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Innovative financing for sustainability

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CEO briefing

A document of the UNEP FI Climate Change Working Group (CCWG)

Key messages

- **It is clear from climate science and economic analysis what needs to be done to combat climate change.**
- **Strong, early action to reduce emissions is critical and can dramatically limit the cost of addressing climate change – the benefits of strong and early action far outweigh the economic cost of not acting.**
- **Leading financial institutions have been supportive and creative in addressing climate change, but in general financial sector engagement is still weak.**
- **Sluggish policy development is delaying progress in channelling finance and investment towards effective measures addressing climate change. In particular, government finance and treasury functions need to be actively involved in this area to give policy design a harder edge: that is, not just how to reduce GHG emissions, but how to do so in sufficient volume, at lowest cost.**
- **To be really effective, policies need to encourage public-private sector collaboration through appropriate regulations and incentives.**
- **Actions must be directed at both mitigation and adaptation as climate change is already happening and developing countries will be worst affected.**

CARBON CRUNCH

Meeting the cost

Recommendations

For Policy Makers

- End the uncertainty over international climate policy post-2012 through clear regulation by setting long-term emission reduction targets post-2012, especially for the critical period 2013-2030. This should be set no later than 2009.
- Ensure a systematic approach to adaptation that integrates climate change into existing and new programmes on disaster reduction/management and sustainable development.
- Involve finance and treasury functions in this area, in order to ensure the efficient use of available funds and financial mechanisms.
- Provide clear and compatible regulation of the carbon market and further globalise the carbon market to ensure its liquidity and effectiveness.
- Promote significant upscaling of R&D and investments in renewable energy and energy efficiency e.g. by setting clear targets and implementation mechanisms.

For Financial Institutions

- Integrate climate change related risks and opportunities into core financial operations.
- Engage with government decision makers to optimise the allocation of available funds to combat climate change and to promote innovation and technology development at local, regional, national, and international levels of governance.
- Reduce one's own direct impacts contributing to climate change and report annual emissions transparently.

1 · CCWG Statement: Where do we stand now?

Two years ago the CCWG considered the future of climate policy from the perspective of the finance sector and set out recommendations to policy-makers on how climate policy should develop up to 2012 and beyond. Since then, moves to adopt long-term targets, and to set targets for renewable energy and energy efficiency, have begun. However, early, clear guidance from the public to the private sector is still lacking on the continuation of the climate policy regime post-2012. There has been insufficient action to foster an appropriate framework to ensure further large-scale investments in renewable energy, energy efficiency and a liquid and efficient global carbon market.

Improvement in scientific understanding of climate change and analysis of the physical and financial requirements for mitigation and adaptation indicate the scale of the challenge to adequately address climate change. Reports by UK economist Sir Nicholas Stern, the IPCC, the UNFCCC, and various financial institutions underscore both the essential need for, and the benefits of, appropriate policy and early action. This will facilitate the contribution the finance sector can make and, to some degree, is making.

> Our understanding of the risks of climate change has advanced strongly, and in particular, we now understand the urgency and scale of action required.
>
> Delay or weak action means greater risks and higher costs. Both reducing emissions and adjusting to climate change involve investment and risk. There is a central role for financial institutions to play in the efforts to combat and adjust to climate change. The finance sector is showing leadership in publishing this briefing while rightly emphasizing how business and government should work together to take timely action.
>
> **Lord Stern**

A number of financial institutions are developing best practice in managing the risks and opportunities associated with climate change through research and product development. However, progress in the sector as a whole has been limited. The necessary policy developments are lagging behind, which is slowing progress. Urgent action is needed to establish an environment where the right investment and financial flows to address climate change can flourish.

The current Conference of Parties/Meeting of Parties in Bali provides a crucial point from which policy makers can provide the guidance to the markets going forward. This is needed to capitalise on the individual and collective responses of financial institutions.

At this juncture the CCWG considers it useful and appropriate not only to take stock of its previous work, but to look at what financial institutions are already doing, and can realistically do, in mitigating and adapting to climate change, given an adequate policy environment.

The CCWG has raised many of these issues in prior briefings. The fact is that in principle it is clear what needs to be done. This has been reinforced by climate science, economic analysis and other factors during the last 12-18 months. However, action to significantly curtail greenhouse gas emissions in all major emitting countries is urgently needed.

Purpose of this briefing

This is the seventh in a series of briefings to policy makers and financial institutions by the Climate Change Working Group (CCWG) of the UNEP Finance Initiative.

The finance sector has an important role to play in addressing climate change, because it can influence investment and financial flows. Against the background of recent assessments and studies, this paper reviews what leading financial institutions are already doing in this respect, and what should be done to extend and deepen these actions across the entire finance sector.

2 · Balancing the Equation: The cost of climate change and necessary investment flows for a low carbon economy

With the landmark publications on climate change by UK economist Sir Nicolas Stern[1], the IPCC[2] and the UNFCCC[3], there is now little doubt that fossil fuel use, land use change and agriculture are the primary sources of increased concentrations of greenhouse gases (GHGs) in the atmosphere. These publications caused a seismic shift in how climate change is perceived on a global scale and made evident that the most severe impacts of climate change (extreme weather events, drought, crop failure etc.) will fall most severely on the poorest regions that are least able to cope with and adapt to the impacts of climate change.

All three – Stern, the IPCC and the UNFCCC – lead to the conclusion that strong and early action to reduce emissions is critical and can dramatically limit the costs of addressing the problem. It is very likely that the benefits of strong and early action far outweigh the economic costs of not acting. Furthermore, not only mitigation, but also adaptation is essential as climate change is already happening and developing countries will be worst affected (see Box 1).

Box 1 Costs vs. investment requirements in view of climate change

Stern Review, 2006

- On current trends, average global temperatures will rise by 2-3 °C in the next 50 years.
- With a 5-6°C warming, a real possibility for the next century, models estimate an average of 5-10% loss in global GDP, with poor countries suffering costs in excess of 10% GDP.
- Net benefits of up to US$2.5 trillion could result from implementing strong mitigation policies from now.

IPCC 4th assessment report, 2007

- **Continued greenhouse gas emissions at or above current rates would accelerate warming** and induce many changes in the global climate system during the 21st century that would very likely be larger than those observed during the 20th century. The best estimate for the low scenario, among those projected by IPCC, is **1.8°C**, and the best estimate for the high scenario is **4.0°C**.

UNFCCC, 2007

- In 2030 global additional investment and financial flows of $200-210bn will be necessary just to return emissions to current levels (0.3-0.5% of estimated global GDP and 1.1-1.7% of global investment in 2030).
- Mitigation actions in developing countries are expected to be more cost effective since 68% of emission reductions will occur there, but only 46% of additional investment and financial flows will be needed in those countries.

Leading financial institutions are noting these developments and taking steps to enhance their own understanding of the economic implications for the finance sector and other economic sectors.

In its two-report series, *The Business of Climate Change*, Lehman Brothers notes that businesses will be affected by climate change itself, but more immediately, they need to be aware of and adjust accordingly to the policies that address it. The Lehman Brothers reports go on to find that most current information is not about what policies look like, but what they *ought* to look like, as most are only proposals. Responsibility in many administrations has rested with environment, technology, energy or industry portfolios, but ultimately will need to move into treasury and finance portfolios. This is where policy design will acquire

1 Stern, N (2006) – Stern Review: The Economics of Climate Change, HM Treasury, United Kingdom, 2006

2 Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report (4AR), 2007

3 UNFCCC Report (2007): the UNFCCC Conference of Parties at its twelfth session (COP12) requested that the UNFCCC analyse investment flows and financing relevant to development of an effective and appropriate international response to climate change, as background for the Bali conference.

a harder edge: that is, not just how to reduce GHG emissions, but how to do so in sufficient volume, at lowest cost.[4]

Analysis by Societe Generale (SG) at the corporate level finds that there will be losers in terms of negative impacts from rising costs for energy, raw material and emissions, and winners who benefit through innovation and new markets. The SG methodology aims to allow investors to identify the least carbon intensive industries or the least carbon intensive companies within industries.[5]

Reports by UBS also examine how climate change impacts different economic sectors, companies and individuals and what they can do to deal with the risks.[6] They note that governments are expected to push behavioural change through mitigation and adaptation policies, which quickly will have macro-economic effects. Risks for sectors and companies may emerge from a number of directions, affecting sales growth, margins, capital cost, competitive positioning or other aspects of the business model. The strategic responses of sectors and companies are likely to drive debt and equity prices.[7] UBS found that global policies to create incentives to reduce emissions were virtually non-existent. The most important driver for mitigating climate change, and consequently the most important driver for related investments is the future regulatory framework.

All these reports agree that the challenge of climate change is enormous, both for the public and the private sectors. Financial institutions can play an important role due to their crucial function in channelling investment flows. To the extent that policy frameworks exist, the leaders are already demonstrating their willingness to respond as outlined in the next chapter, but in general engagement on the issue is still weak. As is clear from Stern, the IPCC and UNFCCC reports, much more is needed in terms of the necessary timing, scale and direction of finance and investment flows. Much more is also needed in terms of the policy frameworks to make it happen.

3 · Taking Stock: Finance sector initiatives to date

In the five years since the first CCWG CEO briefing, leading financial institutions have taken noteworthy strides in understanding and reacting to the issue of climate change. This has been done through:

- Contributions to improved knowledge of the cost of potential impacts;
- Responses to policy frameworks like the Kyoto Protocol, the EU Emissions Trading Scheme (EU ETS) or the various existing Renewable Energy Laws (e.g. in Germany, Spain, China etc.) that paved the way for channelling investment flows towards low carbon technologies, and;
- Responses to growing stakeholder and public awareness of climate change and pressure for the integration of climate change considerations in finance sector institutions.

However, these developments can only be regarded as modest beginnings in view of the scale of the climate change problem and future energy investment needs.[8]

Private and public finance sector initiatives in relation to climate change to date are most obvious in:

4 Lehman Brothers: *The Business of Climate Change* (February 2007); *The Business of Climate Change II* (September 2007)

5 Societe Generale Cross Asset Research – *CREAM-ing carbon risk* (June 2007)

6 UBS Wealth Management: *UBS research focus Klima wandel: Ein heisses Thema* (January 2007); UBS Investment Research Q Series: *Reacting to Climate Change* (June 2007);

7 Investors are already responding: see for example, the JP Morgan Environmental Index – Carbon Beta enables credit investors to make return driven investment decisions that systematically take account of risks and opportunities from global warming in the corporate bond market, while the Merrill Lynch Carbon Leaders Index is based on companies with low carbon profiles and is aimed at institutional investors.

8 For instance, in the period to 2030 US$17 trillion of investment will be required in the energy sector. See *World Energy Outlook*, International Energy Agency, Paris 2005.

- The development of the carbon markets;
- The growth of investments in renewable energy sources and energy efficiency;
- The development of financial products tailored to climate change mitigation and adaptation;
- The increasing capacity building within financial institutions (e.g. set up of business units and operational units dealing with climate change-related issues);
- Private-public-partnerships and capacity building initiatives to raise awareness, and;
- The investment taken by financial institutions in relation to internal emission controls, energy efficiency measures, purchasing from green energy sources, and emissions offsetting.

Financial institutions as key players in carbon markets and carbon funds

The carbon market grew in value to an estimated US$30bn in 2006, three times greater than the previous year. The market was dominated by the sale and re-sale of European Union Allowances (EUAs) at a value of nearly US$25bn under the EU ETS. Project-based activities primarily through the Clean Development Mechanism (CDM) and Joint Implementation (JI) grew sharply to a value of about US$5bn in 2006.[9]

Financial institutions are key players in the carbon market and they provide a variety of services. Apart from pure carbon trading and carbon risk management services, for example, they develop new risk hedging products and provide various types of insurance cover for their clients.

In addition, more and more private and public financial institutions provide investment money for carbon funds that invest in emission reduction credits. In the period September 2006 to March 2007, carbon funds increased in value by US$4.7bn or approximately 50% to US$11.8bn. There were 58 funds, covering the full carbon value chain from compliance purchasing through to intermediary trading and project development. There is also a trend for more money to flow into the essential process of developing and commercialising CDM and JI projects, rather than simply being set aside to purchase the credits as and when they are issued.[10] Financial institutions play a crucial role in this respect.

Financial institutions facilitate global investment in renewable energy and energy efficiency

Financial institutions play a key role in facilitating and channelling investments to renewable energy and energy efficiency projects. Investment capital flowing into renewable energy jumped from US$80bn in 2005 to US$100bn in 2006.[11] Of the 176 funds set up by financial institutions seeking clean energy investment opportunities, 150 disclosed almost US$18bn under management. This figure does not reflect the full amount available for investment in sustainable energy, however, as general infrastructure funds as well as technology funds and hedge funds are of utmost importance. To put this in perspective, however, in 2006 $110-125bn was invested in about 120GW of new power generation globally, of which about 18% was renewables plant financing.[12] Investments in the supply side and demand side energy efficiency sector are also playing an important role, with energy efficiency meeting one-half of all new demand for energy services globally, since 1990. These savings are in the order of 3bn tonnes of oil equivalent, with a value of US$6 trillion (based on an average price of US$27).[13] In this instance, financial institutions serve as the principal facilitator and provider of capital.

9 State and Trends of the Carbon Market 2007, The World Bank, May 2007

10 New Energy Finance (2007) - Global Trends in Sustainable Energy Investment 2007, UNEP and New Energy Finance Ltd, June 2007

11 New Energy Finance (2007)

12 New Energy Finance (2007) In addition, the NEF Monthly Briefing (vol5, issue5) Sept 2007, in an article 'Clean Energy Funds: An Expanding Universe' it states "Over the last 12 months, the value of funds investing in cleantech, clean energy or renewable power projects has grown by more than 70%. As at mid-September 2007, 174 funds had disclosed a total of USD 22.5 bn under management. A further 29 did not disclose a value."

13 New Energy Finance (2007)

Development of financial products, R&D, capacity building and stakeholder partnerships

Many of the initiatives being taken by financial institutions are targeted at, or directly involve stakeholder groups. These include new products providing benefits tied to client behaviour with respect to climate change, traditional and new products specifically geared for new technologies, and research to enhance understanding of impacts and adaptation options. In particular, institutions have formed partnerships with government bodies or NGOs to pursue research, implement new climate specific products, or roll-out broad scale measures addressing mitigation and adaptation.

Direct emission reductions, energy efficiency activities and offsetting by financial institutions

Financial institutions have also taken significant strides in addressing their own emissions and a number have committed to becoming carbon neutral. Internal audits to reduce unnecessary energy usage and loss and to enhance the efficiency of facilities, buildings, equipment and processes provide cost savings as well as emission reductions. Many institutions also address their own climate impact by purchasing electricity from renewable sources and offsetting their remaining unavoidable emissions through purchasing project-based emission reduction credits. These activities provide excellent examples for finance sector peers who are slower or yet to act.

Concrete examples of initiatives from specific institutions are set out in the following box[14]:

Box 2 Examples from financial institutions to combat climate change

Engagement in carbon markets and carbon funds

- **Bank of America** formed a joint venture with Climate Exchange plc (CLE) to develop a series of carbon-related products and services utilizing CLE-linked offsets for Bank of America's retail and institutional clients, and becoming a liquidity provider on the Chicago Climate Exchange, European Climate Exchange and the Chicago Climate Futures Exchange.
- **Caisse des Dépôts** and **Fortis** initiated the European Carbon Fund (ECF) in 2004. The ECF has over €142m in secured funds from 13 major financial institutions and is managed by Natixis Environnement & Infrastructures.
- Development Banks like the **Corporación Andina de Fomento (CAF)**, the **Japan Bank for International Cooperation (JBIC)**, the **Kreditanstalt für Wiederaufbau (KfW)** and the **Instituto de Crédito Oficial (ICO)** provide substantial investments for carbon funds to be invested in CDM and JI projects.
- **Fortis** purchases and on-sells project credits from developing countries' projects fostered by the UNDP Millennium Development Goals (MDG) Carbon Facility.
- **Morgan Stanley** and the certification company Det Norske Veritas (DNV) founded the Carbon Bank aiming to fulfil the needs of environmentally conscious customers.
- **Swiss Re** has set up a team acting in the world wide emissions markets. The team engages in both structured risk transfer products for carbon funds and compliance buyers as well as secondary carbon market trading.

Global investment in renewable energy and energy efficiency

- **Allianz RCM's** Global EcoTrends fund has a €1bn portfolio of companies dealing in renewable energy, pollution control, and clean water.
- **Barclay's** Climate Action Programme includes a commitment to renewables through long-term finance to e.g. onshore windfarms, biomass plants, and biodiesel conversion plants.
- **Citigroup** announced plans to direct US$50bn over the next 10 years to address global climate change through investments, financings and related activities to support the growth of clean technology.
- In cooperation with **Merrill Lynch** and **Dresdner Bank**, the **European Investment Bank** issued a €600m-1bn "Climate Awareness Bond", which will apply the capital raised to invest in renewable energy and energy efficiency projects.
- **Swiss Re** closed its European Clean Energy Fund with a value of €354 million acting as anchor investor. Swiss Re also maintains a Sustainability Portfolio of own investments in alternative energy with a value of CHF 500 million.

14 A good overview of activity in the insurance sector is given in From Risk to Opportunity: 2007 Insurer Responses to Climate Change Ceres, October 2007

Development of financial products

- **Allianz** launched ECOmotion, the first climate neutral car insurance. ECOmotion is a car insurance that neutralizes the annual CO_2 emissions of the insured vehicle.
- **AXA** France has launched within all major cities a motor insurance product with a leasing offer that combines the advantage of driving a small car with low GHG emissions during working periods with the possibility to have a larger car only for vacation periods or over week-ends.
- **Bank of America** has committed US $20 billion to support business activity addressing climate change. The 10-year program encourages development of environmentally sustainable business practices through lending, investing, and the creation of new products and services.
- Within Barclay's Climate Action Programme, **Barclaycard** launched its initiative called 'Breathe': 50% of the Barclaycard's Environment Credit Card net profits go to projects tackling climate change.
- **Caisse des Dépôts** provides loans at a preferential rate to build energy efficient social housing.
- **CarbonRe** has introduced Carbon Delivery Guarantee Insurance for non-delivery in carbon credit transactions.
- **HSBC** has introduced the HSBC Global Climate Change Index which tracks the performance of 300 companies who are benefiting from exposure to climate change aligned products and services. HSBC has also launched a Global Climate Change Fund for clients to invest in this index.
- **JPMorgan Chase** provides a mortgage home loan product with higher debt-to-income ratio criteria for energy efficient homes and seeks investments in low-income "green" housing that conserves energy.
- **Munich Re's** approach to climate change includes new markets/products as one of three strategic elements: examples include Kyoto Multi Risk Cover for delivery of carbon credits. Munich Re is a founding member of the Munich Climate Insurance Initiative (MCII), striving to develop insurance-related solutions to help manage the impacts of climate change in developing countries.
- **SAM** has launched several equity funds which follow the additional demand triggered by climate change including Energy, Climate Mitigation, Climate Adaptation and Water.
- **Standard Chartered** has committed to prioritise accelerated growth of its emerging market renewable and clean energy business through a Clinton Global Initiative pledge to finance US$8-10 billion of renewable and clean energy projects in Asia, Africa and Middle East over the period 2008-2012.
- **UBS** has developed the World Emissions Index (UBS-WEMI), the first of its kind globally, and the UBS Global Warming Index. Index-linked products allow clients to participate in the indices.

Stakeholder and R&D partnerships and capacity building

- **ABN AMRO, Citi, Deutsche Bank, JPMorgan Chase**, and **UBS** partnered with the Clinton Climate Initiative and a coalition of city governments and private sector firms to launch a landmark program aimed at significantly reducing energy consumption in buildings in 15 cities around the world.
- **Bank of America** has entered into a US$1 million partnership with Ceres and the UN Foundation to advance policy and related action in the US to encourage energy efficiency and modernization of the electricity distribution grid.
- The 5 year, US$100m **HSBC Climate Partnership,** with The Climate Group, WWF, The Smithsonian Tropical Research Institute and the Earthwatch Institute, was formed in 2007 to respond to the urgent threat of climate change worldwide.
- **JBIC** is piloting a web-based Carbon Credit Trading Platform through which members can register project based credits particularly for small buyers with the voluntary reduction target led by Keidanren and that might ultimately be transferred to the government for offsetting against emissions.
- **Swiss Re**, together with the Earth Institute at Columbia University and the Millennium Promise Alliance, have pioneered weather derivative contracts protecting villages in Africa against severe drought.
- **UNEP FI's CCWG** has initiated an e-learning course on climate change and finance to build capacity and raise awareness among financial institutions across the globe.

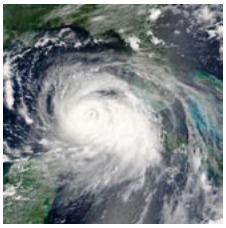
Internal emission reductions, energy efficiency improvements and offsetting by institutions

- **Aviva** became the first insurer to carbon neutralise operations on a worldwide basis.
- **Caisse des Dépôts** has been carbon neutral since 2006.
- **Fortis** launched its carbon neutrality programme in 2006.
- **HSBC** was the first major bank and first FTSE100 company to become carbon neutral.
- **Munich Re's** head office operations in Munich will be carbon neutral by 2009 and all worldwide reinsurance activities by 2012.
- **SAM** has offset all carbon dioxide emissions since 2001 and reduced emissions per employee by 20% since 2001.
- **Swiss Re** was the first major financial services company to launch a voluntary programme in 2003 to become greenhouse gas-neutral.

R&D

- The **AXA Research Fund** of €100m supports academic research on the comprehension and prevention of core risks for the human being and his environment, including environment and climate.

4 · Where to now for policy?



Leading financial institutions are responding to the challenge of climate change and related regulations. However, that response is not enough to mobilise the financial flows necessary to achieve deep emission cuts. A recent survey showed that even large companies in the finance sector averaged only 40 out of 100 in terms of the quality of their management of climate change risks and opportunities[15]. The scale of the problem requires further action by policy makers to provide long-term investment horizons and, hence, to pave the way for further large-scale investment towards a low carbon economy.

The international climate policy regime initiated by the UNFCCC is not the only forum in which climate change policy has been receiving attention. Climate change was a priority during the UK's presidency of the G8 in 2005 that developed the Gleneagles plan of action covering climate change, clean energy and sustainable development. Earlier in 2007, the G8 under the German presidency discussed the issue at Heiligendamm. Leaders agreed that "resolute and concerted international action" was urgently needed. They also agreed to consider the proposals from Germany and Japan to aim for a 50% reduction by 2050. The EU has committed to 20-30% GHG reduction by 2020 and 60-80% by 2050. The leaders of the Asia-Pacific Economic Cooperation (APEC) forum in September agreed to a statement proposing that developing countries commit to energy efficiency targets, while richer countries from the grouping acknowledged their greater responsibility for combating climate change.[16]

Climate change has also been receiving attention at the domestic policy level. In Germany, for example, a reduction target of 40% by 2020 based on 1990 levels has been adopted. In China, the State Environmental Protection Agency has announced a blacklist of 30 polluting companies that would be prevented from receiving bank loans under the "green credit policy" implemented in conjunction with the People's Central Bank of China. In New Zealand, the government is considering regulatory options to limit new baseload fossil fuel generation over the next ten years. A majority of US states have instigated measures to limit and reduce emissions.

The CCWG greatly welcomes all these initiatives and will support them wherever possible. However, in order to steer the private sector, and in particular the private financial sector in the right direction, policy makers need to achieve more concrete and far reaching results very soon. They need to address the scale of necessary actions and the timeframe, so that investors can assess the changes to the markets in which they are operating. At present, investors are not receiving a clear enough set of signals that policymakers are taking climate change seriously. As such, they may find it difficult to justify investment decisions that are based upon potential future regulatory action.

Figure 1 shows the erratic behaviour of carbon prices from January 2006 to October 2007. While this may be useful for short-term trading, it clearly does not encourage long-term investment.

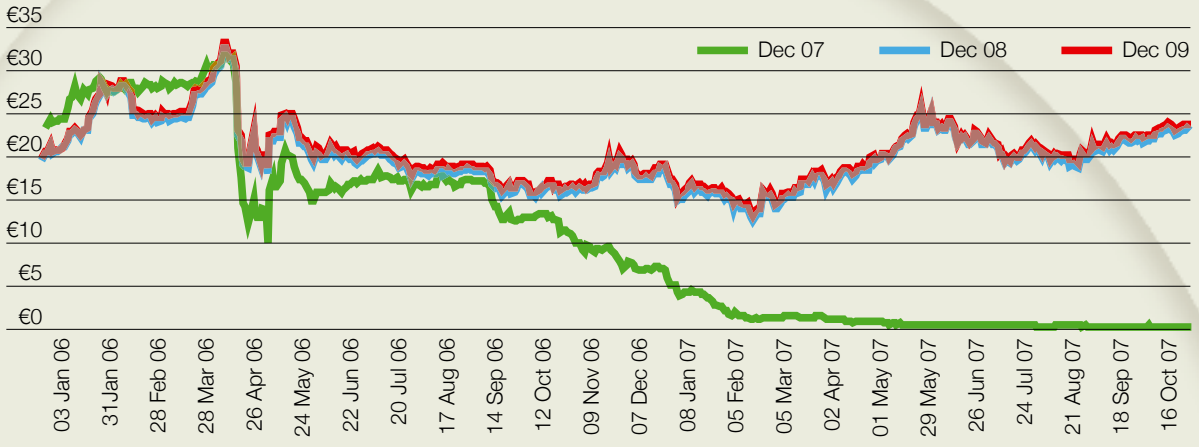
The CCWG recommends that policy makers:

- End the uncertainty over international climate policy post-2012 through clear regulation including setting long-term emission reduction targets post-2012, especially for the critical period 2013-2030. This should be set no later than 2009.
- Ensure a systematic approach to adaptation that integrates climate change into existing and new programmes on disaster reduction and management, and sustainable development.

15 Carbon Disclosure Report 5, 2007

16 Other international climate policy initiatives include The Midnight Sun Dialogue on Climate Change between 28 countries and the EU convened in Sweden in June 2007, the Vienna meetings pursuant to the dual processes established under the UNFCCC and Kyoto Protocol, the UN High-Level Ministerial Meeting on Climate Change convened by the UN Secretary-General in September and the US-Hosted Meeting of Major Economies on Energy Security and Climate Change that followed immediately after.

Figure 1 **Daily price index**



- Provide compatible regulation on carbon markets and further globalise the carbon market to ensure its liquidity and effectiveness.
- Promote significant upscaling of R&D and investments in renewable energy and energy efficiency. This can be done by:
  - — levelling the playing field with conventional fuels, through, for example, the removal of subsidies for dirtier, less efficient production and uses;
  - — reflecting environmental and security of supply benefits by setting ambitious goals for renewable energy generation with clear support mechanisms, or
  - — by imposing standards for energy efficiency or limits on emissions.
- Involve finance and treasury functions in this area, in order to ensure the efficient use of available funds and financial mechanisms, and the engagement of the private finance sector.

These recommendations are not new, but they must be addressed now.

Emission caps: Setting the scene

The main policy focus at the international level is undoubtedly on what, if any, legally binding commitments will follow the Kyoto Protocol's first commitment period ending in 2012. The need for prompt and focused negotiations to resolve this question is imperative, since binding limitation and reduction commitments are critical to internalise the social and environmental cost of global warming and define a price for carbon. Despite the growing sense of urgency both in the public consciousness and amongst policy makers, the international negotiating process is still too slow. Investors and business require medium and long-term investment horizons of 10-20 years. This is particularly the case for those making 20-30 year investments in plant and infrastructure. Policy decision makers must end the uncertainty over the international carbon market post-2012 by initiating a clear, decisive process to either extend the Kyoto Protocol into a second commitment period or provide for a successor agreement. The CCWG is supportive of ambitious targets, such as the emission reduction target of 50% by 2050 proposed at the G8 Summit in Germany, and the EU reduction target of 20-30% by 2020, and 60-80% by 2050.

Adaptation

Adaptation to climate change is essential as it is no longer possible to prevent the changes that will occur in the next 20-30 years. According to one scenario, extreme weather losses could reach over US$1 trillion in a single year by 2040[17]. All countries will be affected, but the

17 UNEP FI CCWG (2006): Adaptation and Vulnerability to Climate Change: The Role of the Finance Sector, November 2006

most vulnerable, the poorest countries, will suffer soonest and the most.[18] Policy makers must ensure a systematic approach to adaptation that integrates climate change into existing and new programmes on disaster reduction and management, and sustainable development.[19] The issue needs to become mainstream – both for policy makers to ensure that responses to projected impacts are integral to decision making at all levels, and for financial institutions to factor into business planning and strategies, portfolio management and at individual transaction level. The global cost of adaptation is difficult to estimate, but a large amount of new and additional investment and financial flows will be needed to address adaptation by 2030. These are estimated to be in the order of US$40bn for agriculture, forestry and fisheries, water supply, human health and coastal zones. For adaptation of new infrastructure the estimate ranges from US$8-130bn.[20]

The international community should also promote adaptation through improved monitoring and prediction of climate change, better modelling of regional impacts, and development and deployment of drought and flood resistant crops. Efforts should be increased to build public-private partnerships for climate related insurance, strengthen mechanisms for improving risk management, disaster response and refugee resettlement.[21] One key measure that would enable faster progress would be open access to climate-related data sets.

Support a global carbon market

To address the additional investments needed for mitigation in the short- to medium-term (US$200-210bn by 2030) the scale of the carbon market would need to be increased considerably.[22] Creating a global carbon market and using carbon finance to accelerate growth in developing countries are considered urgent priorities for international co-operation. A functioning international market first needs the various nationally evolving emissions trading schemes to be designed to facilitate interconnection. As the CCWG has noted previously, widening the scope of emissions trading systems by linking the EU ETS with national and regional schemes in the north-eastern states of the US (RGGI), on the US west coast, in New Zealand, the NSW GGAS[23] and other schemes could provide an important impetus for further market development and reduce price volatilities while increasing liquidity.[24] There is a need for the carbon market to become more global and compatible to bring down transaction costs. There is also an urgent need for consistent standards, documentation and market regulation as key components to underpin rapid market growth. A truly global carbon market would stimulate demand for projects that generate GHG reduction credits. This demand could be as high as 6bn tons of carbon dioxide equivalent and worth as much US$100bn in 2030, according to the UNFCCC, based on the eventual participation of the US and Australia. Demand for credits from CDM and JI projects would stimulate financial flows in the developing world where they are most needed.

Support investments in renewable energy and energy efficiency

Scaling up international private and public capital in renewable energy and energy efficiency investments is one of the main challenges for policy makers. Expanding the carbon market is one way to achieve this. However, the reality is that investors are just getting used to the carbon market regulatory framework. Other policy measures are necessary to create a framework that is clear, stable and long-term in which commercial level returns can be made. The interest from the finance and investment sector is there and will remain.

18 Stern, N (2006)
19 See also UNEP FI's CCWG (2006): Adaptation and Vulnerability to Climate Change: The Role of the Finance Sector
20 UNFCCC Report (2007)
21 Stern, N (2006)
22 UNFCCC Report (2007)
23 New South Wales Greenhouse Gas Abatement Scheme
24 The CCWG highly welcomes the set up of the International Carbon Action Partnership (ICAP) in October 2007. ICAP is lead by senior officials from the European Union, three U.S. states, Canada, Norway and New Zealand and intends to push for a worldwide carbon marketplace.

Governments, primarily at the national level, set the rules for the markets in which investors operate. Steps that governments can take to help shift investors towards lower GHG emitting technologies include overcoming policy barriers to entry by reducing or removing subsidies for dirtier, less efficient production or uses, and by reducing or removing standards that inhibit implementation of low carbon solutions, such as in the case of building and zoning codes. Governments can also help by imposing GHG limits/standards, providing guarantees in lending and insurance for pilot technologies to close the investment gap for the private financial market and imposing carbon taxes or similarly based charges. They can also encourage innovators by creating tradable rights to reward investments, by offering fiscal incentives for lower carbon methods, or by providing direct support for lower carbon activities. Filling information gaps by requiring data disclosure on GHG emissions, supporting voluntary disclosure initiatives, or directly providing data helpful to potential investors (e.g. on wind resources) can also facilitate a shift in the patterns of investment and financial flows. Technology policy needs to foster the development and deployment of a wide range of low carbon technologies essential to achieving deep cuts in emissions. For this to occur, a doubling of public spending on research, development and demonstration to around US$20bn per annum globally to support such development would provide high returns.[25]

The private sector is the major driver of innovation and the diffusion of technologies around the world. As well as a firm, legally based policy agenda at national or regional levels, governments can help promote international collaboration and overcome barriers through informal arrangements and partnerships that promote public-private co-operation such as the Asia-Pacific Partnership.

Box 3 A policy maker's timetable

2009/2010

- Global agreement on long-term plan to fight global warming and agreement on post-2012 framework 2013-2024;
- Determination of the post-2012 commitment framework;
- Medium and long-term targets adopted for limiting and reducing emissions to avoid dangerous anthropogenic interference with the global climate and to provide clarity for private sector investment and market development;
- Increased development of national level policies fostering scale, timing and direction of investment and financial flows into renewable energy and energy efficiency, public-private partnerships for new technology roll-out;
- Linking of national and regional emissions trading schemes to create a truly global carbon trading market.

2013 and beyond

- Review of Kyoto Protocol and first commitment period;
- Substantial growth in adaptation measures in conjunction with development pathways for less developed countries;
- Provisional targets for 2024-35 should be drafted.

5 · Optimising the finance sector's contribution

The preceding sections review current analyses of the estimated costs and investment flows required to address climate change (section 2), survey initiatives that individual financial institutions are already taking to address it (section 3), and canvass policy recommendations for governments (section 4). In the light of these, the following questions need to be assessed when looking at the role of financial institutions in combating climate change:

- What is the role of the finance sector in mobilising finance and the right investment flows?
- What is the role of the finance sector in relation to indirect emissions?

25 Stern, N (2006)

- What are the main recommendations in view of financial sector responses to climate change that financial institutions should adopt?

Role of the finance sector in mobilising finance and investment flows

A significant number of financial institutions are already mobilising investments and directing financial flows into the carbon markets, investing in renewable energy and energy efficiency technologies, and experimenting with alternative ways of financing weather risks. However, these flows need to increase substantially in the next 10-20 years.

Each public and private financial institution has its own investment criteria, procedures, rules and guidelines that determine how and where it makes investments for the benefit of its stakeholders. They apply these criteria and procedures in the context of their operating business environment. How far then should institutions go to influence the formulation of policies that shape their business environment? Calls are being made in some quarters for financial institutions to act more aggressively by simply cutting off finance to high carbon emission activities.[26] However, these calls do not account for the broader economic and business context in which financial institutions operate. They are in effect asking the financial institutions to take a hand in determining economic policy.

Financial institutions make the investment decisions, but it is national governments that set the rules for the markets in which they invest and operate. The proper role of governments is to manage the overall economy, with appropriate input from all sectors and stakeholder groups. Individual institutions will make decisions to invest or not invest in a particular case, but that will be a matter for their decision making processes and policies, as set by their own stakeholders' priorities.

In raising these questions, the CCWG considers that ultimately it will be up to individual institutions to assess their response in the context of their own particular economic, commercial, stakeholder and social circumstances. It is clear that the risk posed by climate change and climate change policy is serious and immediate. There is no doubt that the investment environment is changing as a result. The example of the recent buy out of energy generator TXU in the US is pertinent. Investors substantially reduced proposals for new coal-fired power station development by the company, because they felt that the cost of carbon would rise substantially in future. The CCWG raises these questions for discussion to underscore the importance of the issues and the need for executives to consider their position and how to position their institution to leverage new investment opportunities.

Similarly, insurers cannot simply accept weather risks without due assessment, or ignore the degree of risk in pricing them. By working proactively with stakeholders and regulators, insurers could greatly improve the resilience of economic and consumer assets, and extend insurance services into developing countries. However, there will always be a need for the public sector to underpin those sectors which are at highest risk.[27]

What is the finance sector's role in relation to indirect emissions?

The finance sector is making a significant push to reduce its own direct impact through, for example, carbon neutral initiatives as HSBC, Fortis and others demonstrate. However, another issue is whether the financial sector's role should end there, or should it go further and attempt to influence the emissions of key stakeholders such as clients?

Various actions by financial institutions might influence the emissions behaviour of their clients. This can include policy statements by organisations like Citigroup that might have an

26 Point Carbon reported 03.10.07 that a US-based environmental group had called for Citigroup and Bank of America to stop providing finance for the construction of new coal fired power generation. It is noted that the Stern Review concludes coal will continue to be important in the global energy mix in 2050, emphasizing the need for extensive CCS.

27 For more information see UNEP FI CCWG (2006): Adaptation and Vulnerability to Climate Change: The Role of the Finance Sector

impact on clients, the Carbon Disclosure Project (CDP),[28] or the more direct approach taken by JPMorgan Chase (see Box 4). Another example is Bank of America, which measures the collective GHG emissions intensity of their utility portfolio and has set an emissions reduction goal for this portfolio.

Box 4 JPMorgan Chase Risk Policy

Under JPMorgan Chase & Co.'s Risk Management Policy, the Bank will:

- Add carbon disclosure and mitigation to client review process;
- Quantify the cost of GHG emissions and integrate them into financial analysis of project transactions in the power sector;
- Work with clients to develop favourable financing solutions to fund development of relatively lower emitting technology solutions;
- Apply higher debt income ratio criteria for energy efficient homes in its mortgage home loan product;
- Seek investments in low-income "green" housing that conserves energy.

In September 2007, a broad coalition of investors (representing more than US$1.5 trillion in assets), US state officials with regulatory and fiscal responsibilities, and environmental groups petitioned the US Securities and Exchange Commission to require publicly traded companies to assess and fully disclose their financial risks from climate change.

For financial institutions, risk is the primary determinant of the influence they might bring to bear e.g. on a corporate borrower. The materiality of risk due to climate change has undoubtedly increased. What can and must be done by financial institutions is factor climate risks into lending policies, investment decisions and insurance risk calculation and pricing, and make it clear to their stakeholders what the business impacts of climate change will be. However, in the end, it is the clients themselves that must take ownership of their emissions and their mitigation in order to remain viable. How a bank, insurer or asset manager concretely perceives its role beyond factoring in climate risk considerations to its financial decision making processes again will be a matter for individual institutions to assess in the context of their own particular economic, commercial, stakeholder and social circumstances. The CCWG underscores the importance of these issues and the need for executives to consider their position and how to best position their institution to manage climate-related risk in their client relationships.

What are the main recommendations in view of finance sector responses to climate change that financial institutions should adopt?

Considering the scale of the problem and the existing climate policy frameworks, it becomes evident that both private and public financial institutions globally need to integrate climate change related risks and opportunities into their core financial operations. This is necessary not only to manage climate change related risk, but also to leverage the various opportunities climate protection related products and services offer. This includes assisting clients to assess their exposure to climate change, providing products and services that improve the client's climate change risk management and integrating climate change related risks into investment and lending policies. There is a lack of climate change capacity and knowledge within financial institutions, especially in developing countries. However, knowledge transfer can be provided, for example, in the form of the CCWG's e-learning course on climate change and finance.

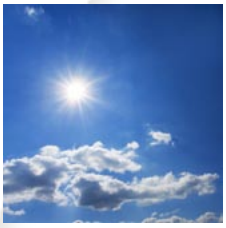
Public and private financial institutions need to reduce their own direct impact and report their annual emissions transparently. This should be state-of-the-art in all sectors of the economy. However, only some financial institutions have taken action on this, but many more should do so.

Finally, as important contributors to all levels of the broader economy, financial institutions' roles do not end with financial decision making. In common with other sectors and

28 CDP currently involves 315 investors representing $41 trillion in funds under management writing to 2400 of the world's largest corporations asking about their carbon emissions and reporting the responses: www.cdproject.net

stakeholders, financial institutions and the finance sector as a whole have important roles to play in helping policy decision makers create the right policy environment to mobilise investments and direct financial flows to address climate change. Financial institutions need to engage with government decision makers in all the relevant ministries on policies and incentives to combat climate change at the local, regional, national and international levels. Firstly, such activities should be directed towards the optimisation of the allocation of available funds by spreading investment risks across both public and private sectors in, for example, the early deployment of new technologies and the promotion of innovation and technology developments through public-private research projects. Secondly, they should be directed towards the creation of a global carbon market based on policies that share the burden of carbon limits equitably.

6 · Conclusion



The finance sector has a vested interest in a strong, stable world economy. The evidence is becoming clearer and stronger all the time, not only of the threat climate disruption poses to the global economy, but concerning the timing, scale and direction actions need to take to mitigate and abate that threat.

Strong, early action to reduce emissions can limit costs to around 1% GDP annually but failure to act will result in costs and risks equivalent to losing at least 5% GDP annually and as much as 20% if a wider range of risks is taken into account. By 2030, additional investment of approximately US$200-210bn (or between 0.3-0.5% GDP) is projected to be needed just to bring emissions down to current levels.[29] In order to reach the objective of reducing global emissions by 50% by 2050 and to address additional needed investment and financial flows, there is an urgent need to significantly expand the international carbon markets.

Financial institutions can play an important role due to their pivotal function in channelling investment flows. To the extent that policy frameworks exist, the leaders are already demonstrating their willingness to respond. However, much more is needed from the finance sector and from policy makers in terms of the necessary timing, scale and direction of finance and investment flows. Policy frameworks play a crucial role in clearly defining the ambition level and seriousness of governments. Confidence in the regulatory regime can make this happen and so galvanise the majority of financial institutions.

In the last five years, UNEP FI and its members have urged international policy makers and governments to take greater and more concerted action, and have pushed for effective market-oriented solutions in tackling adaptation and mitigation.

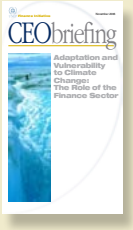
Financial institutions are, first and foremost in business, not policymaking and not government. They have a broad stakeholder base, and as a sector of the economy and part of the global community, need to recognise their responsibility in contributing to the global response to climate change. However, an adequate policy environment is necessary to optimise the finance sector's contribution. The challenge is to ensure that policy makers at Bali, at the national government level and in other domestic policy setting bodies, are fully cognizant of the important role the finance sector can play in responding to the climate change challenge.

29 UNFCCC (2007)

Recent publications from UNEP FI

Climate Change

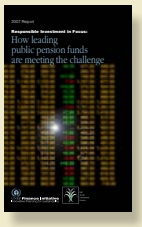
CEO Briefing - Adaptation and Vulnerability to Climate Change: The Role of the Finance Sector (2006)



The UNEP FI Climate Change Working Group report, launched at the UNFCCC COP 12 in Nairobi, calls for a new approach on part of governments and the private sector to address the physical changes that climate change will bring, integrating adaptation with sustainable economic development and disaster management.

Investment

Report – Responsible Investment in Focus: How leading public pension funds are meeting the challenge



This report contains 15 case studies offering a snapshot of some of the most advanced approaches to responsible investment around the world. It is intended to serve as practical guidance for the institutional investment community, particularly trustees of pension funds, foundations and life insurers, and their agents, on how and why leaders integrate environmental, social and governance considerations into their investment processes.

Report – Unlocking Value: The scope for environmental, social and governance issues in private banking

This publication addresses the question of why responsible investment has at best been modest in private banking compared to the surge it has experienced in institutional asset management. It analyzes private clienteles' potential demand for responsible investment products, the special characteristics of the wealth management industry and the barriers to the further uptake of ESG-inclusive investment strategies in private banking.

Insurance

Report – Insuring for Sustainability: Why and how the leaders are doing it

Today, the insurance industry faces the great challenge of coping with a rapidly changing risk landscape, one from which global sustainability issues have emerged, and continue to emerge. The risks that these issues entail are serious, while the opportunities, largely untapped. It is therefore insightful, as a starting point, to look at what leading players are doing in addressing some of the most challenging global sustainability issues, and to recognise the vital role the insurance industry can play.

Sustainability Reporting

Report – Sustainability Management and Reporting: Benefits for Financial Institutions in Developing and Emerging Economies

The take up of SMR by financial institutions especially in developing countries is still low whilst the financial sector plays an important role in sustainable development as intermediaries to the allocation of financial capital. UNEP FI identifies lack of awareness and capacity as the two main barriers hindering many financial institutions to implement SMR. The report aims to address both these barriers by first setting out a business case for SMR.

About the UNEP Finance Initiative

The United Nations Environment Programme Finance Initiative (UNEP FI) is a strategic public-private partnership between UNEP and the global financial sector. UNEP FI works with over 160 financial institutions that are signatories to the UNEP FI Statements, and a range of partner organisations, to develop and promote linkages between the environment, sustainability and financial performance. Through a comprehensive work programme, regional activities, training and research, UNEP FI carries out its mission to identify, promote and realise the adoption of best environmental and sustainability practice at all levels of financial institution operations.

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