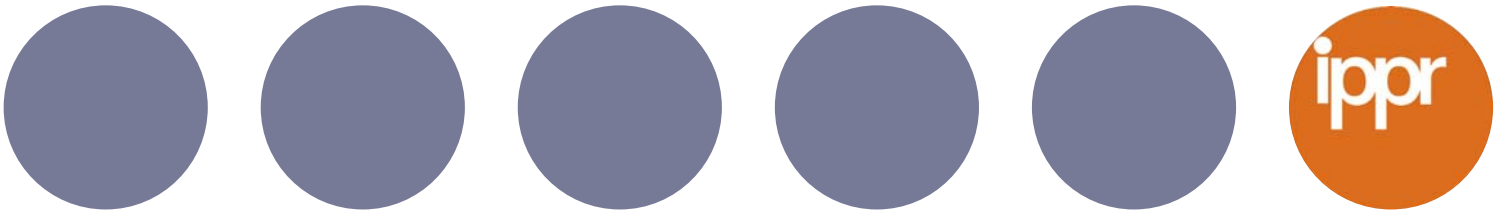

Catalysing commitment on climate change

A paper for the International Climate Change Taskforce

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Contents

Executive Summary

The negotiation of the UN Framework Convention on Climate Change and the Kyoto Protocol constitutes a major political achievement. Without Kyoto, there would be further delays in reducing emissions that could result in irreversible damage to the climate system. However, greenhouse gas emissions continue to rise.

The key weakness of the international regime lies in its inability to gain traction: governments have so far failed to ensure that climate objectives are integrated in key policy areas, such as trade and development. Climate leadership therefore needs to be focused on creating synergies with other priorities and demonstrating the up-sides of climate protection. It will thereby improve the likelihood that industrialised countries that remain outside the multilateral climate regime and larger developing countries will take on robust climate commitments in the future.

This paper identifies what a leadership coalition of countries might do to improve international willingness to address climate change through a set of recommendations under four priority areas for action.

1. Decarbonising the global economy

To decarbonise the global economy, efforts must be focused on delivering near-term changes in the energy mix by incentivising renewables that are commercial or close to market, reducing fossil fuel use, and demonstrating the benefits of decarbonisation.

To create a robust regulatory framework to drive decarbonisation, governments should:

- Agree a framework for rules to link emerging carbon markets with ones established under Kyoto's absolute caps, encouraging early action by developing countries without undermining the integrity of emission caps under Kyoto.
- Partner with public financial institutions to systematically identify and address barriers to changing the energy mix, generating intensive support for institutional capacity building and concessional finance that can reward countries for their engagement and accelerate the deployment of renewables. This will require the provisions of new support for clean technology transfer that is additional to existing bilateral and multilateral programmes.
- Scale up and replicate successful models, and bolster demand creation efforts, such as the Renewable Energy and Energy Efficiency Partnership (REEEP).

Governments should also encourage investment in the following ways:

- Ask multilateral banks to require that energy audits are conducted on energy-intensive projects and that energy-saving measures are subsequently financed, following the lead of the European Bank for Reconstruction and Development.
- Phase out domestic and international fossil fuel subsidies, to level the playing field between renewables and fossil fuels, and internalise the latter's costs.
- Ensure financial regulators enforce existing company reporting requirements.
- Provide guidance for mandatory disclosure of climate change related risks (regulatory, competitive, legal and physical impacts).
- Require institutional investors to take account of long-term risks in their investments by strengthening their fiduciary duty.
- Review and increase the World Bank target to increase its investment in renewable energy, arising from the Extractive Industries Review (EIR), either by changing the base year to a more representative one, or by improving the target.
- Improve the terms for renewable energy projects under the OECD Arrangement so that they are at least as favourable as those for fossil fuel and nuclear energy.

- Require individual Export Credit Agencies to adopt minimum efficiency standards for the projects they support, or portfolio-wide carbon intensity standards.

2. Reconciling climate policy with trade and competitiveness

Preventing climate change and promoting trade and competitiveness are often put at odds with each other. To help overcome this in practice, governments should:

- hold a discussion on trade and climate linkages on neutral ground, i.e. outside the World Trade Organisation and the UN climate process;
- coordinate at international and regional levels policies and measures to reduce distortions created by different policy approaches and implementation;
- investigate the potential role of trade measures to penalise free-riding.

3. Making climate policy contribute to poverty eradication

This related priority would both increase support for climate protection measures and reduce the vulnerability of poor communities. Accordingly, governments should:

- Support the adoption of a resilience-driven approach to policy making. This requires the systematic application of vulnerability assessments to new policies in order to exclude anything that puts vulnerable communities at greater risk.
- The impacts on and role of women should be integrated in climate policy.
- Climate measures should be aligned with development priorities by focusing on those measures that deliver multiple benefits.

4. Establishing accountability for climate change

Instituting accountability for the impacts of climate change will highlight the costs of inaction and provide support to affected communities. Although climate litigation is in its infancy, the rapid evolution of climate science is making compensation claims increasingly feasible. However, over time, litigation is no substitute for preventive policy making. Therefore, governments should:

- Accept accountability for climate change impacts by initiating the development of a compensation fund to support disaster mitigation and preparedness, disaster relief and relocation in consultation with affected countries and communities.

A catalysing strategy

A strategy to catalyse action in the priority areas described above should have two strands: an initiative aimed at the formation of a leadership group and a more multilateral strategy aimed at bringing in the laggards. It is therefore as much about process as it is about policy. The UK and other governments seeking to reinvigorate the international climate effort, should:

Roll out a new climate change narrative as a priority in ministerial contact, communiqués, speeches and education materials, which says:

- Preserving a liveable climate is a public good – like national security or health – that requires public investment. It is a precondition for economic prosperity.
- Climate policy is not only desirable for its own sake – decarbonisation will also promote energy security and stimulate innovation.
- In order to avoid foreclosing climate stabilisation options, action to reduce emissions must begin now.
- Effort must be deployed on a vast scale but this is achievable. Solutions exist – it is only a matter of whether we can deploy them at the necessary rate.

Identify and form a small leadership group of industrialised and developing countries that have already or are planning to adopt renewable energy targets. This group would focus on the development of enabling environments for renewable energy and energy efficiency in member countries, and should champion and build support for the initiatives described in the priority areas above.

Convene an annual international energy security and climate change summit, co-chaired by a large emitter in the developing world that is prepared to take a leadership role (e.g. China), involving environment and economic ministers (development, finance or trade) and focusing on decarbonisation strategies.

A business and finance dialogue with policy makers should be convened to identify preconditions for significant capital flows into low-carbon and carbon-free investment. The dialogue should build on institutional investor initiatives, improving mutual understanding of the constraints and objectives of policy makers and investors.

Finally, the UK must ensure that the EU enters the post-2012 negotiations with a credible position, because EU credibility is so important to the development of the international climate effort, by:

- working to ensure that the overall cap for the second phase of the EU Emissions Trading Scheme is consistent with Kyoto targets;
- discussing principles for Green Investment Schemes with other industrialised Kyoto Parties; and
- presenting an ambitious commitment to further action post-2012.

With each of these initiatives, the G8 heads of government summit should not be seen as the only focal point – rather a halfway point in a year in which the UK's G8 and EU presidencies in particular should reinforce each other. Governments should also make use of political events throughout the year.

1. Introduction

The negotiation of the UN Framework Convention on Climate Change and the Kyoto Protocol constitutes a major political achievement and a huge amount of sunk human capital. The Kyoto Protocol created the foundation for a carbon market, supported by an international compliance system and effective monitoring. Kyoto is the major driver of greenhouse gas regulation in most industrialized countries and its full implementation will be important for maintaining public confidence and North-South relations.

However, greenhouse gas emissions continue to rise. While full implementation of Kyoto would result in a reduction against the business-as-usual baseline for industrialised countries, without the participation of the United States their emissions could be as much as 9 per cent above their 1990 levels in 2012, instead of the 5.2 per cent below agreed in 1997. If emissions from developing countries are included, the rise is substantially greater.

We are currently locked in a vicious circle. In order to begin the transformation that is needed to address climate change, even meet Kyoto targets, new coalitions need to be built and meaningful policies introduced that can change the global development path and accelerate the deployment of new technologies. However, until key stakeholders, including the political establishment in the US and major developing countries, are convinced that significant emissions reductions can be made without undermining economic growth, they are unwilling to allow the introduction of the very measures that can make the transformation happen.

Bold leadership must change the boundaries of what is considered realistic. The key weakness of the international regime lies in its inability to gain traction: governments have so far failed to ensure that climate objectives are integrated in other international processes and policy areas, such as trade, development and energy security. This applies in industrialised as well as developing countries. Climate leadership needs to be focused on creating synergies with other priorities and creating greater international willingness to act.

The purpose of this paper is to identify what a leadership coalition of countries might do to improve international willingness to address climate change. It identifies four priority areas for action. Clearly, demonstrating the benefits of decarbonisation must be the priority. This must be focused on delivering near-term changes in the energy mix in order to begin reducing global emissions of greenhouse gases. Investment is the key. Second, climate policy and trade and competitiveness must be reconciled. A third priority is to deliver climate policy in a way that directly contributes to economic prosperity and poverty eradication, simultaneously increasing support for climate protection measures and reducing the vulnerability of poor communities. Finally, establishing accountability for the impacts of the climate change will demonstrate the costs of inaction and provide additional support to affected communities. If a leadership coalition can be built and can fulfil these objectives, it will improve the likelihood that industrialised countries that remain outside the multilateral climate regime and larger developing countries will take on robust climate commitments in the future.

Specific policy recommendations for addressing climate change in this way already exist but have been left largely unimplemented. This is due to an absence of political engagement associated with short-sighted framing of the issue, strong opposition from some industries, inadequate public awareness, a confusing proliferation of initiatives and policy incoherence. In order to help overcome these obstacles, this paper:

- reviews climate change literature, initiatives and their recommendations under these priority areas for action; and
- presents a set of recommendations aimed at mobilising a leadership coalition around them.

2. Priority areas for action

In order to complement the Kyoto system, which is based on quantified emissions reductions which have yet to be adequately implemented, leadership initiatives should focus on the activities that generate emissions, making emissions reductions more achievable. In addition, leadership initiatives should increase human resilience to climate change impacts that are already occurring.

This paper addresses four areas where such leadership is urgently needed. The first three are aimed at making emissions reduction more achievable:

- decarbonising the global economy;
- reconciling climate policy with trade and competitiveness; and
- making climate policy contribute to poverty eradication.

The fourth, establishing accountability for the impacts of climate change, is aimed at reducing vulnerability to climate change and highlighting the costs of inaction.

2.1. Decarbonising the global economy

Carbon dioxide is by far the most important greenhouse gas. Efforts to reduce emissions of other greenhouse gases are desirable and present significant, cheap mitigation options. However, in preventing climate change, the 'great transformation' will be about carbon, requiring increased use of low- and no-carbon energy and decreased use of fossil-based energy. There are two main elements to a global decarbonisation strategy:

- providing the regulatory framework to drive decarbonisation; and
- directly encouraging private investment in decarbonisation.

2.1.1. Providing the regulatory framework to drive decarbonisation

Clearly, there is no single solution that will prevent climate change. Many different low- and no-carbon options may be required if we are to reach the desired endpoint of a stable climate. Some scenarios aimed at attaining the lowest range of environmental risk through rapid and radical transformation of the global energy system even include the initial expansion of nuclear power before phasing it out (e.g. by 2050) and significant geological carbon storage (German Advisory Council on Global Change, 2003).

However, this paper concentrates on renewables because they present other undervalued benefits, including greater resilience inherent in their suitability to distributed energy systems and a potential role in poverty eradication. Nuclear power and carbon storage are synonymous with centralised energy systems, create waste risks and present greater public acceptability issues. Moreover, carbon storage other than for enhanced oil recovery cannot yet be considered a near-term technology. Consequently, nuclear power and carbon storage are not identified as part of a strategy for an initial climate leadership coalition.

What are the barriers to the deployment of renewables?

The current status of the renewables market can be described in the following way (Sontag-O'Brian and Usher, 2004):

"Renewable energy is, in fact, a multi-billion dollar industry and the most dynamic sector of the global energy market. Globally installed renewable energy capacity is expected to more than double over the next ten years from approx. 130 GW in 2003 to 300 GW in 2013 . . . Still, the renewable energy sector remains by far the smallest segment of the world's energy industry. Various finance-related risks and barriers are hindering faster growth."

The barriers to the deployment of renewables have been studied and reiterated many times. According to the G8 Renewables Task Force, the barriers to the deployment of renewable energy are not technological, but financial and political (G8 Renewables Task Force, 2001). The Task Force stated that, the commercial success of renewables is dependent upon their overcoming key barriers, namely:

- although the cost of renewable energy is falling with economies of scale, it is still not competitive with conventional technologies;
- human and institutional capacity to support projects and markets is limited;
- high up-front costs impede capital mobilization, thereby undermining financing programmes; and
- weak incentives and policies do not fully recognise the benefits of renewables.

A leadership group of countries should seek to overcome these barriers systematically, improving the enabling environment for the transfer and deployment of renewable energy. The Renewable Energy and Energy Efficiency Partnership (REEEP) is discussed further below and has already begun to do this, providing a useful basis for further action. However, more could be achieved by focusing additional efforts on a few countries. The Johannesburg Renewable Energy Coalition has achieved too little.

How can countries deliver their renewable energy targets?
The desirability of increasing the contribution of renewable energy to global energy supply has also been reiterated many times, for instance in G8 communiqués, the Johannesburg Plan of Implementation and the conclusions of the Bonn conference, 'Renewables 2004'. National targets and timetables have already been adopted by a number of countries, including EU Member States, China and the Philippines, for a number of reasons, namely climate change mitigation, energy security and rural electrification.

In order to deliver, however, targets must be backed up by robust legal frameworks.
First, governments need to adopt price support mechanisms that can provide reliable returns to the investor. These can take the form of feed-in tariffs which provide guaranteed technology-specific prices and/or tradable certificates allow companies to trade under a renewables obligation. The former provide the lowest risk for investors, while the latter offer the prospect of better value for money. Any price support mechanism needs to be credible and long term as incessant tinkering increases policy risk, dissuading investors. While price support is the necessary first step, it is unlikely to be sufficient. The electricity system as a whole needs to be regulated in a way that minimises system disruption but does not limit access to the grid for distributed energy with unfair rules or penalties.

How can governments encourage more efficient energy use?
In order to rapidly decouple emissions from economic growth, energy productivity needs to be increased and the costs of carbon internalised. On their own, incentives for renewables are not enough.

Without increased energy productivity, renewables may simply meet new demand instead of displacing fossil fuel based energy sources. One study recommends that, under a sustainability-driven scenario, "global energy productivity (the ratio of gross domestic product to energy input) needs to be improved by 1.4 per cent every year initially, and then by at least 1.6 per cent as soon as possible. At that rate, energy productivity would treble by 2050 from 1990 levels" (German Advisory Council on Global Change, 2003).

Even though plenty of zero-cost and net-benefit efficiency opportunities exist, very few are realised. Carbon pricing increases the returns for energy efficiency projects but is insufficient without guarantees (e.g. through energy service contracts) that ensure investors in energy

efficiency can reap the long-term benefits of their efforts. Incentives must provide commercial returns: low economic returns are not sufficient to encourage investment. In addition, non-market-based mechanisms like changes in building regulations to support energy efficiency and more intelligent heating and cooling will be essential. Energy auditing, like that undertaken by the European Bank for Reconstruction and Development (EBRD) to identify energy efficiency gains and provide up-front financing for them, needs to become a standard investment tool. Cogeneration and minimum efficiency standards for fossil fuel power plants would also result in significant emissions reductions.

How can governments internalise the cost of carbon?
Cap-and-trade schemes with declining emissions allowances, and escalating carbon taxes offer the best routes to reducing industrial carbon emissions, if implemented correctly. At present, there is already much greater momentum behind the concept of carbon trading than carbon taxes but stakeholder support will dissipate if trading fails to deliver emissions reductions. Caps must be consistent with Kyoto targets and future caps should create a predictable reduction pathway aimed at achieving longer term climate objectives. Overall, the price of carbon must not be allowed to fall too low or the market will collapse in the absence of liquidity; this occurs well before the price hits zero.

The Marrakech Accords, agreed in 2001 at the 7th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC), include detailed rules for international emissions trading under the Kyoto Protocol. Corporate or installation-level trading across borders must be backed with the transfer of Assigned Amount Units (AAUs, or government-level emissions allocations) to ensure that the overall Kyoto budget is not breached. However, there is some concern that, if domestic emissions trading schemes are linked, the use of 'hot air' – i.e. surplus AAUs resulting from economic contraction in Russia, the Ukraine and Eastern Europe – by some countries could weaken the environmental gains made by countries that use less hot air in meeting their Kyoto targets.

This concern is more pressing now that Joint Implementation (JI) projects, which provide reductions against business-as-usual emissions, are losing favour in the market, making the purchase of AAUs a more attractive means of meeting Kyoto targets. The decline in favour of JI is due to the EU's rules on double-counting under its own emissions trading scheme and to the perception that accreditation under JI will be as cumbersome as that under the Clean Development Mechanism (CDM). Most recently, the Japanese Ministry of Environment has indicated that it will use significant amounts of hot air but plans to develop Green Investment Schemes to ensure that revenues resulting from these transactions will be allocated to environmental projects, reviving a European idea that was aimed at securing Russian ratification. The EU should work with Canada, Japan and other buyers to develop common principles for these schemes as part of the linking process.

How can early action to internalise carbon costs be encouraged in developing countries?
There is also great interest in the establishment of carbon markets in developing countries. China and Chile have already indicated that they hope to develop emissions trading schemes that can be linked to those being established by industrialised countries. However, international verification and domestic capacity building are preconditions for linking that is environmentally and economically sound. If new types of targets (e.g. flexible targets instead of absolute caps) are adopted by developing countries in the next phase of the international climate regime then new rules will have to be identified for cross-border trading. While international linking is desirable to improve the cost-effectiveness of emissions reductions, it must not undermine the integrity of emission reductions within the Kyoto budget. Establishing a common basis now for the development of linking rules would encourage early action by developing countries and would discourage them from linking with weaker systems originating outside Kyoto.

Once the principle of carbon constraint has been accepted, access to the international carbon market becomes desirable in order to lower costs. However, it would be unwise to link with US state-level schemes (even if the legal hurdles can be overcome) unless these schemes require reductions against business as usual comparable to those occurring in Kyoto Parties or a system of discounting is adopted for credits from schemes with weaker caps. Nothing prevents US states from recognising project credits from the Clean Development Mechanism and eventually Joint Implementation and buying them on the open market in order to lower implementation costs. Gradual convergence of US climate policy with international climate policy is desirable but granting US participants access to the carbon market without them having to comply with the rigours of Kyoto or face a system of discounting for their credits will undermine the leadership efforts of others and do nothing to address the competitiveness concerns of industries operating within the Kyoto budget who are likely to face tougher emissions limits.

How can success be replicated?
Appropriate and affordable technologies may be available but indigenous know-how needs to be developed to support their deployment. Until now, this transfer of know-how, so-called 'soft technology transfer', was the forgotten element of transferring the technologies themselves. It involves (Policy Recommendations for Renewable Energy, Bonn, 2004) developing a well-trained workforce to manufacture, install, operate and maintain technology, business, and regulatory systems and supporting institutions.

The Renewable Energy and Energy Efficiency Partnership (REEEP) is a vehicle for worldwide capacity building and scaling up of good practice through three areas of work:

- policy and regulation (primarily through the Sustainable Energy Regulators' Network);
- catalysing new funds; and
- awareness raising, constituency building and better communication between stakeholders.

REEEP embodies a new form of diplomacy that will be increasingly necessary in achieving sustainable development, including climate protection. It looks at system needs and barriers and tries to address them in a synergistic way across sectors and borders. This type of initiative needs to be properly funded and receive adequate political attention so that it can fulfil its potential and ensure that renewables are deployed faster and wider.

2.1.2. Encouraging private investment in decarbonisation

In addition to providing the right regulatory framework for investment in the solutions, governments can take steps to further improve the enabling environment for decarbonisation by levelling the playing field between renewables and fossil fuels and supporting private finance.

Substantial public and private funds will need to be mobilised for any initiative to have an impact on the business-as-usual emissions trajectory. Investing in clean technologies should not be regarded as a 'cheap' solution and/or an alternative to regulation, but rather as a way to generate real financial returns both for private investors and society at large. In the long term, however, well-designed public-private initiatives should lower costs demonstrably.

How can governments level the playing field between renewables and convention energy?
Public money plays a major role in energy sector finance worldwide. Merely levelling the playing field between conventional energy and renewable energy would have a significant impact. Subsidies do not just come in the form of direct financial transfers; they include trade restrictions, regulatory instruments, preferential tax treatment and company bail-outs. Global subsidies for energy between 1995 and 1998 amounted to $244 billion globally, of which only $9 billion was for renewables (de Moor, 2001). Two thirds of this total was in developing countries. These numbers are consistent with those cited in the report of the G8 Renewables Task Force.

The desirability of removing upstream and downstream subsidies for fossil fuels and conventional energy has been acknowledged countless times, including in the Kyoto Protocol itself which requires governments to seek "progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments" (Article 2.1(a)(v)). Effective subsidy reform should include (Pershing and MacKenzie, 2004):

- measures to alleviate the social impacts of subsidy removal or tax reform;
- removal of the most distortional and environmentally damaging subsidies and tax provisions first;
- identification of full life-cycle costs to support environment-related taxes or charges;
- advance notice of reform to allow producers and consumers to adapt their behaviour and to create a reliable investment climate, with the phasing-in of instruments;
- transparent process with stakeholder consultation; and
- where possible, internationally coordinated action.

Despite the numerous declarations and studies in support of subsidy removal, very few countries have taken action. For this reason, leadership is essential. Coordinated subsidy phase-outs could be negotiated where regional electricity markets are emerging or with a few countries as part of a leadership initiative.

How can governments accelerate private investment?
Access to capital is essential. Renewables have to compete with other types of investment (not just energy) and must therefore yield attractive rates of return. However, renewables often lack a complete value chain, i.e. risk and reward opportunities from project design through to implementation. Financial products addressing gaps in the finance continuum need to be developed. In developing countries, local capital may be limited or non-existent. In such cases, local intermediaries will need to be identified.

The value chain for energy projects requires the following types of capital (Sontag-O'Brian and Usher, 2004):

- equity provided by the companies and by institutional and strategic investors;
- loans from commercial banks or special purpose vehicles;
- guarantees such as export credits that cover cross-border risks;
- insurance;
- long-term contracts with, for example, fuel suppliers or power purchasers.

In order to rapidly increase the financing of renewables, governments should find ways of filling gaps in the value chain, for instance by increasing project developers' equity base with soft money (i.e. that requires a less than commercial return) for fund capitalisation, bridging the gap between equity and debt financing, and providing tax incentives to support companies that take the risk of financing projects from their own balance sheets.

Sources of finance with moderate risk-return profiles, such as 'sustainable energy bonds', are desirable. These could be raised by national governments or multilateral banks on normal bond markets and then used to finance projects and unlisted companies, generating reasonable returns for investors. These bonds could then be slotted into pension fund portfolios as low risk, modest return assets. More work would need to be done to extend this concept to the developing world.

Governments have a responsibility to create the right enabling environments but they should also partner with the financial sector and the renewable energy industry to develop new risk

management products. Even in countries with the right incentives in place and a robust financial sector, governments still need to help build awareness and capacity in the financial sector in order to ensure that risk management is extended to renewable energy.

How can pre-commercial technologies be brought to market?
Price support mechanisms for renewables need to be backed up with R&D grants, as well as instruments that can help new technologies through the challenging pre-commercial phase, such as credit support and grants for the elements of demonstration projects like grid connection which are not specific to individual technologies (Climate Change Capital, 2004). Providing public funding to reduce the cost of technologies in the laboratory is useless unless support is also given to commercialisation.

International technology cooperation is easy and desirable when the technologies in question are not yet commercial (e.g. fuel cells, carbon storage without enhanced oil recovery, advanced energy storage). Public investment in technologies by leaders will stimulate reactive investment by other countries that fear falling behind in key technological areas. However, public intervention to support cooperation on technologies that are close to market will immediately raise issues of competitiveness and intellectual property that require resolution. A healthy mix of competition and cooperation is therefore necessary.

How can investors be enabled to care about climate protection?
Companies face regulatory, competitive and physical risks from climate change and institutional investors are increasingly requesting climate-related information. The Carbon Disclosure Project, one such group of investors, believes that: "No longer can fiduciaries claim to be unaware of what is at stake. Taking climate risks into account is now becoming part of smart financial management. Failure to do so may well be tantamount to an abdication of fiduciary responsibility" (Innovest, 2004).

However, investors find it difficult to assess and respond to the financial risks of climate change because existing rules on disclosure relating to material liabilities are not enforced, meaning that companies do not adequately disclose dangers to their long-term revenues and assets. Moreover, fund managers are not conducting thorough analysis (Institutional Investor Summit on Climate Change, 2003). Financial regulators could clearly do more to support investor efforts, starting with the introduction of standardised reporting for climate risks. The agreement by professional accounting bodies on carbon accounting principles only addresses the financing reporting of carbon assets and liabilities for sectors affected by emissions trading.

In addition to inadequate reporting, investors are limited in their ability to act on their growing awareness of climate change by the need to generate returns in the short term without having to consider long-term risks. For instance, it would be difficult for a pension fund to divest from carbon-intensive companies within the current regulatory framework. Governments should therefore give institutional investors a legal responsibility to take account of long-term risks, particularly climate change, and not just focus on short term profits as they are currently required to do.

Increasing numbers of corporations, like BP and Dupont, are identifying profitable as well as low- and no-cost emissions mitigation opportunities. Investors need to ensure that this action is rewarded, as should governments when they introduce new policy measures. Governments should also engage with these businesses to help communicate climate change. Clearly, the best way to encourage action is to demonstrate, in practice, the benefits of emissions reduction, new ways of working and new technologies.

What role should the World Bank play?
If you accept the premise that fossil fuel subsidies should be reduced to combat climate change, then international subsidies should be considered too. According to the recent Extractives

Industry Review (EIR), World Bank support for fossil fuel projects amounts to 94 percent of its energy portfolio while support for renewables is currently just six percent. Given that World Bank funding serves more than one purpose, the question posed in the recent EIR, which involved more than two years of stakeholder consultation and extensive research about whether multilateral funds aimed at poverty alleviation should be allowed to support extractive industries, is clearly pertinent.

In the specific case of fossil fuel extraction, when do the benefits of subsidies outweigh the costs? The EIR concluded that the World Bank should continue to support extraction in the near term in countries that share the benefits equitably. The report provides an overarching template so that, "[World Bank] interventions allow extractive industries to contribute to poverty alleviation through sustainable development. And that can only happen when the right conditions are in place. The three main enabling conditions are:

- pro-poor public and corporate governance, including proactive planning and management to maximize poverty alleviation through sustainable development;
- much more effective social and environmental policies; and
- respect for human rights." (EIR, 2004)

EIR also recommended that:

"[World Bank Group] priorities within the energy sector need to be rebalanced… to help governments adopt sustainable energy strategies that address the energy needs of the poor and that minimize climate change, which will disproportionately affect the poor. Countries should be helped to remove subsidies from carbon-based fuels. And WBG lending should concentrate on promoting the transition to renewable energy and endorsing natural gas as a bridging fuel—building new pipelines and renovating leaking ones. On this basis, the WBG should phase out investments in oil production by 2008 and devote its scarce resources to investments in renewable energy resource development, emissions-reducing projects, clean energy technology, energy efficiency and conservation, and other efforts that delink energy use from greenhouse gas emissions. During this phasing out period, WBG investments in oil should be exceptional, limited only to poor countries with few alternatives. And the WBG has for the last few years not invested in new coal mining development. This should continue. The WBG should aggressively increase investments in renewable energies by about 20 percent annually" (EIR, 2004).

The first recommendation regarding a phase-out of oil investments, was rejected by the World Bank and no specific commitment has been made by the Bank to improve its poorly-implemented safeguard policies as a way of screening out damaging projects. This was due to opposition from extractive industries, the banking sector and governments including the UK, the US and most developing countries. There are two major reasons for this opposition: first, developing countries wish to avoid imposition of further conditionality on aid flows and second, as rich countries diversify their oil supplies, an increasing number of governments look to these activities for revenue. These issues need to be addressed within the wider context of financing for development, another key item on the international agenda in 2005. Debt relief and increased support for poverty eradication would contribute to alleviating these concerns.

Clearly, even without aiming at a phase-out, little progress on reducing World Bank support for fossil fuel extraction can be made under the current circumstances. However, given the issues at stake, the debate must not be abandoned.

The EIR recommendation regarding a renewables target was agreed by the Bank's management. But the 20 per cent increase will be measured from 2005, in which renewables support pledged by the Bank will amount to $200 million, whereas support in some years has been as much as twice this total. Therefore the Bank is committing to a less than business-as-usual improvement in renewables support (Institute for Policy Studies, 2004).

Most developing country governments still oppose the renewables target. There are two major reasons for this opposition: first, as with fossil fuels, they wish to avoid imposition of further conditionality on aid flows and second, many still see renewables as second-class technologies. Again, the first issue needs to be addressed within the wider context of financing for development. The second issue is one of demand creation. Developing country governments that play a leadership role in the deployment of renewables, like China and Brazil, will demonstrate the benefits of renewables to other developing countries. They should be supported through partnership arrangements that give them access to technology, capital and expertise. Cooperative vehicles like REEEP should target these leaders and help build constituencies of support in other countries. The World Bank's renewables target needs to be reviewed and increased.

What role should export credit agencies play?

Most project finance for new power plants in developing countries between 1994 and 2001 was provided by sources in industrialised countries (72 per cent) (Philpott – as cited in Pershing and MacKenzie, 2004). Between 1994 and early 1999, oil and gas development projects and power projects using fossil fuels made up nearly 40 per cent of project and trade finance flows to developing countries; export credit agencies (ECAs) accounted for 20 per cent of this financing (World Resources Institute, 2000). Disproportionate support for coal-fired generation comes from ECAs relative to that provided for less carbon-intensive natural gas. Of the $28 billion provided in project finance by sources in industrialised countries to coal plants in developing countries between 1994 and 2001, over one third came from export credit agencies. For gas, the share of ECA-financing was about one quarter. Carbon intensity standards, recommended by the G8 Renewables Task Force, should be adopted as this would clearly have a significant impact on technological lock-in globally. These could take the form of either minimum efficiency standards for ECA-supported fossil fuel projects (e.g. ECA support for coal should be limited to gasification projects and ultimately phased out) or a portfolio-wide approach. Both approaches would suffer from the same objections as the EIR's fossil fuel recommendations but have the advantage of not being subject to multilateral agreement.

The terms provided by ECAs are guided by the 'Arrangement on Guidelines for Officially Supported Export Credit', a so-called 'gentleman's agreement' between OECD governments that limits the level of subsidy ECAs can provide. Included in the Arrangement are maximum repayment terms of 5 years for countries with a GNP per capita above $5,445 in 1997 and 10 years for all other countries. However, the restrictions on maximum repayment terms do not usually apply to large transactions, including most energy and power projects. Under the Arrangement, conventional power plants can receive support for up to 12 years and nuclear power plants can receive support for up to 15 years; ships and civil aircraft may also benefit from special repayment terms. The same repayment terms are not available for renewable energy.

Other terms that penalise renewable energy are insurance premiums and support for local content, which for ECA-backed projects is currently restricted to 15 per cent of the overall project. If the local content rules were relaxed, this would encourage the deployment of locally appropriate technologies and the involvement of local partners (UNEP-SEFI, 2004).

In addition to adopting carbon intensity standards for ECAs, any climate leadership coalition should champion more widely acceptable proposals aimed at improving the repayment terms for renewables under the OECD Arrangement. Subject to public pressure, US Ex-Im Bank is beginning to address its support for renewables following the publication of recommendations by a dedicated advisory committee; other ECAs could easily follow suit, engaging directly with stakeholders.

Conclusion

Barriers to the deployment of renewables should be addressed systematically, i.e. in a way that creates the right enabling environment with targets that are supported by sufficient incentives for investors, policies aimed at commercialising technologies and adequate capital across the whole value chain.

A leadership coalition should focus their efforts on the development of complete enabling environments in key countries that have already indicated their commitment to renewables by adopting targets and timetables. Governments need to partner with financial institutions to identify gaps in the enabling environments of these countries. This would involve industrialised countries in the coalition providing support for capacity building to developing countries in the coalition beyond existing bilateral and multilateral programmes as well as funds tailor-made to the specific needs of individual markets. This would reward countries for their membership in the coalition and accelerate the deployment of renewables. Finally, successful models would need to be scaled up and replicated, engaging more countries over time.

In order to level the playing field between renewables and fossil fuels, and internalise the costs of the latter, governments need to reduce both domestic and international fossil fuel subsidies, introduce commercially significant incentives for energy efficiency and make sure emissions trading regimes deliver significant, measurable reductions. The EU must make the latter an absolute priority. Credible emissions reduction measures are central to legitimacy in post-2012 negotiations and therefore improving international willingness to take further action.

In order to promote more climate-friendly investment patterns outside the Kyoto budget, the following measures should be taken:

- The World Bank target to increase investment in renewable energy by 20 per cent each year should be reviewed and increased – either by changing the base year to a more representative one, or by improving the target. It should also require that energy audits are conducted for all its energy-intensive projects.
- Individual ECAs should adopt minimum efficiency standards for the projects they support, or portfolio-wide carbon intensity standards.
- The terms for renewable energy projects under the OECD Arrangement need to be improved so that they are at least as favourable as those for fossil fuel and nuclear energy and encourage local involvement.
- Kyoto Parties should begin discussing rules to link with emerging carbon markets in order to encourage early action by developing countries.

Given the recent failure of the EIR to generate change, it may be too soon to reopen the debate about reorienting IFI support; however, a leadership coalition must see this as a priority and bolster demand creation efforts, like REEEP, in order to change perceptions. Positive outcomes from international negotiations regarding development finance will also contribute to a gradual shift in willingness to adopt EIR-type recommendations. Wherever broad international progress is not possible, a leadership coalition should seek to make progress. For instance, domestic subsidy reduction should be part of improving the enabling environment for renewables. Specific ECA products could be designed for coalition partners.

Finally, in order to make climate change really material, governments should engage with institutional investors to take existing initiatives further by:

- providing guidance on climate change reporting;
- requiring institutional investors to take account of long-term risks and responsibilities in their investments; and
- ensuring that regulators enforce existing reporting rules.

2.2. Reconciling climate policy, trade and competitiveness

Preventing climate change and promoting trade and competitiveness are often put at odds with each other. This section tries to identify ways in which a leadership coalition could help overcome this in practice.

Will carbon regulation really undermine competitiveness?

Competitiveness concerns were presented as the basis for the Bush administration pulling out of Kyoto: developing countries are not subject to the same constraints as industrialised countries but still compete with them in the global market for goods and services. Fear of the impact of regulation on Europe's industrial competitiveness has also thwarted the process of setting emissions caps under the first phase of the EU Emissions Trading Scheme (ETS).

The principle of common but differentiated responsibilities – which requires industrialised countries to reduce emissions first – is central to the climate regime and has a moral and legal basis. The concept is not unique to the FCCC: it provides the basis for North-South cooperation since Rio and can be found in other multilateral environmental agreements while international trade rules have a similar concept of "special and differential treatment". Clearly, in order for committed emissions reductions to have an impact on changing the global emissions trajectory, greenhouse gas emitting sectors need to be prevented from relocating to countries that are non-Parties to the Kyoto Protocol or developing countries. That being said, the 'carbon leakage' phenomenon, like the costs of regulation, is often overstated.

The IPCC (2001) says that the trade impact of international differences in environmental regulation, including relocation, depends upon a range of factors, including country size, availability of alternatives, relative resource endowment, mobility of production factors, competition level, scope for innovation, possibility of border-tax adjustment, chances of retaliation, and redistribution of environmental tax revenues. However, misperceptions of the cost and benefits of carbon regulation are widespread. The director-general of the Confederation of British Industry, Digby Jones, said, "the Government is risking the sacrifice of UK jobs on the altar of green credentials." By contrast, his predecessor, Adair Turner, stated that the UK can cut GHG emissions by 60 per cent by 2050 with only a two year deferment in prosperity, that is to say UK citizens would enjoy a standard of living in 2052 that they would otherwise have enjoyed in 2050, but without the horrendous risk of inaction.

After studying the impact of the EU ETS, the Carbon Trust (2004) concluded that, the EU ETS will not reduce industries' profitability if it is implemented in a similar way across the EU and price increases do not make non-EU imports significantly more profitable. The report goes on to explain that, "Three factors determine a sector's inherent potential exposure to the EU ETS: its energy intensity, its ability to pass cost increases through to prices, and its opportunity to abate carbon" and the only sector likely to exit the EU is aluminium due to its exposure to international trade.

As recommended by the IPCC and the Carbon Trust, international co-ordination of climate policies will be needed both to reach an economically efficient outcome and to prevent a race to the bottom. Efforts to coordinate climate policies and measures (PAMs) in the FCCC process have largely been restricted to reporting, peer review and good practice guidance. However, policy coordination will be needed as more robust measures are introduced and the competitiveness impacts potentially increase. Given that most trade occurs within world regions, policies and measures to implement global rules could be better coordinated at regional level. That being said, another strategy would be to focus on the comparative advantage that could be provided by decarbonisation, for instance in terms of reduced vulnerability to fuel price volatility and first-mover advantage on technology markets.

How can trade and climate policy coherence be improved?

Some policies – like the reorientation of agricultural subsidies away from the production of goods where market access for developing countries is a major concern to the production of biomass and biofuels – could improve the chances of successful outcomes in both trade and climate fora. However, more studies have identified potential conflicts between both multilateral and domestic climate policy and the rules of the World Trade Organisation (WTO). While no formal challenges have been launched so far, a number of governments have submitted papers to the WTO identifying potential conflicts. Some commentators point to a 'chill effect' in environmental regulation, suggesting that viable climate protection measures will not be adopted at national or international level for fear for being inconsistent with trade rules.

Nevertheless, there are opportunities to promote synergies between the two regimes. Suggestions for doing so include:

- establishing international standards (e.g. for energy efficient plant or goods);
- facilitating taxes on energy through increased harmonisation of approaches;
- opening markets for environmental and energy goods and services;
- expanding negotiations on the removal of subsidies to cover fossil fuels and logging;
- safeguarding eco-labelling to promote consumer choice;
- improving climate and trade regime coordination, through formal observerships and informal policy coordination in alternative fora; and
- integrating climate and trade bargaining.

This last suggestion, while challenging, holds great promise. Trade and environment negotiations within the WTO have borne little fruit and climate negotiators have steered well clear of any trade-related discussions. However, recent EU-Russia negotiations showed that synergies could be achieved in addressing Russia's domestic policy objectives by combining trade measures with Kyoto's financial instruments in the areas of fuel poverty and economic diversification. In any event, trade is a key part of the global energy system so addressing climate policy in isolation makes little sense moving forward. In light of this, discussions about trade and climate policy coherence need to happen outside both the WTO and the FCCC – discussions that could be catalysed by a leadership coalition on neutral ground. This must not be one-way of course: climate imperatives should shape trade policy too.

What about those countries that refuse to play?

Opinions differ as to whether diplomatic means of reaching agreement on emissions reductions have been exhausted among industrialised countries, most notably with regards to the US. One commentator argues, "The failure of conventional dialogue suggests that new strategies urgently need to be tried… economic and trade measures offer a new and entirely legitimate way to raise the costs of inaction to industrialised countries that are not supporting the Kyoto Protocol" (New Economics Foundation 2004). These include the imposition of border-tax adjustments to internalise the cost of carbon on goods imported from Kyoto non-Parties.

Added to the environmental justification for such measures, industries that will soon be affected by carbon constraints are likely to look to governments to introduce these measures in order to prevent a loss of competitiveness in domestic markets. However, in response to a request in 2004 from a parliamentarian that the EU introduce trade measures, Pascal Lamy, the then European trade commissioner, rejected them in favour of further discussion and persuasion, citing potential diplomatic fall-out with Russia in particular as a disincentive. Nevertheless, continued rejection of carbon regulation by the US will increase the pressure on Kyoto-compliant governments for redress and Lamy only said such measures should be rejected 'for now'.

There has been some debate about whether the imposition of border-tax adjustments is permissible under international trade rules. Discussions have focussed on interpretations of the Superfund case and the grounds upon which a 1970 Working Party under the General Agreement on Tariffs and Trade (GATT) concluded that Border Tax adjustments are acceptable restrictions of trade. In fact, "The Working Party agreed that taxes directly levied on products (e.g., a sales tax) are eligible for a tax adjustment, and taxes not levied on products (e.g., a payroll tax) are not eligible for adjustment. Yet the Working Party was unable to agree on the status of adjustments for 'taxes occultes' which are taxes on capital equipment, advertising, energy, machinery, transport, and other services. The category of taxes occultes includes many excise taxes that are of interest in the current climate debate, such as taxes on energy, refrigerants, cleansers, and transport used in the production process" Charnovitz (2003).

This suggests that if Kyoto Parties were to introduce border-tax adjustments, they should expect a challenge to follow. In order to strengthen their defence, Kyoto Parties should ensure that the associated regulations are simple, transparent and used as a last resort. The administrative burden of such taxes should not be underestimated as information requirements and verification would be complex. A leadership coalition should evaluate the conditions for and implications of trade measures as part of a wider discussion on climate and trade policy coherence.

Conclusion

Policy coordination building on PAMs work undertaken within the FCCC/Kyoto process would help address competitiveness concerns where there is already willingness to address climate change, e.g. through a REEEP-type vehicle aimed at building capacity and sharing good practice on broader climate policy including the linking of emissions trading schemes.

A leadership coalition should initiate a discussion on trade and climate linkages outside the WTO and the FCCC, and investigate the use of trade measures to penalise free-riding.

2.3. Making climate policy contribute to poverty eradication

Eradicating poverty would be impossible in a world of rampant climate change. Like HIV/AIDS, climate change is capable of reversing progress towards sustainable development and presents the possibility of systems collapse. Early action to cut emissions is essential and adaptation is already necessary. Additionally, more needs to be done to integrate mitigation and adaptation, and to make climate change an important theme within development planning. Climate change risks arise from the combination of the impacts themselves and the vulnerability of the communities experiencing them. Extreme weather events experienced in Central America and the Caribbean are more devastating than the same ones experienced in North America. "By divorcing the global warming debate from the development debate, half of this disaster equation is ignored. Worse still, conventional economic development is undermining the markets and safety nets of developing countries and reducing their capacities to cope with climate change. Far greater policy coherence is needed between economists, development planners, climate scientists and disaster managers in order to prevent catastrophic losses to human lives and livelihoods" (NEF/BCAS, 2002).

How can resilience to climate change be improved?

The Red Cross and other development and relief NGOs are increasingly requesting that policy decisions at every level pass the test of whether they will increase or decrease vulnerability to climate change (Simms *et al.*, 2004). Given that marginal communities which are most at risk from climate change are also those whose livelihoods are least likely to benefit and may indeed suffer from economic globalisation, trade and development policy must be seen through the double lens of economic vulnerability and climate vulnerability, again requiring much greater coherence than is currently the case. Trade and development policies must therefore be subject to vulnerability assessments, making them both "climate proof and climate friendly". This will

require funding – as will measures such as disaster mitigation and preparedness – and must include consultation with affected communities.

The gender dimension of climate change impacts, adaptation and mitigation are rarely discussed. However, women are increasingly at the front line of climate change. "Climate change will inevitably mean loss of livelihoods from vital productive sectors, i.e. agriculture, fisheries, tourism and the like. It is not simply that the effects of climate change will be devastating for both women and men – what is needed is an inventory of vulnerability to distinguish the various coping mechanisms of both groups and ways of ensuring and evaluating that potential economic or capacity building spin offs from adaptation projects are not enjoyed by one group only" (Denton and Parikh, 2002). Meanwhile, climate solutions could also empower women and girls. The deployment of appropriate and affordable decentralised renewable energy services could alleviate indoor air pollution and reduce the time women and girls spend collecting fuel and water, freeing their time for education and employment.

How can renewable energy contribute to poverty eradication?

Climate policy will drive down the cost of renewables, providing off-grid communities with access to new energy services. Moreover, off-grid renewables will make communities less dependent upon centralised services. However, as with other types of renewable energy development, capacity and access to capital are essential. Off-grid renewable energy entrepreneurs need a range of capital and business-development support (Sontag-O'Brian and Usher, 2004):

- start-up support in business planning;
- bank loans to finance day-to-day operations and business growth; and
- customer or transaction finance (e.g. supplier credit, consumer credit, leasing).

In order to maximise their financial sustainability, renewable energy projects can be developed in direct support of local economic activity.

What else will align development and climate protection?

Designed well, emissions controls can present opportunities for developing countries through inward investment and carbon trading. For example, the Clean Development Mechanism under the Kyoto Protocol would enable developed countries to count carbon savings from certain investments in developing countries towards their own emission reduction targets. In an international emissions trading scheme, developing countries would be able to sell excess unused emissions entitlement to developed countries. However, taking a mitigation-focused approach aimed at changing the emissions trajectory of the most advanced developing economies, one study advocates "flexible input-based programs, goals or commitments", as a way of linking development priorities and climate protection. This approach differs from the current focus on emissions (outputs) and would allow for policies anywhere on the continuum from purely voluntary goals to 'pledge-and-review' schemes which involve a measure of international scrutiny (Heller and Shukla, 2003). These input-based initiatives could take the form of sectoral goals (e.g. in agriculture or transport) or climate-friendly policies and measures. Originally envisaged as options for the next stage in development of the international climate regime, these ideas could also be discussed and potentially even implemented within the context of a leadership coalition, provided that preferential access to incentives like financing could be delivered.

Conclusion

Climate policy and development need to be better integrated. The impact on and role of women in particular should be integrated in both adaptation and mitigation policy and projects. Renewable energy has an obvious role to play in development and input-based goals that relate more closely to development priorities may be easier first steps for developing countries than emissions controls.

Rather than focusing exclusively on growth, a resilience-driven approach to policy making should be adopted to ensure that the most vulnerable are not put at increasing levels of risk. Vulnerability assessments should be applied to new policies as standard in order to exclude anything that puts vulnerable communities at greater risk.

2.4. Establishing accountability for the impacts of climate change

Much has been said in international and national debates about the costs of action and little about the costs of inaction. Moreover, if the adaptive capacity of vulnerability communities is to be improved, resources will have to be found.

Although climate litigation is in its infancy, the rapid evolution of climate science is making compensation claims increasingly feasible. Litigation has been initiated by NGOs and US state governments as part of campaigns to secure emissions reductions and protect the victims of climate change. Such claims are desirable in the current political context but over time, litigation is no substitute for good, preventive policy making.

Is it possible to demonstrate liability for climate change?

The Third Assessment Report of the Intergovernmental Panel on Climate Change stated that "there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2001). Most of these emissions, historically and currently, come from industrialised countries.

Three important scientific strands have strengthened since the Third Assessment Report:

- for the first time, human influence on a climate variable other than temperature – sea-level pressure – has been found (Stott, 2003);
- three studies found human influence on regional temperature increases during the 20th century, all covering the US (Zwiers & Zhang, 2003; Stott, 2003; and Karoly *et al.*., 2003); and
- a means of calculating how human activities have increased the risk of extreme events has been published (Allen, 2003).

Initiated in response to a proposal by the Brazilian government for Kyoto, methodological work has been developed and undertaken within the FCCC process to identify countries' historic contributions to climate change. By the end of 2005, a robust scientific methodology for calculating these contributions will exist as a result of work funded by the UK government under the modelling and assessment of contributions to climate change initiative (MATCH).

According to the authors, "Results of such analysis could be used in many ways. Historical responsibility of countries or country groups could be used to differentiate emission reductions between countries. In addition, based on the 'polluter pays' principle, results could be used to distribute financial contributions to a fund for adaptation to climate change (e.g., WBGU 2003)). For these calculations only the relative contributions of the countries are relevant. In addition, the contribution of different (greenhouse) gases or sectors (e.g. aviation) could be calculated. Here the absolute results could also be relevant" (den Elzen *et al.*, draft paper).

In fact, work to identify the contribution of individual companies to climate change has already begun. Commissioned by Friends of the Earth, two papers already include calculations of the emissions resulting from the burning of ExxonMobil's products since 1882 and, using a climate model, the current and future contribution of these emissions to atmospheric concentrations of greenhouse gases, temperature change and sea level rise. The report found that, from 1882-2002, ExxonMobil's emissions of carbon dioxide total an estimated 20.3 billion tonnes of carbon – or 4.7 per cent – 5.3 per cent of global carbon dioxide emissions. In other words, about 5 per cent – one twentieth – of the world total" and that, "ExxonMobil's emissions have contributed

between 3.4 per cent and 3.7 per cent of total attributable temperature change since 1882, and 2 per cent of the sea level rise. Given the slow response of sea level to changes in temperature, even if all greenhouse gas emissions ceased in 2003, past emissions will continue to affect sea level, resulting in an ExxonMobil contribution of 3.2 to 3.6 per cent of total sea level rise in 2200" (Friends of the Earth, 2004).

Are there precedents for environmental compensation?

Customary international law requires States to make reparation for international wrongs, that is to "wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed" (Chorzow Factory case, Permanent Court of International Justice, 1927).

Moreover, developed countries have a legal obligation under Art 4(4) of UNFCCC to, "assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects." A leading international lawyer has interpreted this provision in the following way: "While this novel proposition is not a formal expression of liability under the principles of state responsibility, it reflects an admission of responsibility with financial consequences… In what amounts to an implicit acceptance by developed country parties of responsibility for causing climate change, Article 4(4) may ultimately emerge as one of the more unusual, contentious, and perhaps costly, commitments in the Convention" (Sands, 2003).

What can governments do to address their responsibility for climate change?

The Global Environment Facility, the Adaptation Fund and Special Climate Change Fund have been created in part to fulfil this responsibility. However, they are structurally, financially and politically insufficient to ensure that those who have suffered and will suffer the effects of man-made climate change are compensated for their losses. Climate change will result in 'environmental refugees' and legal obligations to take in these 'refugees', and other provisions to address the loss of statehood in the case of low-lying states, should be considered as part of the compensation process (NEF, 2003). Precedents exist for compensation claims against entities that have made land uninhabitable – one of the heads of claim in the Nauru phosphate case – and for relocation – hardship as a result of relocation was included in the April 2002 Marshall islands Nuclear Claims Tribunal award against the US (Sands, 2003).

A compensation fund is a recognised way of responding to serious and international environmental damage, for instance through oil pollution. With several cases underway in the US and Germany, "There is increasing climate change litigation in the domestic courts, and sooner rather than later industrialised countries and/or corporations will be found liable through ad hoc court decisions. This is not the way to promote predictable and sensible policy development in the longer term. Emissions need to be brought down and compensation needs to reach climate change victims. One way to achieve this would be through the establishment of a tailor-made properly resourced Compensation Fund that addresses responsibility head-on, involving the victims of climate change in a transparent and legitimate international process" (Roderick, International Climate Justice Programme, interview).

Conclusion

Scientific evidence is beginning to demonstrate liability for climate change making compensation inevitable in the longer term. Governments should address this responsibility pro-actively, not wait for the courts. A leadership coalition should therefore initiate the development of a compensation fund in consultation with affected countries and communities.

3. Catalysing strategy

Little can be achieved without sustained public support beyond iconic moments such as the Kyoto negotiations in Bonn (where the EU struck a deal with Japan and key developing countries on rules to implement the treaty). Domestic regulation is often a drawn-out and highly technical process that is of little interest to the public, allowing vested interests to capture disproportionate political space and undermine existing commitments. Moreover, the financial community does not believe that even progressive governments will regulate to the extent suggested by aspirational carbon and renewable targets.

Climate change is not currently framed in a way that is appealing to either the public or politicians. This is important because the range of politically feasible choices is determined by the framing of issues. Because climate change is seen as an environmental issue instead of a security or development issue, significant political coalitions are not yet possible and desirable policy options are not yet available. Many countries, particularly developing countries, believe that climate change is in conflict with more urgent development priorities. The need for urgent action is not fully appreciated.

This section looks first at how a leadership coalition could reframe the climate change issue in a way that makes action more politically attractive to more reluctant governments and constituencies. Second, initiatives are identified that could be undertaken by a leadership coalition, drawing from the conclusions of the previous section on priority areas for action. The recommendations seek to:

- Demonstrate the up-sides of climate protection;
- Demonstrate the costs of inaction;
- Bring about near-term changes with technologies that are close to market;
- Align development priorities with climate objectives; and
- Widen participation to include new constituencies and countries.

The formation of leadership coalitions focusing on sustainable development is a recent diplomatic phenomenon with a mixed record. However, multistakeholder partnerships set up around the World Summit for Sustainable Development in 2002 continue to provide governments with lessons in the establishment of delivery-oriented groupings. One major challenge is maintaining political commitment and institutional support long enough for robust implementation strategies to be developed and deployed (Green Globe Network, 2003). Action-oriented partnerships and coalitions should not be seen as the easy route when compared with multilateral treaty negotiations: the failure of the international community to address global challenges lies not in the absence of commitments but rather in the absence of delivery.

3.1. Reframing climate change

The reframing of climate change is needed to create the political foundation to prevent it. Little attention has been paid to this issue so far. However, a new climate change narrative is emerging from groups such as E3G. Some messages that can be incorporated into political discourse are presented here (Ashton and Burke, 2004):

Preserving a liveable climate is essential - and will have many other benefits

Preserving a liveable climate is a public good – like national security or a healthy population – that requires public investment. It is a precondition for prosperity. Moreover, climate policy is not only desirable for its own sake – decarbonisation will also promote energy security, protect economies from fuel price volatility and encourage decentralised and sustainable development. Effective climate policy will stimulate innovation and help us to make more from less.

Time is running out – the current opportunity to protect the climate will not happen again

Climate change is already occurring, atmospheric concentrations of greenhouse gases are increasing and, due to climatic inertia, more climate change is already embedded in the system as a result of past and current emissions. Soon, the option of stabilising atmospheric concentrations of greenhouse gases at a level that may prevent dangerous climate change is likely to become very hard to retain. In order to avoid foreclosing options, action to reduce emissions must begin now. Decisions to delay action are often based on the false premise that the same stabilisation options will be available in the future or that climate change is some how fixable at a later date.

Effort must be deployed on a vast scale – but this is achievable

In a few decades, we have to transform the way we provide and use energy globally. This is not dissimilar from the widespread replacement of biomass with coal during the industrial revolution. Other societal transformations of this scale have occurred more recently with the arrival of, for example, the combustion engine and the internet. France converted its electricity system to run mainly off nuclear power within two decades. Solutions exist and more are emerging – it is only a matter of whether we can deploy them at the necessary rate.

3.2. A strategy

Clearly, great diplomatic, analytical and financial effort is required to address a problem on the scale of global climate change. Ultimately, this depends upon the strength and longevity of political will, a complex but essential variable: "When and how this elusive quantity materialises will depend on a host of factors, many of them unpredictable: public awareness, media attention, electoral politics, even the weather. It depends as well, though, on the determination, flexibility, and resourcefulness of governments in fashioning common approaches" (Diringer, 2003). The strategy is therefore as much about process as it is about policy. The most essential policy recommendations have already been articulated in broad terms but have never been adopted and new ways must therefore be found to bring coalitions together.

Finally, in order to be successful, a climate leadership strategy must be dynamic, i.e. capable of responding to political opportunities as they arise, and should lay the foundation for action beyond 2005. The G8 heads of government summit should not be the only focal point – rather a halfway point in a year in which the UK's G8 and EU presidencies in particular reinforce each other. Governments should make use of political events throughout the year as milestones, identifying what can be achieved at each.

The strategy has two strands: an initiative aimed at the formation of a leadership group and a more multilateral strategy aimed at bringing in the laggards. The UK, and other governments seeking to reinvigorate the international climate effort, should:

1. Roll out the new climate change narrative as a priority in ministerial contact, communiqués, speeches and develop public education materials.

2. Convene an annual international energy security and climate change summit, co-chaired by a large emitter in the developing world that is prepared to take a leadership role (e.g. China).

The summits would involve environment and economic ministers (development, finance, energy or trade) and would:

- Focus on domestic and international decarbonisation strategies;
- Reframe climate change in the ways described above;

- Improve institutional and financial support for partnerships aimed at scaling up and replicating successful policy and business models; and
- Initiate a discussion on trade and climate policy coherence, aimed initially at improving climate and trade regime coordination but with a view to longer term discussions about climate measures such as international efficiency standards and incentives for power plants.

3. Convene a business/finance dialogue with policy-makers:

- at an early stage, leaders from business and finance should be personally invited to assist governments in identifying a wider international group;
- the objective of the dialogue would be to identify preconditions for significant capital flows into low-carbon and carbon-free investment globally. These would be provided as recommendations to be taken up during 2005 and beyond;
- the dialogue would comprise a small number of working groups involving ministers. In particular, the dialogue should build on institutional investor initiatives to enforce the materiality of climate change and enable investment strategies that take account of long-term risks; and
- the dialogue should contribute to the formation of public-private partnerships aimed at completing the value chain and minimising risk for renewables.

4. Identify a small leadership group of industrialised and developing countries that have already or are planning to adopt renewable energy targets.

This group would:

- involve the finance sector, focus on the development of enabling environments in key countries that have already adopted targets and timetables, provide intensive support for capacity building and help complete the renewables value chain through the establishment of publicly supported funds and risk management instruments;
- include energy efficiency and the reduction of conventional energy subsidies within its scope in order to level the playing field between renewables and fossil fuels;
- champion the review and improvement of the World Bank renewables target either by changing the base year to a more representative one, or by improving the target. In addition, it should advocate that energy audits are conducted for all its energy-intensive projects and build on demand creation efforts like REEEP to change perceptions of renewable energy; and
- champion proposals within the OECD to improve the terms of ECA support to renewables while individual ECAs adopt minimum efficiency standards for the projects they support, or portfolio-wide carbon intensity standards.

If possible, the group should broaden its scope beyond energy policy:

- include climate policies and measures through a REEEP-type vehicle aimed at building capacity, sharing good practice and developing input-based goals linked to financing incentives;
- investigate opportunities for integrated trade and climate bargaining, as well as the conditions for and implications of the adoption of trade measures to penalise free-riding; and
- begin discussing capacity needs and rules to link with emerging carbon markets in order to encourage early action by developing countries.

5. Accept accountability for climate change impacts by:

- subjecting development and trade policies to a climate vulnerability test;
- working with vulnerable countries to design an effective and transparent compensation fund to support disaster relief, mitigation and preparedness and relocation;
- involving the scientific community in these discussions; and
- consulting with affected communities, including women.

Finally, because its credibility is so important to the development of the international climate effort, the UK must ensure that the EU enters the post-2012 negotiations with a credible position by:

- working to ensure that the overall cap for the second phase of the EU ETS is consistent with Kyoto targets;
- discussing principles for Green Investment Schemes with other industrialised Kyoto Parties; and
- presenting an ambitious commitment to further action post-2012.

4. Conclusion

Kyoto is the major driver of greenhouse gas regulation in most industrialised countries. However, we are still locked in a vicious circle in which countries are unwilling to contemplate change on the scale required until the benefits of decarbonisation policies have been adequately demonstrated. But the benefits will not be apparent until these policies are adopted, at least somewhere. Kyoto is not enough and must be complemented, even supported, with additional strategies. Climate leadership must therefore be focused on building a coalition of countries that can demonstrate the benefits of climate protection and create synergies with other priorities, integrating climate change across a range of policies and deploying solutions with ancillary benefits. In this way, international willingness to move forward could be improved, changing the boundaries of what is considered realistic longer term.

The EU effort remains the engine room for Kyoto. But with a credibility gap emerging between European rhetoric and action, commitments and delivery, international momentum on climate protection is at an all time low. While Tony Blair's recent speeches on climate change have raised international expectations, there is no magic bullet. Considerable diplomatic, institutional and financial resources will have to be mobilised and there will be an up-front cost to first movers. However, this can become a competitive advantage if other countries follow suit. If leadership efforts are not sufficiently ambitious to demonstrate will and profit, they will fail to convince others. A lowest common denominator approach runs a high risk of failure.

Governments in the developing world are deeply sceptical of Europe and Japan's efforts to persuade them to adopt some form of carbon constraint. Energy-intensive industries in rich countries are in direct competition with energy-intensive industries in developing countries, but standards of living are clearly still wildly divergent. The North still has a moral obligation to support climate efforts in the South. But this obligation is not simply a moral one – it is also a practical, operational imperative. Without Southern participation, international climate protection efforts will fail. Southern participation is conditional upon the establishment of a fair and legitimate process. Equity is therefore central to any climate effort. The onus is on the EU in particular to deploy new and additional funds to support potential climate champions amongst developing countries. And even if these resources can be marshalled, only a small group of developing countries is likely to adopt ambitious policies.

Finally, vulnerability to climate change must not be forgotten. It is, after all, the main reason that we set ourselves the challenge of preventing dangerous climate change. Much greater attention needs to be paid towards helping communities protect themselves from the impacts of global warming. Again, this is not just a moral obligation – it will yield practical benefits. Only when the true cost of climate change appears on the political radar will the significant costs of action finally be weighed against the catastrophic costs of inaction.

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