
Climate Strategies

Research Prospectus
2009

Draft for review

08 July 2009

Climate Strategies aims to assist government in solving the collective action problem of climate change. A “not for profit” membership organisation, Companies House Number 05796323. Funders include governments and foundations. All our research is published in the public domain.



www.climatestrategies.org

Climate Strategies

About us

Climate Strategies is a not for profit, academic membership organization. The UK's Carbon Trust provided an initial core funding grant at the start of 2008 that enabled the creation of an executive secretariat function based at Judge Business School, University of Cambridge, UK. Since then funds have been granted by a number of International Governments and foundations.

Who we are

Climate Strategies is an international network of leading academic specialists on economic and policy issues concerning climate change. We provide a bridge between research and international policy challenges. Our aim is to help government decision makers manage the complexities both of assessing the options, and of securing stakeholder and public consensus around them. We convene international teams of leading researchers focused on specific projects. Our reports and publications have a record of impact in the public and private sectors.

What we do

Our mission is to assist governments in solving the collective action problem of climate change. We achieve this by convening international groups of experts to provide rigorous, fact-based and independent assessment on international climate change policy, and connecting this capacity to the policy process and public debate.

To effectively communicate insights into climate change policy, we work with decision-makers in governments and business, particularly, but not restricted to, the countries of the European Union and EU institutions. In 2009 we are increasing our reach, and will be actively communicating insights in North America and conducting research in the Asia Pacific region.

Funding

Our research programme depends upon funding from a wide range of governments, foundations and business sponsors. Our strategy is to build a relatively small core of high-level funders from both public and potentially private sectors, that are seeking to foster a consensus view drawing upon leading-edge research, and to access the core capacities of the Climate Strategies network to assist their own work. Whilst we have transitioned to a portfolio funding arrangement over the last year, we still receive some public sector project funding.

We are grateful for funding from; the government of Australia, Agence de l'environnement et de la maîtrise de l'énergie (ADEME) in France, Ministry of Foreign Affairs (MFA) in Norway, Swedish Energy Agency, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) in Germany, Department for Environment, Food and Rural Affairs (DEFRA), the Office of Climate Change (OCC), Department for International Development (DFID) in the UK, The Carbon Trust in the UK, Center for International Public Policy Studies (CIPPS) in Japan, European Climate Foundation (ECF), and the German Marshall Fund of the United States.

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Introduction from the Research Director

This Research Portfolio presents summary descriptions of our recent work, as well as work in progress and projects in preliminary stages of development as of June 2009. At any one time, we have as many as a dozen or more projects in our 'pipeline'.

Our research programmes for 2007 and 2008 spanned a range of topics on the future design of economic instruments in industrialised countries and strengthened engagement with developing countries – topics that included Energy and Climate Options for the G8 and Carbon Prices in Phase III of EU ETS. Other studies completed in 2008 included: The Role of Auctions for Emissions Trading, country case studies concerning International Support for Domestic Climate Policies, and Agriculture and Forestry in Annex I Countries. For 2009 the principal projects on the former include: Kyoto track negotiations; price floors, caps, and exchange-rate mechanisms in emission trading schemes; distribution and comparability of effort; and lessons from effort-sharing in the EU 2020 package. Further research on extending and reforming the CDM, and international support for domestic policy and implementation, is under way; and we have studies on sector-specific approaches, including international marine and steel sector studies, in progress. Additional projects are focused upon international competitiveness issues.

Major studies of tackling leakage issues and the possibilities of linking emissions trading systems are on-going, following published studies this year. They have included a special focus on those issues in a European context. In both of these projects, however, there are supporting studies based on numerous countries outside Europe. For example, the leakage project includes a study of such issues in the United States, and the linking project includes analyses of existing and prospective cap-and-trade systems outside Europe.

In addition, our outreach based on these projects has expanded into the United States. In particular, in collaboration with the German Marshall Fund of the United States, we have launched a project on 'lessons learned' from the European experience with climate change policymaking. The purpose of this project is to enrich the dialogue in the United States on the establishment of a national cap and trade system.

We continue to collaborate with diverse institutions in all regions of the world, not only in Europe but also in North America and the Asia-Pacific region. Our structure remains unique in that we convene established researchers from different institutions to address specific applied questions rather than relying on full time in-house researchers. As a result, Climate Strategies can deliver the results of extensive academically-based research across a wide range of topics, much faster than with normal academic research cycles.

As a not-for-profit network of university and think tank scholars and in accordance with our Charter of Independence, Climate Strategies is committed to making the results of its studies publicly available. Reports based on our published studies thus often appear as "Issues and Options" briefings as well as full academic reports, and all our research is published in the public domain and available on our web site. Our Research Portfolio is updated periodically as projects are completed and as new ones are added to our work in progress. We invite you to visit our web site for the latest available version at <http://www.climatestrategies.org>.

NB. This is a work in progress.

Thomas L. Brewer, Research Director

Summary of 2009 Research Projects

Our current work program is structured around the following three main themes.

1. Industrialised country commitments and global market mechanisms

Building on our established expertise, these projects focus on understanding the present operation of the international system, particularly the commitments and mechanisms under the Kyoto Protocol, but they also include analyses of the system beyond 2012.

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2. Global engagement, technology and finance

This year, Climate Strategies is expanding its portfolio to engage directly on key dimensions of the Bali Action Plan outside of the carbon market issues, with projects on other ways of engaging with and assisting policy developments in developing countries, and work on technology and financing issues.

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3. Industries and sectors

Building on our previous competitiveness work, the sectoral approaches projects focus on international sectoral agreements aimed at reducing greenhouse gas emissions.

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Following the detailed descriptions of the individual projects in the three categories above, there are also sections that provide information concerning:

4. Additional projects

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1. Industrialised country commitments and global market mechanisms

1.1. Tackling leakage in a world of unequal carbon prices

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|-----------------------------------|--|
| Status | <i>In final stages – Synthesis Report draft awaiting final publication July 2009</i> |
| Project leader | Susanne Dröge, Senior Researcher, SWP - German Institute for International and Security Affairs, Berlin |
| Contributors | Karsten Neuhoff, Cambridge University, UK; Stephanie Monjon, Philippe Quirion, CIRED, Paris; Tom Brewer, Georgetown University, Washington DC; Tancrede Voituriez, Xin Wang, Matthieu Wemaere, IDDRI, Paris; Harro van Asselt, IVM, Amsterdam; Wojciech Suwala, Mineral and Energy Economy Research Institute, Cracow; Yasuko Kameyama, NIES -National Institute for Environmental Studies, Japan; Katja Schumacher, Lennart Mohr, Öko-Institut, Berlin; Yukari Takamura, Ryukoku University, Faculty of Law, Kyoto; Michael Mehling, University of Greifswald; Roland Ismer, University of Munich; Pedro Linares, IIT - Instituto de Investigación Tecnológica, Madrid |
| Project description | Under the current EU ETS the competitiveness and leakage effects of a unilateral climate policy for industry with trade exposure have been under discussion. While leakage is of major concern to climate policy makers, industry and industrial policy makers pronounce competitive disadvantages from carbon pricing. Leakage effects are becoming increasingly relevant for the next unilateral climate policy steps in a number of countries. Among the nations and regions embarking on a stricter climate policy, including ETS, are Australia, New Zealand, and regions and provinces within the United States and Canada. Carbon pricing gives room for leakages, either by a shift of consumption of carbon-intensive goods towards cheaper import substitutes, entailing more CO ₂ intensive production in regions without carbon pricing, or by a (re)location of industrial production to areas without carbon pricing. In a world of unequal carbon prices more certainty for effective emission reduction is needed, especially when it comes to investment in sectors with carbon-intensive production. A commitment to a longer-term ETS and other national measures thus needs to consider remedies against leakage. These include free allocation of emission allowances, border adjustment measures and sectoral agreements. |
| Work packages | <p>WP 1: Illustrating leakage</p> <ul style="list-style-type: none"> • A survey on the leakage literature, definition and conceptual framing of leakage in the light of the future global climate regime • Leakage from the electricity sector in the New Member States to Eastern Non-EU regions <p>WP 2: Measures to address leakage</p> <ul style="list-style-type: none"> • A comparison of measures to address leakage in a sectoral model of the cement industry • Border cost adjustment in a CGE model for EU – China trade relations • Border cost adjustment for energy-intensive sectors in the EU • An international agreement on border taxes to equalise carbon price differentials <p>WP 3: Political and legal analysis of using border adjustments to address leakage</p> <ul style="list-style-type: none"> • Major EU Trade Partners (US: Climate policy and trade measures; Japan, Australia, New Zealand; Emerging economies/major trade partners and the post2012 UNFCCC regime) • Implications for the Post 2012 global climate regime/its negotiations |
| Time line | February 2008 – June 2009 |
| Reports, papers and presentations | <ul style="list-style-type: none"> • Tackling Leakage in a World of Unequal Carbon Prices Draft Report, 19 May 2009 Author: Susanne Dröge • Presentation of results at a seminar of the UK Department of Environment and Climate Change, 11 June 2009 • All working papers and presentations are available on our website. |

1.2. Industry emissions - addressing leakage and competitiveness

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|---------------------|--|
| Status | <i>Under consideration</i> |
| Project leader | To be confirmed |
| Project description | Carbon leakage and international competitiveness issues are becoming increasingly salient for governments and businesses because of the continuing development of cap and trade systems in many countries around the world. In addition to this dynamic government policy environment, industries are also coping with an evolving global recession that is affecting the structure of individual industries in many countries. As a result of these regulatory and economic changes, the nature, extent and implications of the carbon leakage and international competitiveness issues associated with the existence of multiple cap and trade systems are continuing to evolve. |

Of course, much of the research that has already been done by Climate Strategies and others on leakage and competitiveness issues remains valid and useful. Those studies have helped to clarify key concepts, produce empirical and modeling results about the implications for specific industries, identify policy tools available to governments and begin to assess the associated trade-offs for governments and business. It has been well established, for instance, that leakage and competitiveness are not significant macro-economic issues; rather they are issues for a few specific industries and of course for the design and implementation of cap and trade systems. That recognition underlies the emphasis of this proposed study on industry-level issues.

Yet, there are three ways in which the work to date is not adequate for the current and prospective needs of government policymakers, business decision-makers and other stakeholders as they 'drill more deeply' into these issues for individual industries. First, there need to be more detailed and data-based analyses of the issues for a few key industries. Second, the trade-offs associated with government policy options need to be assessed in greater breadth and depth. Third, the analysis needs to take into account explicitly and thoroughly the implications of the changes in the policy environment and economic environment noted above.

The purpose of this study therefore is to answer the following questions:

- What is the nature and extent of the potential competitiveness and leakage impact of cap and trade systems on key sectors ?
- How much of a competitiveness problem do these industries face and how would these industries be affected by government policy tools (free allocation, border adjustment measures)?
- To what extent can these industries pass-through additional costs resulting from cap and trade systems?
- What are the trade-offs associated with each of these tools?
- How can flexibility, simplicity and transparency be achieved in these policy tools?
- Can any of these policy tools be used to make progress toward a globally integrated cap and trade system?
- What are the potentials and limitations of linkage as a solution to the leakage and competitiveness problems?
- How could/should funds from border adjustment measures be used?

The scope of the study can be described along three dimensions: industries, countries, and academic disciplines. As for industries, the study will focus on industries that have been identified in previous studies of Europe and the US as ones where concerns about leakage and competitiveness issues are particularly strong – that is, steel, cement and aluminum. In addition, some sectors of the chemical industry could be included, depending on the results of preliminary analysis of the issues for that industry. (Because of the substantial heterogeneity of the chemical industry, it is not feasible to try to do analysis of the entire sector.)

For each industry, the principal producing and consuming countries will be included. Since the patterns of producing-consuming countries and therefore international trade vary

across industries, the particular countries included in the study will also vary across industries.

As for academic disciplines, the dominant approach will be economic analysis of specific industries, but legal and political economy perspectives will also be brought to bear in answering many of the questions – for instance, about constraints on the use of funds.

Many of these questions require empirical data about patterns and trends in individual industries, such as country-specific production, consumption, trade and investment data. Such data can be used to create maps of the international locations of economic activities in those industries, thereby literally mapping the structure and evolution of each industry. Econometric modeling can project patterns and trends into the future.

This work can build on existing empirical and forecasting studies but adapt their results by taking into account the new international policy environment and economic circumstances.

Work
packages

WP1: Overview of the issues and the research done to date.

WP2: Effects of the global credit crisis and recession on industry structure and international trade and investment patterns and trends, including in the individual industries identified above

WP3: Description and scenarios of the evolving international policy environment, including the prospects and design features concerning allocation methods, border adjustment provisions and direct subsidies, of existing and new cap and trade systems

WP4: Trade-offs for each of the policy tools for each of the industries

WP5: Synthesis report

Time line

July 2009 – June 2010

1.3. Linkages among emissions trading schemes

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|-----------------------------------|---|
| Status | <i>Published</i> |
| Project leader | Andreas Türk, Researcher, Joanneum Research, Institute of Energy Research, Graz, Austria |
| Contributors | Wuppertal Institute; CEEM - The Centre for Energy and Environmental Markets at the University of New South Wales (UNSW); ANU - Australian National University; Margaree Consultants; IGES - Institute for Global Environmental Strategies |
| Project description | <p>A growing number of countries are integrating cap-and-trade schemes into their national climate policies. Current and planned ETSs vary significantly in size, design characteristics and geographical scopes. Linking could help make emissions targets and trading more attractive for countries that currently have no Kyoto targets, or have refused to ratify the Kyoto Protocol. Furthermore linking domestic and regional schemes may have a catalytic effect on international negotiations geared toward the future of the international climate regime. The scope of the project includes:</p> <ul style="list-style-type: none"> • An assessment of legal options, institutional conditions and regulatory requirements for different forms of linking • A comparison of critical design issues in different schemes • A quantitative modelling of a hypothetical post-2012 carbon market, including an estimation of the impact of trade restrictions including one-way linking, limits on trading, and unilateral price caps • An analysis of the role of linking for a post-Kyoto agreement including an assessment of the economic, technical and political drivers for linking as well as options to link to new market mechanisms such as sectoral crediting mechanisms. |
| Time line | July 2007 – June 2009 |
| Reports, papers and presentations | <ul style="list-style-type: none"> • Linking Emissions Trading Schemes, Synthesis Report Authors: Türk, A., Sterk, W., Haites, E., Mehling, M., Flachsland, C., Kimura, H., Betz, R., Jotzo, F. • All working papers and presentations are available on our website. |

1.4. Linking in the context of the post-2012 climate architecture

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|---------------------|---|
| Status | <i>Under consideration</i> |
| Project leader | To be confirmed |
| Project description | <p>This project will analyse the global carbon markets beyond 2012 that may be far more complex than those currently in existence. First, national cap-and-trade schemes are emerging in most of the OECD countries. Second, some major developing countries, in particular emerging economies, may need to be much more deeply integrated into the carbon market in order to achieve the needed global emissions reductions. Additional study is needed of the political, technical, economic, legal and institutional aspects of linking new market mechanism to the carbon market. As a global carbon markets is often advocated to reduce leakage, research is needed to asses the implications of global linking on leakage. Furthermore, a larger carbon market integrating more countries and having several mechanisms in place needs an adequate institutional structure to function.</p> |
| Research Questions | <ul style="list-style-type: none"> • How can a post-2012 global carbon market function with a wider coverage of sectors and countries compared with the present situation? • What conditions are needed for robust international carbon markets to fulfil their purpose of reducing emissions at least cost? • How could a long-term architecture for the global carbon markets look like? • What role can institutions play in the regulation and supervision of global carbon markets? • How could such institutions evolve? • How could existing institutions accommodate new roles? • Is there a need to create new institutions in order to facilitate a smooth transition to a globally integrated carbon market? • What can we learn from financial markets, the governance of monetary policy, and the institutional frameworks for international trade in goods and services? • Can a new institutional architecture for the governance of integrated carbon markets draw on the experiences of central banks in the governance of monetary policy or the international trade in goods and services? |
| Work packages | <p>WP1: Institutional Requirements for the post 2012 carbon market</p> <p>This WP will analyse the regulatory and institutional options for improved governance of linked carbon markets. Based on an assessment of the regulatory and institutional requirements for an integrated post-2012 carbon market and a gap-analysis vis-à-vis existing institutions, different options for institutional governance, will be assessed, as will the legal requirements and implications of their implementation.</p> <p>The analysis will also extend to an evaluation of the scope of institutional membership and competences, as well as basic elements of institutional (self-) governance and financing. Different options for institutional governance, ranging from informal arrangements to the creation of an international organisation with separate legal personality and rule-setting powers, will be assessed, as will the legal requirements and implications of their implementation. Also, the WP would trace possible development pathways in the evolution from loose forms of cooperation to legally constituted institutional architectures.</p> <p>WP2: Case studies on linking to new market mechanisms</p> <p>This work package examines possible links of new market mechanism, such as sectoral crediting mechanisms, to the global carbon market.</p> <p>A special focus will be laid on links to sectoral crediting mechanisms in non-Annex I countries such as sectoral no-lose targets and sectoral cap and trade. Also international global sectoral emissions trading for specific sectors (aviation etc.) will be examined.</p> <p>The case studies will be undertaken in selected sectors, such as steel, cement, and REDD. It will address the question how each sector would best be linked into a global carbon market and what the preferred option for each sector is. It will be analyzed what kind of issues does each option encounter for linking, such as technical, institutional and legal issues for linking as well as transaction costs for establishing new mechanisms. The WP furthermore analyzes</p> |

what kind of impact each option may have on involving developing countries into the post 2012 regime.

WP3: The role of linking to reduce leakage (to be coordinated with our leakage project 1.2)

WP3 will analyze to what extent linking is a solution to a) leakage and b) competitiveness issues, and what the advantage of linking is compared to other instruments tackling leakage. Furthermore, it will be analysed if and to what extent linking reduces a) leakage and b) competitive distortions over and above simply introducing a non-linked scheme or Carbon price.

Based on WP1, this WP will focus in particular on the links of existing carbon markets to new crediting systems in developing countries vis-à-vis carbon-intensive trade flows between the OECD market and developing countries. Given the current desire of the EU to link to OECD trading schemes, however, also the question will be addressed whether there is potential for creating leakage from linking of OECD schemes.

WP4: Linking OECD trading schemes

This WP builds on our project on linking (see 1.3) It will provide an update on the status of OECD trading schemes with a view to new policy developments and assess the possible implications for bilateral linkages. In particular new proposals for a federal US cap-and-trade scheme will be taken into account. The WP will be undertaken with the objective to examine new issues for linking, such as distributional effects.

WP5: Quantitative assessment of linkages to new market mechanisms (optional WP)

This quantitative economic analysis is based on WP1 and WP2 and will assess the macroeconomic effects of linked emissions trading systems and the CDM or markets for new crediting mechanisms in non-OECD countries. The quantitative economic modelling will be based on a stylized multi-region computable general equilibrium model with emission markets in relevant groups of countries. The model will be used to evaluate alternative scenarios for linking and autonomous changes in emissions intensity. The model will show the resulting prices and trade flows in the emissions permit market. Based on the macroeconomic and sectoral feedbacks induced by international trade, the question of Carbon leakage of competitiveness effects will be addressed as well (based on WP3).

WP 6: Long-term vision for the global carbon market

This WP will focus on an assessment of the possible long-term role and architecture of the global carbon market.

- Is a global company-level ETS with maximal coverage an appropriate first-best benchmark for the future carbon market?
- How could alternative architectures look like?
- What are the economic and institutional pros and cons of different options?
- What market imperfections are involved in different options?
- How can the market power and strategic behaviour of specific sectors, firms and countries be reduced?
- How could a Copenhagen agreement facilitate the linking of trading schemes in OECD and non-OECD countries?
- What are the long-term visions, if any, of different countries with regard to international trading systems and how could these different views be accommodated?
- How can short- and mid-term domestic policies be designed to align with long term goals?
- To what extent can a Copenhagen agreement lay the foundation for the development of an integrated global carbon market?

Time line Summer 2009 – June 2010

1.5. Price floors, caps, and exchange rates in emissions trading systems

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|---------------------|--|
| Status | <i>Under consideration</i> |
| Project leader | To be confirmed |
| Contributors | (To be confirmed) Michael Grubb, Senior Research Associate University of Cambridge and Chair of Climate Strategies, UK; Dr Karsten Neuhoff, Senior Researcher, Faculty of Economics, University of Cambridge, UK |
| Project description | <p>Our project on 'linking' has revealed the reality that many jurisdictions are considering price caps and/or floors. These issues have become especially salient in early 2009, as carbon price declines and volatility in the EU ETS have occurred, and in the face of the prospects of further price declines in the midst of the global recession. The issues of 'price management' that emerge in this context are particularly complex. We therefore envision a major project that will identify the key issues, risks and options for addressing price caps and/or floors. We will also consider the potential of lessons from exchange rate mechanisms for the management of international linkages.</p> <p>The questions to be considered thus include the following:</p> <ul style="list-style-type: none"> • What jurisdictions are considering price caps and/or floors on the basis of what concerns and objectives? • What investor pressures, if any, are there for price floors/ price ceilings to be established? • Is there analytic support for idea of price corridors – and if so, on what grounds? • What is the risk of price instability arising from dependence on banking and derivatives markets? • What are the interactions with linking issues, as analysed in another Climate Strategies project? • What are the interactions, if any, between price caps/floor, on the one hand, and exchange rate mechanisms, on the other? • What are the issues and options about establishing price floors without price caps, or vice versa? |
| Work packages | <p>WP1: Current situation – issues, pressures and analytic work</p> <p>This project builds on the quantitative assessment of the supply–demand balance that has been developed as part of the Global Carbon Mechanism project. This will be updated in 6 months intervals, to provide a robust framing for ongoing discussions.</p> <ul style="list-style-type: none"> • In addition, the analysis will extend to capture <ul style="list-style-type: none"> - the price elasticity of demand and supply - the evolution of the supply–demand balance over time • To allow for a meaningful discussion in a political context of the implications of the supply-demand balance, a simple conceptual and analytic framework to capture these aspects as to be developed. • To evaluate the implications from above analysis, we will characterize how the current and future carbon price and associated uncertainties affect: <ul style="list-style-type: none"> - Strategic investors - Project investors - Innovative technology companies - Banks and other providers of finance <p>WP2: Effects of banking and derivatives</p> <p>A key mechanism for the success of the US SO₂ trading scheme was the ability of market participants to bank SO₂ allowances over time. Thus early emission reductions were rewarded and allowances retained significant value, even with overall emissions significantly below the emission targets of the initial years.</p> <ul style="list-style-type: none"> • A. We will explore the role of banking under the EU ETS scheme, building on the experience from cap-and-trade schemes for pollutants in the USA, and on banking in other commodity markets. Particular focus will be on: <ul style="list-style-type: none"> - main actors in banking, and their motivation (hedging, speculative investment) - the potential value of banked allowances, and its relation to other investments of |

- main actors active in banking
- the potential volatility of the value of banked assets, and how the expected actors deal with this volatility
- the rate of return required by the actors to pursue banking

The objective of this work is to provide a rough outline of the banking capacity as a function of the rate of increase of the carbon price (the reward for banking).

- We will explore the implications of banking for price formation processes. In particular, we will explore how the rates of return that have been calculated in (A) relate to carbon price trajectories that are current projected in model environments (WP1).
- We will explore how political developments will affect the drivers for banking. If current carbon prices are determined by expected scarcity levels of future schemes, then how strong will current carbon prices react to
 - Changes in the discount rates required by private sector agents (part A), e.g. in response to future evolution of the situation in the financial sector.
 - Political discussions of the future climate policy that reflect different levels of commitment to future stringency of the cap.
- Financial contracts might allow investors to hedge exposure of individual projects to uncertain future carbon prices. We will characterize a few basic contracts that might emerge (e.g. contract for difference), and discuss whether a private sector counter party for such contracts exists. This work will be informed by discussions with investors in other commodity markets, so as to understand the role of long-term financial contracts for investment and operation decisions.

WP3: Hybrid schemes

- Different mechanisms have been discussed to avoid the risk of low carbon prices. We will explore the role of:
 - Direct intervention by a government body buying allowances in response to price developments
 - Issuing of physical option contracts by governments on future carbon prices, as a means to commit to a minimum level of stringency of the future climate policy
 - Announcing a reserve price for allowance auctions
- This will require a short characterization of the requirements for a successful implementation of each of these mechanisms.
The criteria used for the evaluation of these mechanisms will involve:
 - Ability to influence investment/operational choices to different actors identified in WP1.
 - Political effort required for implementation
 - Potential implications for stringency of future target/inflow limits on CDM that might evolve in political context.
 - Possible negative side effects
- Price management mechanisms to avoid risk of 'unacceptable' high prices. We will explore in particular the role of:
 - banking a share of allowances can play in reducing the risk of unexpected scarcity price levels.
 - flexibility mechanisms, like CDM or other offset schemes.
 - borrowing of allowances from future periods, by governments or private actors, with the option to impose financial or other penalties on borrowing.

Again all of these mechanisms will be characterized in more detail, and evaluated against the same criteria.

WP4: Interactions with linking

- We will explore how linking of emission trading schemes can influence the volatility of future carbon pricing schemes. The following effects will have to be considered:
 - the increased size of a larger market, reduces the impact of individual decisions of actors and should thus reduce volatility of carbon prices
 - with increased regional coverage of a market, an increasing share of trade partners and competitors are exposed to the same carbon price, so that a change of the carbon price has less influence on their relative position
 - one risk for a linked scheme is that a country that is particularly short of

allowances, will leave the scheme (e.g. might have been one of the drivers for USA non-participation under Kyoto). This creates the risk of a drop in scarcity, if the linked countries do not have a strong political structure to ensure continued participation (as. e.g. provided by European Union to ensure participation of all members states).

- the expectation of future linkages with schemes that are characterised by different levels of (expected) scarcity, can influence expectations of price formation in a scheme.
- In addition, the work of the linking project undertaken by Climate Strategies pointed to a variety of components of the individual trading schemes that might have to be harmonised to facilitate linking. Of particular importance will be price management instruments. s as the larger scheme

WP5: Exchange rates

- It is sometimes suggested, that when trading allowances between different schemes, an allowance for one tonne of CO₂ in one system could be exchanged against an allowance for half a tonne of CO₂ in another system. Such ideas of government set exchange rates between emission trading schemes is popular among modellers, that can easily implement such exchange rates into their models to evaluate possibilities for different types of burden sharing.
- Exchange rates for CO₂ allowances are sometimes motivated by the example of exchange rates between currencies. This does seem to miss the point. After all, the exchange rate between Dollar and Euro does not result in an adjustment of the weight of one tonne of steel that might be traded between both countries.
- This work package will survey the different ideas that have emerged on the use of exchange rates applied to allowances traded between different schemes and to offsets like CDM. We will test:
 - to what extent such exchange rates could remain stable over time
 - how the presence of exchange rates influences the predictability of future scarcity levels (WP 1)
 - how the evolution of exchange rates influences the credibility of the scheme, e.g. reflected by the interest of private sector agents to bank allowances (WP2)
 - how exchange rates influence the design of linkages, and expectations of price impacts of linkages (WP4)

Time line

Summer 2009 – April 2010

1.6. Distribution and comparability of effort: lessons from effort sharing in the EU

Status *Under consideration*

Project leader To be confirmed

Project description This project will analyse more deeply issues that have arisen in the context of the 'EU 2020 package' relating to effort-sharing between Member States, and it will consider the implications and insights of possible relevance to target definitions in Kyoto post 2012 negotiations.

The work will include a short review of the literature and approaches, but its key contribution will be to frame the issues within the realpolitik circumstances as illustrated particularly by historical experience of the EU to date, but also drawing on other precedents.

In particular we would seek to understand and consider the implications of debates over the distribution of auction revenues, and debates over the base year for aspects of target setting. The latter in particular has revealed deep-seated differences of perception that are bound to complicate the east-west dimensions of Kyoto+ negotiations unless they are more fully understood and debated.

The project will include two levels of analysis – namely relationships between subnational and national systems, and comparisons among countries.

The principal questions of the project are:

- What are the key issues that are evident in the existing literature and discourse among specialists?
- What are the implications for effort sharing of the experience in the EU with issues concerning the distribution of auction revenues and selection of base years for setting emissions targets?
- What lessons from other experiences concerning the EU ETS or other emissions trading systems can be derived for application to cap-and-trade system design issues in the US or other countries?

Work packages WP1: European Union
WP2: East-West

Time line 2009 – 2010

2. Global engagement, technology and finance

2.1. International support for domestic action

| | |
|---------------------|--|
| Status | <i>In progress</i> |
| Project leader | Dr Karsten Neuhoff, Senior Researcher, Faculty of Economics, University of Cambridge, UK |
| Contributors | Anoop Singh, Indian Institute of Technology (IIT), Kanpur; Xiliang Zhang, Tsinghua University, China; Aaron Cosbey (IISD); Michel Colombier and Emmanuel Guerin (IDDRI); Heleen de Coninck (ECN); William Gboney, Institute of Infrastructure, Ghana; Haroldo Machado Filho, Ministry of Science Technology of Brazil, Dr Harald Winkler, Energy Research Centre, University of Cape Town, South Africa |
| Project description | <p>This project focuses on how the frameworks for technology development and transfer, as well as financial flows to developing countries, can be structured to facilitate the shift to a low-carbon development trajectory. The analysis includes both national and international levels. It focuses on the following central questions:</p> <ol style="list-style-type: none"> 1. What are the features of national policymaking that facilitate or inhibit technology development and transfer as well as financing for climate friendly development trajectories? 2. What are the roles of international institutional frameworks in contributing to climate friendly development trajectories? 3. How can national and international institutions and policies be changed to enhance their contributions to climate friendly development trajectories? |
| Work packages | <p>WP1: Country policy case studies Pilot studies will explore experiences and stakeholder perceptions on policy implementation:</p> <ul style="list-style-type: none"> • Engagement by local teams with government and industry stakeholders to identify the steps required for implementation, the domestic constituencies that benefit from co-benefits, the barriers, and possible anchor points for international cooperation. • Analysis and evaluation of domestic policy barriers and drivers • Identification of possible policy indicators to support domestic implementation, best practice sharing, and possible linkages with international incentive schemes, and definition of criteria for their evaluation/selection. <p>WP 2: International institutional framework</p> <ul style="list-style-type: none"> • A significant set of questions has emerged around the role of different institutions, including bilateral approaches anchored in a UNFCCC framework and multi-lateral approaches replicating approaches used by organisations such as the CDM Executive Board and the World Bank. • We will explore how the different institutional frameworks can (i) facilitate cooperation in processes to design and implement domestic policies, (ii) provide technical assistance, technology support and financial resources to encourage implementation and (iii) ensure transparency. • Particular attention will be given to a Monitoring-Reporting-Verification (MRV) approach. • The objective is to define certain categories of indicators that link into (i) support schemes that cover incremental costs, (ii) complementing policy actions that are required to deliver a long-term transition, and (iii) facilitating international learning from all experiences, about process, role of parties involved, and successful/failed policy implementation. |
| Time line | February 2009 – April 2010 |

2.2. The Reformed Financial Mechanism (RFM) of the UNFCCC

| | |
|---------------------|--|
| Status | <i>In progress</i> |
| Project leader | Benito Müller, Oxford Climate Policy |
| Contributors | Luis Gomez-Echeverri, IIASA; Saleemul Huq and Achala Chandani, IIED |
| Project description | <p>The success of the current international climate change negotiations crucially depends on how much finance is going to be made available to support developing country climate change activities, and it is unlikely that adequate financing will be forthcoming in the absence of an acceptable governance framework. The substantive aims of the project will be focused on four areas to generate recommendations on:</p> <ul style="list-style-type: none"> • How to design decision making processes and remits for the UNFCCC COP and RFM Executive Board so as to ensure sufficient political oversight and buy-in, without the danger of over-politicized micro-management of the RFM management of its financial flows. • How to insure proper stakeholder representation, in particular, how to design the selection of stakeholder representatives, and how to design their role in the decision-making process. • How to design independent oversight (audit, monitoring, and evaluation) procedures within the framework of existing legal arrangements which will provide sufficient safeguards against malpractice both at the international and the national level. • How to oversee financial flows for compliance with financial commitments. |
| Work packages | <p>WP1: Why and what authority?</p> <ul style="list-style-type: none"> • COP and RFM decision making procedures <p>Partly a legal, partly a political/philosophical analysis, based on a number of case studies of similar decision processes: (i) the Adaptation Fund, (ii) the GEF Trust Fund, (iii) the Montreal Protocol MLF, and (iv) the World Bank CIFs.</p> <p>In addition, two or three examples of national budgeting processes will be examined, namely those of the UK and Switzerland, as well as one or two developing countries, namely India and (possibly) China.</p> <ul style="list-style-type: none"> • Need for political support <p>Examination of different kinds of decisions that need to be taken in the running of the RFM with a particular focus on who should be given the authority to take them.</p> <p>Budgeting/disbursement decisions: Who decides how the money is raised, and who decides how the money is spent, and how?</p> <p>WP 2: Who and how to audit, monitor, and evaluate?</p> <ul style="list-style-type: none"> • External/internal independent oversight procedures <p>Is the UN Board of Auditors the appropriate external audit body? How to organise external auditing of the national Climate Change Funds?</p> <p>WP 3: Oversight of financial commitments under the UNFCCC</p> <ul style="list-style-type: none"> • to provide a typology of financial transactions that could be used to comply with financial UNFCCC commitments, such as assessed contributions, or (certain types of) private sector payments • to consider possible compliance criteria for the different transaction types (when are they to be counted towards compliance with commitments), and • to explore the options how exactly a certification could work procedurally under the proposed RFM. <p>WP.4: Stakeholder participation in decision-making</p> <p>The RFM model envisages an active stakeholder participation both at the international (Executive Board) and the national (Climate Change Fund) level. There are two issues that need to be further elaborated, namely (i) the function of these stakeholder representatives in the relevant decision making processes; and (ii) the selection procedure for these stakeholder representatives. The objective in both has to be to ensure that the interests of the recipients of the funds at the grass roots level are adequately represented in the governance of the RFM.</p> |
| Time line | April 2009 – September 2009 |

2.3. Climate innovation centres

Status *Under consideration*

Project leader Professor Ambuj Sagar, Indian Institute of Technology, Delhi

Project description This project aims to develop more fully the concept of a network of climate technology innovation and diffusion centres and analyse tangible implementation issues.

Given the centrality of technology in climate mitigation and adaptation, enhancing innovation processes to include initial adoption, adaptation and diffusion of technologies in national markets becomes critical. This is particularly important for developing countries, given their energy and climate needs as well as innovation capabilities. Therefore the concept of establishing a network of regional 'Climate Innovation Centres' in developing countries is a way to address their innovation activities.

Innovation centres could potentially provide the forum for bringing together expertise to engage in technical R&D and adaptation, product development, incubation, entrepreneurship and development of delivery models. In addition policy analysis to accelerate and scale-up deployment of technologies can help developing countries meet climate mitigation and adaptation challenges, while advancing sustainable development.

The project will address the following key questions:

- What might such centres look like in terms of their organization, activities, and priorities? What particular features of the centres – individually and as a network – would enhance their effectiveness?
- How would the centres be funded and governed?
- In what ways would the centres need to be adapted to specific regional and country circumstances (needs and constraints) – and to what extent would they have common policies and programmes?
- How would the centres – individually and collectively – interact with existing and potential future national and international programs/activities with similar goals? How could they link to and help strengthen existing capacity and institutions within the country?
- What role, if any, would the private sector as well as other local institutions play in the centres?
- What would be the value added of such a network of centres beyond the existing array of multilateral, regional and bilateral technology development and diffusion programmes?
- What issues concerning international trade and investment policies need to be addressed so that the centres are compatible with or are mutually supportive with existing international trade and investment agreements at the bilateral, regional and multilateral levels?

This approach will allow the harnessing of innovation expertise from around the globe to solve problems specific to developing countries in the local context, thereby enhancing the chances of success. At the same time, it also will build local innovation capabilities through linkages with local institutions as well as broader South-South and South-North networks that will yield long-term benefits. At the same time, the exchange of experience and learning across the network of centres will enrich and strengthen their activities.

The concept of Climate Innovation Centers has received increasing attention at various venues, such as the High-Level Meeting on Climate Change and Technology Transfer at Beijing in November 2008; COP-14 in Poznan; and more recently, the March and June 2009 climate change talks in Bonn. In fact, the concept has been formally proposed in the UNFCCC negotiations by the Indian government as an evolution of its earlier CleanNet proposal. The Indian government intends to continue to promote the idea in the climate negotiations.

Advancing the innovation centres concept at this point requires progress in two related

areas: (a) building the political consensus around the concept, and (b) defining its details so as to enhance the potential of successful implementation. The first requires broad dialogue among the key Parties and other stakeholders (such as multilateral agencies), which will define the broad contours of the centres and also highlight the key issues that need further resolution and analysis before there is progress on implementation. The Government of India, as the Party that has formally proposed the concept in the UNFCCC negotiations, would be the appropriate host for such a workshop.

At the same time, there is the need for a research project that helps identify, clarify, and resolve substantive issues relating to a range of key elements of the concept. This would then provide the analytical support for the discussions and negotiations on the concept. A research project of the kind envisioned here will allow for the systematic input of a wide group of experts into these discussions. By refining and providing other support for this proposal, the research team will facilitate global agreement on it as well as hopefully its eventual successful implementation.

**Work
packages**

The research project would be in two phases – with a total of five work packages:

The first phase will pull together a small cohort of researchers from different countries to begin an initial assessment of the issues that might need resolution regarding the implementation of this concept. These might include scale and scope of activities (paying particular attention to the needs of various regions/countries), governance options, and intellectual property rights, drawing in part on the experience of research center networks such as CGIAR. Researchers involved in this phase would provide input into the workshop but, equally importantly; participate in order to better understand the questions and issues regarding the elements of this concept.

WP1: Workshop

- Further specification of issues to be addressed
- Integration into the project of experiences of other international R&D networks in project implementation
- Scope of activities and countries to be included in study

The second, and major, phase will draw upon, be shaped by, and be responsive to the workshop discussions in order to have maximum utility. Once the key issues that have been identified in discussion with workshop participants, we will recruit other participants from the North and South who have the particular expertise to explore the relevant facet of the Center design. We will commission a series of papers on the key topics and bring together the authors for a workshop discussion to prepare input for the next round of negotiations in Copenhagen.

WP 2: Study of existing international institutional programmes

- International Energy Agency/Organisation for Economic Cooperation and Development
- World Bank and regional development banks
- United Nations programmes such as UNIDO
- UNFCCC Technology Needs Assessments
- CGIAR?

WP 3: Developing country programmes, capabilities and cases
WP 4: Private sector capabilities, practices and contributions
WP5: Synthesis report
Time line

2009 – April 2010 (with a report at COP/MOP in Copenhagen in December)

2.4. CDM in the post 2012 climate regime

| | |
|---------------------|--|
| Status | <i>In draft</i> |
| Project leader | Axel Michaelowa, University of Zürich Benito Müller, OIES - Oxford Institute for Energy Studies, Oxford Climate Policy |
| Contributors | Sebastian Mayr, Paula Castro, Kerstin Dietrich, University of Zürich; Christian Ellermann, OIES - Oxford Institute for Energy Studies; Africa/LDC Module Team: Prof. Francis Yamba, CEEEZ, Zambia; Dr. P. Zhou, EECG, Botswana; China Module Team: Dr Lu Xuedu, Ministry of Science and Technology (MOST), China; Dr Duan Maosheng, Prof Wei Zhihong, Gu Alun, Cong Weiwei, Feng Chaoling; Tsinghua University, China, Jiang Qi, China Iron and Steel Industry Association; India Module Team: Dr Prodipto Ghosh, Dr Rita Roy Choudhury, Federation of Indian Chambers of Commerce and Industry (FICCI) |
| Project description | <p>The Clean Development Mechanism (CDM) has been one of the success stories of the Kyoto Protocol to date. However, continued success is not guaranteed. CER issuance of several project types is much lower than expectations. Increasingly, CDM projects are rejected or require corrections. Media begin to discuss scandals in terms of lacking additionality of and low contributions to sustainable development by CDM projects. Share prices of CDM project developers have fallen substantially and their debt-revenue ratios look speculative. Moreover, Russian and Ukrainian "Hot air" could become a serious competitor for CERs if the institutional conditions of those countries are improved. In this conflicting situation, the CDM or a successor mechanism plays an important role in the post-2012 climate policy negotiations</p> <p>This project investigates the role of the CDM – be it in its present project-based or in enhanced forms – in implementing the Bali Road Map's twin objectives:</p> <ul style="list-style-type: none"> • Measurable, reportable and verifiable mitigation action • Measurable, reportable and verifiable financing, technology and capacity building |
| Work packages | <p>WP 1: Performance of the project CDM</p> <ul style="list-style-type: none"> • Need for improvement • Scope of projects <p>WP 2: Enhanced CDM</p> <ul style="list-style-type: none"> • Policy CDM (PCDM) and Sectoral CDM (SCDM) <p>WP 2: Enhanced CDM</p> <ul style="list-style-type: none"> • Policy CDM (PCDM) and Sectoral CDM (SCDM) |
| Time line | April 2008 to June 2009 |

2.5. CDM projects – options for reform and sectoral development

Under consideration

| | |
|---------------------|--|
| Project leader | To be confirmed |
| Project description | <p>The long-term future of the programme of CDM projects needs to be clarified in view of the prospects for significant changes in the international climate regime. In particular, the prospect of a fragmented carbon market – including not only the EU ETS but a US system and perhaps other national systems as well – and the prospect of sectoral agreements in addition to a potential new international technology transfer and financial framework will all mean that the institutional context of the CDM programme is likely to change fundamentally over the next few years. This project will examine the implications for the CDM programme.</p> |
| Work packages | <p>WP1: Assessment of “low-hanging fruit” in project as well as enhanced CDM</p> <p>Previous to the full-scale implementation of the CDM, developing country NGOs and experts opposed this mechanism, arguing that it would imply selling off developing countries’ cheap emission reduction options (the “low-hanging fruit”) to industrialised countries. This would result in developing countries having to invest in more expensive measures to meet their own reduction targets when they were to commit to these.</p> <ul style="list-style-type: none"> • Assessing the low-hanging fruit issue in the present CDM empirically • Assessing dynamic variables that may affect the relevance of the low-hanging fruit claim over time • Discussing the political economy implications of the low-hanging fruit issue <p>WP2: Transition from CDM to Joint Implementation</p> <p>This work package assesses the current negotiation proposals with regard to the countries that would transit from the CDM to JI/IET.</p> <ul style="list-style-type: none"> • Scale of transition • Policies for allocating parts of host country emissions budgets to JI projects – lessons from countries in transition • Conversion of CDM projects into JI, allocation of allowances or pure expropriation? • “Hot air” and Green Investment Schemes – non-starter or key bridge for bringing advanced developing countries on board? • Perspectives from OECD candidate countries and advanced developing countries |
| Time line | 2009 - 2010 |

3. Industries and sectors

3.1. International sectoral approaches and agreements: case studies of the steel sector in China, India and Japan

| | |
|---------------------|---|
| Status | <i>In progress</i> |
| Project leader | Developing countries: Joyashree Roy, Jadavpur University, Calcutta, India Industrialised countries: Peter Wooders, International Institute for Sustainable Development, IISD (Geneva Office) |
| Contributors | China (Duan Maosheng, Tsinghua University, to be confirmed) Japan (Hitomi Kimura, Institute for Global Environment Strategies, IGES) |
| Expert Advisers | Richard Baron, International Energy Agency, IEA; Chris Beauman, European Bank for Reconstruction and Development, EBRD |
| Project description | <p>There has been much interest and some research on the potential role of sectoral agreements in further development of the international climate regime. There has been interest in transnational sectoral agreements that could be integrated into a larger international climate change regime, and there has been interest in autonomous national and/or regional arrangements. However, the analytic approach taken to date has been typically top-down from a UNFCCC perspective, rather than from a bottom-up industry perspective. To date, analyses have not addressed the disparate implications of the various types of arrangements; nor has there been analysis based on much tangible evidence about specific industries (except the cement industry); nor has the consideration of the potential type, boundaries and design elements of sectoral agreements been focused on specific tangible features and how those would interact with other features of the international climate regime. Finally, the details needed for successful implementation – both practical and political – have been largely missing.</p> <p>The overall objective of this project, therefore, is to make an original contribution to the dialogue on the role of sectoral agreements in the post-2012 international climate regime by addressing the following questions:</p> <ul style="list-style-type: none"> • What types of sectoral agreements should be seriously considered? • What are the key issues and options for the design elements of sectoral agreements? • What would be the features of a transnational agreement compared with other types? • How can sectoral agreements and cap-and-trade systems effectively co-exist? • How can a steel agreement be successfully integrated into the international climate regime? • Can a steel agreement be a prototype for other sectoral agreements? • What are the key implementation issues involved in developing a steel sector agreement? |
| Work packages | <p>WP1: Industry structure and technology</p> <ul style="list-style-type: none"> • Patterns and trends in the worldwide steel industry: structure, location, comparative advantages, technologies, costs, abatement costs • Relationship to other industries • Industrial policies and subsidies • How trading patterns affect the future of the industry <p>WP2: Sectoral approaches under serious consideration</p> <ul style="list-style-type: none"> • Sector boundaries: upstream and downstream • Definition of the approaches under consideration • How implementation of new technologies can be optimized: comparative analysis of sectoral agreements, CDM, ETS • Measurement: the need for installation-level data and other issues, MRV • The possibilities and problems of using the WBCSD methodological approach for |

the cement sector

WP3: Relationship of sectoral approaches to emissions trading and project mechanisms

- Context: the role of sectoral approaches on the path to deep emissions cuts
- Transnational sectoral agreements: options for integrating sectoral agreements into the UNFCCC institutional architecture
- Co-existence of emissions trading and sectoral agreements
- Europe's Emissions Trading Scheme and the Asia Pacific Partnership countries' sectoral agreements
- Technology transfer in sectoral agreements compared with other mechanisms
- Sectoral agreements outside the UNFCCC framework

WP4: Implementing sectoral approaches: country case study of China

- How sectoral approaches impact costs, production, trade and GHG emissions
- Implementation issues: practical and political
- How do sectoral approaches compare to ETS?

WP5: Implementing sectoral approaches: country case studies of India

- How sectoral approaches impact costs, production, trade and GHG emissions
- Implementation Issues: practical and political
- How do sectoral approaches compare to ETS?

WP6: Implementing sectoral approaches: country case studies of Japan

- How sectoral approaches impact costs, production, trade and GHG emissions
- Implementation Issues: practical and political
- How do sectoral approaches compare to ETS?

WP7: Synthesis - country/region issues and options for business and governments

- Differences between global top-down and industry bottom-up approaches
- Differences between global-level and country-level agreements
- Comparisons of results for China, India and Japan: how sectoral approaches impact costs, production, trade and GHG emissions; implementation issues: practical and political; how sectoral approaches relate to emissions trading
- Overall conclusions and implications – including answers to seven questions posed

Time line April 2009 - Dec 2010

3.2. International bunker fuels in the maritime industry

| | |
|---------------------|--|
| Status | <i>Under consideration</i> |
| Project leader | To be confirmed (contributor from Columbia University, NY) |
| Contributors | The study team will consist of experts on climate policy for maritime transport, funding of climate policy in developing countries and governance of global policies. The experts will come from academia and independent consultants in Annex I and non-Annex I countries. |
| Project description | <p>The proposed study will focus on developing the high-level architecture of a climate policy instrument for shipping that is able to contribute substantially to funding of climate policy in developing countries.</p> <p>The inclusion of international transport in climate policy has proven to be a difficult issue. While the Kyoto Protocol instructs Annex I countries to reduce emissions from bunker fuels, working through IMO and ICAO, little progress has been made towards the reduction of these emissions. Yet there is a clearly emerging renewed interest in climate policies for shipping. The most likely compromise would be one where global maritime emissions are included in a climate policy framework in a way that yields revenues for funding climate policy in developing countries.</p> <p>The study will focus its analysis on institutional governance of both the climate policy instrument for shipping and the management of a climate policy fund, taking note for example of the Mexican proposal</p> <ul style="list-style-type: none"> • The study will assess the timeframe needed to implement policies and identify the actions that should be taken. • The study will have a truly global perspective with researchers from both developed and developing countries. In doing so, the study will be able to identify real concerns of developing countries instead of having to make inferences about these concerns. • The study will link a climate policy for maritime transport with financing climate policy in developing countries. It will select a team of experts from both fields. |
| Work packages | <p>WP 1: Review of current proposals on climate policy for shipping, ways to finance climate policy in developing countries, and criteria for these policies</p> <ul style="list-style-type: none"> • Assessment of the political support of states and relevant stakeholders <p>WP 2: Design issues for a global, revenue-raising policy instrument for shipping</p> <ul style="list-style-type: none"> • General architecture of the scheme: the cap, initial allocation, responsible entity, scope, et cetera of an emissions trading scheme and/or the level of the tax, responsible entity, point of taxation, et cetera of a levy scheme • Governance architecture, a thorny issue that has not yet been fully addressed in the proposals. Hence, this will be the main focus of this work package. • Impact assessment. How will the policy impact different groups of countries (both regional groups and political groups relevant in the climate policy debate and the shipping community); different market segments in the shipping sector; how much revenue is likely to be raised <p>WP 3: Design issues for a global fund to finance climate policy in developing countries</p> <ul style="list-style-type: none"> • General architecture, finance • How can the governance architecture of the fund ensure that its resources are spent transparently, efficiently and effectively? • Impact assessment - which share of the expected financing needs is likely to be met by a climate policy for shipping? <p>WP4: Synthesis of the results of the preceding work packages in a report</p> |

4. Additional projects

4.1. Analytic support to target-based negotiations

- A Climate Strategies initiative engaging negotiators and modellers -

| | |
|--|--|
| Project leader | Murray Ward |
| Purpose | <p>To facilitate the effective use of economic modeling by providing a 'common pool' of analysis of four key policy questions (see below) relevant to international climate negotiations leading to a Copenhagen Agreement.</p> <p>Scholars and modeling groups including IIASA, as well as governments from a range of countries will contribute. The process of seeking support from such institutions from outside the EU as well as inside the EU is well advanced.</p> |
| Context | <p>Economic models (as well as other analyses) are widely used in policy debates. Many governments have their own economic modeling capabilities and data sets, as do many researchers and lobby groups. However the focus, assumptions and results often differ from one another in ways that can confuse, or worse, breed mistrust and impede progress. This project will focus on the policy questions, and in drawing on the results of modeling, it will seek to identify similarities in results among models and help explain the sources of differences.</p> <p>A key determinant of success at Copenhagen will be whether industrialized countries manage to agree specific, meaningful emission cutbacks that reflect both adequate ambition and an acceptable distribution of effort – for the first is unlikely without the second.</p> <p>The benefits of this approach are that:</p> <ul style="list-style-type: none"> • Response time will be shortened. • Government technical experts can be involved but are not required to be in the middle of communications with modellers. <p>Objectivity (and perceptions of objectivity) can be better managed. Moreover, modelling groups that have been involved in providing advice and modelling results to domestic policy processes may not be in a position to provide additional (and perhaps enhanced advice) via governments. But this issue can be avoided if such modelling groups are providing information and results direct to CS.</p> |
| Key Policy Questions | <ul style="list-style-type: none"> • What are different indicators by which countries' proposed targets are seen as comparable – also in the light of other possible actions, efforts and commitments, and what do diverse models say about these different indicators? • Consistency of proposed mid-term targets with longer-term mid-century goals? • Impact of the global financial crisis on mid-term reference scenarios? • Carbon market supply-demand implications of mid-term target proposals and enhanced carbon market proposals? |
| Audience and outreach | <p>The main outcomes of the project are, in the first instance, to be provided to the governments engaged. The project will also provide briefing analysis to an OECD SD Ministerial Roundtable on the issue of comparability, to be held at the OECD in Paris in mid-September.</p> <p>The project also plans an outreach educative initiative for developing country delegates to UNFCCC negotiations. This is to address a concern that one reason developing countries may dismiss economic-based comparability indicators is because of a general misunderstanding, hence mistrust, of economic-based modeling. This initiative could also be repeated for the broader constituency of other parties and NGOs that closely follow the negotiations.</p> |
| Deliverables - Background briefing paper | <p>This project is specifically intended to serve the negotiations. It is not to produce material for general or academic interest. This requirement affects the nature, process and timing of communicating the deliverables.</p> <p>In particular, we believe it is important to have something of real substance to offer at every remaining session of the UNFCCC negotiation process in 2009, culminating at COP15 in Copenhagen in December.</p> |

4.2. Russia and the international climate negotiations

An initiative encouraging exchange between Russian and non-Russian specialists on challenges in the future climate regime; initially consists of two workshops, but has the potential to expand into a longer-term and more research-based project.

| | |
|---------------------|---|
| Project leader | Anna Korppoo, The Finnish Institute of International Affairs; Arild Moe, Fridtjof Nansen Institute |
| Contributors | State University Higher School of Economics, Moscow; WWF-Russia; Global Opportunity Fund; Alexander Golub, Environmental Defense (advisor) |
| Project description | The main purpose of the project is to encourage exchange between Russian and non-Russian specialists on challenges facing the international negotiations as well as viewpoints on other issues that must be dealt with in the future climate regime. These exchanges would play a positive role in the preparations for the climate change conference in Copenhagen. We also see these workshops and their direct output as part of a continued effort by Climate Strategies to convene policy relevant research projects on the role of Russia in the international climate change regime. Thus, a new, broader project to commence after Copenhagen will be discussed with Russian partners. |
| Workshops | <p>WS 1. The first workshop will take place in Moscow on 17 June and be organized jointly with the State University Higher School of Economics and WWF Russia (which is supported by the Global Opportunity Fund).</p> <p>Immediately following the workshop, a short report will be written by Korppoo and Moe and published by Climate Strategies. On the basis of the perspectives discussed at the workshop, it will focus on the question: What are likely to be contentious issues in Copenhagen?</p> <p>WS 2. As part of the June workshop, together with our Russian partners, we will draw up the program for a second workshop to take place in September. At this second workshop Russian negotiators and other officials will be invited to discuss with a group of selected experts.</p> |
| Time line | 2009 - 2010 |

4.3. Legal and institutional issues of the post 2012 carbon market

Status *Completed*

Project leader Michael Mehling, Ecologic Institute, Washington DC

Project description This project analyses the regulatory and institutional options for improved governance of linked carbon markets. It will assess the role institutions can play in the regulation and supervision of linked carbon markets, and what institutions would be needed to facilitate a smooth transition to a globally integrated carbon market.

Specifically, it addresses the following questions:

What legal requirements need to be observed in the creation of new institutional frameworks, ranging from informal arrangements to the creation of an international organisation with separate legal personality and rule-setting powers?

When exploring options for improved governance of an integrated carbon market, what scope should the competences and membership of a new institution have, and how should such an institution govern and finance itself?

Furthermore it aims to analyse what can be learned from financial markets, the governance of monetary policy, and the institutional frameworks for international trade in goods and services. Can a new institutional architecture for the governance of integrated carbon markets draw on the experiences made by central banks in the governance of monetary policy? Are there parallels in the institutional proliferation in carbon trading and the evolution of the Bretton Woods institutions and the international trade regime, which started with bilateral free trade agreements, evolved into a comprehensive multilateral regime (GATT) and finally resulted in the creation of a powerful new organisation, the WTO?

Based on a review of existing models, the regulatory and institutional conditions of an improved framework for carbon market integration will be analysed. Different options for institutional governance, ranging from informal arrangements to the creation of an international organisation with separate legal personality and rule-setting powers, will be assessed, as will the legal requirements and implications of their implementation. Also, the WP would trace possible development pathways in the evolution from loose forms of cooperation to legally constituted institutional architectures. The analysis will also extend to an evaluation of the scope of institutional membership and competences, as well as basic elements of institutional (self-)governance and financing.

Time line April 2009 – June 2009

4.4. Climate Policy, Allocation and Industrial Competitiveness: Lessons from the EU ETS

| | |
|----------------------------|---|
| Status | <i>In progress</i> |
| Project leader | Michael Grubb, Senior Research Associate University of Cambridge and Chair of Climate Strategies, UK |
| Contributors | Misato Sato, Cambridge University; Dora Fazekas, Climate Strategies; Thomas Brewer, Climate Strategies |
| Collaborating Organisation | German Marshall Fund of the United States |
| Project description | Part of a series of a 'Lessons learnt from the EU ETS' disseminations in North America this project extends previous Climate Strategies research on competitiveness and leakage issues, and it adapts it for U.S. audiences, particularly in the context of Congressional consideration of cap and trade legislation. Its purpose is to make readily available to U.S. audiences the results of previous and new CS research on the EU experience with the ETS. The report focuses specifically on international competitiveness and carbon leakage issues in key industries. This focus has been adopted to optimize the contribution to the policy dialogue in the U.S. |
| Time line | June 2009 – July 2009 |

Annex I - Insights and Briefing Papers

Short policy analyses derived from Climate Strategies research projects and published on a fast-track basis.

| Papers | Author | Date |
|--|-----------------|---------------|
| Sub-sectors deemed to be exposed to significant risk of carbon leakage – Interpreting the rules for EU-ETS Phase 2 | Karsten Neuhoff | 25 March 2009 |
| Reinforcing Carbon Markets under uncertainty: the role of reserve price auctions and other options | Michael Grubb | 4 March 2009 |
| Is the new 'climate doctrine' marking a turning point in Russian policy? | Anna Korppoo | 7 May 2009 |

Annex II - Workshops and meetings

| International Support for Domestic Action | | |
|--|---------------|------------------|
| Kick-off Workshop | Cambridge | 9-10 Feb 2009 |
| UNFCCC side event | Bonn | 3 April 2009 |
| International Workshop | Bonn | 5 June 2009 |
| Tackling Leakage in a world of unequal carbon prices | | |
| Final Workshop | Berlin | 19-20 Feb 2009 |
| Linkages among emissions trading schemes and with offset projects | | |
| Final Workshop | Paris | 23 March 2009 |
| Lessons from Europe for the U.S. Climate Debate | | |
| Workshop | Washington DC | July 2009 (tbc) |
| CDM Post 2012 | | |
| Point Carbon conference – Side Event | Copenhagen | 17-19 March 2009 |
| UNFCCC side event | Bonn | 1-12 June 2009 |
| International sectoral agreements: case study of the steel sector in India and Japan | | |
| Kick-off Workshop | Kolkata | 3 June 2009 |
| The Reformed Financial Mechanism (RFM) of the UNFCCC | | |
| International Workshop | Bonn | 7 June 2009 |
| Russia and the future international climate regime | | |
| Meeting | Moscow | 17 June 2009 |

Further meetings will be announced in subsequent editions of this Research Portfolio. Please also consult the Climate Strategies website at <http://www.climatestrategies.org>.

Annex III - 2008 Research Publications

| Working Papers/Synthesis Reports | Author | Date |
|---|--|-------------|
| Linkages among Emissions Trading Schemes and with offset projects | | |
| Prospects of linking EU and US Emission Trading Schemes: Comparing the Western Climate Initiative, the Waxman-Markey and the Lieberman-Warner Proposals | Sterk, W., Mehling, M., Tuerk, A., | 24 Apr 2009 |
| Linking of emissions trading schemes and with offset credits <i>Synthesis Report</i> | Tuerk, A., Sterk, W., Haites, E., Flachsland, C., Mehling, M., Kimura, H., Betz, R., Jotzo, F. | 08 Mar 2009 |
| Linking the Australian Emissions Trading Scheme | Jotzo, F., Betz, R. | 01 Mar 2009 |
| Linking Existing and Proposed Greenhouse Gas Emissions Trading Schemes in North America | Haites, E | Jan 2009 |
| Linking emissions trading schemes for international aviation and maritime emissions | Haites, E | 01 Oct 2008 |
| Emerging Japanese Emissions trading schemes and prospects for linking | Kimura, H., Tuerk, A. | 01 Oct 2008 |
| Prospects of linking the EU Emission Trading Scheme with a Federal US Emissions Trading Scheme along the lines of the Lieberman-Warner Proposal | Sterk, W. | 01 Sep 2008 |
| The role of land-based offsets in Emissions Trading Systems: Key design aspects and considerations for linking | Tuerk, A., Streck, C., Johns, J., Pena, N. | 01 Aug 2008 |
| Developing the International Carbon Market. Linking Options for the EU ETS | Flachsland, C., Edenhofer, O., Jakob, M., Steckel, Jan. | 01 May 2008 |
| Tackling Leakage in a world of unequal carbon prices | | |
| Tackling leakage in a world of uneven carbon prices <i>Synthesis Report</i> | Droege, S. | 31 May 2009 |
| Border Adjustments in Japanese Climate Policy: Policy Discussion and Perception of Stakeholders | Takamura, Y., Kameyama, Y. | 18 Mar 2009 |
| Addressing Leakage in the EU ETS: Results from the CASE II model | Monjon, S., Quirion, P. | 16 Mar 2009 |
| Addressing Leakage Competitiveness in US Climate Policy: Issues Concerning Border Adjustment Measures | Van Asselt, H., Brewer, T. | 05 Mar 2009 |
| "Climate Tariffs" and the Credibility of the EU Climate and Energy Package | Droege, S. | 25 Feb 2009 |
| Carbon Leakage from the EU Emission Trading Scheme- A Comment on the Cement Sector | Ponssard, J. P. | 01 Feb 2009 |
| Leakage Maze | Droege, S. | 08 Jan 2009 |
| Trade flows and cost structure analysis for exposed industries in the EU-27 | Mohr, L., Graichen, V., Schumacher, K. | 23 Jan 2009 |
| Can Unilateral Trade Measures Significantly Reduce Leakage and Competitiveness Pressures on EU-ETS-Constrained Industries? The case of China export taxes and VAT rebates | Wang, X., Voituriez, T. | 21 Jan 2009 |

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| Estimation of Carbon Costs in the Chemical Sector | Marscheider-Weidemann, F., Neuhoff, K. | 03 Dec 2008 |
| International cooperation to limit use of border adjustment <i>Workshop Summary</i> | Neuhoff, K., Ismer, R. | 06 Nov 2008 |
| Tackling leakage in a world of uneven carbon prices <i>Progress report</i> | Droege, S. | 01 Aug 2008 |
| The Clean Development Mechanism in the post-2012 Climate Change Regime | | |
| The Clean Development Mechanism in the post-2012 Climate Change Regime <i>Synthesis Report</i> | Müller, B., Michaelowa, A. | 31 Mar 2009 |
| Additionality in the Clean Development Mechanism: Why and what? | Müller, B. | 31 Mar 2009 |
| The impact of CER discounting on the competitiveness of different CDM host countries | Castro, P., Michaelowa, A. | 31 Mar 2009 |
| Discounting of CERs to avoid CER Import Caps | Michaelowa, A. | 31 Mar 2009 |
| Would preferential access to the EU ETS be sufficient to overcome current barriers to CDM projects in LDCs? | Castro, P., Michaelowa, A. | 31 Mar 2009 |
| Subsidies for CDM: past experiences with capacity building | Okubo, Y., Michaelowa, A. | 31 Mar 2009 |
| Empirical analysis of performance of CDM projects | Michaelowa, A. | 03 Jun 2008 |
| Implementing the Bali Action Plan: What Role for the CDM? | Müller, B., Ghosh, P. | 01 Oct 2008 |
| Global Carbon Mechanisms: Emerging Lessons and Implications | | |
| Global Carbon Mechanisms Annex II: Emissions and demand projections to 2020 | Laing, T., Junankar, S., Pollitt, H., Grubb, M. | 06 Mar 2009 |
| Green Investment Schemes: Maximizing their benefits for climate and society | | |
| Options for GIS Bioenergy Projects Under a GIS in Bulgaria. | Tuerk, A., Frieden, D. | 10 Dec 2008 |
| Options for Land-Use and Bioenergy Projects Under a GIS in Romania | Tuerk, A., Frieden, D., Blujdea, V. | 10 Dec 2008 |
| Green Investment Scheme: Case Study on Hungary | Sharmina, M., Urge-Vorsatz, D., Feiler, J. | 08 Dec 2008 |
| Green Investment Schemes: Maximizing their benefits for climate and society | Urge-Vorsatz, D., Tuerk, A., Sharmina, M., Feiler, J., Qiao, L. | 25 Nov 2008 |
| International Support for Domestic Climate Policies (ISDCP) | | |
| International Support for Domestic Climate Policies <i>Policy Summary</i> | Neuhoff, K. | 25 Nov 2008 |
| Policy and regulatory Framework for Renewable Energy and Energy Efficiency Development in Ghana <i>Country Case Study</i> | Gboney, W. | 25 Nov 2008 |
| Concentrated Solar Power in South Africa <i>Country Case Study</i> | Grant, K. | 25 Nov 2008 |
| Options for International Support for Low-Carbon | Machado-Filho, H. | 25 Nov 2008 |

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|---|---|-------------|
| Transportation Policies in Brazil <i>Country Case Study</i> | | |
| Climate Co-Benefit Policies in India: Domestic Drivers and North-South Cooperation <i>Country Case Study</i> | Singh, A. | 25 Nov 2008 |
| Domestic Climate Policy for the Steel Sector, India <i>Country Case Study</i> | Sreenivasamurthy. U. | 25 Nov 2008 |
| Public Partnership: A Case Study of China's Wind Power Industry <i>Country Case Study</i> | Zhang, X. | 25 Nov 2008 |
| Emissions Trading | | |
| Carbon prices in Phase III of the EU ETS | Grubb, M. | 10 Oct 2008 |
| The Role of Auctions for Emissions Trading | Neuhoff, K., Matthes, F. | 06 Oct 2008 |
| Differentiation and dynamics of EU ETS industrial competitiveness impacts <i>Final Report</i> | Hourcade, J.C., Damailly, D., Neuhoff, K., Sato, M. | 01 Dec 2008 |
| Agriculture and Forestry (AFOLU) in Annex 1 Countries | | |
| Scaling Up AFOLU Mitigation Activities in Non Annex 1 Countries | Baalman, P., Schlamadinger, B. | 12 Jun 2008 |
| G8 Global Architecture | | |
| Energy and Climate: Opportunities for the G-8 | Grubb, M. | 27 Jun 2008 |

Annex IV - Members of the Board of Directors and International Advisory Council

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Annex V - Supporters, sponsors and collaborating institutions

| Supporters and sponsors 2006-2009 | |
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| ADEME Agence de l'environnement et de la maîtrise de l'énergie, France CCES Cambridge Centre for Energy Studies, UK CIPPS Center for International Public Policy Studies, Japan Carbon Trust, UK Dutch Ministry of Economic Affairs ECF European Climate Foundation GTZ, Germany | Hungarian Ministry of Environment and Water Grant Thornton, UK MFA (Ministry of Foreign Affairs), Norway SEA Swedish Energy Authority DEFRA Department for Environment, Food and Rural Affairs DFID Department for International Development OCC UK Office of Climate Change Australian Department of Climate Change |
| Collaborating Institutions | |
| Australian National University, Australia Cambridge Center for Energy Studies, UK Cambridge IP, University of Cambridge, UK Center for Climate Change and Sustainable Energy Policy at Central European University, Hungary Centre for Energy, Environment and Engineering Zambia (EECG), Botswana Centre for Environmental Policy, Imperial College UK Centre for European Economic Research, Mannheim, Germany Centre International de Recherche sur l'Environnement et le Développement, France Climate Advisers, USA Corvinus University, Hungary Electricity Policy Research Group, Cambridge University UK FICCI Federation of Indian Chambers of Commerce and Industry, India Finnish Institute of International Affairs, Helsinki Fraunhofer Institute for Systems and Innovation Research, Germany Fridtjof Nansens Institute, Norway German Marshall Fund of the United States IDDRI Institut du Développement Durable et des Relations Internationales, France IEEE Institute for Energy and Environmental Economics, Tsinghua University, China | IGES The Institute for Global Environmental Strategies, Japan IISD International Institute for Sustainable Development, Canada Indian Institute of Technology Kanpur, India International Institute of Economics and Management, Ghana Javdapur University, Kolkata, India Joanneum Research, Austria Margaree Consultants, Canada Mineral and Energy Economy Research Institute and AGH-University of Science and Technology, Poland Ministry of Science and Technology of Brazil National Institute for Environmental Strategies, Japan Öko-Institut, Germany Office of the Parliamentary Commissioner for Future Generations, Hungary Oxford Climate Policy, UK Oxford Institute for Energy Studies, UK Point Carbon, Norway and Japan Potsdam Institute of Climate Impact Research, Germany Stanford University, USA SWP German Institute for International and Security Affairs, Berlin The Carbon Trust, UK University of New South Wales, Australia University of Zürich, Switzerland |



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