German Institute for International and Security Affairs

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STRENGTHENING TRANSATLANTIC COOPERATION

High-Level Transatlantic Dialogue on Climate Change

Villa Vigoni, Loveno Menaggio, Italy, October 16-18, 2003

Introduction Paper

More information on the INTACT project can be found online at: www.intact-climate.org

* The German Institute for International and Security Affairs (SWP), started the project International Network To Advance Climate Talks (INTACT) at the beginning of 2002. From its inception, INTACT has been supported by a grant from the German Marshall Fund of the United States (GMF). GMF's mission is to promote the exchange of ideas and cooperation between the United States and Europe in the spirit of the Marshall Plan.

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Conference Venue

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High-Level Transatlantic Dialogue on Climate Change
Villa Vigoni, Loveno Menaggio, Italy, October 16-18, 2003

August 11, 2003

We write to personally invite you to help lead an informal high-level transatlantic exchange on the foreign policy challenge of global climate change. The dialogue will occur October 16 - 18, 2003, in the relaxed setting of the magnificent Villa Vigoni on the shores of Lake Como, Italy. If you are interested we are prepared to craft a major role for you in this significant event.

Climate change may prove to be one of the biggest environmental, economic and energy security challenges of the 21st century. Regrettably, it has already become an important sticking point in the transatlantic foreign policy relationship. The German Institute for International and Security Affairs (SWP) and The Brookings Institution, with the support of the German Marshall Fund of the United States, are convening this informal high-level foreign policy dialogue to bring together distinguished public and private sector leaders from both sides of the Atlantic to bridge the transatlantic divide. Invitees (see attached) will include major political leaders, policymakers, business executives and members of the foreign policy community, as well as leading experts on climate and energy policy. Discussions will be organized around key topics such as *'Defining Long-Term Climate Change Policy Goals', 'Promoting Clean Technologies', 'The Cost of Climate Policies',* and '*Working with Developing Countries*.' Each of these topics will be introduced briefly by well known climate and energy experts but the discussions will be moderated by experienced policy makers and business leaders with a view to developing politically realistic solutions. The strong participation of politicians and business executives will distinguish this meeting from routine conferences geared towards academic and technical experts. A draft agenda is attached for your review. The SWP is prepared to cover all reasonable travel expenses upon request. Information about logistics will be provided shortly. See www.villavigoni.it for more information about the beautiful conference location.

We are confident that this informal event will help develop common ground and strengthen the transatlantic relationship. Please RSVP by August 25, 2003 or contact our colleagues,
Nigel Purvis (Brookings) at (+1 202) 797-2466, NPURVIS@brookings.edu or
Alexander Ochs (SWP) at (+49 30) 88007-234, alexander.ochs@swp-berlin.org
for additional information.

Sincerely yours,

James Steinberg
Director, Foreign Policy Studies
The Brookings Institution

Christoph Bertram
Director
Stiftung Wissenschaft und Politik

international network to advance climate talks
INTACT
an SWP Project *

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High-Level Transatlantic Dialogue on Climate Change

Villa Vigoni, Loveno Menaggio, Italy, October 16-18, 2003

Agenda

October 16

5 p.m. **Welcome**
Aldo Venturelli, Director, Villa Vigoni

Address on behalf of the European Presidency
Corrado Clini, Italian Ministry of the Environment

Introduction of Project and Workshop Strategy
Friedemann Müller, SWP
Nigel Purvis, The Brookings Institution

TRANSATLANTIC FOREIGN POLICY AND CLIMATE CHANGE
Speaker: Anders Wijkman, Member of the European Parliament

Discussion chaired by Carlo Jaeger, Head Dept. Global Change & Social Systems, Potsdam Institute for Climate Impact Research (PIK)

7:30 p.m. **Dinner**
Key-note address by Alexander Holst, Vice President Group Sustainable Development and HSE, Shell International B.V.

October 17

8:00 – 9:00 **Breakfast**

9:00 – 10:30 **LONG-TERM TARGET**
Chaired by Fabrizio d'Adda, Senior Vice President, ENI S.p.a., Italy

Introduced by
Michael Oppenheimer, Princeton University; and
Friedemann Müller, SWP

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **TECHNOLOGIES**
Chaired by Chris Mottershead, Distinguished Advisor, BP

Introduced by
Michael Grubb, Imperial College and UK Carbon Fund; and
Richard Stewart, New York University

12:30 **Luncheon**

2:00 – 3:30 **ECONOMIC COSTS OF CLIMATE POLICIES**
Chaired by Kevin Fay, Executive Director, International Climate Change Partnership (ICCP)

Introduced by
Nigel Purvis, Brookings Institution; and
Laurence Tubiana, Institut du Développement Durable et des Relations Internationales

3:30 – 4:15 **Tea in the Park and Photo Session**

4:15 – 5:45 **DEVELOPING COUNTRIES ISSUES**
Chaired by Baroness Emma Nicholson of Winterbourne, Member of European Parliament

Introduced by
Kevin Baumert, World Ressources Institute; and
Ambassador Chandrashekhar Dasgupta, The Energy and Resources Institute (TERI); and
Benito Mueller, Oxford Institute for Energy Studies and Royal Institute for International Affairs

6:30 **Lake Como Cruise to Bellagio**

7:30 **Dinner at Villa Serbelloni on invitation of the Italian Ministry of the Environment**
Key-note address by Umberto Giovine, Chairman, Navigate Consortium/GMES Group, Italy

October 18

8:00 – 9:00 **Breakfast**

9:00 – 10:00 **REVIEW OF RECENT ACTION IN EU AND US CLIMATE POLICY**
Chaired by Rafe Pomerance, Chairman, The Climate Policy Center

Introduced by Short Presentations
EUROPEAN UNION
Arthur Runge-Metzger, EU Commission

UNITED STATES ADMINISTRATION
Harlan Watson, State Department

High-Level Transatlantic Dialogue on Climate Change

Villa Vigoni, Loveno Menaggio, Italy, October 16-18, 2003

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10:00 – 11:00 **THE FUTURE OF CLIMATE COOPERATION**
Chaired by Christoph Bertram, Director, SWP

Introduced by Short Presentations
BEYOND KYOTO: ADVANCING THE INTERNATIONAL EFFORT AGAINST CLIMATE CHANGE
Elliot Diringer, PEW Center

BEYOND KYOTO: WHAT WE HAVE LEARNED
Cedric Philibert, International Energy Agency

11:00 – 11:15 **Closing, End of Formal Program****

■ Additional Program ■

12:00 **Luncheon and Bus Transfer to Cadenabbia**

1:30 – 3:00 **FUTURE PRIORITIES ON THE TRANSATLANTIC AGENDA**
Informal exchange with senior-ranking British and German Parliamentarians at the Konrad Adenauer Foundation's Villa Collina in Cadenabbia, Lake Como
Moderator: Christoph Bertram, SWP

Following **Tour of Lake Como Villas, Villa Carlotta**

19:30 **Dinner at Villa Vigoni**

21:00 **Chamber Concert**

October 19

8:00 – 10:00 **Breakfast and Departure**

*** allows enough time to catch the last flight to the U. S.*

High-Level Transatlantic Dialogue on Climate Change

Villa Vigoni, Loveno Menaggio, Italy, October 16-18, 2003

List of Participants

John Ashton	Director for Strategic Partnerships, Lead International
Kevin Baumert	Senior Associate, World Resources Institute
Christoph Bertram	Director, German Institute for International and Security Affairs (SWP)
Chris Boyd	Chair of IETA International Emission Trading Association and Lafarge
Corrado Clini	Italian Ministry of the Environment, Rome
Fabrizio d'Adda	Senior Vice President, ENI S.p.a.
Ambassador Shekhar Dasgupta	Distinguished Fellow, The Energy and Resources Institute (TERI)
Elliot Diringer	Director International Strategies, Pew Center on Global Climate Change
Kevin Fay	Executive Director, International Climate Change Partnership (ICCP)
Joseph Fitchett	Director, Special Projects, World Nuclear Association
Umberto Giovine	Chairman, Navigate Consortium/GMES Group
Michael Grubb	Associated Director of Policy, U.K. Carbon Trust
Sarah Hendry	Department for the Environment, Food and Rural Affairs, London
Corinna Hoerst	Program Associate, German Marshall Fund of the United States
Alexander Holst	Vice President Group Sustainable Development and HSE, Shell International B.V.
Carlo Jaeger	Head Dept. Global Change & Social Systems, Potsdam Institute for Climate Impact Research (PIK)
Chris Mottershead	Distinguished Advisor, BP
Benito Müller	Senior Research Fellow, Oxford Institute for Energy Studies
Friedemann Müller	Senior Fellow, INTACT Project Director, German Institute for International and Security Affairs (SWP)
Baroness Emma Nicholson of Winterbourne	Member of Parliament, European Parliament, Vice Chairman, Committee for Foreign Affairs, Human Rights , Common Defence and Security
Alexander Ochs	INTACT Project Manager, German Institute for International and Security Affairs (SWP)
Michael Oppenheimer	Professor of Geosciences and International Affairs, Princeton University
Cedric Philibert	Administrator, International Energy Agency
Rafe Pomerance	Chairman, Climate Policy Center
Nigel Purvis	Scholar and Project Director, Environment and Development Initiative, The Brookings Institution
Artur Runge-Metzger	Head of Climate Change and Energy Unit, Directorate General Environment, EU Commission, Brussels
Karsten Sach	Head of Division, International Cooperation, Global Conventions, International Climate Change, Federal Ministry for the Environment, Nature, Conservation and Nuclear Safety, Berlin
Dick Stewart	Professor and Director, Center on Environmental and Land Use Law, New York University School of Law

Laurence Tubiana	Institut du Développement Durable et des Relations Internationales, Paris
Aldo Venturelli	Director, Villa Vigoni
Gloria Visconti	Italian Ministry of the Environment, Rome
Harlan Watson	Senior Climate Negotiator and Special Representative, State Department
Anders Wijkman	Member of Parliament, European Parliament, EPP-ED, Brussels

Conference Secretariat

Carina Bachofen	Project Assistant, German Institute for International and Security Affairs (SWP)

The challenge of climate change

Climate change is one of the biggest challenges of the 21st century. Suggested responses revolve around stabilizing the concentration of greenhouse gases in the atmosphere. International cooperation is a necessary component of any strategy to bring about stabilization, given the interdependence of the global phenomenon. Unfortunately, international action thus far has not adequately met the challenge posed by climate change.

Whatever has been done, we are far from managing the problem: Currently, emissions of greenhouse gases are still growing at a fast rate; the International Energy Agency forecasts a 90 percent increase of emissions by the year 2030 and a further increase beyond this date should no additional measures be taken. Should this scenario materialize, we will definitely lose sight of Article 2 of the UN Framework Convention on Climate Change (UNFCCC), i.e., the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." Nonetheless, a commitment to the UNFCCC, has been declared often by both the United States and the EU.

Where do we stand today? The Kyoto Protocol, once the great hope of the international community to come to grips with this enormous problem, has recently suffered a number of serious backlashes. With last September's announcements of Russian President Vladimir Putin at the World Climate Change Conference in Moscow, an entry-into-force of the protocol seems unlikely for the foreseeable future. With the four biggest emitters (United States, China, Russia, and India) not bound by the Protocol, the world lacks any coherent strategy to approach the challenge.

Whereas Europe remains a strong supporter of the Kyoto Protocol, the Bush Administration has continued to follow its own national path and announced the U.S. Climate Change Strategy on February 14, 2002. However, this development is not as recent as is often proclaimed. On the contrary, we have known since the Byrd-Hagel Resolution in 1997 that the United States has difficulties following the international path designed by the Conferences of the Parties to the UNFCCC, namely the Berlin Mandate, which led to the Kyoto Protocol. The need for new, intense talks that are informed but not hampered by the past mistakes is undoubtedly more necessary now than ever before.

The need for transatlantic climate policy cooperation

Any solution must begin with the acknowledgement that the United States and Europe, though sharing the same basic values, have adopted different approaches to address climate change. Yet merely to understand these different approaches concerning Kyoto is not sufficient. Kyoto is simply an instrument. These differences are symptoms of a deeper underlying problem, namely, the willingness to act. Indeed, most observers today agree that the political will in Europe is greater than in the United States: Europe favors reductions and legal obligations. Europe favors a strong international framework. The United States favors reduced growth, voluntary actions, and a weak international framework. Increases of total greenhouse gas emissions are accepted by the current administration.

It has proven to be important to highlight these major differences in order to move forward with a positive and proactive agenda. Furthermore, one must also not ignore the similarities in both approaches which can and should serve as building blocks to renew the transatlantic partnership and to enhance cooperation on climate change: both strategies are linked to a restriction of greenhouse gas emissions by 2012, and both have already entered the phase of implementation.

The need for an upgrade on the transatlantic agenda. Because of the high risks that climate change presents to the environment in general and to human civilization in particular, the topic urgently

requires a further upgrade on the international political agenda. There is widespread agreement among experts that the importance of the transatlantic community to cooperate towards this aim can hardly be overestimated. Clearly, this truly global problem cannot be solved by either of these traditional partners alone; other areas of international policy have shown that there is little that cannot be done if the United States and Europe agree but only little can be done if they do not.

There is no doubt that these are difficult times in the transatlantic relationship. Indeed, the decision to pursue alternative strategies has become a political bone of contention in the transatlantic relationship. The result is a degree of friction between diplomatic relationships extending well beyond the environmental realm. Climate change has been identified by outstanding personalities as a major indicator of the different frameworks, different attitudes and different approaches towards international policy challenges. However, just as there can be no adequate alternative to the transatlantic partnership in general, there simply is no alternative to transatlantic cooperation regarding the challenge of climate change.

The Villa Vigoni Dialogue

In January 2002, the German Institute for International and Security Affairs (SWP), Europe's largest foreign policy think tank, started the project International Network To Advance Climate Talks (INTACT), supported by a grant from the German Marshall Fund of the United States. In 2003, the SWP entered into a strategic partnership with the Brookings Institution, Washington D.C., for cooperation on international environmental issues, most prominently within the INTACT project. More information on INTACT is found in the annex.

The Second High-Level Transatlantic Dialogue on Climate Change, from October 16 through 18, 2003 at the Villa Vigoni, is a sequel to the successful 2002 conference which took place at the Woodrow Wilson Center in Washington, D.C. The workshop will gather policy-makers, scientific experts, and industry leaders from both sides of the Atlantic.

INTACT's working groups. The Villa Vigoni dialogue will introduce for the first time draft papers from four working groups which have been established in 2003. Each working group is co-chaired by an American and a European. These leading experts deal with those particular aspects of transatlantic climate cooperation which were found to be most important and most promising with regards to substantially moving forward. As a first step, the co-chairs have been asked to produce brief, concise policy-recommendation papers synthesizing their state of the art knowledge towards a particular topic as well as to include a range of ideas for possible political action. The drafts are enclosed in this paper.

The working groups are headed by the following experts:

- *Technological Solutions and Best Practice*

  Michael Grubb, Visiting Professor, Imperial College, London as well as Associated Director of Policy, the Carbon Trust, London; and

  Richard Stewart, University Professor and Director of the Center on Environmental and Land Use Law, New York University as well as Advisory Trustee, Environmental Defense.

- *Developing Country Issues*

  Kevin Baumert, Senior Associate, World Resources Institute, Climate, Energy and Pollution Program, Washington, DC;

  Ambassador Chandrashekhar Dasgupta, Distinguished Fellow, The Energy and Resources Institute (TERI), New Delhi; and

  Benito Mueller, Senior Research Fellow, Oxford Institute for Energy Studies and Royal Institute for International Affairs, London.

- *The Costs of Climate Policies*

  Nigel Purvis, Scholar and Project Director, Environment and Development Initiative, The Brookings Institution, Washington, DC; and

  Laurence Tubiana, Institut du Développement Durable et des Relations Internationales, Paris.

- *Long-Term Climate Policy Goals*

  Friedemann Müller, Head of Research Unit Global Issues, SWP; and Michael Oppenheimer, Milbank Professor of Geosciences and International Affairs, Princeton University

Future Plans. At a later stage, the inputs of the working groups will provide valuable input for an additional paper dealing with *The Right Vehicles for New Cooperation*. This paper, possibly backed by an additional working group and prominent individuals, will focus on alternatives for negotiations with 180 plus states, and on how to implement at the international level the recommendations arrived at by the other groups. It will analyze the ideal form, structure and content of future climate commitments. Questions would include: How should commitments be structured? Should climate commitments be legally binding? What should be the nature of any compliance regime?

The Villa Vigoni meeting will also develop the intellectual ground for a high-level policy meeting in spring 2004 in Washington, D.C. The exact date will be announced at the Villa Vigoni. The spring forum will be organized for Members of the U.S. Congress, European parliamentarians, and other leading politicians as well as decision-makers from the private sector. The clear aim is to bring together a limited number of top politicians at a meeting complementary to the international process, as more and more high-level people are disappointed with traditional conferences. The general idea is to foster awareness of the topic as a transatlantic foreign policy issue and give participants with a background traditionally broader than the environmental realm the opportunity to have the time to “think”.

Alexander Ochs, INTACT Project Manager

Berlin, October 13, 2003

Climate Change: The Case for Long Term Targets

Michael Oppenheimer, Friedemann Müller

Human-induced climate change is without doubt the most troubling and complex environmental problem facing most countries individually as well as the world as a whole. Consideration of the unique scientific, economic, and political characteristics of climate change strongly suggests that a long-term international objective would be a key element of any effective solution of the problem. Here we present the rationale for choosing such a target, discuss alternative formulations, and consider how a target might be adopted and implemented.

The Problem

Greenhouse gases, particularly carbon dioxide from fossil fuel (oil, natural gas, coal) burning, trap heat that would otherwise escape into space. Their atmospheric accumulation has increased markedly since pre-industrial times due to human activity. The natural greenhouse effect (due to natural levels of these gases) maintains an equable climate by keeping Earth about 30 degrees Celsius warmer than it would otherwise be. The enhanced greenhouse effect resulting from industrial emissions and other sources will inevitably lead to a yet warmer Earth. If emissions are not constrained, Earth will likely warm well beyond temperatures experienced in the 10,000-year history of civilization, and much faster than previous sustained global climate changes of that era. Earth has warmed about 1 degree F (about 0.6 degree C) over the past 140 years and the Northern Hemisphere is probably warmer than any time in the past 2,000 years at least; the buildup of greenhouse gases is very likely the major contributor to these changes. Projected growth in fossil fuel combustion represents an unprecedented environmental risk. While the pre-industrial concentration remained relatively stable at 280 ppm it has since grown to 370 ppm and could approach 1000 ppm in this century if no policies or measures are undertaken to restrain its increase. In order to limit the corresponding risk it makes sense to bring those who understand the relevant atmospheric processes together with economic and political decision makers, and other stakeholders. The challenge is to define a target which is commensurate with the risk given substantial uncertainties, in accordance with the common agreement binding all parties:

> Almost all countries (including the U.S., China, India, the EU and Russia) have ratified the UN Framework Convention on Climate Change (UNFCCC), whose Article 2 describes its long-term objective as avoidance of “dangerous anthropogenic interference” with the climate system. The following discussion provides the rationale for implementing Article 2 in terms of a quantified long-term target to be determined within this decade.

Troublesome Characteristics

Four characteristics of the science of climate change provide the rationale for a long-term view.

1. The gases **persist in the atmosphere** for periods ranging from a decade to more than a millennium after emission. As a result, policies, which take decades to implement fully in any case, can only gradually slow the greenhouse gas accumulation. A related consequence of persistence is that relatively large emissions decreases, on the order of half or more, would be required to quickly halt the growth of greenhouse gases in the atmosphere.
2. There is a **lag between emission and consequence**: The full effect of the gases is not felt for several decades or longer after their emission due to the thermal inertia of oceans and ice sheets. Analogy has been made to the relative coolness of coastal areas on warm spring days. Putting these two characteristics together, we note that limiting climate change is NOT like dialing a thermostat. It is more like steering a supertanker, with much anticipatory decision-making needed.
3. Warming is expected to be continuous until emissions are markedly reduced.**There is no** known **limit to warming until the sources of the gases, like oil and coal supplies, begin to shrink**. In the meantime, absent policy, atmospheric carbon dioxide amounts, now 30% above pre-industrial levels, could more than quadruple compared to pre-industrial levels.
4. Due to the first three characteristics, short-term emissions goals considered in isolation provide no test of the ultimate climate response. Furthermore, uncertainty in projection of changes is very large and the time for progress in understanding is measured in decades not years. **Unpredicted, surprise outcomes are almost inevitable,** becoming more likely as the accumulation of greenhouse gases increases**.**

Beyond the science of the problem, analogous difficulties arise. Emissions growth may be slowed with existing technology but multi-decadal time scales will be needed for development and implementation of new technologies to substantially reduce emissions (or capture gases post-combustion). Multi-decadal time scales will also be needed to fully develop and implement innovative policies needed to bring these changes about. Taken together, these characteristics argue strongly for defining long-term objectives for climate stabilization (as discussed below) rather than implementing policy piecemeal.

Short-term international *emissions* objectives (and accompanying national emissions obligations), like those embodied in the Kyoto Protocol, are determined fundamentally by political and economic feasibility. A long-term international target would be fundamentally determined by an assessment of environmental risk from *the* accumulation of emissions. An appropriate target (for example, as outlined in Article 2 UNFCCC) would allow decision-makers to *synchronize* near term steps to assure that their cumulative effect would be consistent with the avoidance of excessive long-term risk. In other words, it would make clear what options are preserved for the long term at every step, which risks are increased or decreased by particular near-term choices.

Political Rationale

A long-term target may satisfy three objections raised against the Kyoto Protocol that have proven to be serious political obstacles. The business community is divided over climate policy. Some firms stand to gain substantially from the nascent market in emissions allowances for greenhouse gases and have implemented measures that reduce emissions and will ultimately lead to their possessing significant numbers of tradable emissions allowances. Some firms stand to lose, particularly those in the coal industry. For yet other firms, the result of implementing Kyoto is mixed, at least in the near-term.

But nearly every firm, whether a supporter or opponent of emissions reduction, has argued that a long-term goal (i.e., 25 years or longer) would improve its ability to plan capital turnover. The lack of one has led firms that are otherwise supportive of action to refrain from supporting the Kyoto Protocol, which has a ten-year time frame for obligations. It has certainly stiffened the backs of Kyoto's opponents.

Another objection to Kyoto is the lack of mandatory obligations for developing countries. The latter is one of the two ostensible rationales for US rejection, the other being concerns over cost. Yet developing countries are highly unlikely to assume such obligations absent a long-term objective that indicates roughly how large is the limited size of the atmospheric resource to be used. How many total tons of carbon dioxide will ultimately be emitted? The answer to this question depends on a definition of how large a greenhouse effect may be considered to be "safe" (or "dangerous"). Until a goal is determined, developing countries are unlikely to enter into a negotiation over burden sharing. By taking a global view, a long-term target based on risk allows questions of equity of the solution (as expressed in near-term targets) to be separated to some extent from quantitative issues of size and distribution of impacts, a separation that may facilitate negotiation of both long- and near-term obligations.

Finally, multiple long-term *domestic* targets would be insufficient because there is a need to assure a uniform international standard against which to measure domestic action. Otherwise, questions of fairness, particularly with regard to trade relationships and competition on investment, will arise continually. Through an international long term obligation, each party receives a modicum of assurance that its near term domestic action is both appropriate to the long-term risk, and proportional to the activities of other nations.

Technical Issues

Views differ on whether to define a target in terms of greenhouse gas concentrations, temperature change, rate of warming, or other quantities. No one measure is perfect, but greenhouse gas concentrations have several advantages:

1. From a legal perspective, this choice would be consistent with the explicit language of Article 2 of the UNFCCC.
2. Concentration is a routinely measured, spatially uniform quantity for the major human-made greenhouse gases, carbon dioxide and methane, as well as for several of the minor ones. It has little year-to-year or decade-to-decade variability compared to

its long-term trend. Annual, decadal, and spatial variability of temperature change is greater compared to its trend.

3. Although it is often said that temperature is more closely related to impacts than concentration, this is only true for local or regional temperature near the point of impact. Global temperature changes are not necessarily more easily related to local temperature changes than are concentrations. Furthermore, temperature change does not encompass the full range of climate effects, like precipitation and runoff, that determine impacts.
4. A set of near term limits for global emissions can be derived that are consistent with a long term upper limit on greenhouse gas concentrations. This approach establishes a necessary scheme for emission restrictions and burden sharing.

A second problem is whether to define a target in terms of carbon dioxide alone or in terms of the equivalent effect of all the measured greenhouse gases. The language of the UNFCCC would mitigate in favor of expressing the target in terms of all gases (i.e., CO2-equaivalents). The scientific perspective would argue for counting the effect of all gases since all gases will determine the ultimate risk. The technical obstacles to doing so arise from the spatial non-uniformity of ozone and particle concentrations, which result in spatial variation of climate effects. A compromise position would be to develop a target in terms of carbon-dioxide equivalents of the spatially uniform gases, but with awareness that its effect is contingent to some extent upon the behavior of the other forcing agents. Given the various uncertainties in determining a target, this is not the largest.

Is Agreement on a Quantitative Target Feasible?

The most vexing issue is whether a quantitative target can be defined at all in the context of scientific uncertainties, and how such a globally uniform objective could be achieved and the necessary burden sharing be enforced on individual parties. Solution to both problems can be envisioned through a process of iterative implementation via near-term emissions budgets of the sort embodied in the Kyoto Protocol. A long-term objective, however, is indispensable in order that these near-term emission budgets not miss the target.

It would be preferable to begin an informal process immediately (involving scientists and other experts, NGO's and other stakeholders, and the business community) that can stimulate and inform a governmental negotiation beginning in a matter of years. The IPCC would have an important role to play in evaluating vulnerabilities and options germane to implementation of Article 2. Formal choice of a target would be seen as a first step subject to periodic revision, perhaps every ten years, to accommodate current uncertainty and future learning.

Negotiation of near-term emissions obligations would be carried out with the objective of maintaining consistency with the current long-term target. Only in this way can plausible options, such as a limits in the range of 450 ppm CO2, be maintained as viable options. At the same time, choice of a quantitative long-term target does not uniquely

determine near term obligations. Rather, it allows a range of choices that have a substantial chance of meeting the long-term objective when coupled with plausible options for subsequent periods.

An important objection that has been raised to the proposed approach is the degree of effort needed to reach agreement on such a target in the context of very large uncertainties. An alternative approach has been discussed which would involve an informal target, not binding on negotiators in any sense. The difficulty here is that a target that is not regarded as binding on negotiators is likely to be diluted in implementation, or totally ignored. It also would lose its function as an orientation for those who take the risk of long-term investment.

One sensible approach to dealing with uncertainty would be a precautionary one. Focus first on those outcomes, like collapse of the thermohaline circulation, disintegration of the West Antarctic ice sheet, or loss of the Greenland ice sheet, for which general agreement on the importance of avoidance could be more easily achieved. Then define a long-term target according to the lowest concentration that could plausibly generate the undesired outcome.

The world seems to be at a decision point. Countries can either determine future commitments to emissions limitations or emission-reducing policies in a context detached from long-term environmental risk, or they can choose to engage in a complex negotiation of an initial target, one that would be updated over time. In the former case, it would be pure happenstance if the accumulation of unguided near-term steps were to avoid “dangerous” climate change. A serious political obstacle to developing country participation would remain in place. The business community may continually bridle at near-term commitments defined without any notion of ultimate objective. While the former choice may present serious difficulties to negotiators, the latter option is almost sure to fail to successfully rein in global warming.

Promoting Climate-Friendly Technologies: International Perspectives and Issues

Introductory paper for the INTACT High-Level Transatlantic Dialogue on Climate Change, Villa Vigoni, Italy, Oct 16-18

Michael Grubb[1]
Richard Stewart[2]

Introduction

It is widely recognized that achieving limitations on greenhouse gas (GHG) emissions at acceptable social cost will involve far-reaching technological change in the energy and in other sectors. Indeed, at present this seems one of the few things on which there is transatlantic agreement in relation to climate change. Cooperation to promote development of low-GHG technologies thus appears as a natural issue to consider as a focus for rebuilding a constructive transatlantic dialogue. There are, however, disagreements among academics and policy analysts regarding the best way to promote appropriate technological change in the climate context. There are also practical institutional challenges in devising and successfully implementing policies, both at the domestic and international levels, that will successfully promote the needed innovations. This paper simply seeks to frame the issues presented.

Opposing views on technology development in the climate context

Reviews of economic studies show consistently that assumptions about technology development are crucial to economic and policy conclusions (eg. Dowlatabadi 1998; Edmonds et al, 1999; World Resources Institute, 2000). The climate policy debate is often characterized by two polar views.

The "technology push" view holds that the primary emphasis should be on development of low-GHG technologies, typically through publicly funded R&D programmes, rather than regulatory limitations on emissions. Proponents of this view argue that, given that climate risks are a function of long-term accumulation of GHG in the atmosphere, it would be preferable to concentrate in the near term on investing in technological innovation, and adopt emissions limitations later when innovation has lowered the costs of limiting GHG emissions and the existing capital stock turns over, rather than mandating costly reductions now (Wigley, Richels and Edmonds 1996).[3]

The opposing "market pull" view holds that technological change must come primarily from the business sector, and is primarily a product of economic incentives. In the climate context, this view gives priority to adoption of regulatory measures such as technology-based regulatory limitations, GHG emission caps, or charges. Profit-seeking businesses will respond by innovating to produce technologies that will reduce emissions at less cost in order to gain

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[2] University Professor and Director of the Center on Environmental and Land Use Law, New York University; Advisory Trustee, Environmental Defense
[3] A recent paper in *Science* by Hoffert et al. (2002) received widespread attention for its assertion that technologies to solve climate change do not yet exist, and it called for a grand technology programme encompassing new nuclear and space-based energy sources to solve the problem

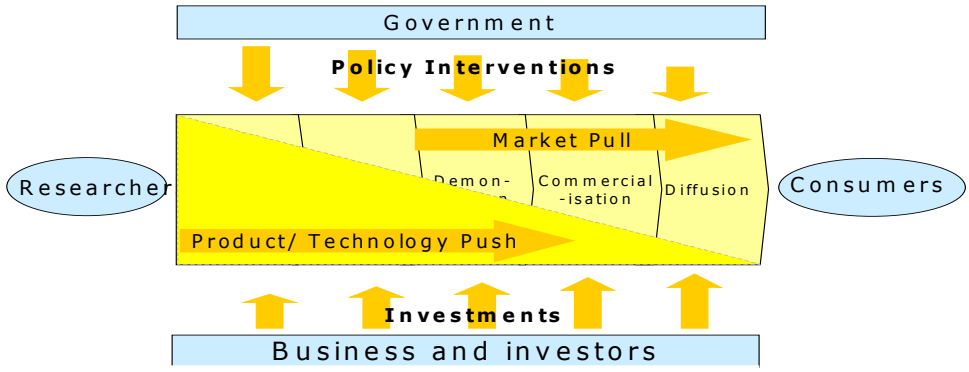
competitive advantage over rivals.[4] From this perspective, postponing emissions limitations would simply defer the whole process of innovation required for the private sector to produce these solutions. Proponents of this approach might acknowledge various market failures with respect to the early stages of innovation; business firms may not have adequate incentive to invest in basic research because they may be unable to appropriate (through patents, etc.) the knowledge gained, and because the commercial payoffs may be too uncertain and long-term. But "market pull" advocates tend to assume that existing general policies (such as corporate tax breaks for R&D expenditure) are sufficient to overcome these failures.[5]

Thus, divergent perspectives on the *process* of technology change lead to directly opposing *policy prescriptions*, in many dimensions, as summarised in Appendix I.

Establishing a common understanding of technology innovation.

This debate should be resolved by recognizing that innovation is a complex phenomenon which in reality encompasses both perspectives. Whilst engineers tend to focus upon R&D, economists since Schumpeter have tended to break innovation down into three components (invention, innovation, and diffusion) – but even this is clearly inadequate. Viewed more closely there are in fact at least five distinct stages to innovation in a market economy: basic R&D; applied R&D; demonstration; commercialisation; and diffusion. Each stage involves technology improvement and cost reduction, but the principal barriers and driving forces change across the different stages: 'technology push' elements dominate early stage research, whilst 'market pull' is increasingly important as technologies evolve along the chain (Figure 1).

Figure 1: Stages of the innovation chain and influence of supply/technology push & demand / market forces



Source: Foxon (2003), adapted by the authors

[4] This perspective draws on a considerable literature on induced technical change (eg. reviewed by Weyant J.P. and T. Olavson (1999), with implications for policy considered eg. in Grubb et al. (1995); Dowlatabadi (1998); and Grubb, Koehler and Anderson (2002).
Lomborg (2001), includes an extensive (and widely cited) sceptical chapter on climate change culminated with the assertion that the problem of climate change would largely solve itself anyway because market forces would make renewable energy the preferred technology even in the absence of regulation.

[5] There is far less need for regulation to create market incentives for innovation in technologies to facilitate adaptation to climate change, but there is need for publicly funded R & D in adaptation measures.

This framework (which to our knowledge has not been elaborated in published literature) helps to reveal the conflict between the technology push and demand pull views as a false dichotomy, and provides a framework within which a balance between the extremes can be struck. Government has a key role throughout, but its role changes radically along the innovation path. It finances basic R&D in order to lay a foundation for applied R&D and commercialization by business firms; sole reliance on demand-pull strategies will, because of market failures, not achieve the far-reaching, long-term innovations required to address climate change. Government, however, must also adopt regulations to provide market based incentives for firms to invest in innovation. Business invests at all stages, but generally more in the latter stages, driven by amount and timing of expected payoffs to the firm. It is, however, important to send credible regulatory signals to business relatively early in the process in order to create the incentives for the necessary investments. In sum, particularly for a big, long term problem like climate change, policy will be more powerful if emission constraints are combined with R&D and diverse supports to promote technology through different stages of the innovation chain.

GHG regulatory measures and technology development

What types of regulatory measures are best calculated to stimulate technological innovations by firms by creating market demand for low-GHG technologies, products, and process and production methods and innovations in the use of sinks? The broad range of activities that generate GHG emissions and the long-term character of many of the innovations required argue powerfully for use of broadly applicable economic instruments, such as tradable GHG allowance systems or charges(Stewart and Wiener 2003). Nonetheless, command-and-control quantity limits have been able to successfully induce significant near-to-medium term innovation in particular sectors, for example with respect to automobile emissions of conventional pollutants, and may have a useful role to play with respect to some elements of GHG regulation. With respect to the timing of emissions limitations, the need for credible early regulatory signals to industry, the differing timetables for incremental and fundamental innovation, and capital stock turnover cycles argue for beginning with modest near-term limitations that are incrementally tightened within a regulatory framework that commits to appropriate emissions reduction pathways over time. (Stewart and Wiener 2003).

Institutional challenges of public-funded technology development

Because of potential scale economies, cooperative specialization, and mutual learning, there is wide scope for beneficial international collaboration in publicly funded R&D for innovation in low-GHG emission and sequestration technologies as well as adaptation technologies. But such efforts face two basic sets of challenges.

First, any public expenditure on technology promotion is immediately faced by a flood of applications from those who believe they have the answer, if only governments would fund it sufficiently; and from companies that scent a chance of free money for something they might have done anyway. Critics – especially economists – can point to long lists of government-sponsored technology failures, some of them astonishingly expensive, due to phenomena that social scientists well recognise in terms of institutional capture. As one cynic put it, ‘governments may be bad at picking winners, but losers are good at picking governments’. Good management, set against clear criteria and firm accountability mechanisms, is thus essential.

Second, some of the institutional problems in public R&D are amplified in the context of international technology programmes, where the goal of cooperation among countries is bedevilled by unavoidable issues of competitive rivalry. Every government would like its

own industry / technology to receive support from international sources, especially if there is a significant prospect of it delivering commercial success, and is reluctant to spend on technologies of other countries. In addition, as technology nears commercial applicability, issues of intellectual property can become highly sensitive, leading to the reverse of cooperation as participants seek funding from the common pool whilst holding back their most commercially valuable ideas from public scrutiny. As a result, the easiest focus for international technology programmes is often technologies, such as fusion power, that no one realistically expects to be commercially viable in the foreseeable future. There are also problems of governance and accountability for international programmes, which almost inevitably acquire substantial institutional autonomy. If national programmes can be hard to terminate if the results do not fulfil the initial hopes, international ones can be even more difficult

Moving from generalised ideas of international technology cooperation to specific programme

In designing international programs for cooperative climate technology R&D, attention must be paid to the goals of the programme (object, scope, and time horizon along the path from basic research to commercial application); the basic R&D strategy and mechanism, extent of participation by different countries; and issues of institutional form, governance, and accountability mechanisms. In addressing these questions, one can draw on a considerable body of historical experience and ongoing programmes in the energy and international environmental fields.

In the context of the global environment, the most obvious example is the World Bank-UNDP-UNEP Global Environmental Facility, and associated World Bank and other carbon-related funds.[6] These are not explicit technology programmes, but have made a significant effort to promote technology development in certain areas (such as biomass energy development and solar PV); more specific technology funds (such as bioenergy fund) have recently been added. As another example, the International Energy Agency has now accumulated almost 30 years experience of coordinating OECD efforts on energy, including an extensive set of 'Collaborating Agreements' on specific technologies. These programmes have now extended beyond the OECD to incorporate a number of developing countries.

[6] The World Bank Carbon Fund finances GHG-reduction projects that will generate commercially valuable emission reduction credits under the Kyoto Protocol's Clean Development Mechanism.
International trade in such credits, and of emission allowances pursuant to emissions trading systems, can provide funding for commercial development and application of new technologies to reduce greenhouse gas emissions. Thus, GHG regulatory/trading systems can both supply funds for R&D and create regulation-induced market demand for technological innovation. (Stewart and Wiener 2003).

Working Group "Technologies"

In the specific area of international R&D programs aimed at climate-related technology development, at least six very different concepts have been floated:

Option	Objectives
Clean Energy R&D Fund	To provide specific R&D support to technologies whose high development cost cannot readily be borne by public funds in a single country.
Clean Energy Demonstration Fund	To provide development and demonstration support to technologies with global applications but where economic development benefits are primarily local, avoiding international IPR concerns.
Clean Energy Venture Capital Fund	To provide venture and development capital for smaller firms with climate related technological innovations
Emissions Reduction Purchase Fund	To put together a large fund for purchasing emission reductions to reward companies for developing carbon management discipline
Climate Leaders Fund	To offer an investment incentive to large companies to differentiate themselves within their sector by virtue of their ability to manage climate risk and seize solution opportunities
International Investor Initiative on Climate Risk	To mobilise mainstream institutional investors behind a programme of dialogue, education and research to assess and act upon the investment risks posed by climate change

Appendix I

The divergent policy implications of different technical change perspectives

Process:	**Technology-push: R&D-led technical change**	**Demand pull: market-led technical change**
	Technical change depends mostly on autonomous trends and government R&D	Technical change depends mostly upon corporate investment (R&D, and learning-by-doing) in response to market conditions
Economic / policy implications:		
Implications for long-run economics of large-scale problems (eg. climate change)	Atmospheric stabilisation likely to be very costly unless big R&D breakthroughs	Atmospheric stabilisation may be quite cheap as incremental innovations accumulate
Policy instruments and cost distribution	Efficient instrument is government R&D, complemented if necessary by 'externality price' (eg. Pigouvian tax) phased in.	Efficient response may involve stronger initial action, including emission caps / pricing, plus wide mix of instruments, targeted to reoriented industrial R&D and spur market-based innovation in relevant sectors. Potentially with diverse marginal costs
Timing implications	Defer abatement to await technology cost reductions	Accelerate abatement to induce technology cost reductions
'First mover' economics of emissions control	Costs with little benefits	Up-front investment with potentially large benefits
Nature of international spillover / leakage effects arising from emission constraints in leading countries	Spillovers generally negative (positive leakage) due to economic substitution effects in non-participants	Positive spillovers may dominate (leakage negative over time) due to international diffusion of cleaner technologies

Source: adapted from Grubb, Koehler and Anderson (2002)

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Controlling the Cost of Transatlantic Climate Change Policies

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This is one of four papers prepared for the US-EU High-Level Dialogue on Climate Change sponsored by The Brookings Institution, the German Institute for Security Affairs (SWP) and the German Marshall Fund of the United States, held at Villa Vigoni, Italy, October 2003. This paper builds on a forthcoming publication by Joseph Aldy, Richard Baron and Ms. Tubiana prepared under the auspices of the Pew Center on Global Climate Change for its 'Beyond Kyoto' series.

Executive Summary

By minimizing the cost of transatlantic climate policies the United States and Europe can protect their economies and secure the domestic political support necessary to take strong action against global warming. In short, climate policy costs must be (i) modest overall (ii) predictable and (iii) distributed justly among countries and industrial sectors. Differences between the United States and Europe over the Kyoto Protocol stem partly from different perceptions about how well the treaty achieves these objectives. Any future transatlantic climate change cooperation must do a better job of satisfying the cost concerns of both parties.

Uncertainty

Our understanding of climate change and the costs or benefits of various policy responses is imperfect. Today's models provide only crude estimates about the economic consequences of alternative global warming scenarios. Judgments about the benefits of climate policies rest on uncertain predictions about the adverse regional effects of global warming. Likewise, estimates about their costs rely on potentially shaky assumptions about the rate of technology change, innovation and social adaptation. With such uncertainty it is no wonder that differences of opinion exist.

The question for policy makers is how to deal with this uncertainty. Some maintain that uncertainty argues for delaying costly action to spare the economy until more is known. Others argue that the risk of irreversible and possibly catastrophic climate change more than justifies decisive action as an insurance against the unknown. The reasonable middle ground on which most Americans and Europeans agree is that the risk of dangerous climate change is real enough to warrant genuine action now that can be pursued without unduly harming the economy.

Controlling the cost of fighting climate change, therefore, is of critical political, economic and environmental importance. Keeping the cost low is key to securing the broadest possible political acceptance, both at home and abroad. A high cost approach, in addition, would detract from the pursuit of other important priorities, such as health care, job creation, education and national security. Cost-effective climate strategies, moreover, are needed to ensure that any resources devoted to climate policy actually achieve the maximum environmental benefits.

The timeframe required for climate solutions also creates uncertainty. Greenhouse gases stay in the atmosphere for decades (methane), centuries (carbon dioxide), and even millennia (perfluorocarbons). Reducing emissions today imposes an immediate cost on society that would be off set slowly over time by the benefit of less climate change. Because nations and individuals discount future benefits, they are only prepared to pay a modest amount today to avoid a larger cost from climate change tomorrow. Uncertainty how to value benefits over very long periods only amplifies uncertainty about the benefits themselves. This mountain of uncertainty inhibits not only rational decision-making but also political

action because convincing voters today to sacrifice for the benefit of future generations can be politically challenging.

The Cost Framework

Nations tend to concentrate on three important dimensions of the cost problem. These are (i) expected total cost, (ii) predictability of cost, and (ii) relative cost or 'competitiveness'. Each is discussed below.

Expected Total Cost

The expected costs of climate policies hinge largely on the stringency of the goals established and the cost-effectiveness of the measures chosen to meet them.

A. Stringency

Stringency is a function of the magnitude of the change in national emissions sought and the timeframe in which that change is to be achieved. Ambitious targets may become very much more expensive to achieve than those that are slightly less so because the marginal cost of emissions abatement rises (meaning that achieving the last emissions reduction costs many times more than the first).

Timing too is critical to determining stringency. It should be self-evident that moving ahead too fast would be unduly costly because that would require rapid, unanticipated and expensive changes in capital stock, business practices and personal behavior. Yet, climate policies that focus primarily on very long-term goals (such as creating a carbon-neutral society by 2050) may leave investors guessing whether distant goals would really be pursued or enforced in the future. Giving emitters too much time to reduce emissions without intermediate goals, therefore, can result in under investment in new climate-friendly technologies and practices. This can result in a costly last minute scramble to achieve the original policy objective, making an ambitious very long term objective more costly than a more reasonable medium term plan. Economists agree that to achieve any fixed objective the most cost-conscious climate policies would require modest action in the short term while establishing clear and credible benchmarks or market signals for medium- and long-term performance. Sound policies would also induce near-term investments in technologies that would inevitably require decades to develop and deploy. Good policies, in short, begin slowly and then escalate to give players time to adjust but not enough time to sit on their hands.

B. Cost Effectiveness

The second major factor in determining the expected cost of climate policy is cost effectiveness. Cost-effective climate policies achieve a given stringency objective at the lowest possible cost. Policy makers can promote cost-effective strategies by allowing emitters flexibility on the where, when, what and how of emissions abatement.

1) Where? Greenhouse gases mix in the atmosphere, so emissions avoided in Boston yield the same benefit to the climate as identical action in Berlin or Beijing. To minimize costs, abatement should occur where it can be done cheapest. Policy mechanisms, such as emissions trading, that harness the power of the free market to identify low cost solutions also contribute to cost effectiveness. Technology investment programs in developing countries, where many emission reductions can be secured most cheaply, may also be cost-effective.

2) When? Climate change happens over many decades. Modest flexibility in the timing of when nations reduce their emissions can reduce costs without harming the environment. The atmosphere is not sensitive to annual variations in greenhouse gas emissions. Climate policies, therefore, should allow

higher emission in times of robust economic growth than during recessions. Nations should average their emission performance over a number of years or use a performance indicator that takes into account changes in economic growth, such as the carbon intensity of the economy (emissions per unit of GDP).

3) What? Several gases contribute to atmospheric warming. Policies should encourage reductions in atmospheric concentrations that can be achieved most easily, taking into account that each gas contributes to global warming differently.

4) How? Nations have different energy needs. Some nations may find it cheaper to reduce carbon emissions from the transportation sector while others might find easier progress by focusing on industrial emissions or housing. Some nations may be able to sequester (store) carbon in the land or sea cheaply using plants, algae or other methods. The right mix of policies will vary from country to country based on their unique national circumstances. Accordingly, to be cost effective any international approach must allow nations the flexibility to decide how best to meet any agreed upon objective.

Cost Predictability

Another critical factor is the predictability of economic costs. In statistical terms, this is a question of 'variance' or the extent to which actual outcomes are likely to differ from expected cost. Cost unpredictability can be as important an obstacle to progress as expected cost. Companies and consumers tend to be risk averse. Accordingly, a climate policy that is reasonably certain to cost one billion euro or dollars annually may be more socially acceptable than another policy that is expected to cost twenty percent less but that also has a substantial risk of ending up at twice the price. So, while predictability does not reduce expected costs, certainty about costs may facilitate the adoption of strong climate policies and help ensure compliance with those policies.

There are a number of ways to increase the cost predictability of climate policies. First, less ambitious policies are more likely to be predictable for the same reason one can more accurately throw a ball five meters than fifty. Second, climate policy costs are more predictable for some approaches than others. Climate policies tend to have either (I) predictable environmental outcomes but uncertain costs, or (II) predictable costs but uncertain environmental outcomes. The Kyoto Protocol's binding national emissions targets are examples of the former, while energy taxes and technology research programs are forms of the latter. One can, of course, retain the appearance of Kyoto-style targets while providing cost predictability by adding a so-called 'safety valve' to a national target. This mechanism would excuse a nation from reaching a pre-agreed target if the cost of climate action rose more than expected. Another way to increase the predictability of a target might be to index it to economic growth, such as an emissions intensity ratio (emissions per unit of GNP) rather than an absolute emissions goal (such as returning to 2000 emission levels by 2010). Here too predictability about costs would come at the expense of some predictability about environmental benefit.

Relative Cost

In political terms, expected cost may prove less important for some parties or industries than the competitiveness consequences of climate policies. Relative cost refers to the distribution of costs both among and within countries, as well as among and within specific industrial sectors. Competitiveness concerns arise when companies from one nation face different climate burdens than their competitors in other nations. Those with lower burdens in effect have a leg up on their competitors. For goods that are traded internationally, relative cost comparisons matter not only among traditional economic competitors, such as the United States and Europe, but also with respect to emerging economic powers, such as China, Mexico, Brazil and India.

Relative cost discrepancies are hard to eliminate because even when a nation as a whole would not suffer a loss in competitiveness, certain of its industries, particularly those that are carbon intensive, may be harmed. Energy-intensive industries producing goods that are traded internationally would seek to avoid the climate policies of one nation by relocating plants or shifting production to countries with less costly regulation. Aluminum, for example, would be particularly vulnerable because it is both energy intensive and a highly competitive industry. The possibility of job loss and industrial migration creates domestic political challenges for nations seeking to address climate change. Relative cost differences among trading partners also produce environmental effects. 'Emissions leakage' occurs when emissions reductions in one place are partly offset by emission increases elsewhere, such as when a plant moves from Europe to China to avoid European carbon regulation. Some economists believe that unless relative costs are equalized across major trading partners emissions leakage could be substantial.

Perhaps the only way to minimize the political, economic and environmental problems surrounding competitiveness shifts would be to ensure that major emitters and economic competitors are undertaking similar efforts to address the climate problem. Coordinated international emissions trading, for example, would act to equalize the marginal cost of carbon emissions and thereby reduce incentives to shift production from one country to the next. Programs designed to engage developing nations to upgrade their technologies may also achieve a similar effect.

Yet, while keeping an eye on relative costs might help minimize competitiveness shifts among trading partners, climate policy will inevitably create winners and losers within particular economies. Even if all nations were pulling together in harmony, carbon-intensive industries and sectors would suffer relative to other areas of the economy. People would use less aluminum and gasoline, for example, if the cost of those products increases relative to low carbon goods. This substitution from high-carbon to low-carbon goods is precisely what the environment requires but the transition would be painful for at least some economic players even if it proved beneficial for society as a whole. Therefore, it will fall to policy makers to redistribute burdens equitably.

Kyoto's Cost Features

The Kyoto Protocol would have some but not all of the cost control features outlined above. The overall Kyoto target (approximately 5% below 1990 levels by 2008-2012 for industrialized nations) is seen as too modest by many in Europe and as too stringent by many in the United States. In other words, there is a real question as to whether the stringency of Kyoto was set correctly. Kyoto would have many cost-effective features, including international emissions trading, inclusion of all six major greenhouse gases, a multi-year period to control for the boom and bust of the economy, (limited) inclusion of carbon sequestration and the flexibility for countries to secure emission reductions from a variety of sectors. Yet, the Kyoto targets would demand a particular environmental outcome (compliance with the treaty's national targets) but they would leave the cost of compliance uncertain, so Kyoto's true cost would remain unpredictable. Early estimates for the United States, for example, varied by a factor of ten. Kyoto's competitiveness consequences, moreover, were not analyzed systematically during the negotiations and remain unclear even today. As developing nations do not have targets, Kyoto would result in some (perhaps modest) competitiveness benefits for these countries relative to countries with targets. In short, the Kyoto Protocol would make some effort to control the many dimensions of the cost problem but determining the adequacy of that effort remains a highly subjective judgment. Given where nations stand on Kyoto, t is perhaps fair to say that Europeans have been optimists and Americans pessimists on the likely cost of the treaty.

Controlling Costs Beyond Kyoto

Future transatlantic climate policies should control economic costs and thereby pave the way for strong but affordable action against global warming. By adjusting the magnitude and timing of action the United States and Europe can balance competing economic and environmental concerns. By incorporating flexibility and market mechanisms needed to make policies cost-effective, strong climate policies can be pursued at the lowest possible cost. By linking up European and American emission trading systems and coordinating other activity, they can reduce the competitiveness concerns of climate policy. The parties' willingness to link their systems may depend on whether the United States and Europe each believe the other is behaving fairly. Both parties would benefit from expanding any linked system to include as many other nations as possible in order to take advantage of other low cost emission reduction opportunities. In addition, by setting realistic goals and targets, or by incorporating mechanisms to enhance cost predictability, such as a safety valve or indexing, the transatlantic parties can reduce economic uncertainty and secure the strongest possible action that would not undermine economic growth.

How Can the Transatlantic Partners Help in Addressing Developing Country Emissions?

by
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October 12, 2003

The nature of the climate change problem will demand global action in reducing greenhouse gas (GHG) emissions over the current century. To the extent that efforts to stabilize atmospheric concentrations are ultimately successful, *all* major GHG sources will have to be addressed. The first section of this note briefly describes the current situation with respect to greenhouse gas emissions in developing countries. The second section summarizes the current political context for future actions. Most importantly, the final section describes, specific actions that Europe and the U.S.—despite their differences of views—can take to help address developing country emissions.

GHG Emissions in Context

If governments are going to address the problem of climate change, addressing developing country emissions, at least over the medium and long term, is a necessary condition for success.

Table 1. **Greenhouse Gas Emissions in 2000**
(*includes all major gases and sources*)

	Mt C eq.	% of world	t C eq./cap
Industrialized Countries	4,755	51%	3.8
Developing countries	4,590	49%	1.0
Europe	1,423	15%	2.8
U.S.A.	1,879	20%	6.6
World	9,390	100%	1.6

Source: WRI (original sources: IEA, US EPA, CDIAC). **Note**: Europe excludes former Soviet republics, except EU accession countries.

As of 2000, nearly 50 percent of global greenhouse gas emissions originated in developing countries (Table 1). Over the past several decades, the share of global emissions from developing countries have been steadily increasing. This trend is expected to continue, and GHG emissions in developing countries will soon reach parity with those in industrialized countries. Among the industrialized countries, Europe and the U.S. contribute the lion's share of emissions, with 20 and 15 percent of the world total respectively.

Many factors affect the ability of developing countries to reduce their greenhouse gas emissions. Developing countries face other social and economic priorities that far outweigh concerns over greenhouse gas emissions. Income levels of the average American, when measured in terms of purchasing parity power, for example, are nine times higher than that of the average Chinese citizen, and 14 times higher than that of the average Indian. Broader social and economic data reveal similar patterns (Figure 1). With more than 1.3 billion people living on less than $1 per day and an equal number lacking access to safe drinking water, other issues will override—politically and financially—most efforts to control greenhouse gases. Even within the issue of climate change, adaptation to the physical impacts of climatic changes is a more salient issue for developing countries. According to the most recent report

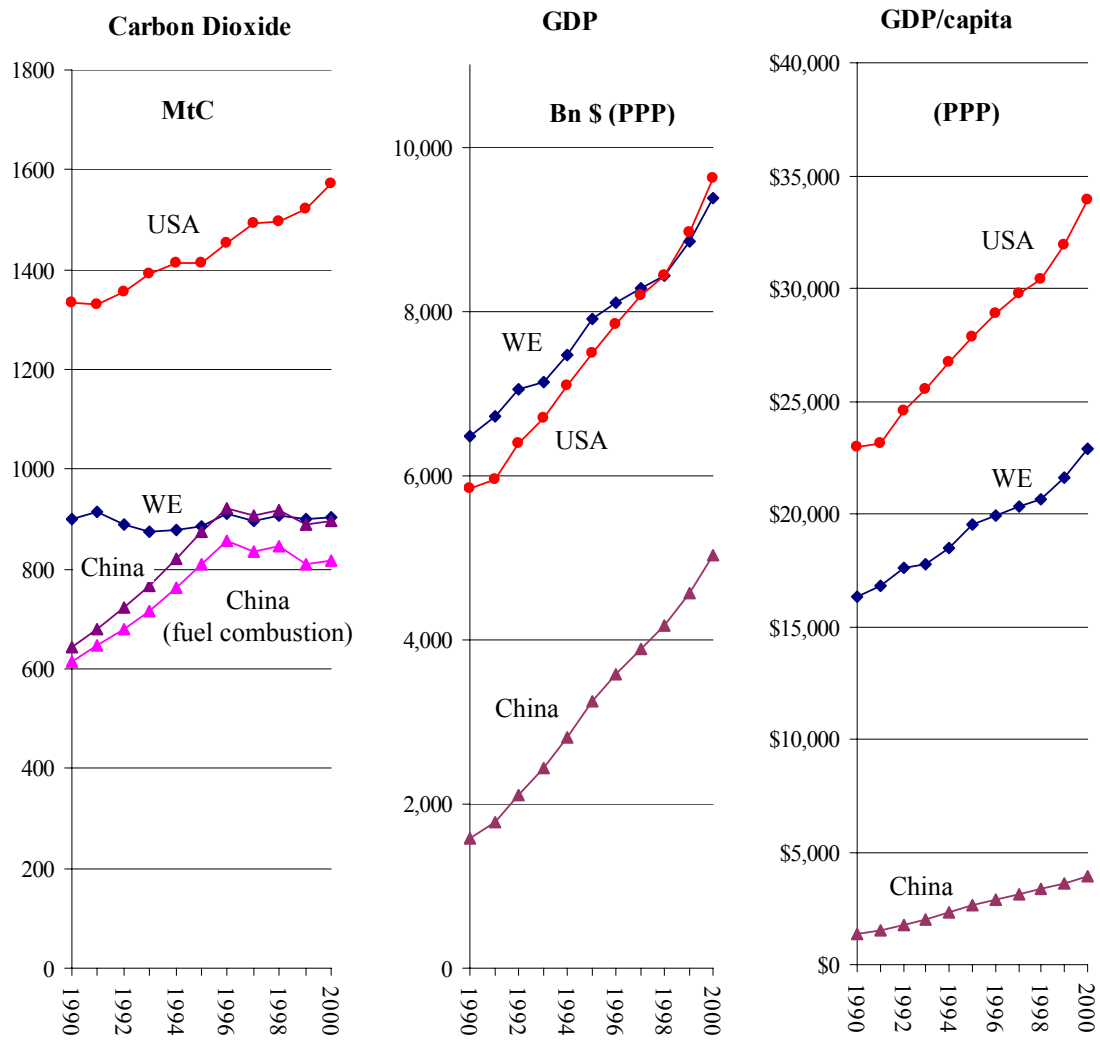


Figure 1. China, the United States, and Western Europe: The last decade

Western Europe (WE) = European Union, Norway and Switzerland
Data Sources:
GDP: Development Data Group, The World Bank. 2002. *World Development Indicators 2002 online*;
CO_2 (fuel Combustion): IEA, *CO2 Emissions from Fuel Combustion, 2002 Edition.*
CO_2 (Cement): Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory.

of the IPCC, climate change impacts—current and future—will fall disproportionately across countries, with the poorer ones bearing the brunt of the burden.

Per capita emissions levels also tell us something about the difficulty developing countries face in reducing their emissions. As shown in Table 1, per capita emissions, on average, tend to be much lower in developing countries, where 80 percent of the world's population resides. Not surprisingly, a key reason why per capita emissions are low in developing countries is that many energy-using technologies have not yet widely penetrated their economies. Motor vehicle ownership, in particular, is 100 times higher in the United States than in China and India. These technologies, and others such as refrigerators, air conditioners, and computers, will continue to penetrate developing countries, at least insofar as energy infrastructure allows. One-third of the world's population does not yet have access to electric power services—a true energy crisis.

Despite upward trends, developing countries have actually already taken steps to reduce the greenhouse gas intensity of their development paths.[7] For example, although Mexico, India, Thailand, the Philippines, and Indonesia rely on coal and oil for electricity, they have all made national goals (targeted locally) to increase renewable energy and improve energy efficiency. Thailand and Brazil have made comprehensive, successful national efforts at demand-side management. In Argentina, 10 percent of the automobile fleet runs on compressed natural gas. India has implemented natural gas use for heavy vehicles in its major cities and for most of New Delhi's public transport system. Many countries—including Indonesia, an OPEC nation—are phasing out fossil fuel subsidies. Many of these measures have required leadership and entailed political and economic costs, for which these countries deserve recognition.

Indeed, according to a recent report, these and other steps have actually reduced the emissions of key developing country emitters[8] relative to business as usual "over the past three decades by nearly 300 million tons a year. If not for these actions, the annual emissions of these six countries would likely be about 18 percent higher than they are today. To put these figures in perspective, if all developed countries were to meet the emission targets set by the Kyoto Protocol, they would have to reduce their emissions by an estimated 392 million tons from where they are projected to be in 2010."[9]

China's accomplishments are especially impressive. The world's most populous country has reduced its greenhouse gas intensity (i.e., emissions per unit of economic output) by 65 percent since 1980 (the U.S. and Europe, by comparison have reduced intensity 35 percent over that period). Even more impressive is the fact that China's CO_2 emissions, in absolute terms, levelled off or even decreased from 1996 to 2000, despite vigorous economic growth during the same period (Figure 1). China has implemented sweeping energy policy reforms over the last two decades to promote energy efficiency and conservation. Measures taken include reductions in fossil fuel subsidies; research, development and demonstration projects; a national information network with efficiency service and training centers; tax reforms; equipment standards; and special loan programs, among other initiatives. The coordinated, economy-wide Chinese energy has yielded emission savings equal to nearly the entire U.S. transportation sector, about 400 million tons of carbon per year.[10]

While these initiatives have unquestionable climate benefits, the scientific evidence suggests that much more will be needed over the coming decades to avoid dangerous climatic changes. The emission trends—driven by population and economic growth—will overwhelm improvements in energy efficiency and modest penetration of renewable energy technologies.

The Current Political Context

The climate regime has long been characterized by an enduring North-South divide. In the eyes of the developing world, industrialized countries have lacked credibility in this debate, having done little to address a problem largely of their own making. Many in the developing world have felt that some richer countries are fulfilling neither the letter nor spirit of the 1992

[7] See B. Biagini, ed., *Confronting Climate Change: Economic Priorities and Climate Protection in Developing Nations* (NET and Pelangi, 2000); W.V. Reid and J. Goldemberg, eds., *Promoting Development While Limiting Greenhouse Gas Emissions: Trends and Baselines* (UNDP and WRI, 1999).
[8] China Brazil, India, Mexico, South Africa, Turkey.
[9] W. Chandler, et al., *Climate Change Mitigation in Developing Countries*, Washington D.C.: Pew Center on Global Climate Change, 2002:p.iii.
[10] Z. Zhang. "Is China Taking Actions to Limit its Greenhouse Gas Emissions?" in Reid and Goldemberg, *supra*.

UN Framework Convention on Climate Change. The Convention calls on countries to "protect the climate system…on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities." More specifically, it calls on industrialized countries to "take the lead" in protecting the climate. Mindful of these principles, all countries formally agreed in 1995 that the first round of legally binding emissions controls (eventually adopted through the 1997 Kyoto Protocol) should *not* include developing countries. This agreement reflects an understanding that the wealthier countries have greater responsibilities for the problem and greater financial resources and technological capability to put themselves on a sustainable course, and that developing countries, on the other hand, face more urgent priorities, such as poverty alleviation and public health.

However, after the adoption of the Kyoto Protocol, a number of industrialized countries have been concerned that current lack of emission control commitments for developing countries translates into a lack of environmental effectiveness for the international climate regime. This concern is due to rising greenhouse gas emissions in poorer countries (described above) as well as the possibility that, if industrialized countries adopt commitments, some energy-intensive industries might migrate to developing countries where growth is unconstrained. While accepting that richer countries must take the largest steps, they have argued that developing countries must take—or at least declare an intention to take—smaller steps.

While still operating in the background, this North-South divide is no longer so perceptible at the intergovernmental level. Rather, a more recent divide between the United States and Europe has, at least temporarily, substituted for some of the long-standing North-South divisions. Currently, Europe is committed to the entry into force and implementation of the 1997 Kyoto Protocol. The United States, on the other hand, has focused on transformative and technological solutions to climate change (e.g., hydrogen development, capture and storage) outside of a multilateral framework. Instead of Kyoto's targets and timetables, the U.S. has deemed these approaches more compatible with U.S. interests in strong economic growth and prosperity.

The U.S. and Europe also differ, at least for the moment, over the future role of developing countries in mitigating climate regime. Currently, the Bush Administration position is aligned with those of many developing country governments, in that neither believe that legally-binding emission limitations or serious action on climate change is warranted from developing countries, where other socio-economic priorities prevail. While the European Union has sought to initiate discussions on future commitments beyond Kyoto's 2008-2012 timeframe, the United States has supported the developing country view that no such talks are warranted, at least in the foreseeable future. The U.S. has employed a primarily bilateral rather than multilateral approach, at least with respect to engaging developing countries.

While the recent negotiations have shown a disagreement between the key developing countries and the EU concerning 'developing country commitments' and an apparent rapprochement with the Bush administration on this issue, the EU and developing countries agree when it comes to industrial world commitments. The EU position that industrialised countries not only have to live up to the targets specified in the Kyoto Protocol, but must take on substantial further cuts in emissions – rejected by the Bush administration – is supported by the large majority of developing countries.

Actions to Reduce Developing Country Emission Growth

Despite the differences described above, Europe and the U.S. may still be able to find common ground on climate protection. In particular, they have some means at their disposal for helping developing countries slow the rise in their GHG emissions. Three sample areas are offered for consideration.

1. Technology Spill-Over[11]

Technology spill-over refers to the North-South diffusion of technology through market forces. The phenomenon is illustrated here with a particularly promising sector, namely, transport. Mitigating transport emissions in developing countries could amount to a significant reduction in their overall greenhouse gas emissions, particularly in light of the large projected emission increases in this sector.

Technology spill-over is already apparent in this sector. Most motor vehicles are produced (and sold) in industrialized countries, among a relatively small number of manufacturers. Developing countries tend to rely on either imports or licensed production. For example, almost nine-tenths of the roughly 600,000 passenger cars sold in India during the last financial year were produced domestically. But 85 percent of that domestic production was carried out under license. In short, given the structure of this sector, spill-over can be surprisingly quick, as exemplified in the rapid diffusion of catalytic converter technologies in the U.S. during the 1970.

The key to whether climate-friendly technology spill-over occurs depends on the speedy diffusion of the technology *within industrialized countries*. Once they adopt clean technologies, it might make little sense for global automobile industry to continue producing CO_2-intensive vehicles for the developing world. Here, there is some cause for optimism. In 2002, the state of California approved a law that will establish the first major greenhouse gas emission standards in the country. Under this law, automakers will be required by the end of the decade to limit greenhouse gas emissions from new cars and light trucks sold in California; such sales account for about 10 percent of total U.S. auto sales. President Bush himself, in his 2003 State of the Union Address, proposed $1.2 billion in research funding to develop clean, hydrogen-powered automobiles.

Accelerating clean transport technologies—either through regulation, R&D, or other measures—would also bring emission and other air quality benefits to developing countries. Until this happens, however, the existing (dirty) technology spill-over will continue to exasperate rather than mitigate developing country emissions.

2. Technology Transfer

The Climate Convention and its subsidiary instruments (Kyoto Protocol, Marrakech Accords) put considerable emphasis on the notion of technology transfer, a concept that has taken on a variety of meanings across the North-South divide. Probably the biggest division regards what constitutes "transfer". In the South, transfers are often interpreted as technology *donations* by the industrialized countries reflecting the differences in ability to pay and/or the difference of responsibility in causing the problem.

[11] This Section is largely based on Benito. Müller, *Framing Future Commitments* (OIES, 2003), available at www.OxfordClimatePolicy.org.

In industrialized countries, the prevailing interpretation is essentially that of subsidised technology spill-over, i.e., subsidised *export* of (hopefully) sustainable technologies. This was recently illustrated by the Bush Administration. The highest amount budgeted in the U.S. Climate Change Strategy[12] to be spent in connection with developing countries is $155m for the United States Agency for International Development (USAID), serving "as a critical vehicle for transferring American energy and sequestration technologies to developing countries to promote sustainable development and minimize their GHG emissions growth". Clearly, this amount would not buy a lot of technology for transferral to the developing world, but it is not actually intended to. It is to be used to "promote the export of climate-friendly, clean energy technology"[13].

The Convention and Protocol suggest both interpretations have some validity. In any case, the main instrument for 'donation transfer' under the current international regime is the Global Environment Facility (GEF) with projects such as the recently launched Chinese fuel-cell bus project for trials of fuel-cell buses in Beijing and Shanghai. During the last decade, the GEF approved on average $270 million financing per annum, a figure which increases to around $500 million if additional government and implementing agency funds as well as private sector financing are factored in. However, even this figure is dwarfed by the financing of projects in developing country leveraged through another technology transfer instrument, namely export credit and insurance agencies (ECAs), which are discussed below.

3. Greening Financial Flows[14]

During the 1990s, Export Credit Agencies financing through loans, project guarantees, and investment insurance averaged around $90 billion per annum, almost twice the average level of official development assistance during the same period. Unlike the GEF, ECAs are financial institutions explicitly created by governments (and funded by taxpayers) to promote exports and facilitate investments in riskier overseas markets. By the end of the last decade, almost a third of all the long-term financing received by developing countries was done under the auspices of ECAs.

In the second half of the 1990s, three-fifths of project and trade finance destined for developing countries ($216.6 billion out of $376 billion) supported energy-intensive exports or investments: fossil-fuel power plants, oil and gas development, energy-intensive manufacturing (chemicals, iron and steel, pulp and paper), transportation infrastructure, and aircraft. These projects will result in large quantities of GHGs. It is estimated that thermal power and oil and gas projects in developing countries that received support between 1992 and 1998 from the two U.S. ECAs (OPIC and Ex-Im[15]) will release 29.3 billion tons of CO_2 over their lifetimes, an amount roughly equal to global CO_2 emissions in 1996. The two U.S. ECAs provided loans or guarantees for projects worth $7.7 billion in energy-intensive sectors in India and China between 1994 and 2001. Over this same period, OPIC and Ex–Im have supported projects totalling $27 billion in the energy-intensive sectors of all developing countries combined.

By comparison, little has been provided to promote renewable or other clean energy technologies. Export credit agencies from *all* industrialized countries (OPIC and Ex-Im

[12] 'U.S. Climate Change Strategy: A New Approach' www.whitehouse.gov/news/releases/2002/02/climatechange.
[13] http://www.whitehouse.gov/news/releases/2001/06/climatechange.pdf
[14] This Section is largely based on Maurer, *The Climate of Export Credit Agencies* (WRI, 2000).
[15] Export-Import Bank of the United States and the Overseas Private Investment Corporation.

included) participated in renewable energy projects worth only $2 billion during the 1994 to 1999 period. Not all of fossil fuel investment is categorically bad for climate protection, and indeed OPIC and Ex-Im are more environmentally conscious than most of their overseas counterparts. However, the sheer magnitude of the carbon-intensive flows, and the paltry renewables investment, illustrate that taxpayer dollars in industrialized countries are encouraging developing country dependence on fossil fuels and long-term increases in greenhouse gas emissions.

The challenge for industrialized countries—and the transatlantic partners in particular—is to transform ECAs into instruments that promote climate protection in the context of export promotion and economic development. A first step might be to discuss a set of standards and guidelines to assess the greenhouse gas impacts of different investment options.[16]

Other public funds also could be used to support clean, climate-friendly economic development, including official development assistance. For example, President Bush's proposed Millennium Challenge Accounts would dramatically increase U.S. foreign aid. If not oriented around broader goals of sustainable development, however, these funds (like ECA funding) could have the effect of further accelerating developing countries' contributions to climate change.[17]

Conclusions

Developing countries have undertaken measures that led to considerable emission reductions relative to their business-as-usual case. These measures have been undertaken in a variety of sectors, including transport and power generation. Nevertheless, if developing countries are going to be successful in their efforts do eradicate poverty and develop their economies, GHG emissions will need to rise, at least in the short to medium term. Addressing developing country emissions can be done without necessarily imposing emission reduction "commitments" on developing countries. Several measures are illustrated above, and further progress beyond these is eminently achievable, particularly if facilitated through transatlantic collaboration.

[16] C. Dasgupta has some reservations concerning this proposal, given (1) the possibility that developing countries might continuing to rely on current (domestically available) technologies that are even less climate friendly than the technologies whose exports are sought to be discouraged and (2) common standards might not be appropriate on account of differing national circumstances.

[17] See Purvis, *Greening U.S. Foreign Aid through the Millennium Challenge Account* (Brookings, 2003).

SWP/INTACT Strategy 2003/2004

The INTACT project

In January 2002, the German Institute for International and Security Affairs (SWP), Europe's largest foreign policy think tank started the project International Network To Advance Climate Talks (INTACT), supported by a grant from the German Marshall Fund of the United States. According to many comments and responses, INTACT has established its reputation as an independent exchange center of ideas and as a source of competence. It has found its niche in the political landscape, most particularly for its commitment to vigorously promote the climate change issue on the transatlantic agenda.

In 2003, the SWP entered into a strategic partnership with the Brookings Institution, Washington D.C., for cooperating on international environmental issues, most prominently within the INTACT project. Building on its successful first project year, SWP and Brookings want to continue to facilitate dialogue and greater understanding around the transatlantic challenge of climate change. The overall timeframe for the initiative is five years (2003-2008).

The project strategy

We deeply believe that it is now time for "thinkers" and decision-makers alike to restructure the challenge of climate change and develop strategies for further steps that must be undertaken if Europe and the United States actually intend to confront the problem. The linkage between the climate change issue and the larger political context of the transatlantic relationship suggests that a broad range of diplomatic and foreign policy actors have interests in actions surrounding climate change.

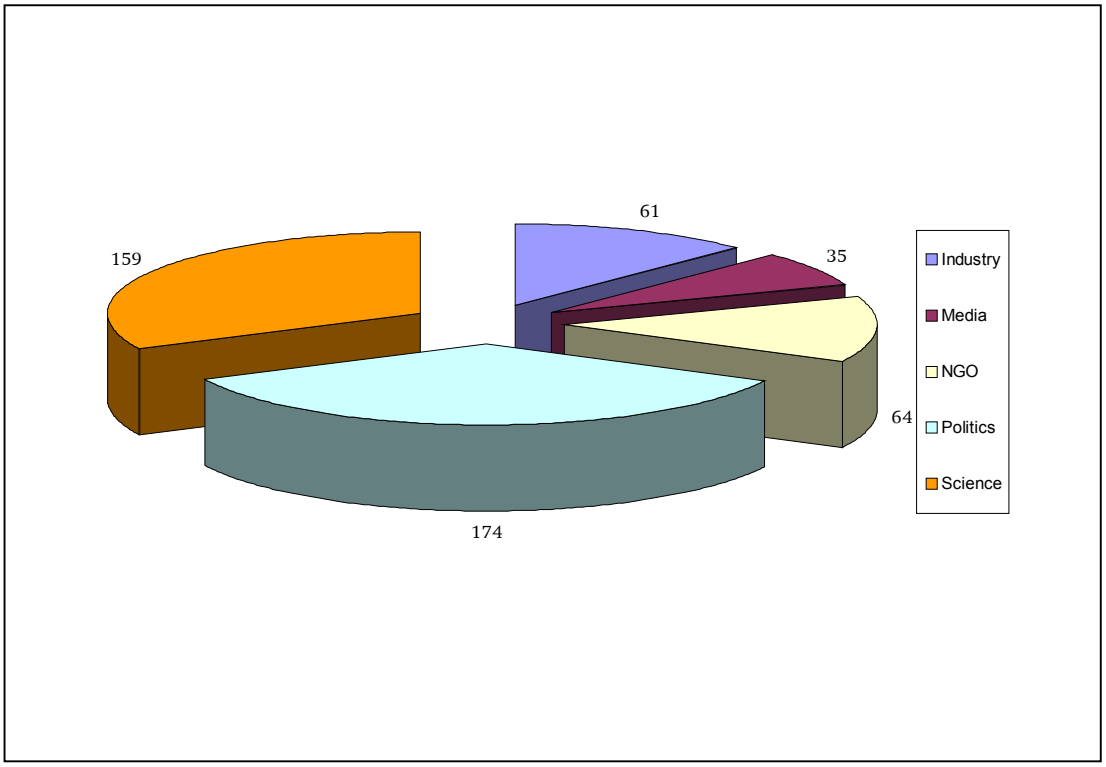
INTACT will explicitly take on the challenge of developing a uniform transatlantic political commitment to addressing climate change. This does not mean forcing one side to adopt the views of the other. Not only is a common sense of the urgency of immediate action is critical to overcoming transatlantic differences; recognition of the importance of international cooperation beyond the current UNFCCC path is also essential in order to successfully find a sustainable path forward.

INTACT's aims

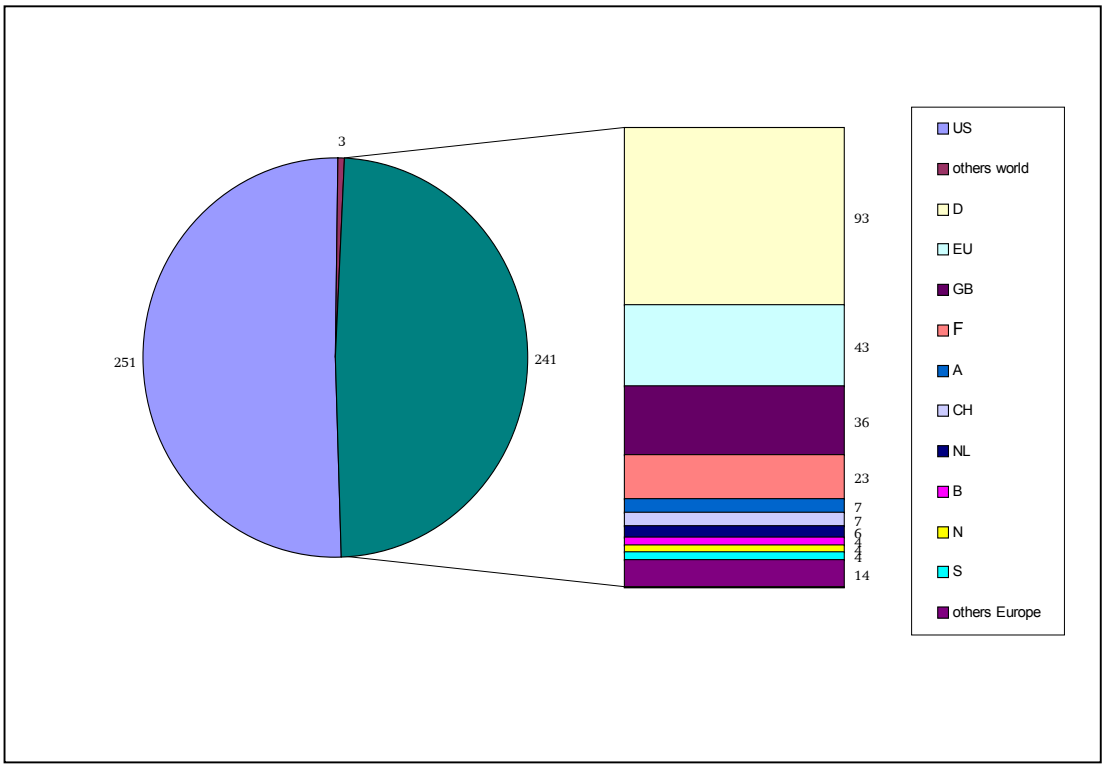
1. To raise the topic's status on the transatlantic political agenda;
2. To debate how to structure the climate discussion in the years ahead;
3. To provide leading decision-makers with balanced and first-hand knowledge and thus to act as an unbiased clearing house for information; and
4. To stress the opportunities for and the feasibility of policies and measures which serve both the climate and the economy.

Achievements as of October 2003

Major Conferences. After building up the initial infrastructure, INTACT organized a European workshop on June 17, 2002 at SWP headquarters in Berlin. With a group of twenty European experts close to the decision-making process, the workshop served as a forum for presenting findings with regard to the U.S. position on global climate policy, for exchanging ideas, and for proposing strategies to reinvigorate transatlantic dialogue on these issues. The workshop method was forward-looking, and focused on solutions for the future instead of on the mistakes of the past.



The Composition of the INTACT Network, as of October 2003; Fig. 1



The Composition of the INTACT Network, as of October 2003; Fig. 2

SWP/INTACT Strategy 2003/2004

The First High-Level Transatlantic Workshop on Climate Change was organized in collaboration with the Woodrow Wilson Center for International Scholars (WWICS) and brought together about 20 decision-makers, each from the United States and Europe, in Washington from November 17 through 19, 2002. The workshop was designed to facilitate dialogue and greater understanding around respective U.S. and European approaches to climate change within a broader political, economic, technological, and diplomatic context. The dialogue therefore included experts on the transatlantic relationship as well as climate experts. Policymakers, foreign policy analysts, business leaders, journalists, and scholars from both sides of the Atlantic including representatives of the governments, Congress, the European parliaments, the private sector, NGOs, and think tanks were also brought together. The workshop organizers did not seek final agreement but rather attempted to give all participants the opportunity to have their divergent opinions be heard. However, for the organizers it was remarkable to observe the level of consensus that could be reached on important questions.

In addition, the INTACT staff co-organized a North-South conference on climate policy in February 2002. Numerous conferences in Berlin, Brussels, Washington, Paris, Moscow and elsewhere were used as platforms for intense networking.

Transatlantic Policy Meetings. On January 24, 2003 INTACT brought together a small number of leaders including parliamentarians and directors of institutions working on foreign or climate policy for a strategy meeting at the SWP. These outstanding individuals committed themselves to further supporting the project and in particular to advise the organizers on future strategic decisions.

From April 1–5, 2003, INTACT's project manager Alexander Ochs was in Washington, D.C. for additional intensive talks on the continuation of the project. Talks included meetings with GMF staff, the AECS, Brookings, SAIS, the Meridian Institute, the PEW center, and 6 staffers from leading offices of both chambers of U.S. Congress (offices of Senators Jeffords, Lieberman, McCain, Hagel, Byrd, and Congressman Boehlert). At these meetings, the INTACT initiative again was extremely welcomed and further support was guaranteed from all sides.

Another high-profile event organized was an informal dinner meeting for preliminary consultations with the US negotiation team (headed by Mr. Harlan Watson) and European policy-makers (Corrado Clini/Italy, Sarah Hendry/United Kingdom, Andrej Kranc/Slovenia, Karsten Sach/Germany) around the June 2003 SB sessions in Bonn. These participants have helped the organizers structure the subsequent major events.

INTACT Climate Roundtables. The INTACT organizers have established a series of Transatlantic Climate Roundtables in Berlin. Four roundtables have been hosted at SWP thus far. These meetings introduced well-known US experts to the German foreign policy community.

Publications:

- "Reviving Transatlantic Cooperation towards a Global Threat. Reflections on INTACT's First High-Level Transatlantic Workshop on Climate Change", February 2003
- "Developments in U.S. Climate Policy since the Inauguration of George W. Bush", August 2002
- "Chances for a New Transatlantic Commitment to the Global Challenge of Climate Change: The US Perspective", June 2002
- "Transatlantic Dialogue on Climate Change -The New Agenda. Summary of a survey among key experts from both sides of the Atlantic, May 2002

SWP/INTACT Strategy 2003/2004

All major publications produced within the framework of INTACT may be obtained from the INTACT website at www.intact-climate.org.

The strategy paper “The Future of INTACT” (March 2003) has been sent out for comments to about 60 key experts and decision-makers on both climate change and the broader field of transatlantic relations. Comments on the strategy paper were impressive both in number and detail: the compiled text version (10 pt./single-spaced) adds up to a more than 30-page paper.

INTACT’s working groups

Four small working groups on particular aspects of transatlantic climate cooperation have been established. At the final stage, these working groups will be composed of only the 3-4 leading experts from each side of the Atlantic. Each working group is co-chaired by an American and a European who will be responsible for the production of brief concise background papers. These simple policy-recommendation papers should synthesize the state of the art knowledge towards the particular topic and include a range of ideas for possible political action.

The Villa Vigoni Conference

From October 16 through 18, 2003, as a sequel to the successful 2002 Washington conference, the Second High-Level Transatlantic Workshop on Climate Change will take place at Villa Vigoni, Lake Como, Italy (www.villavigoni.it). The workshop will gather policy-makers, scientific experts, and industry leaders from both sides of the Atlantic. It will introduce for the first time draft papers from the INTACT working groups.

The Washington meeting in spring 2004

The Villa Vigoni meeting will also develop the intellectual ground for a high-level policy meeting in 2004, either at Brookings or somewhere close to Washington, D.C (Wye River, Green Brer, Dumbarton Oaks, etc.). Exactly when it will take place will depend on the most opportune timing to attract high-level participation. The date will be announced at the Villa Vigoni.

The high-level policy forum will be organized for Members of the U.S. Congress, European parliamentarians, and other leading politicians as well as decision-makers from the private sector. The clear aim is to bring together a limited number of top politicians at a meeting complementary to the international process, as more and more high-level people are disappointed with traditional conferences. The general idea is to foster awareness of the topic as a transatlantic foreign policy issue and to give participants with a background extending beyond the environmental realm the opportunity to sit back and have the time to “think”. At least one month before the workshop participants will be addressed with concrete policy papers produced by the working groups.

The overseeing committee

At the Washington spring meeting, a transatlantic overseeing committee for the INTACT initiative will be established. This board shall guarantee the provision of only high-quality information, a professional execution of the meetings as well as high-level attendance. The group of 12 to 15 individuals will include members of the U.S. Congress, European Parliamentarians, political leaders in the transatlantic community, as well as prominent CEOs. The interest of several prominent personalities has already been expressed.