ideologies clashed in the policy-making process was, of course, the question of auctioning allowances versus their free allocation.
- ✓ However, the target of a 20% reduction in CO₂ is fine by us. It is a big difference from the position of U.S. industries. One of the reasons we could agree upon this target is the fact that there is a basic consensus across all political parties and stakeholders in society that we need to reduce emissions, although this is not the case in other parts of the world.

2.3. Germany's Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety

The Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety is a ministry that addresses policies in Germany regarding climate change and emission trading, among other issues. The following is a point-based summary of an interview with Dr. Geog Maue at Division KII 1 of the

Environment and Energy Issues, Climate Policy in the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety, on February 10, 2010.

- ✓ In the EU, we have the unconditional target of a 20% reduction in GHG emissions by 2020, compared to 1990, and a 30% reduction if other developed countries set a comparable target. However, in Germany, the unconditional target of a 40% reduction was agreed upon by the members of the ruling coalition on October 2009, and we are now preparing to establish a law with regard to it.
- ✓ The climate change policies in the EU were planned while considering two criteria: cost-effectiveness and fairness. Regarding cost-effectiveness, it is important that policies be enacted on basis of flexibility and market mechanisms. Regarding fairness, effort sharing among member states will be based on per-capita GDP.
- ✓ The ultimate target of the EU's Climate Change and Energy Package after 2013 is to mitigate the vast losses incurred as a result of climate change. At the same time, it looks to undertake dramatic innovation in the energy sector, generate technological leadership in a low-carbon society, create energy security by reducing the 50-billion Euro import costs related to oil and gases, and offer benefits in the form of improvements to public health due to the mitigation of air pollution.

3. Four Business Organizations in Finland

We visited and interviewed the Confederation of Finnish Industries EK—the representative organization of Finnish industry—and three Finnish companies under the EU ETS, which had been introduced by the Confederation in December 2009.

The interviewed companies are listed in Table 1 below.

Table 1: List of Organizations Interviewed

Company	Location	Interview Date
Company A	Helsinki, Finland	Feb. 11, 2010
Company B/ Oil Refinery	Helsinki, Finland	Feb. 11, 2010
Confederation of Finnish Industries EK	Helsinki, Finland	Feb. 12, 2010
Company C/ Energy Company	Helsinki, Finland	Feb. 12, 2010

In the interviews, we asked the following questions:

- Q1. How do you evaluate the introduction of the EU ETS and the implementation of an environmental tax regarding CO₂ reduction?
- Q2. Has the EU ETS changed the behavior of your company in terms of CO₂ reduction activities? If so, can you explain to us the change?
- Q3. Do you believe that regulations such as the EU ETS lead to innovative environmental technologies and long-term increases in company profits?
- Q4. How do you evaluate the EU decision that a larger emissions quota would be auctioned as part of the scheme after 2013?
- Q5. How do you calculate your own CO₂ reduction costs?

In addition to the above questions, we discussed in the interviews general issues related to global warming.

The results of the interviews are reported below.

3.1. Company A

- Q1. How do you evaluate the introduction of the EU ETS and the implementation of an environmental tax regarding CO₂ reduction?
 - ✓ The EU ETS is not a policy, but an instrument.
 - ✓ The EU ETS is reasonable from a macroeconomic viewpoint, but it is not good from a microeconomic viewpoint, because it is applied only to companies within the EU—not to those outside the EU, despite the existence of worldwide market competition. Also, the implementation—and more precisely, the allocation—until 2013 is not based on efficiency/benchmarking (which ensures a “level playing field” among companies inside the EU ETS).
 - ✓ We appreciate that in the future free allocations will be determined on the basis of benchmarking (i.e., equipment efficiency). However, as the overall reduction target is at least 20%, it seems that, even to the best operations, allowances are not distributed as a free allocation based on need.

- Q2. Has the EU ETS changed the behavior of your company in terms of CO₂ reduction activities? If so, can you explain to us the change?
 - ✓ The answer to that could be either “yes” or “no.”
 - ✓ We have made efforts to save energy since the energy-saving program in the 1990s. Even before this, we considered energy-saving (i.e., coal) a

- worthwhile cost element to consider.
- ✓ We have changed our behavior, so as to consider research and development projects from an environmental viewpoint, in addition to costs, benefits, and the image value of energy-saving efforts.
- Q3. Do you believe that regulations such as the EU ETS lead to innovative environmental technologies and long-term increases in company profits?
- ✓ There are three ways to abide by the cap under the EU ETS: output reductions, innovation, and the purchase of emission credits.
 - ✓ As for innovation, the advanced breakthrough technologies presently under development could be put to practical use within five years, if all things in the very large development projects go well.
 - ✓ We are making efforts to develop new technologies with considering increases in energy and CO₂ prices, but these efforts cannot be clearly distinguished that for the EU ETS from that for climate change action.
 - ✓ We cannot judge whether such regulations will result in profits, since this would depend on the relationship between benefits and costs, as well as the state of the global economy; at the very least, however, we will be at a disadvantage in the global economy, due to discrepancies among the mid-term targets of several countries (e.g., a 3% reduction in the U.S. compared to 1990, versus 20% in the EU) and the current unilateral implementation of instruments such as the EU ETS.
- Q4. How do you evaluate the EU decision that a larger emissions quota would be auctioned as part of the scheme after 2013?
- ✓ An auction is basically a good idea: it is fair among firms within the EU. We can compete by passing the increased costs on to prices, and the companies that succeed in holding down their abatement costs could be at an advantage.
 - ✓ However, in reality at the moment, this system is wholly inappropriate, from the viewpoint of global competition (i.e., for sectors that are in global competition).
- Q5. How do you calculate your own CO₂ reduction costs?
- ✓ Actually, we do not calculate them, as the EU ETS markets have prices of CO₂ reductions.
 - ✓ Our decision follows from observations of three factors: abatement costs,

EU ETS prices, and CDM⁵ credit prices.

Other points:

- ✓ In principle, it would be best to include all the nations of the world in one unique system, but it would be difficult for all participants to agree upon even benchmark values for free allocation.
- ✓ The industry structure also needs to be changed, since we have to reduce emissions by 80% before 2050. It also requires changes on both the demand and supply sides—specifically, in terms of consumer preferences and lifestyles. Moreover, while we need to produce goods while paying attention not only to the abatement cost of CO₂ emissions but also to lifecycle costs (which include material costs), we should note that the EU ETS focuses only on CO₂ emitted during production processes.

3.2. Company B/Oil Refinery

Q1. How do you evaluate the introduction of the EU ETS and the implementation of an environmental tax regarding CO₂ reduction?

- ✓ We recognize the importance of climate change. We need to do something to mitigate global warming and to make accommodations accordingly, and the EU should contribute to the resolution of this problem as a leader in the Kyoto Protocol's first commitment period. However, the same action needs to be taken by other nations worldwide.
- ✓ Regarding the EU ETS, it was worthy as part of a preparatory period, although there were fairness issues during the first period (2005–2007).
- ✓ Nobody wants to incur costs in the short term, but we cannot address business issues without doing so. Nonetheless, we should note, for example, that while the use of biogasoline reduces CO₂ emissions at the consumption stage, the EU ETS is concerned about CO₂ emissions at the production stage.

Q2. Has the EU ETS changed the behavior of your company in terms of CO₂ reduction activities? If so, can you explain to us the change?

- ✓ We are continuously making efforts to improve oil-refining processes.

5. CDM is the abbreviation of the Clean Development Mechanism, which is defined in Article 12 of the Kyoto Protocol. This mechanism allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol (Annex B Party) to implement an emission-reduction project in developing countries to earn saleable certified emission reduction credits.

- ✓ Our interest in environmental issues has changed from a focus on water quality, through the air quality, and toward to CO₂. This change has led to considerations of fuel usage in developing our business strategies.

Q3. Do you believe that regulations such as the EU ETS lead to innovative environmental technologies and long-term increases in company profits?

- ✓ If the EU ETS price is sufficiently high, it may lead to innovation, but it will also lead to carbon leakage. In addition, on one hand, an increase in the EU ETS price would cause a reduction of demand for goods, but on the other hand, it would increase consumer awareness, which in turn would drive innovation vis-à-vis low-carbon products.
- ✓ The occurrence of innovation and the realization of profits depend not only on the EU ETS price, but also on changes in oil prices.

Q4. How do you evaluate the EU decision that a larger emissions quota would be auctioned as part of the scheme after 2013?

- ✓ The EU's oil refineries will suffer serious losses from global competition, when an auction is introduced. The Russian oil refineries will gain an advantage by exporting their products to Finland.
- ✓ We are anticipating that new products like renewable diesel will ameliorate the situation.

Q5. How do you calculate your own CO₂ reduction costs?

- ✓ We do not calculate them in practical terms. We make production decisions and business plans while considering various factors.

Other points:

- ✓ We are making an effort to design and put into practical use more clean products, while taking into account four different changes: changes in raw materials, the development of legal systems, climate changes, and dieselization.
- ✓ Actually, there is no further room for technologically improving oil-refining processes as our industry consumes little energy during production.
- ✓ We are paying attention to the CCS⁶, since it is a national project. In any

6. CCS, which is the abbreviation of "Carbon Capture and Storage" or "Carbon Capture and Sequestration", is a low-carbon technology of capturing and burying CO₂.

case, however, the fact remains that it costs enormous amounts of money and energy to achieve its aim. We think that the government should invest more in the development of renewable energy rather than in the CCS.

3.3. Confederation of Finnish Industries EK

Q1. How do you evaluate the introduction of the EU ETS and the implementation of an environmental tax regarding CO₂ reduction?

- ✓ We are anxious about the possibility that an increase in the carbon price might raise energy prices.

Q2. Has the EU ETS changed the behavior of your company in terms of CO₂ reduction activities? If so, can you explain to us the change?

- ✓ We are changing from existing oil and coal fuels to low-carbon energy fuels like biomass.
- ✓ With this as a turning point, we aligned ourselves with the Energy Efficiency Agreement of the Ministry of Trade and Industry.
- ✓ The use of heat pumps, as well as the supply of district heating, is prevailing as the main heating sources in households.

Q3. Do you believe that regulations such as the EU ETS lead to innovative environmental technologies and long-term increases in company profits?

- ✓ We do hope so; in any case, the firm's profits depend on the overall economic environment, including the GDP level.
- ✓ While it has a large impact on existing carbon-intensive firms, it will also yield green firms.

Q4. How do you evaluate the EU decision that a larger emissions quota would be auctioned as part of the scheme after 2013?

- ✓ We object to the decision even now. We are concerned about the fact that it is applied only within the EU, and not outside.

Other points:

- ✓ We have a negative view regarding border adjustment; we need a free-trade system.
- ✓ On one hand, we are expecting that power consumption in Finland will continue to increase—although it fell in 2008 compared to 2007, due to

the economic recession. On the other hand, we need to fill the gap between the power supply and demand, before two of the four nuclear power plants become obsolete.

3.4. Company C/Energy Company

Q1. How do you evaluate the introduction of the EU ETS and the implementation of an environmental tax regarding CO₂ reduction?

- ✓ We were critical in the introductory phase, because ETS should be global. Also, there are several levels that need to be examined: global, EU, country, region, and company, for example.
- ✓ In addition, there are several targets: renewable, non-ETS linked, etc. A number of different targets can be found within the main target.
- ✓ Taxes and other mechanisms—for example, feed-ins—are country-based; in such circumstances, it is challenging to bring about a “level playing field.”
- ✓ However, ETS, as a mechanism, works as planned: CO₂ has a price and emissions have decreased in the EU, according to survey results.

Q2. Has the EU ETS changed the behavior of your company in terms of CO₂ reduction activities? If so, can you explain to us the change?

- ✓ We have changed our behavior, but the fact remains that we should generate energy even under the EU ETS, so long as consumers do not change their energy consumption behavior.
- ✓ While the EU ETS price is low at present, the CO₂ abatement cost depends on changes in primary energy prices.

Q3. Do you believe that regulations such as the EU ETS lead to innovative environmental technologies and long-term increases in company profits?

- ✓ We are aiming to be a carbon-neutral company by 2050.
- ✓ While regulations lead innovation, they will also restrict a firm’s growth and financial capacity.
- ✓ A company’s financial capacity and ability to have a clear perspective of long-term policy are essential to the realization of innovative technology.

Q4. How do you evaluate the EU decision that a larger emissions quota would be auctioned as part of the scheme after 2013?

- ✓ When the cap-and-trade system is not global and emission targets outside

the EU are relatively low, increasing auction volumes in the EU ETS will only lead to cost increases in the EU.

- ✓ The distribution through auction will become a driver that determines a carbon price.
- ✓ The EU needs to be concerned about unfairness between industries to which the EU ETS is and is not applied, and between countries inside and outside the EU. Especially in the latter case, there is the issue of carbon leakage, which would be resolved if a worldwide institution or carbon market were to be established.

Q5. How do you calculate your own CO₂ reduction costs?

- ✓ We calculate the marginal abatement cost as part of our investment planning.
- ✓ We need to consider comprehensively factors such as the share of free allocations and the target share of renewable energy production, rather than make comparisons of marginal CO₂ abatement costs and EU ETS prices.

4. Concluding Remarks

The interview results make it clear how Finnish companies view and respond to the introduction and implementation of the EU ETS.

1. In general, all the companies interviewed support the general framework of the EU ETS and share the view that some measures to tackle global warming must be implemented. However, most of them criticize the actual manner of implementation. In particular, they express concern about allocations and carbon-leakage problems.
2. While some of the companies mention that they have been making constant efforts to conserve energy, even before the introduction of the EU ETS, some companies stated that the EU ETS has in fact changed their behavior. For example, one of them pointed out that the implementation of the EU ETS prompted it to start using low-carbon energy resources like biomass instead of fossil fuels. These findings suggest that Finnish companies take very real and affirmative measures to counter global warming, some of which have been triggered by the implementation of the EU ETS.
3. Most companies anticipate that the EU ETS will promote the innovation of environmental technology, although whether or not this will occur depends on

the future economic situation. One company aims to apply, on a practical basis, advanced breakthrough technology that it will be developing over the next five years.

4. While most companies support the distribution of emissions quotas by auction, they are concerned about the actual implementation of this system, largely because of potential carbon-leakage problems.
5. Regarding marginal abatement costs, all but one interviewed company calculates them. However, we could not obtain information from any of these companies regarding how they actually calculate it.

Interestingly, the Confederation of Finnish Industries EK objects to border adjustments, stating that they contradict the idea of free trade.

Moreover, we have interviewed EU companies in and since 2006, asking questions similar to those cited here. In comparison to the results of past interviews, those of the interviews with the Finnish business organizations have the following features:

1. Similar to the results of past interviews, the Finnish companies complained about the method by which actual emissions quotas would be distributed.
2. In contrast to the results of past interviews, the Finnish companies seem to have changed their behavior because of the introduction and implementation of the EU ETS. Some have begun to use low-carbon energy resources like biomass instead of fossil fuels, while others have shifted their focus from water quality to CO₂ emissions.
3. Finally, the Finnish companies interviewed generally seem to support the auction of emissions quotas, although they tend to oppose its actual implementation because of critical problems, such as those relating to global competition. This result is different from that seen in past interviews, in which the interviewees were completely opposed to the auction.

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