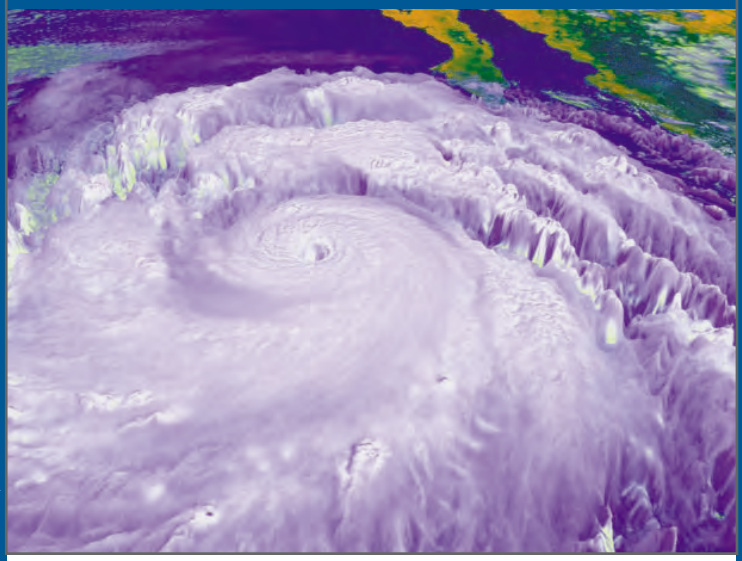
UNEP **Finance Initiatives**
Innovative financing for sustainability

CEO briefing

A document of the UNEP FI Climate Change Working Group



© 2001 PhotoDisc, Inc

Climate risk to global economy

Climate change poses a major risk to the global economy. The increasing frequency of severe climatic events, coupled with social trends, has the potential to stress insurers, reinsurers and banks to the point of impaired viability or even insolvency. Worldwide economic losses due to natural disasters appear to be doubling every 10 years and, on current trends, annual losses will reach almost $150 billion in the next decade.

The greenhouse gases (GHGs) which create this problem are long-lived so action is urgently needed. A long-term international political framework for climate stability is essential. The Kyoto Protocol, under which many industrialised nations have pledged to curb their emissions of GHGs by 2012, is an important step but does not go nearly far enough.

To ensure future economic development is sustainable, it must be based on the principles of precaution and equity. This will be achieved more quickly, and with less economic dislocation, by harnessing market mechanisms with a skilful blend of policies and measures.

The financial sector therefore has a key role to play in delivering market solutions to climate change. Examples include GHG emissions trading markets and finance for clean energy technologies. By some estimates, the former could be a $2 trillion/year market by 2012 while the latter could be worth $1.9 trillion by 2020.

Key findings of UNEP's Finance Initiatives study

Four main barriers are holding back financial institutions from a more proactive stance:

- Many are unaware of the gravity of the issue, or see no financial reasons to tackle it.
- Disagreements and delay in reaching a durable framework for international and national policy have discouraged financial institutions from early engagement.
- It is difficult to integrate the climate change issue into financial assessments because of a lack of information on corporate emissions and strategies.
- The uncertain prospects for alternative energy technologies and the early state of the emissions markets have deterred investors.

Recommendations

Financial institutions, associations and professionals should (where relevant to their business strategy):

- become more familiar with the threats and opportunities posed by climate change issues;
- incorporate climate change considerations into all their business processes; and
- work directly with policy-makers on effective strategies for mitigation and adaptation.

Policy-makers should:

- reach consensus on a global framework for climate stability based on precaution and equity;
- accelerate policies and measures that will establish a clear value for GHG emission reductions;
- support awareness raising in the financial sector; and
- work with the financial community to ensure that adaptation and mitigation programmes are fully effective.

UNEP FI should initiate three task forces:

1. An awareness raising task force of senior finance sector executives to inspire individual financial companies to engage on climate change.
2. A project team to develop a quantitative methodology for asset managers that will capture the implications of climate change regulations.
3. A team to develop a project finance methodology that integrates the full range of projects' environmental aspects, including climate change.

Climate Change and the Financial Services Industry

Executive Briefing Paper

1. Introduction

This paper summarises the main findings of a major two-phase study on the financial services sector and climate change for corporate decision-makers at executive board level and for key government policy-makers.

The study shows why climate change is relevant to the financial services industry and explains the need for long-term, market-based, frameworks to foster finance sector participation. It presents an overview of the specific threats and opportunities facing the industry and makes strategic recommendations to policy-makers and financial institutions for early action on this issue. Further, it examines the possible future role of the finance sector in dealing with climate change, the prevailing attitudes of financial services companies in responding to the issue, the various barriers to action and the kinds of activities currently being implemented.

The complete study[1] is available for download at: www.unepfi.net

Market solutions will play a pivotal role in tackling climate change

2. Climate change is a fact

Recently issued scientific reports from the Intergovernmental Panel on Climate Change, among others, have affirmed that most global warming over the past 50 years is attributable to human activities. They have also concluded that:

- the climate may warm faster than previously thought;
- developing countries are most at risk; and
- at some point, sudden and irreversible shifts in global climate patterns may occur.

The greenhouse gases (GHGs) which create the problem – of which carbon dioxide is the best known – persist for many decades. To stabilise atmospheric concentrations at just twice the pre-industrial level would require current emission levels to be cut by 60%. There is, therefore, a growing sense of urgency to act in a meaningful fashion.

Worldwide economic losses due to natural disasters appear to be doubling every ten years and, if current trends persist, annual losses will come close to $150 billion in the next decade. A significant portion of this will be insured. The experience of the insurance industry shows that even small changes (< 10%) in event severity can generate multiple increases in damage.

A pro-active stance by financial institutions will help to reduce the threats they face from climate change while also providing opportunities (see Table 1).

3. Creating a stable climate

Over the short term, the Kyoto Protocol – the 1997 international agreement to curb GHG emissions from industrialised nations – constitutes a vital contribution towards managing the climate change problem, and the associated negotiations have accelerated the creation of climate-friendly markets. However, the actual GHG emission targets in the Protocol are modest, they do not cover all nations and the formulation has led to the disengagement of the USA.

For the long term, the agreement of an international policy based on the principles of precaution, equity and economic efficiency is critical if we are to reduce the risk and engage all parties in the endeavour. A number of approaches have been proposed, including the 'historical' method, under which a nation's future emissions goals would be determined by its past GHG output; the carbon-intensity approach, in which future emissions goals would be indexed to GDP; and "Contraction and Convergence"[2] which would aim to achieve equal *per capita* emissions for all nations by an agreed date. Up to now, however, most of the work under the United Nations Framework Convention on Climate Change (UNFCCC) has been directed at finalising and ratifying the Kyoto Protocol.

Recent studies show that climate change mitigation can be achieved more quickly and with less economic dislocation by harnessing markets with a skilful blend of policies and measures.

Table 1 **Threats and Opportunities for the Financial Services Industry**

Financial Sector	Threat	Opportunity
All	■ New and existing markets become unviable due to potential climate impacts ■ Macroeconomic downturn due to actual impacts ■ Compounding of climate risk across all sectors ■ Unforeseen changes in government policy	■ New markets/products related to mitigation projects/processes ■ New markets/products related to adaptation projects/processes ■ Public/private partnerships for commercially unviable markets
Property/ Casualty Insurance	■ Property damage from weather events, compounded by unmanaged development, resulting in volatile results and liquidity and credit rating problems ■ Increased risk in other lines of business (e.g. construction, agriculture, transport) ■ Insufficient capital	■ Increase in demand for risk transfer and other services as weather risks increase ■ Insurance of mitigation projects (e.g. clean energy) ■ Innovative risk transfer solutions for high risk sectors
Life/Health Insurance	■ Increased risks to human health in some areas	■ Increase in demand for products as human health risks rise
Banking and Project Finance	■ Weather impacts on corporate assets/project returns ■ Unplanned GHG costs to projects/borrowers ■ Reduction in disposable income as climate change costs rise	■ Finance for adaptation projects (e.g. infrastructure) ■ Finance for clean energy projects ■ Enhanced project return from GHG credits ■ Lending for energy efficiency-related projects ■ New markets in high-impact fields (e.g. regulatory risk transfer)
Asset Management	■ Hidden GHG liabilities impair market values of securities ■ Real estate impaired by weather events and increased energy costs ■ Potential absence of property insurance	■ Investment in climate leaders and best-in-sector securities ■ Innovative climate-related theme funds (e.g. renewable energy) ■ Hedge funds investing in GHG credits
Other finance	■ Greater pressure on public purse for disaster relief and infrastructure rebuilding ■ Compounded carbon risks for diversified fund managers (e.g. hedge funds) ■ Potential deterioration of investment viability due to national financial policy responses to climate change	■ Innovative services related to GHG credits markets (e.g. brokerage and trading) ■ Micro-finance, weather derivatives, catastrophe bonds, consultancy

The main market participants (investors, industrial companies and policy-makers) together can create conditions conducive to a low-emission or 'carbon-light' economy *now*, so that when a framework has been agreed, it will rapidly take effect.

4. Role of the financial services industry

Market solutions will play a pivotal role in tackling climate change whatever the international policy framework. Financial institutions will therefore have a key role to play. They can:

- help to structure and monitor an efficient market system by working with securities and exchange regulators, actuaries, accountants and others;
- create other conditions crucial to the formation of an efficient emissions trading system (i.e. a standardised 'commodity'; standardised trade characteristics including monitoring, verification and certification requirements; organised exchanges; clear market prices; adequate supply);
- provide products and services that contribute towards adaptation and mitigation efforts (such as trading, banking and insurance for carbon credits; project finance for 'low-carbon' energy (e.g. renewables); weather derivatives; catastrophe bonds; micro-finance);

- manage their own property risks arising from extreme weather events;
- pursue environmental management leadership in areas such as water consumption, recycling and energy efficiency within their own property portfolio (including tenants); and
- engage with stakeholders to work towards solutions on the climate change issue.

Most mainstream financial institutions are either unaware of the business relevance of climate change or have adopted a 'wait and see' attitude. A few companies, however, have actually developed and operationalised strategies.

Insurance and reinsurance

The view that climate change is of strategic business importance is more prevalent among insurance and reinsurance companies than perhaps any other segment of the financial services industry. However, their polices and strategies vary considerably according to geographic location and line of business. For example, very few insurers have factored in climate change-related risks into underwriting premiums and deductibles, although reinsurers have initiated qualitative sector-level impact analyses.

Commercial banking

In the commercial banking industry, there are widespread pockets of climate change expertise but awareness of the issue by senior executives appears to be low. The key area of concern for these companies is the extent to which climate change and GHG mitigation regulations will affect lending decisions and credit risk management policies. Opportunities are being seized by some commercial banks; for example, in GHG credit trading and energy efficient loans.

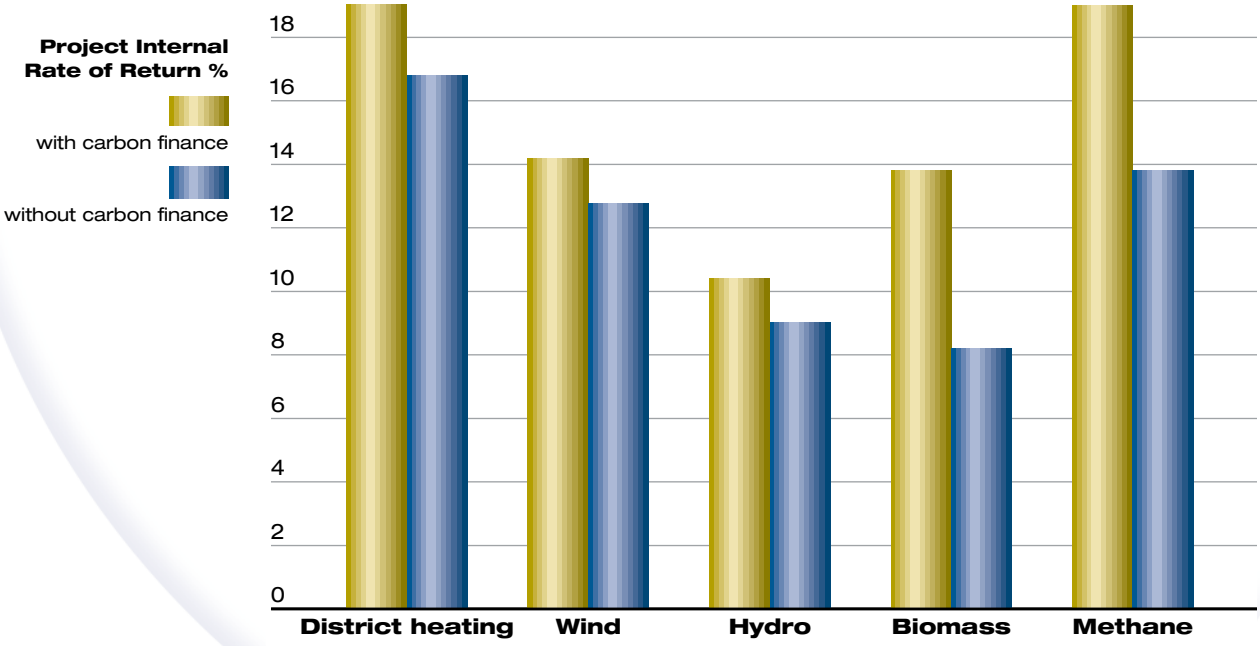
Asset management

For most mainstream asset managers, climate change is not currently understood as an investment risk issue, although a handful have developed new products and new areas of expertise relating to the GHG markets. For those asset managers and pension funds aware of the issue, engagement with affected companies is the preferred course of action, rather than disinvestment. Among socially-responsible fund managers, climate change is used as a screening criterion, but the screens used tend to be very crude.

Project finance

Several project finance and venture capital funds have been launched or announced in the past two years focusing on clean technology and/or carbon finance. At present, however, they are attracting mainly strategic corporate investors rather than institutional investors. The latter generally consider these funds to be too small and inefficient to generate adequate returns and there is limited awareness in mainstream project finance circles of the potential for GHG-related risks and opportunities to affect project economics (see Figure 1).

Figure 1 **Effect of carbon finance at the project level** Source: World Bank Prototype Carbon Fund



Emissions trading markets

The formation of regional emissions trading schemes and various GHG exchanges will soon make emissions trading a reality. However, these markets are still under development and their commercial appeal for financial institutions is not yet clear.

Professional services

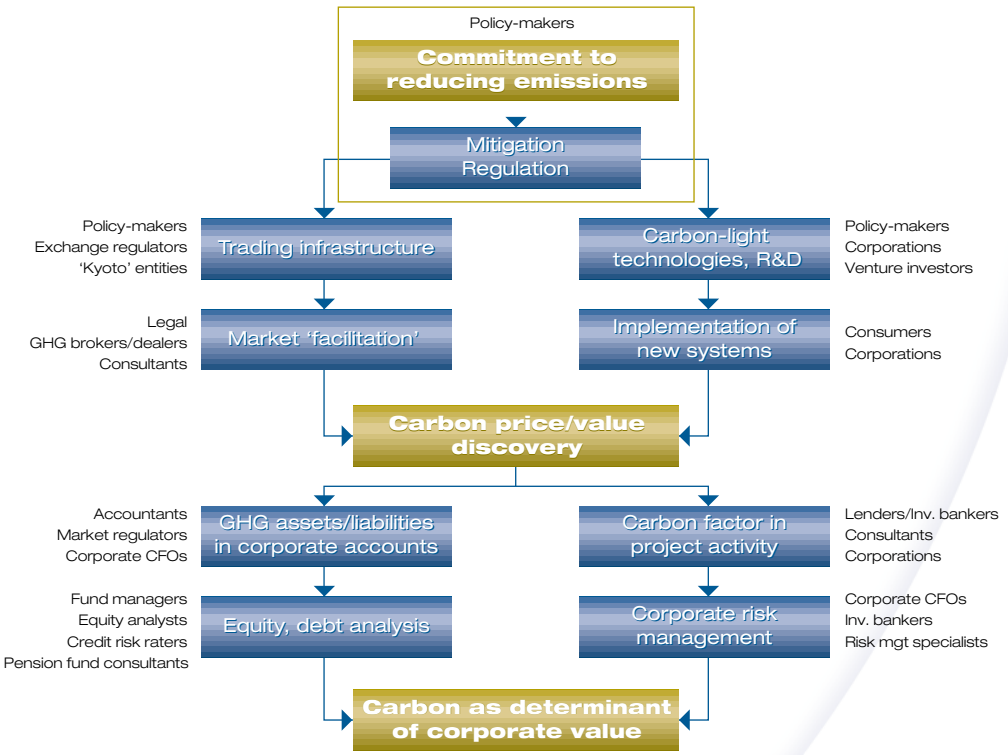
In general, advisors to the financial sector do not appear aware of the implications of climate change to the industry. However, efforts are underway by accounting professionals to develop standardised accounting tools to deal with GHG-related assets and liabilities. Some have also started to inform and educate their corporate clients on potential carbon-related risks. Credit rating agencies, too, are examining how these issues affect the companies they monitor and are exploring new business opportunities in this area.

5. Role of government

Strong government leadership on adaptation and mitigation measures is a prerequisite for market-based solutions in order to provide the financial services industry with the necessary regulatory architecture. Governments should consider:

- making the necessary emissions reduction commitments that put a price on carbon and stimulate demand for products in the emissions trading market (see Figure 2);
- providing a sound basis for making such political commitments, through the funding of scientific research and efforts to educate the public;
- setting a framework to improve the provision of investment-related information on climate change risks (e.g. requirements for pension funds to look at environmental issues or guidance on fiduciary duty and corporate climate-related liability);
- providing long-term political certainty on regulations, to show the financial services industry that climate change warrants the commitment of valuable time and resources; and
- promoting the creation of public/private partnerships in key areas.

Figure 2 **Evolution of carbon as a driver of financial value** Source: Innovest, Inc.



6. Barriers to action

Four types of barrier have prevented the financial sector from earlier engagement with climate change: cognitive; political; analytical; and market operational.

Cognitive barriers

- The mainstream financial world generally regards environmental and social factors like climate change as marginal to companies' bottom-line financial performance.
- Climate change potentially cuts across nearly all financial services' functions, creating a sense of shared responsibility that deters any one group from taking the initiative.
- The lack of a connection between climate change and 'planning-horizon' financial risk, and the currently slow pace of price discovery for carbon, mean the financial sector cannot see any monetary value in climate action.

Political barriers

- There has been considerable delay in creating the political conditions under which international carbon management and climate adaptation measures can be assigned a durable value by financial and insurance companies. For example, a lack of clear targets for renewable energy supplies is a definite impediment to potential investors in this sector.
- There is uncertainty about the commitment of regulators to the consistent establishment and enforcement of long-term binding emissions reduction targets, and about the regulations for emissions trading systems.
- Some developing markets place considerable restrictions on foreign financial institutions.

Analytical barriers

- There is low awareness of climate change among key finance and insurance sector advisors, resulting in insufficient analysis and information being provided.
- Understanding of the financial benefits of other sustainability outcomes that may result from climate-friendly projects is low.
- Poor data availability on corporate climate change strategies makes the analysis of potential company risks very difficult.

Market operational barriers

- Potential investors in clean technologies wish to see specific mechanisms – such as tax incentives, guaranteed prices/market shares, renewable energy certificate trading schemes – giving the technologies a clear commercial advantage.
- Inefficiencies and complexity in the present GHG emissions trading markets are deterring financial institutions from getting more involved.
- Particularly in renewable energy, many projects are small in comparison to the scale of investment funds and therefore appear to have high overhead and transaction costs.

To overcome all these barriers requires detailed analysis to identify the possible solutions and then extensive consultation between the various stakeholders. While it is not possible at this stage to be prescriptive, the following section gives our recommendations on the way ahead.

Action is urgently needed. A long-term international political framework for climate stability is essential

7. Recommendations

Financial services companies – where relevant to their business strategy

All financial services companies

- Raise awareness – within and outside the finance sector.
- Lead by example in corporate environmental management with long-term oriented carbon strategy.
- Incorporate climate change considerations into mainstream business practices:
  - by developing carbon risk management and benchmarking tools; and
  - by providing products and services that support adaptation and mitigation.
- Support less developed countries with micro-finance and micro-insurance initiatives.

General insurance and reinsurance

- Strive for greater clarity on the potential threats and opportunities from altered climate conditions through co-operation with scientific research.
- Adapt existing insurance products to the particular circumstances of the GHG emissions market and clean technology (e.g. engineering performance insurance).

Asset managers, pension funds and financial analysts

- Develop more robust, quantitative tools to assess the potential implications of climate change and GHG regulations on equity prices, corporate earnings and relative sector risk.
- Use these tools to conduct portfolio-wide assessments of risk exposures arising from equity and debt holdings and asset allocation decisions.
- Extend engagement with companies to include climate change-related issues and encourage them to improve disclosure of potential carbon assets and liabilities.
- Search for reasonable and prudent ways to participate in the market for clean technologies and low GHG-intensity products and services.

Investment banks, investment advisors and brokers

- Develop more commercially attractive GHG/Kyoto and clean technology markets by:
  - structuring deals for clean technology projects such that future cash flows can be used up-front;
  - establishing a carbon credit clearinghouse;
  - overcoming high transaction costs and low demand by pooling buyers and sellers of carbon credits and bundling these credits (or the cash flows arising from their sale) separate from the underlying emission reduction projects; and

- developing methods for monetising ancillary sustainability benefits (e.g. biodiversity credits).
- Incorporate 'cost of carbon' into cash flow analyses and calculations of project returns.

Professional advisors

- Develop tools to quantify GHG assets and liabilities.
- Develop harmonised GHG accounting methods by working more closely through accounting standards organisations such as FASB and IASB.
- Ensure that developers of actuarial and accounting standards provide adequate guidance on climate-related risks.
- Develop tax efficient mechanisms for dealing with emissions credits.

Rating agencies

- Develop a better understanding of how GHG-related assets and liabilities affect debt quality and adjust the ratings of corporate and municipal/regional debt issuers.
- Examine new business opportunities from rating the credit quality of counterparties to emissions trades or, alternatively, rating pools of potential buyers and sellers.

Governments and Policy-makers

In order to engage the finance and insurance services sector more fully in addressing the climate change issue, it is recommended that:

Policy-makers

- Grasp the urgency of attaining long-term climate stability in accordance with the UNFCCC.
- Reach consensus on a long-term policy framework for achieving this goal based on the principles of precaution, equity and cost-effectiveness.
- Accelerate the introduction of policies and measures that influence the flow of capital, particularly investment capital from institutional investors, so as to encourage sustainable energy consumption.
- Involve financial institutions in public-private partnerships, and in other ways, to ensure that adaptation and mitigation programmes are fully effective.
- Commit to clear and binding GHG emissions reductions and clarify how they will be met.
- Devise and implement emissions trading systems that link as seamlessly as possible with other GHG markets and involve financial market specialists in the design phase.

Governments in industrialised countries

- Take concrete steps to develop market-based solutions to extend low-carbon technologies and clean technology research.
- Expand renewable portfolio standards and encourage the international trading of renewable obligation certificates as a means of meeting this goal.
- Show securities and exchange regulators the need for greater transparency and disclosure regarding the implications of future climate-related impacts and GHG regulations on the risk profiles of listed companies and of debt or equity issues.
- Provide support for less developed countries by promoting Clean Development Mechanism projects under the Kyoto Protocol and by assisting with the planning for adaptation through specialised bilateral and multilateral means.

Action steps by UNEP Finance Initiatives

To maintain the momentum of this study, UNEP FI should sponsor three multidisciplinary task forces:

- An awareness raising task force of senior finance sector executives to inspire individual financial companies to engage on climate change.
- A project team to develop a quantitative methodology for asset managers that will capture the implications of climate change regulations (e.g. carbon costs).
- A project team to develop a project finance methodology that integrates the full range of environmental aspects.

1 The study *Climate Change and the Financial Services Industry* was commissioned by the United Nations Environment Programme Finance Initiatives (UNEP FI) Climate Change Working Group and written by Innovest Strategic Value Advisors with the guidance of Andlug Consulting.

2 For more information refer to the website of the Global Commons Institute: http://www.gci.org.uk/

UNEP FI

The United Nations Environment Programme Finance Initiatives (UNEP FI) is a unique global partnership between UNEP, the Financial Institutions Initiative (FII) and the Insurance Industry Initiative (III). UNEP FI has 295 member institutions worldwide.

UNEP is headquartered in Nairobi, Kenya. UNEP has six divisions through which it carries out its activities, including the Division of Technology Industry and Economics (DTIE) based in Paris, France. The Economics and Trade Branch (ETB), based in Geneva, Switzerland, is a branch of DTIE. The Finance Initiatives is a unit of the ETB.

UNEP FI Climate Change Working Group members

Andrew Dlugolecki
Director
Andlug Consulting
17 Craigie Place
Perth PH2 OBB
Scotland, UK
Tel +44 1738 626 351
e-mail andlug@hotmail.com

Iris Gold
Vice President
Citigroup
Environmental Affairs
One Court Square
45th Floor, Zone 16
Long Island City, New York 11120
USA
Tel +1 718 248 4698
Fax +1 718 248 4725
e-mail iris.gold@citicorp.com

Maria Teresa Szauer
Director Sustainable Development
Corporacion Andina de Fomento
Caracas, Venezuela
Tel +58 212 209 2111
Fax +58 212 209 2406

Armin Sandhövel
Head, Corporate Sustainability
Corporate Communication
Dresdner Bank AG
Weserstrasse 31, 5. OG
60301 Frankfurt
Germany
Tel +49 69 2 63 55 193
Fax +49 69 2 63 55 152
www.dresdner-bank.com

Dirk P. Kohler
Senior Project Manager
Gerling Sustainable Development
Project GmbH
Representative office Marseilles
Le "Villa d´Este"
15, avenue Robert Schumann
13002 Marseilles
France
Tel +33 4 96 11 68 21
Fax +33 4 96 11 68 29
e-mail dirk.kohler@gerling.de

Thomas Loster
Head, Weather/Climate Risks Research
Geo Risks Research Department
Munich Reinsurance Company
80791 Munich
Germany
Tel +49 (0)89/38 91-52 87
Fax +49 (0)89/38 91-7 52 87
e-mail tloster@munichre.com

Fred Lynds
Head of Environmental Policy
Prudential
Laurence Pountney Hill
London EC4R 0HH
UK
Tel +44 20 7548 3789
Fax +44 20 7548 6140
www.prudential.co.uk

Colin Le Duc
SAM Sustainable Asset Management
Zollikerstrasse 60
8702 Zollikon-Zürich
Switzerland
Tel +41 1 397 10 10
Fax +41 1 397 10 80
e-mail colin@sam-group.com
www.sam-group.com

Thomas Streiff
Head of Group Sustainability Management
Swiss Re
Mythenquai 50/60
8022 Zürich
Switzerland
Tel +41 43 285 6145
Fax +41 43 282 6145
www.swissre.com

Paul Clements-Hunt
Head, UNEP Finance Initiatives
International Environment House
15 chemin des Anémones
1219 Châtelaine, Genève
Switzerland
Tel +41 22 917 8116
Fax +41 22 917 8076
e-mail pch@unep.ch
www.unepfi.net

The designations employed and the presentations of the material in this publication do not imply the expression of any opinion whatsoever on the part of the United Nations Environment Programme (UNEP), the United Nations Environment Programme Finance Initiatives (UNEP FI), or any of its member organisations, concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Morever, the views expressed do not necessarily represent the decisions or the stated policy of UNEP, UNEP FI or any of the contributing member organisations of UNEP FI. The citing of trade names or commercial processes does not constitute endorsement.

Design and production:
Rebus, Paris
Printed in France

Study consultants

Martin Whittaker
Managing Director
Innovest Strategic Value Advisors, Inc.
225 East Beaver Creek Road, Suite 300
Richmond Hill, Toronto
Ontario L4B 3P4
Canada
Tel +1 905 707 0876
Fax +1 905 707 9084
e-mail mwhittaker@innovestgroup.com
www.innovestgroup.com