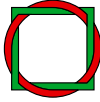




Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety



Ministry of the Environment



**Wuppertal Institute**  
for Climate, Environment  
and Energy



Documentation of the

# **Second German-Japanese Workshop on Economic Instruments for Climate Protection**

organised

by the German and Japanese Ministries for the Environment,  
IGES and the Wuppertal Institute for Climate, Environment and Energy

Berlin, 31 January / 1 February 2007,  
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Second German – Japanese Workshop  
on Economic Instruments for Climate Protection  
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## **DOCUMENTATION**

### **1 Preface**

After a successful conference and workshop in Tokyo on 31 October / 1 November 2005 ([http://www.wupperinst.org/de/unsere\\_forschung/weitere\\_forschungsbereiche/buro\\_berlin/index.html](http://www.wupperinst.org/de/unsere_forschung/weitere_forschungsbereiche/buro_berlin/index.html)), the environment ministries of Japan and Germany decided that a follow-up might be beneficial for all sides, especially since Germany would resume the presidency of the G8 in 2007 and Japan will take it over in 2008. Responding to the request of both ministries, the Wuppertal Institute for Climate, Environment and Energy and the Institute for Global Environmental Strategies (IGES), who have a long tradition of cooperation on climate and environment protection, co-organized a workshop in 2007.

The workshop took place in Berlin on 31 January and 1 February 2007. Participants included Japanese and German regulators, scientists and stakeholders from business and environmental organisations. The workshop started with a public session in the morning of 31 January, followed by one and a half day of closed sessions. The closed sessions provided many insights for the participants, most notably the exchange of views among stakeholders. The agenda was designed in a way that the German / European participants would first address the experiences with the European Emissions Trading System (EU ETS), then the Japanese participants would present their experiences with the voluntary Japanese scheme (JVETS) and pose further questions on the EU ETS. The second day addressed first the expansion of the existing regime to other instruments (JI/CDM) and emerging trading systems like those in Norway or Switzerland. Two forward-looking sessions concluded the workshop – one on the challenges ahead for the post-2012 negotiations, especially as regards the flexible mechanisms, and the other on the ways and means of future cooperation between Japan and Germany.

All presentations can be viewed on the website of the Wuppertal Institute at [http://www.wupperinst.org/en/projects/project\\_details/index.html?projekt\\_id=152](http://www.wupperinst.org/en/projects/project_details/index.html?projekt_id=152).

The Wuppertal Institute would like to thank the funding organisations, the Japanese and German Environment Ministries, as well as the staff of the Institute for Global Environmental Strategies who provided invaluable support for the organisation in Japan.



Wednesday, 31 January 2007

## 2 Introduction

Dr. Hermann E. Ott of the Wuppertal Institute welcomed the participants of the Second German – Japanese Workshop on Economic Instruments for Climate Protection, with a special greeting to the participants from abroad. Dr. Ott emphasized the Wuppertal Institute’s long-standing cooperation with IGES. He noted the importance of this workshop, Germany and Japan being the second and third largest emitters of the Annex I-Parties that have ratified the Kyoto Protocol. He went on to explain that this workshop is a follow-up activity of the “Climate Policy 2005 and Beyond” conference held in Tokyo in the fall of 2005.

Prof. Akio Morishima of IGES also welcomed the participants and provided a short introduction to the workshop. In 2007, Japan will conduct the second review of climate policies and measures and it will introduce additional policies and measures in 2008 if the current measures are not sufficient to achieve the Kyoto target. Therefore, these years are very important for Japanese national climate policy. However, they are also crucial for future international climate policy since Japan will take over the G8 presidency in 2008 and a post 2012 climate regime will be one of main discussion topics for the G8.

While the EU has already implemented an Emissions Trading System (ETS), Japan is still discussing the introduction of such a scheme. The workshop might thus bring important insights for Japanese policy-makers. Prof. Morishima suggested that introducing an ETS quickly would be vitally important for Japan; otherwise it might be too late for the country to enter the emissions trading market. The two days of the workshop would therefore not only be important for the participants, but for the Japanese economy as a whole. He thus asked the German participants to be as frank as possible in explaining the European ETS and its approaches.

### 3 Perspectives of German Stakeholders on the ETS and Future Directions

Chair: Enno Harders

The first round of presentations and discussions was devoted to the experiences with the EU ETS made by German/EU stakeholders from government, business and environmental NGOs.

Peter Zapfel

Peter Zapfel, Directorate General Environment (DG ENV) of the European Commission, presented “The Next Steps in Developing the EU Emissions Trading Scheme”, with an emphasis on the EU’s market-based instruments and the EU ETS Unit.

The EU’s carbon market, applicable to 25 EU countries, started on 1 January 2005. There are mandatory caps on absolute emissions. The EU Emission Trading System (EU ETS) covers combustion/energy, oil refining, coke production, pulp and paper, lime, cement, iron and steel, ceramics and glass sectors. It was launched with the participation of a critical mass of large industrial installations (about 10,000), whose emissions amount to two billion tons of emissions, about half of the EU’s CO<sub>2</sub> emissions. In the medium term, the EU ETS will be extended to other measurable greenhouse gases (GHGs), namely N<sub>2</sub>O from fertiliser production and CH<sub>4</sub> from coalmines.

The EU ETS, he suggested, is a simple and cost-effective approach, which can be linked to other Kyoto mechanisms. Companies can use credits for projects in 168 countries in order to meet their reduction objectives. It can also be linked with other domestic emissions trading schemes, although currently only with countries that have ratified the Kyoto Protocol. In 2008, the EU ETS is expected to link with Norway, Iceland and Liechtenstein through the European Economic Area (EEA) Agreement. Furthermore, linking with mandatory emission trading systems with absolute caps on the regional level and with countries not listed in Annex B of the Kyoto Protocol will be considered in the EU ETS review.

The review report, entitled “Building a Global Carbon Market”, is now under way. In the second half of 2007, the European Commission will put forward proposals to amend the EU ETS Directive. Furthermore, the National Allocation Plans for the second phase will be completed this year. Since the amendment of the Directive cannot be finalized before the start of the second phase, the proposed changes should take effect in 2013. The review will tackle improvements of the ETS functions based on practical implementation experience, streamlining of the current design and expanding the coverage of the EU ETS. In the future, allocation of allowances will be broadened and the climate change impact of aviation will be included.

There are important lessons to be learned from the experience of EU ETS. The first lesson is to keep the overall objective of tackling global climate change in mind. Therefore, emissions trading systems should be linked together for maximum global effectiveness. This goal implies their compatibility. The second lesson is to keep the scheme as simple as possible. The third lesson is the necessity of reliable data. It is

necessary to use verified data as basis for any allocation. For this, the EU's revised monitoring and reporting guidelines can be used. Sound registry software for emissions trading is already in place. The EU's indicated practical experience on design parameters can be used.

### Franzjosef Schafhausen

Franzjosef Schafhausen of Germany's Federal Ministry for the Environment, Nature Protection and Nuclear Energy Safety presented "National Implementation in Germany – Regulator's Evaluation of the EU ETS". Mr. Schafhausen advocated low-cost climate protection, especially emissions trading, as an opportunity for a fundamental change in environmental policy. He proclaimed a new way of thinking towards flexible structures, and away from command and control. In his view, the market economy would lead to optimized results and reduce deficits in legislative implementation as well as in cost-intensive and rigid bureaucracies. For a better understanding of the problems caused by the EU ETS and the current system of free-of-charge allocation, he noted that the EU Directive is policy-based and does not fully match economic goals.

He then went on to Germany's Climate Change Programme, explaining Germany's status and timetable and the current trends in emissions reduction. There has been a 21 Mio. t gap between the 2005 allocation and the 2005 emissions, of which 9 Mio. t have been reduction whereas 12 Mio. t have been over allocation (option rule). Two thirds of allowances have been given to energy suppliers, one third to the industry. Anyhow, there are still problems of allocation and division of allowances.

He came to the conclusion that Germany will not automatically reach its target (minus 21% in the period from 2008 to 2012) but that further measures were required. The political decisions taken in the course of NAP1 and NAP2 showed a need for action in the sectors "private households" and "transport".

In theory the ETS is quite easy to understand and should provide the right economic incentives to reduce greenhouse gases. In practice, however, emission trading is hard to understand and implement. Since every country has developed its own version of the system, one big issue will be the harmonization of the schemes. At the current stage, the largest portion of national allowances is distributed free of charge, only 5-10% are actually traded. As yet it remains unclear, how to allocate and distribute the allowances. Germany has developed a very complex and non-transparent system with different rules for the different players. This is understandable, since Germany went into this without any prior experience or any infrastructure for collecting and analyzing data. The government is trying to amend this system, focusing on more simplicity and transparency. The number of special provisions to the industry will be reduced and distortions in competition avoided. Germany will also support the inclusion of the aviation sector into the ETS system.

## Stefan Ulreich

Stefan Ulreich of E.ON, Germany's largest energy utility company, explained in his presentation on "Emissions Trading from a Utility Perspective" that an ETS is the right instrument. It provides economic incentives and allows more flexibility and freedom compared to command and control. In order to build trust in market forces, a stable framework for a span of about 15 to 20 years is necessary. Time is key in order to develop the solutions for effective abatement. Furthermore, a global carbon market would be ideal for an efficient run of the ETS. The 30 biggest emitting countries should be included in the system since these alone are responsible for 80% of the emissions. The CDM should be exploited much more as this is a great indicator for the third world countries to recognise that ETS has advantages for them.

CO<sub>2</sub> abatement, he proceeded, can indeed lead to higher electricity prices. This is not necessarily the effect of the ETS, however. The rise is resulting from the expected upfront expense for more efficient and state of the art technology necessary for the future. This simply means that electricity will have its price. Electricity intensive customers see this as a problem and could choose to do their business in another country where the costs are lower. Whether they would actually do this is not certain, but the threat is real. A global ETS market could keep this threat in check.

## Stefan Kleeberg

Stefan Kleeberg of 3C Company, a consulting firm on the financial impacts of the ETS, gave a presentation on "Perspectives of German Stakeholders on the ETS and Future Directions". He explained that 3C Company's clients are mostly small and medium-sized enterprises (SMEs) who in general have no experience with trading allowances. Out of the 1849 installations in Germany that are legally bound to participate in the ETS, more than 1200 have an allocation below 150.000 t for the first trading period (50.000 t a year). Most of these companies were unprepared for the ETS, since the policies and procedures were much too complex. Furthermore, there is no provision for trading small amounts in the German system at this stage. Therefore, a platform for SMEs would be necessary, where smaller amounts such as 1,000, or even 350 tones could be traded. More transparency is expected in the second phase and companies will be better prepared having gained experience in the last years.

Technical mitigation will remain difficult in Germany, resulting in more concentration on CDM and JI with the corresponding certificates. However, as has become very clear during the last year, the voluntary emissions market will have a significant upturn.

Long-term and clear reduction targets for greenhouse gas emissions must be set to provide reliable investment conditions. Regulators should involve market experts in their decision-making process. Many problems could have been avoided had this happened earlier in Germany. In short, a harmonized international framework is needed to ensure a liquid and efficient global carbon market.

## Ingo Ramming

Ingo Ramming of Dresdner Kleinwort, the investment-banking branch of Dresdner Bank that also acts as a risk management advisory, talked about “GHG Emissions Trading from a Bank Perspective”. Since the year 2000, Dresdner Kleinwort has been a leading player in EU Emissions Trading. With a dedicated team who actively promote market emissions products, Dresdner Kleinwort is seen as one of the most innovative emissions trading houses in the market and GHG emissions are becoming more and more central to corporate strategy.

Mr. Ramming emphasized that it is good to have banks involved in an emissions trading scheme, because companies have come to realize that emissions trading can create real value in terms of improved cash flow and better earnings. The secret of success of the EU ETS is that there are many investors such as banks and brokers, who create the markets by providing the needed liquidity. Emissions trading allows project developers to generate additional income sources and creates new financing mechanisms. The cash flows resulting from emissions trading can be used for project financing.

The allocation of the emission certificates is fundamental because run-away allocation will keep the price down. That is what has happened in the first phase and everybody expected it. In the European carbon market, about 1 billion tons of CO<sub>2</sub> were traded, making it the biggest emissions market in the world. Compared with 2004, when only 20.000 tons a week were traded, an impressive development has taken place. This is exactly the right way to go forward.

In the future, there will be more liquidity in the market. This means that more options will be developed, providing clients with better and more sophisticated risk management or investment products. There will also be more demand for “new currencies”, i.e. project based credits such as ERU’s and CER’s. This is one of the reasons Dresdner Kleinwort created a joint venture with Gazprom Bank to invest in projects generating “carbon credits” under the Kyoto protocol, mainly in Russia and Eastern Europe. This is one of the most interesting markets for the future.

## Rie Watanabe

Rie Watanabe of the Wuppertal Institute for Climate, Environment and Energy, presented her research results regarding “Positions of Industrial Stakeholders on Cap & Trade ET in Germany and Japan.”

Both Germany and Japan have used voluntary approaches for mitigating and controlling GHG emissions from the industry and energy sector for a long time. A shift from a voluntary approach to a cap-and-trade ET is a major policy change in target setting and target achievement. Voluntary approaches are setting sector-based, collective targets based on a voluntary pledge, while a ETS sets individual, mandatory targets. Moreover, those who cannot achieve the targets at their installations must purchase allowances or pay penalties in a cap-and-trade ET. While a voluntary approach is still a major instrument to control emissions from the industry and energy sector in Japan, Germany introduced a cap & trade ET. Based on the hypothesis of political science that major policy changes occur due to external factors or internal factors (change of stakeholders’ perception on the issue), she examined the reason why Germany has had the major policy change from voluntary approach to emissions trading while Japan has not.



Literature reviews and extensive interviews with stakeholders reveal that Germany introduced a cap-and-trade ET not due to the change of stakeholders' perception, but due to external factors, namely the EU level discussion. Japan, on the other hand, has neither internal nor external factors that promote an ETS. Ms Watanabe concluded that external factors might be necessary for a change from voluntary approaches to cap-and-trade. A perception change of industrial stakeholders is only observed in Germany two years after the introduction of the EU ETS.

In the end, she posed three questions for discussion. First, is cap-and-trade a desirable instrument for addressing climate change? Second, does cap-and-trade work in the EU and would it work in Japan? Third, if cap-and-trade works, what kind of elements should the scheme contain in order to reconcile the conflict between economy and climate protection?

### Regine Günther

Regine Günther of the World Wildlife Fund insisted that the current ETS needs improvement in three main areas. First, it needs to be made simpler with lower transaction costs. At the moment it is not clear if the EU ETS is able to provide that. Second, the focus must be placed on cap setting and allocation. During the process of setting caps, the EU made all the mistakes that could possibly have been made. There simply was no discernable rationale behind the setting of caps. The process was thus reduced to pure negotiation. This problem applies not only to Germany, but to all of Europe. Third, the ETS must be applied to all sectors in order to be truly effective. The EU Commission pulled the emergency brake by taking the responsibility away from the member states and introduced an identical binding formula for all the members. This indeed saved the system. This should be the way forward in the future for the third and following phases of the EU ETS.

Ms Günther concluded that 80% of the problems with the ETS can be traced back to the grandfathering method in allocating the allowances. This system should be relinquished in favour of auctioning. WWF is advocating 100% auctioning for the electricity sector. However, the most likely outcome will be a benchmarking system (industry is lobbying very hard for this), but this would delete the price signal of CO<sub>2</sub>. This fuel specific allocation method should be rejected. For Japan, the pressure to introduce an ETS is very high and in the next years will become even higher. In order to merge the various systems, absolute reductions will be needed, a proper verification monitoring system must be in place and the same penalty rate must be applied to all.

## **Discussion**

*Question:* What is needed in order to organise an efficient trading platform for SMEs?

*Answer:* The biggest impediment is the registry where all the certificates are held. This is an independent registry allowing the transfer of certificates, but the registry does not ensure the transfer of money in conjunction with the transfer of certificates. A system similar to a stock or bond exchange where both go together would have been much better. A certificate that can be traded on exchanges was issued with the option to change into real EUAs. That works very well for the SMEs because there is little cost involved.

*Question:* Why are European Parliamentarians against the auctioning system for the second trading period?

*Answer 1:* As yet, there is no parliamentary decision on how to allocate the allowances. Some parliamentarians are in favour and some are against auctioning. For an economist, the auctioning system is the correct way to allocate the allowances. In Germany, there is a great deal of resistance in dealing with the auctioning system. In the course of the ongoing discussions, people are becoming more familiar with auctioning and the arguments in favour are increasing. What is at issue here are the alternatives and whether different allocation methods should be combined. From an economic point of view, 100% auctioning is the best method. But since this is also a political process, at best there will 50% auctioning and the other 50% could make use of benchmarking. One must consider which type of benchmarking to use and there is great need for discussion.

*Answer 2:* There is a definite trend in favour of auctioning. A new analysis done by Deutsche Bank indicates that auctioning is the best method and it is very encouraging that this is coming from the business sector. In the longer term, meaning after 2012, auctioning is the best way to create a transparent market that functions smoothly. However, it must also be taken into account that there are very powerful interest groups in Germany that are strongly against auctioning. Examples are the steel and chemical industries. It is also important to address the design of an auction. As yet, experience in auctioning of a large share of allowances is lacking in the ETS. Fortunately the United Kingdom decided to auction 7% of all the allowances amounting to 14 million certificates per year. This is large enough to provide first hand experience to draw from in the future.

## 4 Perspectives of Japanese Stakeholders on the ETS and Future Directions

Chair: Seiji Ikkatai

The second session of the workshop provided insights and discussions around the views of Japanese stakeholders from administration, business and NGOs.

Prof. Seiji Ikkatai

Prof. Ikkatai of Kyoto University and the Japanese Environment Ministry began his talk on the “Japanese Voluntary Emissions Trading Scheme” by stating that the amount of domestic greenhouse gas emissions has exceeded the target by 8.0% from the base year 1990. In other words, a 14% reduction would be required to achieve the -6% target set by the Kyoto Protocol for 2008–2012. Japan should thus establish a domestic emissions trading scheme in order to achieve CO<sub>2</sub> emission reduction through cost-efficient policy. This would help industries to see the expense for emissions reduction as part of their production costs in their day-to-day management. In Japan, where CO<sub>2</sub> emissions have not yet been priced, most companies do not have incentives to identify abatement costs of CO<sub>2</sub> and implement only profitable actions in the short run for energy saving. According to the results of his research, it seems rather difficult to expect the companies to reduce CO<sub>2</sub> in line with the target set by the Kyoto Protocol through the industry’s voluntary action plan and without additional environment policy. Although more than half of the companies, including small companies, take actions for the reduction of CO<sub>2</sub>, not many companies have met the quantitative targets.

As regards Japan’s Voluntary Trading Scheme (JVETS), the first round has been running since April 2005 and will continue until the end of August 2007. The actual commitment period (FY2006) began in April 2006 and it will end in March 2007. The time prior to that has been used to set up new facilities and the calculation and verification of GHG emissions. A budget of 3 billion Yen has been allocated in order to subsidize the new facilities. During the commitment period, emissions allowances (JPAs) were allocated to each participant. These can be traded freely until the end of the first round. During the adjustment period (April – September 2007) the actual CO<sub>2</sub> emissions will be verified. Remaining JPAs can then be carried over to the next operational period.

Eighty-nine installations are participating in the first round of JVETS. Emission sources monitored and reported under JVETS include direct and indirect emissions, direct emissions from combustion of waste materials and direct emissions from manufacture or processing of chemicals and materials. Nineteen organizations are responsible for the verification process. JVETS is Japan’s first experiment in a real “cap-and-trade” emissions trading scheme. It brings the opportunity to learn the actual practice of managing emissions trading. Lessons have been the formation of an efficient and accurate verification system, the establishment of a monitoring and reporting guideline and the development and maintenance of emissions reporting and registry systems for accurate accounting.

## Masaya Inamuro

Masaya Inamuro represents Mitsui & Co Ltd., a trading house dedicated to creating CDM projects. In his presentation “Carbon Credit Transactions in Japan”, Mr. Inamuro details how Mitsui purchases CERs and sells them in Japan to end clients who are primarily the Japanese steel and power industries. There are a wide variety of projects and the regional distribution is very balanced. However, out of the 110 projects, only an estimated 13 projects include Japanese technological transfer to the host country. The purchases are motivated by a sense of corporate responsibility as there is no mandatory scheme to force the purchases in Japan. A mandatory scheme, however, would most certainly provide more incentives necessary for the transfer of Japanese technology. The major Japanese purchasers claim they have acquired 70-80% of their necessary amounts to meet their own targets in order to comply with their voluntary targets. So there will be no more major purchases in the short term. The biggest risk is that there will no longer be large buyers in Japan starting 2007. This lack of buyers will decrease the willingness of developers to create more projects.

### Creation of Projects

Projects Approved by the Government of Japan (Applicant as Project Participant)

<b>Calendar Year</b>	<b>number of projects</b>
2002	2
2003	3
2004	6
2005	23
2006	64
2007 (Jan)	12

## Muneaki Tokunari

Muneaki Tokunari of Mitsubishi UFJ Trust and Banking Corp. gave a presentation on “An Attempt to Create the Emission Trade Mechanism in Japan”. He explained the current situation in Japan: in 2004, green house gases have increased by 8% from the 1990 level, despite Japan's commitment to reduce them by 6%. More than 75% of the Corporations recognise that Japan has difficulties to reach the 6% target only through national efforts.

In addition to these reduction efforts, Japanese companies are purchasing CERs, making Japan the biggest buying country of CERs from CDM projects. Most problems arise when SMEs find themselves in the difficult position of trying to purchase only small amounts of CO<sub>2</sub>, like i.e. 100.000 tons.

The Climate Policy Law (No. 117 of 1998) provides a legal framework, under which, by means of an emissions trust, CERs can be traded with more efficiency, thereby allowing the market to grow. The purpose of the Law is to promote the control of GHG emissions with the aim of achieving the reduction commitment under the Kyoto Protocol. This is done through action plans of the government, the obligation to report the volume of GHG emissions for “specified emitters”, a public disclosure system of GHG emissions from “specified emitters” and a framework for “Management Accounts” for GHG emission units (Carbon Dioxide Quota, revised in 2006, will be executed in March 2007). Under the framework for the “Quota Account Inventory”, GHG emission units have become trust assets.

### Akira Hibiki

Akira Hibiki of the National Institute for Environmental Studies, Japan, gave a presentation on “Some Issues on the Design for Domestic Emissions Trading Scheme: Learning from the EU Experience”. He explained that the establishment of the ETS and carbon tax to control the emissions from manufacturing and power industries and transportation is very closely studied in Japan. In this regard, the European experience is very valuable in order to understand how the EU addresses these issues and what methodology is applied to reach the targets. Japan is undecided whether to use the “downstream allocation” or the “upstream allocation”. The administrative costs to manage a “downstream” system like in the EU are expected to be high. The issue here is if it is possible to address this problem by a policy mix consisting of auctioning and corporate tax reduction.

He posed the following questions to the German participants.

With hindsight, is the “downstream approach” in the EU still considered the most effective? Or is it considered to be too costly? Is the downstream approach the right choice for a single country such as Japan? Based on the EU experience, what is considered to be the best strategy to combine the different allowance methodologies or what criteria should be used upon considering allocation? How is the benchmarking evaluated? From the point of view of fairness, benchmarking might be considered more beneficial for the companies in that it would reflect past emission reduction efforts. Japan is seeking the correct strategy for higher public acceptance.

The introduction of a climate policy instrument such as an ETS is expected to have a negative impact on the competitiveness of the companies. Is EU ETS considered to have affected the competitiveness of the EU companies and/or the location choice of the companies? What types of the measures should be considered in order to avoid the negative effect of the ETS on the competitiveness and/or location choice?

Government commitment of future policy as well as the price of the allowances plays an important role to affect long term decision making of the companies. For example, if the government commits to reduction targets for a long period of time with stringent targets, then companies would have a strong incentive to make the necessary investments. But if this commitment is unreliable or uncertain, most companies will hesitate to make these investments. What kind of strategy is considered to be the adequate one in this regard?

Yurika Ayukawa

Yurika Ayukawa of WWF Japan explained in her talk on “Japan’s Climate Policy Cap&Trade is Essential” that the main policies of the “Plan to Achieve the Kyoto Target” (2005) are the Energy Conservation Law, mandatory GHG emissions accounting, reporting, and disclosure. Also included in this is an increase in nuclear power by 2010. But this plan does not go far enough; it has many shortcomings as it is based mainly on voluntary actions that do not guarantee real reductions.

WWF proposes a cap-and-trade domestic emissions trading system as the most cost effective measure to make a real difference. Since last year, the Ministry of Environment (MoE) is considering this by implementing an experimental, voluntary scheme, with subsidies for those who make commitments to reduce. However, it is a learning process about marginal abatement costs. The Ministry of Trade, Economy and Industry (METI) is very skeptical about it and questions the effectiveness of the EU ETS.

The industry association “Keidanren” (the major, overarching industry association) calls ETS a “command and control” scheme and is strongly opposed to it. Keidanren holds that voluntary actions would be enough and, if not, the companies would simply buy CERs from CDM projects. In its view, Japan’s energy efficiency is already number one in the world and there is no more room for improvement. Finally, the marginal abatement costs according to Keidanren are too high to take domestic actions. But that is only half the truth, since more than half of Japan’s emissions come from the seven largest industries. Granted, emissions from the industry have not increased much since 1990, but this is due to the economic recession of the 1990’s. There is a growing concern about climate change and emissions are increasing in Japan due to the end of the recession.

In the year 2007 the second review of existing climate policies will be conducted. The government should conclude that the “Plan to Achieve the Kyoto Target” is inefficient and that new market-based policies are necessary. It is the last chance for Japan to show whether it can become a world leader in preventing dangerous climate change.



## Discussion

*Question:* How does one calculate the surplus of emissions trading certificates on the international market?

*Answer:* There are always new installations joining the scheme in an emissions trading market. It is difficult to ascertain, how many new installations will be in the market in the second trading period. Thus there must be reliable data with information about how many and what kind of installations, the rate of production, etc. It is difficult to rely on current data for the future so there must be a plan to fall back on. Germany introduced a system that is called the “second mechanism”. Here the state bank will buy additional allowances or additional certificates from the market if the reserve set aside for new installations is exhausted.

*Question:* Is it true that installations such as cement producers, steel or paper producers would orient themselves outside the European market in order to withstand competition? In other words, can the EU ETS force industries out of the market?

*Answer:* We do not see that, but at the moment there is an over allocation. During the next trading period, this could happen but for now there are no companies relocating out of the European Union. These industries have been able to transfer their emissions trading costs into the price of their products.

*Question:* How do enterprises react to emissions trading and do they really reduce emissions?

*Answer:* Yes, they reduce emissions. In 2005 there was a total reduction of 21 million tons where the major part of the reductions came from the power sector. This is primarily because this sector is the least complicated.



Day 2: Thursday, 1 February 2007

## 5 Linkages

Chair: Akio Morishima

In the first session of the second day, participants in the workshop heard presentations on expanding the European ETS, i.e. linking it to other instruments like JI / CDM and to other emerging systems like in Norway or Switzerland.

Michael Fübi

Michael Fübi of RWE Power AG spoke about the “German Experience with CDM and JI”. In his view, most of the German companies were late-starters. There was no governmental purchasing program for CERs and ERUs. Therefore, there was no practical experience on the governmental level and the awareness of German companies with compliance obligations was low. The low price of allowances in 2005 did not give many incentives to look for other possibilities to comply. Only equipment manufacturers for environmental and renewable energy technologies as well as service providers realized the opportunities that CDM and JI provide. Today, still little is done on the governmental level: There is still no purchasing program but only a few Memoranda of Understanding and the KfW (the German Development Bank) Carbon Fund. There are, however, increased efforts to raise awareness. Still, the Kyoto Mechanisms needs to be improved to work properly.

In the private sector, mainly the equipment manufacturers and the service providers have established a reasonable market share. Compliance players have adopted different strategies and levels of activity, whereas SMEs are still unaware of CDM/JI, and the large corporations are merely buying certificates in order to comply.

There are high margin business opportunities, but the risks are also high. At present there is increased competition. The certificate buyers have difficulty in understanding the framework and finding access to the market. This has proven to be equally difficult for smaller companies. The non-transparency of the market has given rise to good opportunities but has also destroyed some others. As the market becomes more mature, early-mover advantages will disappear, as many intermediates will have stepped into the market.



## Wolfgang Sterk

Wolfgang Sterk of the Wuppertal Institute gave a presentation on the JET-SET project (Joint Emissions Trading as a Socio-Ecological Transformation). There are numerous countries with (emerging) emissions trading schemes (EU-27, Canada, USA, Norway, Switzerland, Australia, Japan), but with diverging approaches. Systems may differ in their coverage, the definition and recognition of trading units, the nature of their targets (absolute vs. relative) and their stringency, the allocation methodology, the compliance framework, in monitoring, reporting and verification, the trading and compliance periods and provisions for banking and borrowing. Key issues are the definition and recognition of trading units, the nature and stringency of the targets, and the compliance framework. Another relevant question in linking is whether a country has ratified the Kyoto Protocol.

Differences in the definition and recognition of trading units are of concern since units that are recognised in scheme A but not scheme B could in the case of linking also indirectly be used to offset emissions in scheme B. The political decision of which units to recognise would thus be bypassed. There is a strong case for harmonisation since adjustment measures such as the introduction of exchange rates would produce only limited effects.

Linking systems with differing targets (absolute vs. relative) raises effectiveness as well as equity concerns since relative targets are effectively an incentive to increase production. This may also compromise the environmental effectiveness of the combined regime because output increases would inflate the number of certificates available in the scheme with absolute targets. This could be addressed by an adjustment of the allocation in the scheme with relative targets, or the introduction of a gateway. However, such measures would detract from the economic efficiency of the scheme.

The differing compliance frameworks are of concern since some of the non-EU systems envisage the introduction of price caps or safety valves. In the case of linking, these would effectively cap prices in the whole combined system. Possible solutions would be a restriction of the safety valve supply, operational only at the time of compliance assessment, or a gateway. However, the result would be a split market, lowering economic efficiency. The linking of Kyoto and non-Kyoto Parties could be done through a semi-open link or by way of a gateway system.

In conclusion, design differences do matter. Systems cannot be linked irrespective of how they function. While linking to the Norwegian and Swiss systems and a US system along the lines of the McCain-Lieberman proposal or the Regional Greenhouse Gas Initiative should be relatively straightforward, linking with the emerging Australian and Canadian schemes or a US scheme along the lines of the Bingaman proposal would endanger the environmental integrity of the EU ETS.

## Toshihiro Eto

Toshihiro Eto (NEDO, New Energy and Industrial Technology Development Organization) presented “NEDO’s Kyoto Mechanism Support System (an Overview of Japan’s Credit Acquisition Plan)”. NEDO is a publicly funded, independent administrative agency that plays a central role in coordinating the research, development and dissemination of Japanese new energy, energy conservation and industrial technologies.

The Kyoto Mechanisms Credit Acquisition Programme was launched in 2006. It works in cooperation with existing programs (CDM/JI Capacity Building Projects and Feasibility Studies) in order to acquire Kyoto Mechanisms cost-effectively. Its overarching target is to achieve the goals of the Kyoto Protocol, to contribute to global warming prevention, and the promotion of technology transfers from Japan through CDM/JI.

The Kyoto Protocol Target Achievement Plan specifies policies and measures needed to achieve the emission reduction target of the Kyoto Protocol. Emissions will be reduced by the domestic measures and the utilization of the Kyoto mechanisms (CDM, JI, ET) to make up shortfalls in the achievement of the targets. NEDO implements governmental credit acquisition through active use of the Kyoto Mechanisms, either as a direct project participant or by purchasing credits from project implementers who have acquired credits or will acquire credits in the future.

Project proposals are accepted at any time. If necessary, NEDO will endeavour to accelerate the evaluation and adoption of proposals requiring prompt action. During the initial screening, NEDO checks standard criteria in documents regarding the implementation ability of the proposing party, management capacity, and the amount of credits for transfer. With the input of external specialists, NEDO uses the following criteria to rate and select the best performing projects: 1) the rate of guarantee, 2) the rate of early credit transfer, 3) the credit capability and risk management system of the project developer, and 4) the price of credits. Contract negotiations include credit price, transfer amount, timing of the transfer and other details.

## **Discussion**

**Comment:** The Japanese and European market for CERs is in the range of 1.5 to 2 billion tons, of which about 800 million – or 50% – have already been sold. It is highly probable that the demand will be filled because there is enough potential for projects worldwide. Anyhow, buyers should not delay their acquisitions too long since the prices will be made by intermediates and therefore be higher in the future.

**Question:** Will there be a shortage of supply if Canada steps into the market in the near future?

**Answer:** If that happens, the prices might explode. At the moment, however, it is improbable that Canada enters the market in 2010 with a very high demand and is suddenly willing to comply with emissions trading standards by buying billions of certificates for astronomical prices.

**Question:** The possible linkage between the EU ETS and Japan's voluntary ETS is very interesting. From an economic view, isn't a system based on subsidies as in Japan problematic?

**Answer:** The Japanese system caused some concern in Europe since it was considered unfair that Japanese emission reductions are subsidised whereas European ones are not. Technically, subsidies are not the only factor in the economic burden; another important one is the strictness of the target. Linking a subsidised and non-subsidised system can be a major problem since the EU Commission is very keen on minimising state aids.

**Question:** It has been said that the Japanese subsidies are at the moment not high enough to provide relevant incentives for companies. In many cases the companies will return the subsidies to the government because it is more profitable than to take their own measures of CO<sub>2</sub> reduction. Could this be a reason for the low level of trade in Japan?

**Answer:** This could indeed be a reason.

**Question:** Is it probable that the United States as a whole will adopt a cap-and-trade system?

**Answer:** Under the current administration this will certainly not happen. But cap-and-trade and the inclusion of ET in the Kyoto Protocol are a "child" of the US, and the proposed legislation in Congress and the process in California point to a cap-and-trade scheme; maybe even to a greater extent than in the EU at the moment. Concerning the timeframe, there are many indications that once a new administration is in place, it might happen quickly.

**Question:** Has there been any study on the impact of the US entering the emissions trading system or linking with the EU ETS?

**Answer:** The JET-SET project included an economic analysis of the impacts of linking the EU ETS to other emissions trading systems in highly developed countries. There is an efficiency gain, but it is relatively low because abatement costs are relatively equal. The real impetus would be political; it would strengthen the climate regime as a whole.

## 6 Final Discussion

The order of the two last sessions of the workshop was changed in order to allow Councillor Yatsu from the Japanese MoE to participate in the post-2012 discussion. Therefore the participants discussed first the future cooperation between Japan and Germany before talking about the challenges ahead. However, no idea got lost because most participants had a good grasp of the challenges ahead when talking about cooperation.

### **Future Cooperation between Japan and Germany**

During the final discussion, much emphasis was placed on the carbon market, emissions trading, CDM and JI and how to combine the different instruments. Once these economic instruments have been established, there should be another series of discussions with regards to the other sectors that should also be part of a comprehensive climate change programme

Allocation could be a major problem in Japan, which could result in unnecessary transaction costs for the emissions trading market. At least that is what Japanese regulators and business are afraid of. According to the European experience this might indeed be a problem, albeit a minor one. The Japanese Keidanren (Industry and Business Association) understands ETS to be a command and control instrument and opposes it. But workshop participants agreed that ET is an economic instrument that will ultimately bring economic benefit to the industry. It would thus be most useful for Japan to understand the advantages and disadvantages of the EU ETS and what the EU has done to make it work. This would be the best contribution for Japan.

Once Japan does decide to establish a mandatory ETS, it will require an administrative framework to ensure its integrity. This will be an excellent opportunity to use the European experience with such procedures through formal exchange and cooperation on this subject in a follow-up meeting. On the other hand, Japan could share their experience with CDM projects as Germany has had only marginal involvement in this.

The participants agreed that this workshop was successful in highlighting many issues surrounding emissions trading. It might be useful, however, to spend one or two days on one topic rather than cover many issues in a follow-up. Having a workshop with broader participation of stakeholders, especially energy intensive industrial stakeholders, was proposed.

Other participants proposed a series of dialogues on climate policy. Likewise, a number of topics were mentioned that would merit going into more depth such as: economic instruments of the ETS, energy efficiency, policy approaches in Germany and Japan, material efficiency etc. In order to facilitate constructive discussions, preparing a paper to write down the different concerns was proposed.

During the course of the Japanese G8 presidency next year, an Environment Ministers' meeting could be organized. Participants also agreed that it would make sense to organise a third workshop on climate policy instruments in Japan in the beginning of 2008. The Wuppertal Institute and IGES declared their willingness to support the organisation of such a workshop.

### **Future Role and Design of the Kyoto Mechanisms**

The CDM, as it is designed now, does not provide enough incentives for developing countries, but could open the door for them into the climate regime. Anything going beyond 2012 must involve the use of these mechanisms. It has, however, shown some serious weaknesses. For example, with regard to Africa, there was widespread agreement that the CDM has largely been a failure. It does not bring the desired results nor does it create the necessary incentives. Participants in the workshop agreed that some renewed reflection would be required on how this mechanism can be improved and what needs to be changed.

A second area of discussion centred on the US integration into the climate regime. One problem was recognised that even if the US would change its position on climate change, this would not mean the US immediately joining the Kyoto Protocol. There will be a need to conduct studies in order to gain an understanding of how to act in the short as well as in the long term. It is possible that a Memorandum of Understanding could be concluded between the US and the UNFCCC Secretariat. In this way American industry could profit from the carbon market and CDM/JI could also play an increasingly larger role.

There should be no gap between the existing period and the second phase of commitments (post 2012), meaning that there must be international rules and procedures to reduce emissions immediately beyond 2012. One participant remarked that the negotiations on the future framework should be finalized no later than 2010, which would mean that negotiations must begin in 2008. Others pointed out that two years for ratification might not be sufficient, because the Kyoto Protocol requires ratification by at least three quarters of all Parties in order to come into effect. Even for the EU with its 27 member states this time might not be enough.

Everyone agreed that for the emerging carbon market to thrive it is imperative that the flexible mechanisms will continue after 2012. This should be confirmed well before the end of the first commitment period. Otherwise investments would simply stop because there was no guarantee that projects starting in 2009 will be able to generate certificates after 2012. To ensure continuity and trust in the market, a gap after 2012 should be avoided.

Many questions posed by the participants of the workshop necessarily had to remain open, such as: How will hot air be treated? Will a post-2012 regime be still based on 1990 figures? How can deforestation be avoided? It was agreed, however, that now was the time to think about these issues with the benefit of experience and hindsight.

## 7 Conclusion

The Second German-Japanese Workshop on Economic Instruments for Climate Protection on 31 January and 1 February 2007 in Berlin was considered successful, as evidenced by many positive mails sent to the organisers after the event. First, it deepened the understanding of the complexity of emissions trading when implemented in the real world. Second, it highlighted the potential benefits for climate mitigation and for business in Europe, Japan and worldwide. The workshop thus fulfilled the main functions it was supposed to perform.

All presentations can be viewed on the website of the Wuppertal Institute at [http://www.wupperinst.org/en/projects/project\\_details/index.html?&projekt\\_id=152](http://www.wupperinst.org/en/projects/project_details/index.html?&projekt_id=152).

The participants furthermore agreed that it would be worthwhile to continue with this successful series of Japanese-German events on climate policy. With the new dynamic in European and international climate policy in spring 2007, prospects are mounting that Japan will also introduce an internal system for mandatory emissions trading. This should be designed to be compatible with the EU system from the beginning, in order to allow easy linking and benefit from the increased participation.

The participants also felt that it would be beneficial to organise similar stakeholder workshops with participants from other countries that are about to introduce national ETS, like for example Norway, Switzerland and Canada or even the US. There was a general feeling that emissions trading might not be the silver bullet of a successful climate policy, but that it could provide the central element of a global system, providing a second pillar parallel to the Kyoto Protocol and rendering the climate mitigation effort vastly more efficient.

## Participants List

Name	First Name	Organization
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Harders	Enno	Federal Environmental Agency
Hibiki	Akira	National Institute for Environmental Studies (NIES)
Ikkatai	Seiji	Kyoto University, Ministry of the Environment, Japan
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Jungjohann	Arne	Germann Parliament
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Kraemer	Andreas	Ecologic
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