



HIGH LEVEL CONSULTATION WITH FINANCE SECTOR ON CLIMATE CHANGE AND FUNDING MECHANISMS

BIG Report



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High Level Consultation with Finance Sector on Climate Change and Funding Mechanisms

Pieter van Zyl, Paul Redelinghuys, Zahira Schaffernorth and Izhaar Armine (Business Innovations Group), Dr. Zoe Lees (independent sustainability specialist)

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Foreword

From 3 to 6 March 2009, South Africans from all spheres of life came together for the national Climate Change Summit 2009 in Midrand to initiate a consultative process to develop the South African Climate Change Response Policy. Although the Summit yielded wide-ranging consensus on a number of proposed climate change responses, it also identified various areas of divergence that required further discussion. With this, the Summit agreed, amongst others, that the National Climate Change Response Policy will be developed through a participatory, multi-stakeholder, consultative and iterative process and that issues raised during the Climate Change Summit 2009 must be addressed in a transparent manner and fed into the policy development process.

During the participatory, multi-stakeholder, consultative and iterative policy development process initiated at the Summit, certain specific issues appeared to be raised again and again in various policy development stakeholder engagements. These recurring areas of concern and/or uncertainty included: Climate Finance; Human Resources and Technology; Adaptation; Mitigation; and Governance.

In keeping with the Summit decisions and with a view to informing and enriching the debates around these issues, the Department of Environmental Affairs commissioned focussed research into these focus areas and used the findings of this research to focus and inform discussions in key stakeholder workshops on each of the topics in February and March 2011.

Although the independent research and findings contained in this publication do not necessarily represent the views, opinions and/or position of Government, the department believes that this research is an important addition to the evolving climate change discourse. Hence, the department is happy to make this work publicly available and accessible.

With this, I would like to thank everyone who contributed to the research papers presented in this book as well as everyone who contributed to the various stakeholder workshops on the topics covered by this research.

Finally, I would also like to thank our German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) partners and their local agent, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), for their generous support for this research and its publication.

Peter Lukey

Acting deputy Director-General: Climate Change
Department of Environmental Affairs



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Abbreviations

€	Euro	kWh	Kilowatt hours
BIG	Business Innovations Group (Pty) Limited	LEED	Leadership in Energy and Environmental Design
BUSA	Business Unity South Africa	MFI	Multinational Finance Institution
CDM	Clean Development Mechanism	MRV	Monitoring, Reporting and Verification
CDP	Carbon Disclosure Project	NAMA	Nationally Appropriate Mitigation Action
CEO	Chief Executive Officer	NBI	National Business Initiative
CER	Carbon Emission Reductions	NGO	Non-Governmental Organisation
CO ₂	Carbon dioxide	PFMA	Public Finance Management Act
CRISA	Code for Responsible Investment in South Africa	PIC	Public Investment Company
CSIR	Council for Scientific and Industrial Research	PRI	Principles for Responsible Investment
DBSA	Development Bank of Southern Africa	R&D	Research and Development
DEA	Department of Environmental Affairs	REFIT	Renewable Energy Feed-In Tariff
DFI	Development Finance Institution	RPS	Renewable Power Standards
DOE	Department of Energy	SA	South Africa
DSM	Demand Side Management	SADC	Southern African Development Community
DTI	Department of Trade and Industry	SAIA	South African Insurance Association
DWA	Department of Water Affairs	SAICA	South African Institute of Chartered Accountants
EEED	Energy Efficiency and Environment Division	SBI	Subsidiary Body for Implementation
ESCO	Energy Services Companies	SRI	Socially Responsible Investment
ESG	Environmental, Social and Governance	TIPS	Trade and Industrial Policy Strategies
ESRM	Environmental and Social Risk Management	UN	United Nations
GEPF	Government Employees Pension Fund	UNEP	United Nations Environmental Programme
EU	European Union	UNEP-FI	United Nations Environmental Programme Finance Initiative
GHG	Greenhouse Gas	UNFCCC	United Nations Framework Convention on Climate Change
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	UNPRI	United Nations Principles for Responsible Investment
IFI	International Finance Institution	US\$	US Dollars
IPAP	Industrial Policy Action Plan	WBCSD	World Business Council for Sustainable Development
IPP	Independent Power Producers	WWF	World Wildlife Fund
IRP2010	Integrated Resource Plan 2010		
JSE	Johannesburg Stock Exchange		

I. Introduction

The Development Bank of Southern Africa (DBSA) has been mandated by the Department of Environmental Affairs (DEA) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to direct research relating to climate finance and climate governance as part of the National Climate Change Response Green Paper (DEA, 2010).

The analytical framework of the research is based on three primary pillars:

1. Synthesis of climate finance research;
2. South African stakeholder engagements on awareness and attitudes towards climate finance, and an international literature review of stakeholder attitudes towards climate finance; and
3. Institutional funding mechanisms: case study review, to inform the development of an institutional mechanism to attract and apply climate finance towards mitigation and adaptation initiatives.

On 25 January 2011 DBSA appointed Business Innovations Group (Pty) Ltd (BIG) to conduct climate finance stakeholder engagements across various stakeholder groups on behalf of the DBSA.

This report is the outcome of this appointment. It is based on the climate finance stakeholder engagements across various stakeholder groups and complementary information from international surveys, studies and reports. The stakeholder engagements focused primarily on establishing the current understanding of stakeholders regarding climate change and the various financing options available for climate change solutions.

2 Background to research

It is widely accepted that climate change will constitute changes in temperatures, increases in the frequencies and intensities of extreme weather events such as storms, heavy rainfall, hail, lightning, droughts and floods, as well as triggering slow-onset events like sea-level rise and desertification. These trends are already evidenced, increasing the risk of economic losses. The international efforts of climate change mitigation may lessen these effects, but significant impacts from climate change are unavoidable.

In the global finance landscape, there is overwhelming consensus that the current natural resource constraints and ecosystem pressures require a shift from conventional growth path trajectories towards greener alternatives. The developing world is constrained in its ability to fast track the transition due to technology and incremental capital needs, relative to resourcing existing developmental challenges.

Climate change poses significant social and humanitarian challenges, as the poorest communities are invariably the most vulnerable to the impacts of climate change. Therefore short-term, scaled-up and adequately resourced interventions are critical for societal stability. Further, investing in research and development programmes focused on mitigation and adaptation will enable a platform for advancing the technological shifts required for the transition to a climate- and environmentally-conscious economy. As a regional economic hub, South Africa is well positioned to support and lead climate interventions across the Southern African Development Community (SADC) region.

The Copenhagen Accord (UNFCCC, 2009) called upon developed countries to provide new and incremental sources of funding for climate interventions to developing nations of US\$30 billion in the short term (2010-2012), and in the longer term to raise US\$100 billion per year by 2020. These amounts are to be aggregated in a proposed global finance fund. It is evident that a comprehensive climate financing package combining public and private mechanisms is required; these may include market mechanisms blended with different funding sources and different enabling instruments. The Cancun Agreement (UNFCCC, 2010) marked the launch of a Green Climate Fund to be established under the World Bank.

South African Government's National Climate Change Response Green Paper that was recently released for comment (DEA, 2010), highlighted awareness assigned to green economic development, the diversification of energy sources and establishing a national strategy for

climate change. Through public engagement that has already commenced, the proposed Climate Change Policy White Paper will provide an enabling policy framework upon which targeted interventions can be based to address the societal and behavioural shifts required for sustainable livelihoods. Effective demand-driven resource mobilisation to implement and innovate within a stable policy environment should be underpinned by a clearly defined and cohesive national strategy.

The South African Carbon Disclosure Project (CDP) report (CDP, 2010) also provides evidence that through participating in the CDP, companies have recognised the need to consider their environmental impacts. Thus in order to respond to some of the complexities they face, companies have developed partnerships with non-governmental organisations (NGOs), scientific and research organisations, and suppliers and consumers. Such endeavours inevitably come with some financial investment, and this in itself is to be applauded.

Globally the green race is on and South Africa has joined the trend by beginning the process of transitioning to a low-carbon economy. Companies that identify opportunities associated with this change will have the competitive advantage. Those that procrastinate are likely to be faced with reputational, physical and regulatory risks that may undermine their competitiveness in future. As international and local investors become increasingly interested in the long-term safety of their assets and investments on behalf of their clients, as weather patterns change and threats to energy and water security in themselves become drivers of change, business needs to take the lead in forecasting and finding solutions to new challenges.

Several other factors in the 2010 South African CDP report worth highlighting include the following:

- Improved response rate in South Africa despite the economic downturn: South Africa's fourth CDP generated a response rate of 74% from the Top 100 Johannesburg Stock Exchange (JSE)-listed companies) with general improvement in response rate across most sectors.
- Evidence of improved levels of disclosure on most key issues since 2009: 94% of responding companies disclosed their greenhouse gas (GHG) emissions and there is an increase in the number of companies with GHG emissions reduction targets as well as an

increase in disclosure on climate change response measures, with the greatest focus being on energy efficiency initiatives. However, there is limited evidence of climate adaptation strategies

- Increased evidence of partnerships and climate change governance practices: Climate change issues appear to be increasingly integrated in companies' governance activities, and there is continuing evidence of business partnerships.

Financing for climate change adaptation and mitigation initiatives in the South African context need new considerations in order to assess what could unlock scalable interventions in the short term. Anecdotal evidence based on on-going debates throughout South Africa suggests that there is both a lack of funding and certain institutional hurdles to be overcome to create an enabling environment for further initiatives to be developed. Certainty regarding these issues would enable the country to create a firm basis for demand-driven engagements to access international climate finance as well as to unlock domestic capital potential.

This research forms part of a composite agenda to support the formulation and finalisation of the National Climate Change Response White Paper. The outputs of the research will be synthesised with research submissions on climate

science, climate governance and technological submissions to achieve a holistic framework for the country to shape and direct our actions towards a sustainable and climate conscious development agenda.

The focus of the research is towards creating an institutional environment whereby climate mitigation and adaptation funding may be accessible to a broad stakeholder base where such funds are most needed. Thus, the study of determining the precise funding requirements is ancillary to ensuring that there is an enabling environment to match demand and supply of funds on a programmatic basis.

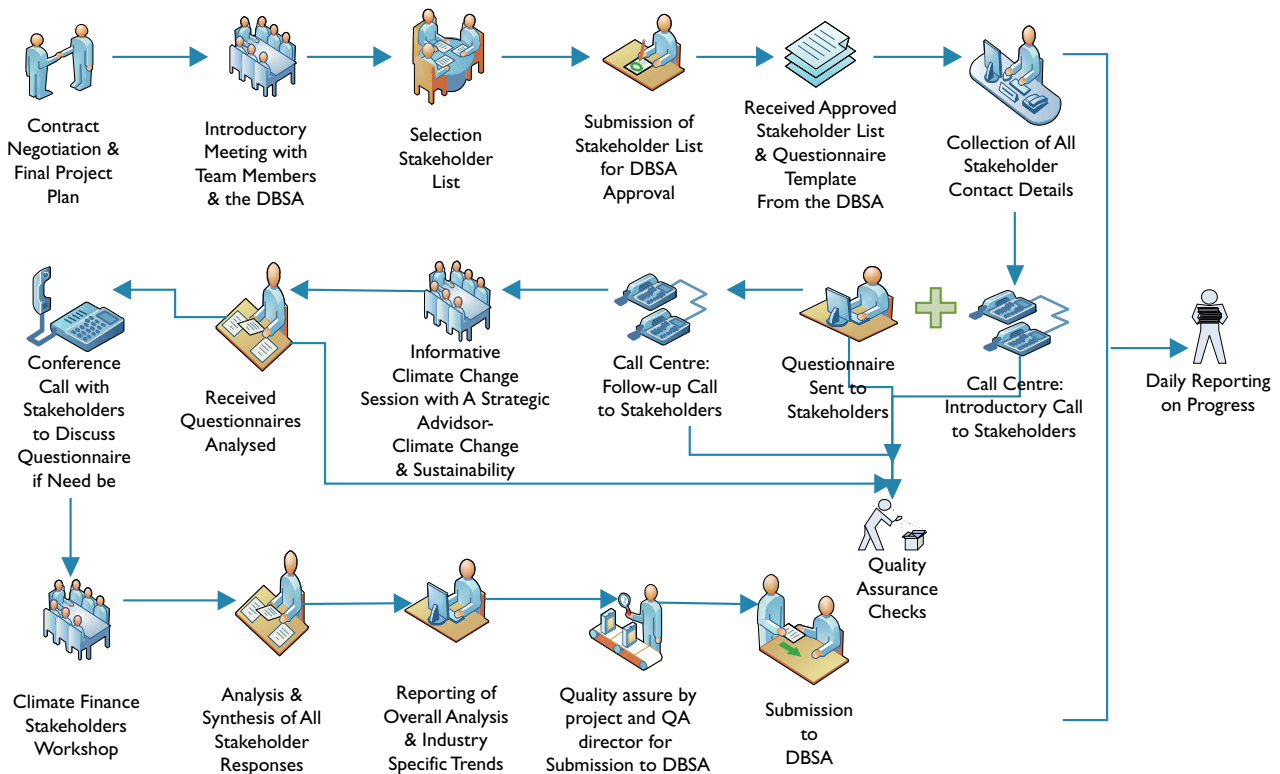
Due to the scale of the actions required within the short to long term, it is critical that different stakeholders within the financial system formally coordinate and co-operate, taking into account their respective mandates and risk tolerance/absorption levels. Public and private perceptions will inform the country's resource mobilisation strategy, facilitating the creation of a flexible and adaptable platform to facilitate resources that authentically fills the resource gaps of the proposed climate interventions. Domestic financial innovations in the private sector should be explored to ensure that domestic stakeholders are a primary investor in the country and the region's climate mitigation and adaptation interventions.



3 Methodology

Due to the limited time for completing this study, the plan and process illustrated in Figure 1 was adopted for engaging with stakeholders.

Figure 1: Stakeholder engagement process conducted by BIG



The sections that follow explain the process with regards to how the survey was undertaken and the response rate. Later sections report on the challenges faced during the survey as well as the analysis and results of the survey.

3.1 Groups and sampling

A total of 160 questionnaires were issued to a wide range of companies and institutions, including groups that are not ordinarily consulted on environmental issues or policy.

The stakeholders included in the sample were selected from a list supplied by DBSA and additional companies and institutions identified by the consulting team, based on the following criteria:

- Government stakeholder engagement with departments or agencies that are responsible for various mitigation and adaptation policies and actions;
- Non-state stakeholder engagement with those who often implement policies (e.g. the private sector, project developers and civil society) in order to gain an understanding of their level of awareness, and get their views and suggestions on the current relevance and applicability of climate finance mechanisms;
- Development and commercial finance institutions, to determine attitudes towards climate change and climate finance, market appetite and risk absorption levels;

- Organisations were chosen based upon their role in the market: leaders in energy or agriculture, financing or Research and Development (R&D);
- Companies that took part in the “Excellence in Sustainability Reporting 2010” survey (Ernst & Young, 2010). The objective of their survey was to provide an understanding of sustainability and sustainable reporting by companies listed on the JSE’s Socially Responsible Investment (SRI) Index. Companies were ranked into four categories, namely Excellent, Good, Adequate and Perfunctory, from which a random sample was selected to receive the questionnaire; and
- Participants in the CDP Survey (2010): this offers an insight into the level of carbon emissions produced by large corporations internationally, providing a baseline which is crucial when promoting mitigation and adaptation initiatives. A random sample was selected from the JSE Top 100 companies that participated in the CDP.

Stakeholders were categorised into 11 groups. All were required to complete a generic section as well as the section relating specifically to their industry. Details of the number of questionnaires issued and the responses received, per stakeholder group, are detailed in Table 1.

Table 1: Details of the stakeholder groups involved in the survey.

Stakeholder groupings	Questionnaires issued	Responses received	%
Reinsurance and insurance	9	2	22.2%
Asset Management	12	2	16.7%
Listed companies	28	5	17.9%
Private Equity and Venture Capital	8	0	0.0%
International Financial Institutions (IFIs)	14	4	28.6%
South African Development Finance Institutions (DFIs)	8	4	50.0%
Commercial and Investment Banks and Microfinance Institutions	10	5	50.0%
Government and State Owned Entities (including research institutions)	39	8	20.5%
Civil Society	13	1	7.7%
Advisors	16	3	18.8%
Regulators	3	0	0.0%
TOTAL	160	34	21.3%

3.1.1 Analysis of stakeholder group responses

Stakeholders can be loosely divided into four groups:

- **Group A:** Respondents who are directly affected by climate change (positively or negatively) and who are driven by international initiatives such as the United Nations Principles for Responsible Investment (UNPRI), or have specific mandates. These organisations generally have executive leadership or and have built capacity internally on climate change or sustainability to address national policy issues.
- **Group B:** Respondents who understand that climate change is an important emerging issue but rely heavily on the market or the mandates of other external bodies such as industry associations to represent them on climate change; or they are driven by changes in legislation and are therefore only starting to address climate change (i.e. they have not yet built internal capacity).
- **Group C:** Respondents that do not have capacity to address climate change, believe that it is not core to their business and do not believe that they have much influence in this area. This group includes private equity firms and investment houses, most asset

managers, microfinance institutions and bodies such as the Debt Issuers Association.

- **Group D:** Respondents that do have some internal capacity to address climate change but did not see the value in participating in the consultation process due to time constraints, perceived duplication with other parallel consultation processes, or who found the questionnaire too onerous.

3.2 The questionnaire

BIG together with DBSA developed a comprehensive questionnaire comprising general and industry-specific questions that were categorised into different stakeholder groups (see Annexure A for details). The contact details of the person responsible for climate change initiatives and funding within each of the stakeholder organisations were validated telephonically by BIG; this enabled accurate and efficient distribution of the questionnaire.

The aim of the questionnaire was to obtain information from stakeholders about their level of awareness and attitudes towards climate change, climate finance, access and utilisation of funding mechanisms. Their responses were used as guidance and input into the National Climate Change Response Green Paper issued by the South African Government for public comment (DEA, 2010). The questions contained in the questionnaire were aimed at:

1. Assessing the current state of climate change investment activity, constraints and impediments;
2. Future developments; and
3. The need for institutional and/or funding support mechanisms to catalyse investment.

3.3 Contact

A call centre was established to manage and control communication between BIG and the stakeholders.

On 8 February 2011 the first questionnaires were sent out to the contact persons via e-mail. From 10 February 2011 a follow-up telephone call was made to confirm that the recipient had received the questionnaire, and to clarify any potential queries regarding the questionnaire.

Direct engagement with key stakeholders through targeted discussion groups and interviews were also undertaken where appropriate, and possible within the given time frames. A third telephone call was made to all the contact persons to remind them to complete the questionnaire, and to address any related queries. All stakeholders were offered the opportunity to engage face-to-face in order to guide them through the questionnaire. Only one stakeholder accepted the offer to have a discussion via tele-conference.

The survey process was monitored on a daily basis during the survey-response period by the following means:

- Telephonically;
- E-mail;
- High level review of responses received;
- Consolidation of responses received; and
- Daily status reporting.

Returned questionnaires were initially examined, and incomplete questionnaires were referred back to the persons responsible for completion.

3.4 Analysis

Questionnaires were analysed, regardless of the level of completion, apart from the responses from NGOs, which were too few to include in the survey feedback. All responses were pooled on a per question basis within each stakeholder group. Pooling responses in this way ensured that the contributions of individual organisations remained confidential.

Detailed analyses of comments received from stakeholders were performed towards the end of the project in order to identify specific trends.

3.5 Reporting

During the project DBSA were given daily reports on progress regarding receipt of completed questionnaires, as well as follow-up action on outstanding responses.

A synthesis report was compiled from all responses received; this included interpretation of overall trends and those observed per stakeholder group. This preliminary report was submitted to DBSA on 2 March 2011.

4. Challenges And Constraints: Survey Completion Process

The following challenges emerged from engagements with stakeholders:

Lack of time to complete:

- The questionnaire appeared to be difficult to complete and stakeholders were reluctant to make the effort to do so. This was mainly due to the length of the questionnaire, the number of open-ended questions, and the deadlines given for completion.
- Tight deadlines imposed by DBSA for reporting to the DEA, meant that the time allotted to stakeholders to complete the questionnaire was inadequate. The original deadline for submission of questionnaires was set as 14 February 2011. This was moved to the 21 February but various stakeholders still requested that it be extended until 25 February 2011. Questionnaires were still being submitted in March 2011. This posed a challenge in consolidating and analysing the information timeously.

Lack of understanding or difficulty identifying the correct person:

- Stakeholders raised concerns regarding confidentiality with respect to the disclosure of stakeholder names. As a result, BIG was requested to sign a Non-Disclosure Agreement to ensure receipt of responses.
- When contacting smaller institutions, the team was referred to the Corporate and Social Responsibility Department.
- Identifying and making contact with the person that was suitably qualified and authorised to complete the questionnaire, within the allotted time, proved difficult.

Lack of interest/non-response:

- Although the team followed up with a number of phone calls and various e-mails to request participation, 126 stakeholders from across the stakeholder groups did not complete the questionnaire either by choice (see below) or through no response.

Certain stakeholders declined to complete the questionnaire. Specific responses as to why they would not be participating in the survey were as follows:

- “No time to complete the questionnaire.”
- “No team dealing with climate change matters.”
- “We have participated in the South Africa Insurance Association (SAIA) and National Business Initiative (NBI) processes and our comments have been incorporated in their submissions, so we do not feel that it’s necessary to participate in the DBSA’s questionnaire.”
- “Small association representing industry in South Africa, as such we do not make investments and hence will not be completing your questionnaire.”
- “Will not partake in survey, not part of our policy.”
- “Will not be able to make a significant contribution.”
- “Relevant person is out of town.”

4.1.1 Level of response

At the end of the period, 34 responses were received out of 160 questionnaires issued.

As already described, it is possible that responses were not received from specific stakeholders because they are already engaging formally through these industry bodies and thus interpreted engagement with this process as a duplication of effort. This would also be true for non-government and non-business organisations such as the World Wildlife Fund (WWF), who actively engage directly with government and see no point in engaging via another process. Organisations are regularly bombarded with requests for information from a range of sources both domestic and international, and there is a degree of fatigue as well as impatience with this issue. Many companies have put in place a policy whereby they will not respond to surveys other than those specifically identified by them as meaningful and beneficial.

Most organisations, even those that are not too involved from a climate change perspective, are, however, aware of the United Nations (UN) negotiations on climate change and are also aware that a binding agreement has not been reached. However, it appears from some of the comments and the level of response from stakeholders that the connections between the international commitments, domestic policy and their daily work is not fully realised.

5 RESULTS OF THE SURVEY

Details regarding the number of questionnaires issued and the responses received, per stakeholder group, are detailed in Table 1 and are analysed in Figure 2 and Figure 3 below.

5.1 Analysis of the survey process

The distribution of completed questionnaires from across the stakeholder sample groups is illustrated in Figure 2.

Stakeholder groups from which the highest response was received include the following:

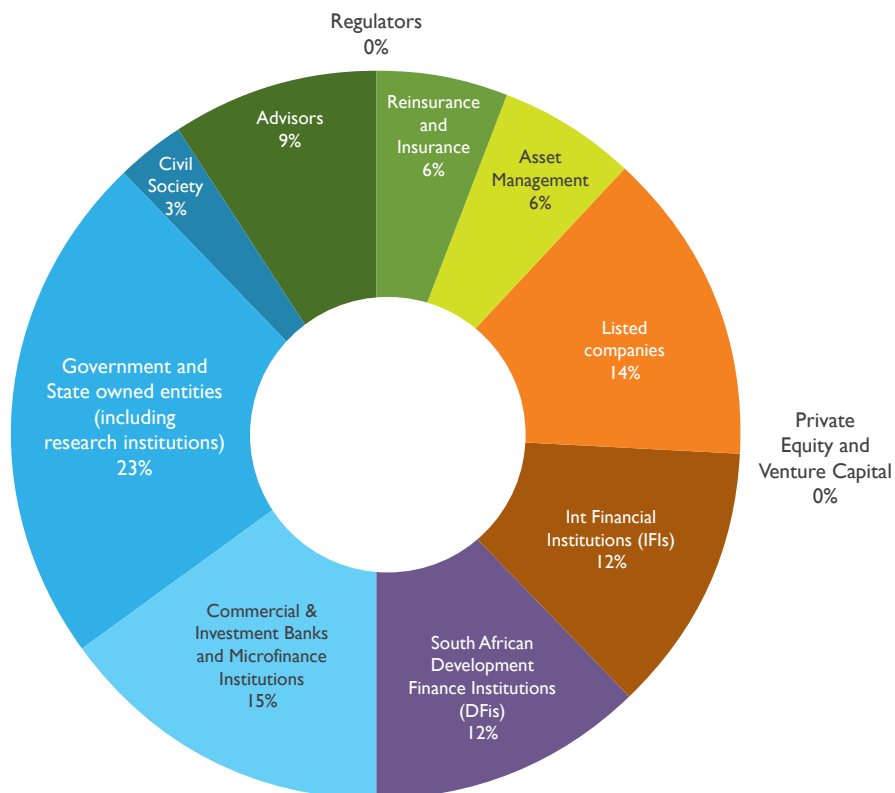
- Commercial and Investment Banks (5 responses received from a total of 10 questionnaires issued).
- South African and International Development Finance Institutions (8 responses received from 14 questionnaires issued).

- Companies (excluding Banks) including parastatals (5 responses out of 28 questionnaires issued).
- Government and State owned entities (including research institutions 23%.

There were no responses received from the following categories:

- Private Equity and Venture Capital companies: reasons given to BIG for not responding were that they did not feel they could make a significant contribution, or did not see it being relevant to them.
- Other stakeholders simply did not respond, after necessary follow-ups.
- None of the three regulators contacted responded, despite frequent follow-ups.

Figure 2: Percentage of questionnaires received per stakeholder group

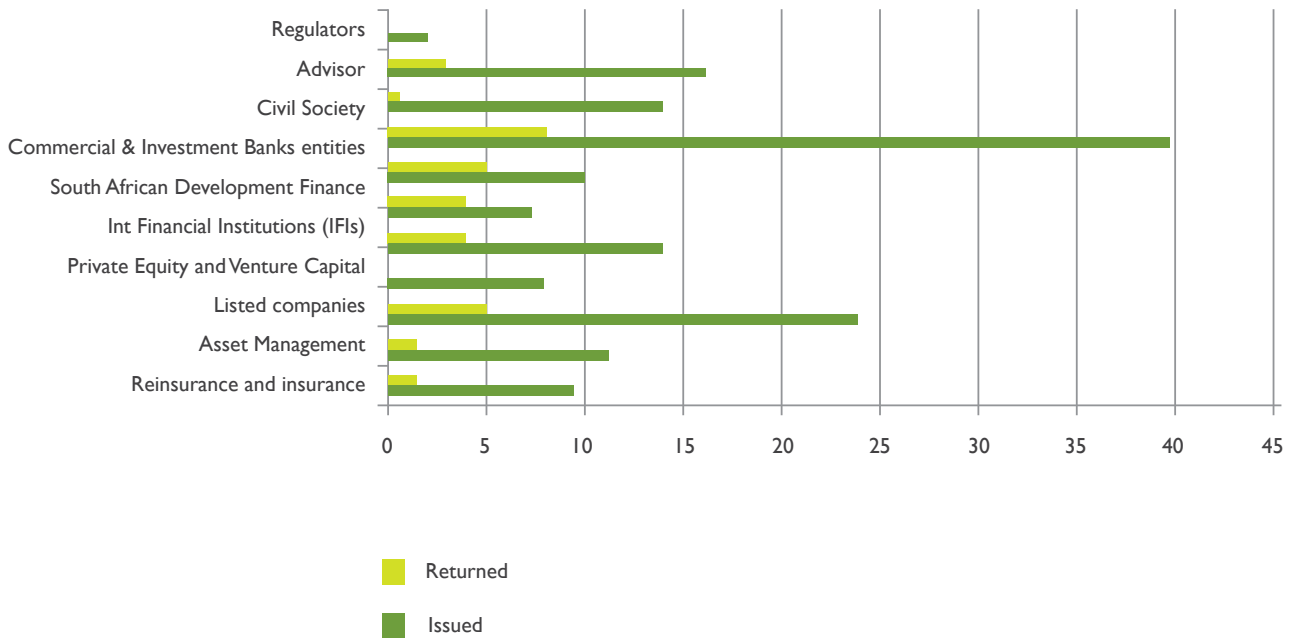


5.2 International experience

As there was a relatively low response rate to the questionnaire, reasons for which are discussed in Section 4, a review of international stakeholder attitudes within the financial and private sector was carried out. This served as a basis for comparison with the responses received from organisations within South Africa. While too few responses were received per stakeholder group to extract any meaningful trends, the comparison with international findings gives additional insight that may be extrapolated to our South African situation. This section specifically deals with international stakeholder attitudes towards climate change, climate finance and challenges, and incentives for investment as well as a reflection on the responses received within the South African stakeholder study.

The financial industry has a two-fold responsibility. On the one hand, it needs to prepare itself for the negative effects that climate change may have on its business and on its customers. On the other hand, it can significantly help mitigate the economic risks and enter the low-carbon economy by providing appropriate products and services. It is clear, through reports such as the Stern Review on the Economics of Climate Change (Stern et al., 2006), that climate change will increase costs for the financial sector if no action is taken. Banks and investors in particular, need a clear regulatory framework on climate policy, on which they can base their investment and lending decisions, while insurers face the prospect of heavy losses.

Figure 3: Analysis of the number of questionnaires issued versus responses received



A survey was conducted and published in 2011 by the United Nations Environment Programme Finance Initiative (UNEP-FI) and the Subsidiary Body for Implementation (SBI) to collect the views of financial institutions on the effects of climate change to date, and what they are doing about it. A total of 65 institutions from all over the world (approximately one third of the total UNEP-FI Member Institutions), from developed and developing countries, responded to the questionnaire. The resulting 65 responses were split as follows: insurers and re-insurers (11 responses), lenders (35 responses), and asset managers (19 responses).

The respondents demonstrated that they were aware of certain types of climate change impacts and the resultant risks, both direct and indirect. The issue of water scarcity, for instance, was mentioned as an example of a direct risk by several of the participating institutions. Reputational risks, which are indirect in nature, were also referred to by several survey participants. These can materialise not just in a mitigation context, where a financial institution is seen as a polluter in light of the GHG emissions for which it is responsible, but also in an adaptation context, where financial institutions may be seen as incapable of adapting to new and relevant circumstances such as changes in weather patterns or shifting stakeholder expectations.

Nearly all survey participants shared the expectation that both direct and indirect risks related to climate change will increase and will become more important in the future. Most participants also recognised the need to extend risk assessment and due diligence practice to explicitly cover climate change-related risks, including those generated by

its physical impacts. Given the high degree of uncertainty concerning the possible physical impacts and economic consequences of climate change, survey participants were unsure about the nature and implications of how exactly climate change-related risks would affect financial firms and their clients.

This uncertainty needs to be reduced, which means that climate change induced changes have to be predicted as reliably as possible so that the resultant impacts on economic actors can be analysed. On the basis of such information, financial institutions will be able to improve their risk identification, assessment and management systems. Furthermore, predictions and analyses will have to be customised to the type, location, and customer base of the financial institution concerned. The individual financial branches differ significantly in terms of their types of risks (i.e. insurance, credit and investment risks) and time horizons, ranging from hours and days, to years and decades. Accordingly, their information needs regarding climate change also differ significantly.

Survey respondents as well as their customers and investee companies operate in different regions of the world. The survey confirms that location plays an important role, not only with regards to the factual predictions required of physical climate change impacts at the local level, but also in terms of the subjective perception of climate change risks by companies. In part, this can be explained by differences in the extent to which climate change is already apparent in different parts of the world.

In the following sections, the main findings are presented in more detail for each of the business fields that were investigated as well as their respective roles.

5.2.1 Insurance and re-insurance organisations

Providing risk transfer products covering losses from natural disasters is a traditional business area for insurance companies. They are expert at identifying, quantifying, and pricing weather-related risks. However, despite this expertise, the insurance industry is facing new challenges as a result of shifting climate patterns, especially regarding variations in frequency, intensity, and regional occurrence of extreme weather events.

Already insurers are recording variations, which are quite different from historical experience and data, and they expect these changes will increase in future. Of the eleven re-insurers, from eight countries across three continents, who were surveyed in the UNEP-FI/SBI (2011) study:

- Ten recorded an increase in weather-related damages, and all expect these to increase.
- Eight reported an accumulation of such risks, and nine expect accumulation risks to increase.
- Eight expect risks to change, and nine anticipate these changes will accelerate in future.

- Seven insurers have recorded a demand for additional risk transfer (or risk absorption) capacity and ten said they expect that this demand will continue to grow.
- Seven said that amendments to insurance products are happening, and all said that such amendments will become unavoidable.
- Nine said they are developing new insurance products, and all said that they plan to do so in future.

The report notes that as insurers are continually adjusting product portfolios to meet the demands of a changing landscape, it is likely that business development and strategy in the re-insurance industry will increasingly be driven by climate and weather change-related factors. These changes also provide opportunity for innovation and new products to provide cover for emerging and increasingly severe weather risks. According to the report, the key challenge for insurers and re-insurers, “lies in adequately identifying, quantifying, and pricing such risks amidst a dynamic environment” (UNEP-FI/SBI, (2011)). These challenges are also linked to the requirement for, and dependence upon, on the quantity, quality and granularity of weather and climate projection data available to them.

When asked about the availability of historical weather data and climate change predictions, more than half of the survey respondents felt that the levels of information available today were not sufficient. The report notes that the re-insurance industry is facing new challenges due to shifting climate patterns and is recording variations in severity and frequency of weather disaster events. This trend is expected to continue, and could increase.

According to another report issued this January by Munich Re (2010), 950 natural disasters in 2010 led to the sixth worst year for insurers since 1980, and is evidence of global warming. The report states that “The high number of weather-related natural catastrophes and record temperatures both globally and in different regions of the world provide further indications of advancing climate change” (Munich Re, 2010). The Head of Munich Re’s Geo Risks Research details how hurricane trends reflect climate change, citing increased water temperatures: “this long-term trend can no longer

be explained by natural climate oscillations alone. No, the probability is that climate change is contributing to some of the warming of the world’s oceans” (ibid).

There are a number of different techniques insurance companies will be adopting in order to encourage more sustainable behaviour from their customers. One is to reward customer sustainability behaviour by creating new products that reduce risk, prevent loss and increase insurance affordability. Many climate change-related products are expected to materialise over the next decade. Some examples of potential products include:

- Weather derivatives pertaining to renewable energy: products that guarantee that if the wind does not blow or the sun does not shine, there will still be revenue certainty.
- Carbon credit insurance: as regulators move to internalise previously externalised environmental costs (e.g. carbon trading programmes), products will be developed to help manage the resulting liabilities. With carbon trading there could be liability issues for companies that exceed their caps.
- Green building incentives: green building technologies lower risks to insurers because many green buildings have sturdier construction and highly insulated windows, making them more resistant to storms. Those with distributed power generation are less vulnerable to power outages. These practices result in fewer business interruption incidents. There are higher standards for commissioning green buildings: Leadership in Energy and Environmental Design (LEED) certified buildings undergo more tests, resulting in less malfunctioning and fewer losses¹. The other appeal of green buildings to insurers is their worth, resulting in increased revenues even where discounts might be offered.
- Green automobile programmes: pay-as-you-drive schemes (most commonly mentioned by the interviewees), CO₂ offsets for car insurance, and a host of products that encourage behaviour that reduces car-related GHG emissions will be on the shelf in future.

¹ LEED is an internationally recognised green building certification system, providing third-party verification that a building or community was designed and built using strategies intended to improve performance in metrics such as energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

- Climate neutral claim repairs: claims contractors will be expected to incorporate environmentally neutral building materials and other sound sustainability practices.
- Insurance offset programmes: there are risks that offset programmes will not capture carbon in perpetuity. Thus the insurance industry will be innovating to provide insurance for these liabilities.
- Climate awareness programmes: web-based and other advisory services to help customers reduce their GHG emissions.

For businesses, particularly those that rely on infrastructure, sustained energy supply, logistics, and that are vulnerable to flooding (like mining or coastal industries), the cost of insurance is going to escalate. It is also clear that the extent to which an individual insurance company will be affected by climate change depends on its unique circumstances, including factors such as the location, type and structure of its customer base.

5.2.1.1 Insurance and re-insurance organisations in South Africa

Only two major insurance companies and no re-insurance companies responded to the South African questionnaire. The responses were similar in many respects, particularly in the level of awareness within the companies about climate change, although with only two respondents it cannot be said with any certainty that this is true for all insurance companies in South Africa. One of the companies is aligned with a major bank that has green credentials and as a group they are able to access climate funding, develop new products and engage with government through their sector associations. Another insurance company is spearheading the sector response to climate change and both firms have, or are in the process of, integrating climate change into their strategies. They were also willing to invest in climate change projects at all stages, provided that the risk profile and return on investment is addressed. This indicates, in the South African scenario, a more advanced state of readiness than most other local firms to integrate climate change into their business.

Their feedback was consistent with that of the international responses regarding the availability of information, particularly at a local level. Both admitted to commissioning custom research to supplement international data to make decisions, due to the lack of local information. They also admitted to the need to launch new products and services

in the renewable energy space, as well as seeing other opportunities for their sector via regulations. Specific responses from the insurance and reinsurance participants, which demonstrated the level of awareness about climate change opportunities, included:

- “Increased reporting regulations will create greater transparency on how companies are dealing with climate change and the risks involved will enhance our investment decisions”;
- “increased building regulations will lead to more efficient building stock that will directly reduce our operational costs and potentially increase the value of energy efficient building investment portfolios. In South Africa the government has approved Renewable Energy Feed-In Tariffs (REFIT), which give developers, including ourselves, the opportunity to create a small profit from producing sustainable energy sources”;
- “The increase in extreme weather conditions is likely to lead to significant increases in the scale and frequency of significant losses as a result of damage to infrastructure, disruption of utility services (for example access to water), damage to property and crops, disruption of supply chains and distribution of natural resources. Insurance products can offer a method of spreading the risks associated with these impacts and as the impacts of climate change grow, so too is the likely demand for insurance products.”

The constraints to progress in this regard were cited as:

- Lack of a long-term policy framework and legislation at a national and international level, which creates uncertainty for business.
- Lack of consumer understanding of the issues or demand for related products and investment reduces the business case for taking action.
- Short-term goals reduce the incentive for long-term investments necessary to tackle climate change at a business and government level.

It is evident from the comments that this sector is looking to government to play a key role in implementing a sustainable climate finance framework by providing a clear, long-term policy structure within which businesses

can adjust their operating structures. As expected, and emerging from the above, the following proposed incentives were identified by one respondent to help investment in climate change-related products/services, other than social and financial incentives:

- Businesses need consistency in legislation so that the true development costs and opportunities can be understood when making changes to the business. Clear regulation that is in place over the long term is essential for the future investment in the green development space.
- Clarity on access to funding (e.g. from the Global Climate Change Fund): how it will be managed and disseminated.
- Society needs to be supported in an awareness-raising programme so that systems and new methods of operation introduced have support and increase demand for climate change-related products/services.

5.2.2 Banks and lenders

Banks wield a significant amount of power, since in many cases they are the primary source of funds for new projects and investments. As a result, they can have a positive impact on the nature and direction of development if they act responsibly and in a sustainable manner when lending to citizens, corporate entities and governments.

Banks also play an important role in climate-related financing and investment, credit risk management, and the development of new climate risk hedging products. On the downside, they face credit risks because policies to cut emissions can create costs for carbon intensive sectors and companies. Price volatility in carbon markets (CO₂, oil, gas, coal) and climate-related commodities leads to uncertainty in financial projections. However, climate change also creates opportunities. The major banks in South Africa are all subscribers to the UNPRI and have provided the framework for helping investors build environmental, social and governance considerations into the investment process, thereby achieving better long-term returns and more sustainable investment markets.

Lenders (banks and other organisations) provide finance to households, public agencies, individual firms or specific projects. Credit risk assessment and due diligence are

core elements of conventional lending. However, the identification and management of new, direct and indirect climate change-related risks that are often complex as well as uncertain, are not traditional competences found in banks. Indeed, as the survey revealed, lenders often rely upon insurers to accept these risks on their behalf.

Regarding direct climate change-induced risks, less than half of the 35 lending institutions that participated in the UNEP-FI/SBI survey (2011), felt that “already today” their credit transactions are affected by:

- An accumulation of risks (17 out of 35);
- Changing risk patterns (15 out of 35); and
- Increased credit losses due to direct, physical effects of climate change (12 out of 35).

As many as two-thirds of the participants in the UNEP-FI/SBI research saw reputational risks linked with climate change as “relevant today” (25 out of 35). Of those surveyed, 80% expected direct risks to gain importance in the future, although it should be noted that there is some confusion as to the definition of “direct risks”, with some respondents including carbon-related issues in their comments. This is indicative of the lenders’ preoccupation with emissions policy, rather than climate impacts.

There was strong agreement amongst participants (far more than two-thirds) regarding the need to modify and/or extend credit risk assessment practice to address those risks now, not just in future. A few stated that the direct and indirect risks of climate change “will not be more relevant in the future” or that they “don’t know” (6 or less of the 35 participating institutions for each of the risk categories).

On the issue of integrating climate change into due diligence and risk management procedures, about one-quarter of the participants claimed to “systematically always” integrate direct, physical effects of climate change already, more than one-third included “but only in exceptional cases”, and another quarter planned “to do so in the future.” A minority (4 out of 34 respondents) answered “currently not”.

In addition to the climate change impacts on credit transactions, lenders were asked about the risk exposure of their own operations (e.g. regarding the effects on own buildings, infrastructure, employees etc.). Half of the survey participants felt that this was important (17 out of 35) and

approximately the same number expected an increasing direct exposure in the future. This question was only addressed to lenders because, in contrast to insurers and asset managers, they usually possess a dense network of branch offices.

These results highlighted the awareness among lenders of the potential risks of climate change - direct and indirect - as well as through client exposure and “own estate”. Many institutions have already started adapting to and mitigating such risks with appropriate strategies or measures (e.g. formulating policies and response plans). Awareness-raising among stakeholders was also identified as an important step. However, it should be noted that even among lenders, understanding is sometimes lacking: for example, a minority of respondents appeared to confuse climate change impacts with emissions policy.

5.2.2.1 Banks and lenders in the South African context

In the South African survey, 5 of the 10 banks responded and of those, only two see their role as influencers of domestic policy via the Banking Association and Business Unity South Africa (BUSA). It stands to reason that the same two are looking at new products and recognise that their expansion plans into the SADC region and other emerging economies must include climate change investment opportunities. It is possible from this feedback that they are the exception rather than the rule. While all of the banks are looking at their own internal climate change impact and energy strategies to varying degrees, only three apply environmental criteria to their lending practices, and not consistently across products.

Similar to the opinion expressed by the insurers, the banking and lending participants believe that the major barriers to progress are predominantly of a regulatory nature – one example cited was the delay in making alternative energy sources profitable through REFIT subsidies. The banks would like to see regulatory interventions to help “level the playing field in the low-carbon economy”, providing tax incentives, funding for innovation or financial guarantees and subsidies for the promotion of clean technology. Alternatively, climate funds that have a guaranteed return on investment could attract their attention and lower the risk. One participant proposed that guarantees in the form of Certified Emission Reductions (CERs), or signed power purchase agreements with Independent Power Producers (IPPs), or water infrastructure developments may provide further incentives for investment.

According to the respondents, whatever funding vehicle is created by Government, it will have to have effective corporate governance in accordance with the King III report (King Committee, 2009) and/or managed under the Public Finance Management Act (PFMA). One of the fund’s objectives could be to finance R&D and pilot projects that would not normally be financed through traditional lending processes. Furthermore, any fund, once established, would need to be properly administered, with transparent deployment of funds that are audited annually by an accredited South African Institute of Chartered Accountants (SAICA) firm. If the governance is sound and if return on investment is guaranteed, such a fund could assist in a sustainable climate financing situation.

5.2.3 Microfinance

Climate change-related microfinance offers innovative business opportunities for banks. Microfinance means providing poor families or individuals with small loans (micro-credits) to help them develop tiny enterprises. Over time, microfinance has come to include a broader range of services such as insurance or savings. Typical clients are low-income persons without access to formal financial institutions.

Rippey and Rhyne (2007) state that: “microfinance is not usually considered to be one of the key players in addressing the global warming challenge — unlike, for example the transportation and energy sectors. However, on investigation, the extensive networks of MFIs, branch offices, field workers and customers will be implicated in climate change issues to a surprising extent. As good corporate citizens, MFIs can and should take actions, including awareness-raising among their clients, advocacy with policy makers, and modeling of climate-conscious practices in their own businesses. These actions require a minimum of effort and can begin immediately on a large scale. We encourage all participants in microfinance to develop and implement their own climate-crisis ‘good citizen’ agenda. As a starting point, consider that many of the clients of microfinance use inefficient energy sources. The poorest use wood, and as they become better off, they move to charcoal, which consumes five times more wood to give the same amount of heat. Many have no access to the power grid, and where they do have access, they have frequent interruptions in service. Changing their energy sources can make an immediate difference to them and lay the groundwork for the growth of renewable energy in those locations. There are some products that can be manufactured by small and perhaps micro businesses that can reduce carbon emissions.

These include solar water heaters, improved cook-stoves, and infrastructure for low-head hydropower. Assistance to these industries, including financing, could encourage the use of alternative energy sources.”

Experiences have shown, though, that challenges are found at every step in the supply chain: demand, manufacture, distribution, installation, maintenance, and finance. For example, many rural clients would like to install solar systems to light their houses, but the urban-based suppliers of solar systems find it too costly to travel to one client's home at a time. Microfinance and enterprise development organisations have potentially relevant experience in addressing such supply chain obstacles.

5.2.4 Asset management

The focus of a fund manager's decision-making process when making asset allocation decisions is to evaluate the relative risks and opportunities of investments. Conventionally, these have been financial. Non-financial issues such as climate change do not normally fall into the sphere of the fund manager's thought processes, an exception being the introduction of the European Union (EU) Emission Trading Scheme, which for the first time placed a value on the price of carbon, which has direct financial implications for specific sectors and investee companies.

This was the view expressed in a 2010 report released by Allianz and WWF: “Although the CDP and other climate change investor groups demonstrate the rising importance of impacts from climate change for the investment process, the issue and its consideration still remain largely ignored by the majority of short-term oriented mainstream investors and fund managers. As such, only a small proportion of such investors and their fund managers are actively considering climate change issues in the course of their investment decisions. The reasons behind this are varied and can be best explored by looking at the chain of responsibility of asset management. Climate change is a regular consideration for SRI fund managers, whereas mainstream managers still tend to marginalise the issue and rarely include it in their investment considerations. There are several reasons for this. Such fund managers are finding it difficult to make a clear link between climate change and portfolio risk; thus it is still being seen as an ‘SRI issue’ and as such not relevant to mainstream investments. There is also a conflict for fund managers: the long-term nature of climate change appears to clash with the short-term measurement of their performance by institutional investors.”

The almost universal lack of clarity around climate change policy and its long-term time frame places a level of uncertainty regarding the actual impacts climate change will have on returns. In addition, the availability of investment tools to empower fund managers to evaluate climate change-related impact is limited. Further barriers exist because of the lack of understanding of the complexity of climate change. Asset managers that buy securities linked to listed companies cannot easily analyse the physical risks of the multiple sites around the world where a listed company operates. Therefore, analysts and asset managers in these markets rely on highly aggregated information, or self-reporting by companies (e.g. sustainability reports or CDP reports).

In the UNEP-FI/SBI study, when asked about the integration of direct effects of climate change when conducting due diligence and stock picking processes in active portfolio management, 7 out of the 19 asset managers answered: “Yes, systematically always”. A further nine replied: “Yes, but only in exceptional cases”. One of the three asset managers not currently considering direct impacts at the moment is planning to do so in future. There was little difference in the consideration of either direct or indirect risks of climate change among the nineteen asset managers, as observed with lenders. They are either already incorporating these indirect risks systematically (eight), in exceptional cases (eight), or planning to do so in the future (three). Some of the participating asset managers incorporate the sustainability performance or environmental impact of a firm in their investment process. However, aspects of climate change are usually just a small element within the universe of corporate sustainability performance indicators.

A caveat is necessary here. It was the opinion of the authors of the study that the respondents were not typical of the universe of asset managers, where generally speaking climate change impacts are ignored. The comments provided also indicate that there is some confusion between the direct and indirect effects of climate change, as with lenders.

5.2.4.1 Asset management in South Africa

The survey conducted in South Africa revealed similar traits to those described above - as only two companies in this category responded to the local survey, trends cannot be extrapolated and it must be assumed that they are not typical of the universe of South African asset managers. From verbal and written feedback, few asset managers currently invest in any listed/quoted instruments, which are

directly linked to climate change, and they believe that their future role will depend on the assets which entrepreneurs and governments make available.

The increased demand and need for low-carbon energies to mitigate GHG emissions does provide a business opportunity for project developers and investors through the creation of new markets, but there is insufficient local knowledge to make decisions and as a driver, government policy and future legislation is a key consideration. As asset managers manage other peoples' money, mandates are crucial, and asset pricing is important because it influences returns.

As with other sectors, asset managers believe that government must take the lead, providing fixed interest instruments underwritten by government, which would improve cost of capital and attractiveness, and funding the early stage component, which typically is the most risky part of the project. Any funds should be ring-fenced for climate change projects. If the objectives, specific projects and management structures are in place, with a strict monitoring regime with project assurance and verification of funds disbursed by an independent institution, then funds would be supported.

5.2.5 Institutional investors

The Allianz and WWF Report (2010) pointed out that institutional investors or pension fund trustees "have a fiduciary duty to their pension fund beneficiaries to ensure that they act in the best, long-term interests of their members and beneficiaries by maximising the returns of the pension fund assets entrusted to them. In fulfilling this responsibility, trustees must maintain maximum diversification and have a full understanding of the risks their assets are exposed to and manage them accordingly."

The consideration of environmental, social or ethical issues in the management of these assets has started to infiltrate trustee thinking, as a result of pension legislation (e.g. UK Pension Reform Act 2001, and the amendment of Section 28 of the South African Pension Fund Act, Act No 24 of 1956). A growing number of institutional investors in South Africa, such as the Government Employees Pension Fund (GEPF) and the Public Investment Company (PIC), have taken steps to actively explore the added value of considering climate change in their investments. Most pension fund trustees leave the consideration of issues such as climate change to the discretion of their fund manager, and there is currently

little capacity to evaluate and apply this thinking to ratio calculations etc. since it requires a wide range of skills to be able to analyse the issues that would affect a portfolio.

5.2.6 Investment Consultants and Actuaries

The role of investment consultants and actuaries as advisors to pension fund trustees is to provide advice on the management of assets and liabilities, especially where long-term management and planning are critical factors. The South African survey did not have respondents in this category; however international surveys (Allianz & WWF, UNEP-FI/SBI) show that many consultants are still fairly doubtful of the moves towards shareholder activism and responsible investments. Consistent with the previous discussion, climate change is often pigeon-holed into the "socially responsible investment" category, and is viewed as potentially "interfering with trustee fiduciary duty", because it is an issue that falls into the environmental rather than the financial sphere.

There is also the element of political and regulatory uncertainty, which adds to the reluctance to consistently account for these issues, as they are seen as moving targets, which are attached to specific political agendas and alliances. Consultants, just like institutional investors, do not have the correct tools to enable them to understand the implications and complexity of climate change, and are extremely reluctant to provide advice on an issue they are not familiar with (this provides a convenient excuse in some instances).

In conclusion, if investment consultants and actuaries are to start taking climate change into account, increased awareness and knowledge building is urgently required, as well as an understanding of the approaches that fund managers are taking towards climate change in their investment processes.

5.2.7 Financial Analysts

The lack of consideration of climate change by mainstream financial analysts echoes that of the fund/asset managers and the consultants. The availability and quality of climate change information being provided by companies varies and long-term scenarios or policy frameworks have not been easy to access or rely upon, making comparative and consistent modelling and analysis difficult. This is alarming, given that climate change is one of the many factors that both analysts and fund managers need to take into account when evaluating investments.

Globally, there has been increasing criticism directed at the financial markets for its short-termism, where company performance is measured on a quarterly basis, rather than over the longer term, with the trend primarily being driven by hedge funds. A few fund managers and institutional investors are attempting to address this issue by warning companies and funds that ignoring extra-financial issues such as climate change in their analyst reports will eventually exclude them from the asset allocation decisions of large investors. In South Africa this is led by the GEPIF, and other UNPRI signatories, but uptake and action remains very slow.

5.2.8 Sectoral focus and co-operation

A key question for financial services providers is exactly how different client segments and economic sectors will be affected by climate change. For instance, there are industries where value creation depends on geographical factors and is especially affected by climate change (e.g. real estate, agriculture and forestry, tourism, etc.). With such information, financial service providers and their clients can assess whether these industries are taking appropriate adaptive measures. Nearly half the respondents of the UNEP-FI/SBI survey (2011) (26 out of 55) acknowledged that they were “badly informed” and/or “would like to be better informed” about their own country, with about two-thirds wishing for better information concerning sensitive areas (e.g. river catchments, coastal areas, mountainous landscapes).

The survey confirmed that climate change impacts are economically highly relevant for the financial sector, and the private sector in general. Improved climate change information will enable the financial sector and its clients to better calculate risks and will also help policymakers to better weigh the costs of prediction-based adaptation measures against the costs of inaction from a macroeconomic perspective.

This requires greater climate expertise within the private sector. This process is already under way but requires further development. Similarly, as climate expertise is an emerging factor of competition, the evolution of reliable climate information and deeper skills in consulting services are required, including a focus on more scientific research on climate impact models, increased efforts to translate scientific knowledge and existing information into user-orientated information. Some of this information can be generated privately, but might be seen as a private good.

The South African feedback was consistent with this view. Several respondents across the sector emphasised the strong need for more extensive co-operation between users and suppliers, public and private actors, scientists, and decision makers. They have different competencies, which can be used to build more efficient and effective value chains for climate information services.

5.2.9 The role of public and private actors

As reflected in the local survey, the UNEP-FI/SBI (2011) survey established that improved and applied climate information is of high economic value for the financial sector and the private sector. Insurers, and to a very limited degree lenders and asset managers, have already developed many relevant competencies, and so they are increasingly in a better position to manage the climate change-related risks of their business and their clients.

Today these information needs and the need for expertise are more obvious for the insurance markets as insurance of weather- or climate change-related risks is a market of increasing importance and at the same time, of increasing uncertainty. Therefore leading re-insurers (i.e. Swiss Re and Munich Re) have built up respective competencies, developed loss databases for their markets, conducted regional and sector-specific studies with research institutes and have developed internal competence or service centres. Based on their expertise, leading re-insurers not only improve their own risk management, but can also help their clients within different sectors and regions to assess and minimise their risks, adapt to changing risks, and insure remaining risks.

To what extent insurers, lenders, and asset managers will have to improve their in-house expertise or can utilise external consultants and re-insurers is very dependent upon the type of risks of their clients and investments, the regions where they are active, the effectiveness of adaptation strategies, the quality of public information, and the expertise they can buy externally. Leading financial service providers also need to go beyond their direct business and work with national governments and international organisations on adaptation strategies. Nevertheless, reliable climate change information for risk management and adaptation measures within the private sector needs a long value chain of research and public climate impact models.

Access to standardised historical weather information is necessary in order to ensure a common reference

framework for the private and the public sector at all levels. Because of the potentially serious consequences of the economic and social impacts of climate change and the uncertainty related to these impacts, the development of such common knowledge is considered a public task. Without information, transparency, and public policy that provides certainty, stakeholders, in both the private and public sectors, will fail to develop economically-efficient responses for climate change adaptation and risk management.

5.2.10 Listed companies

To varying degrees, companies have begun to look at climate change risk and its impacts on their businesses, but the level of sophistication varies from company to company. A research study from Accenture in partnership with the UN Global Compact, (2010), reported that 93% of Chief Executive Officers (CEOs) surveyed globally see sustainability as important to their companies' future success.

However, the research also captured the dilemma of the world's CEOs, who are caught between the long-term perspective of sustainability and the near-term pressures of the bottom line - investments in sustainability today are seldom reflected in next quarter's earnings announcement. This misalignment, which is, of course, a function of basic financial performance analysis, must be reconciled before sustainability can be integrated and embedded in operations; that is, before sustainability becomes a truly integral part of what it means to be a high-performance business.

Company disclosure on climate change is improving. However the quality, comparability and consistency of this information varies from company to company, limiting its usefulness for financial analysis and evaluation. The communication of climate change policies and strategies is mostly limited to discussions in meetings with SRI analysts and fund managers, rather than with mainstream investors. The exception is where SRI analysts also attend mainstream meetings and ask relevant questions in the presence of mainstream investors. However, companies who have well developed climate change policies and strategies are indicating that mainstream investors are not currently showing much interest in this type of information. Consequently, they do not include their climate change strategies in mainstream investor presentations.

It is clear that a discrepancy exists and that two issues need to be addressed. Firstly, companies need to re-evaluate their investor-directed communication regarding their

approaches to environmental governance, which needs to be more meaningful, demonstrating its relevance and importance to mainstream investors. Secondly, mainstream investors should take greater notice of the growing evidence of the link between "good" environmental and financial performance, and investigate if or why companies allocate resources towards addressing the challenges of climate change, and the potential impact climate change could have on the value of investments. This will not only highlight to companies that investors are taking a greater interest in non-financial aspects of company performance, but will also put greater pressure on companies to produce more consistent and meaningful information that is useful in company financial analyses.

Seen from a policy perspective, the pressure to improve corporate disclosure on sustainability is the key to moving forward on sustainable investing. Fund managers are starting to use sustainability reports (along with other information) to make investment decisions. Reporting is getting more focussed on "material issues" and is becoming more meaningful, and should highlight the risks and opportunities relating to consumer pressure, regulatory pressure, international standards, and environmental and health demands. Emotional and philanthropic responses aside, the net reason for investors focusing on sustainability seems to be better management control of the business, which is likely to show up in the numbers.

5.2.11 Research, Development and Innovation

Creating new energy technologies can be costly and risky. Generally this means that it does not suit investors' requirements. The private sector operates on a short duration-high risk to long duration-low risk front. Unfortunately, this is the reverse of technological development, where the longer the gestation, the higher the risk. This means that governments need to provide support for lengthy programmes to reduce the risk profile. Yet globally, government energy R&D has fallen dramatically since the 1980s.

Policy changes are creating a perception of greater risk for investors in the energy sector due to increased uncertainty about fossil fuel economics. This can be countered to some extent by reducing the uncertainty in renewables, but in such a dynamic situation it seems inevitable that investors will have less appetite to participate in the energy sector until policies have crystallised and new business models have emerged and stabilised.

A second area of concern for the private sector is the so-called “valley of death” for innovators. To move from pure research to the marketplace, innovations have to pass through a number of stages, from basic R&D to demonstration, to niche market and then to full commercial production. Some governments may be prepared to support the initial phases of innovation but are often reluctant to “pick winners” (i.e. to support manufacturers in the wind-up to full-scale production and marketing, between the demonstration to niche market phases of development). Since this is a “cash-burn” situation, when the costs are still high and the revenue is insignificant, it is unattractive for investors.

From a policy perspective, again certainty is required, which would assist in investment decisions leading to more research and development, or perhaps high-impact pilot projects. A crucial underlying issue is how climate change will be tackled internationally. The finance sector would like to know now what goals for emissions will be set for post-2012, when the first Kyoto Protocol commitment period ends, and what instruments will be used to achieve them. Financial companies see Emission Trading Systems as having great potential in emissions reduction efficiency with a range of business opportunities. This requires transparency and reliability in rules and regulation, based on a clear downward path for reduction targets to achieve the required CO₂ target levels. Governments need to bring in unambiguous long-term policies so that investors are not deterred by the increased riskiness of energy projects.

5.3 Collective Survey Response – South African engagement

Having the background provided with regard to the international attitude of the financial sector to climate change, and the parallel attitudes of South African respondents as a foundation, this chapter focuses on the main trends that were able to be gleaned from the data, and examines question by question, the collective response to these issues.

5.3.1 Trend analysis

In spite of the relatively poor overall response rate of 21.3%, there are various trends that can be reported and which should serve as an input into the National Climate Change Response White Paper. Given that the respondents primarily consist of those organisations that either had capacity, are involved with initiatives, or saw value in

responding to the questionnaire within the tight time constraints, it is clear most are from Group A, and a few from Group B (see section 3.1.1 above).

This does not mean that most organisations contacted do not believe climate change is an important issue or that they are not addressing it within their sector or organisation, but that the time frames, method of consultation and the priority for the individual stakeholder must be taken into account when interpreting the results.

5.3.2 Analysis of individual stakeholder responses

Where respondents were asked in the general section of the questionnaire about their understanding of climate change and the integration of climate change into their organisations, most (89%) responded positively, stating that climate change is being addressed but to varying degrees. It is clear from many of the comments that the current state of understanding about climate change is patchy, and limited to a few individuals within sectors and within organisations. Thus the interpretation of how climate change affects their work is not uniform.

From verbal feedback received and most of the written responses, it is clear that the majority of organisations (64%), are internally-focused (i.e. they monitor and report on their own carbon impact) and only some have incorporated climate change into some of their governance structures or decision-making processes (12%). For many of the commercial organisations, particularly those that have strong international trade or institutional ties, it is important to show commitment to climate change. Financial institutions that have incorporated criteria into their lending practices are the exception rather than the rule (30%), and these vary between basic risk management criteria applied to most projects, to projects and programmes that are exclusively aimed at low-carbon solutions.

Overall, a risk management and compliance based approach is being employed by some of the financial institutions, who focus on the most obvious direct effects that would impact on cash flow or project viability, rather than the approach being adopted by other sectors that focus on long-term positioning and adaptation. One stakeholder observes: “Currently it is seen that the focus for affecting climate change is being driven by other sectors, such as the energy and extractive industries. I think leveraging the financial services sector abilities would add another level of strength to the work currently going on to mitigate and adapt to the challenges from climate change.”

5.3.3 Stakeholder awareness of carbon finance and access to climate funds

Stakeholder understanding of the wide array of carbon funding sources, access, as well as their state of readiness to access funding, is generally limited. All except three organisations (89%) cited knowledge of various sources of funding such as international development funding via UNEP, the IFIs, REFIT, carbon credits via the Clean Development Mechanism (CDM) and Eskom's Demand Side Management (DSM) funds. However, very few (22%) have actually accessed this or any other form of finance. Knowledge of any other local South African carbon financing mechanisms or institutions providing such finance is particularly poor.

Out of the 89% of respondents being aware of different forms of climate finance, 41% are playing in that arena and provide such funding as part of their business or, they are advisory institutions who provide support to their clients to access funding. Thus, 48% are both aware and have the option to access funding, but only 22% have used the mechanisms to do so.

At least four respondents referred to the arduous requirements, the difficulty with negotiation processes and the perception that financing projects via this route is bureaucratic and compliance is expensive, given the high transaction cost in preparation of documents and long lead times. A financial institution responded that: "International Development Banks provide credit lines for funding in targeted areas e.g. investment in energy efficient measures or implementation of renewable energy technologies. The company has not been able to access this funding since it has been in protracted negotiations (i.e. 2 - 3 years) around the contractual obligations. It is believed that some obligations are unnecessarily onerous and some are not in line with accepted business practices in SA (e.g. request that sanctions list, which requires exclusions of funding to breweries, casinos etc. is implemented across the lending functions. Whilst the company believes these sanctions are reasonable, they should only be applied to the credit line and not the entire lending process). The length of time and resources required to conclude this deal has already led to one banking peer pulling out of the process. Presumably, future transactions of this nature will not be viewed in a favourable light if conclusion times continue to be so protracted."

Another financial institution had a similar experience with the difficulty in complying with requirements: "During 2010, a funding transaction for a client in SA had to be called off, as certain provisions in the ESRM policy could not be adhered to."

Another stakeholder has seen the commercial opportunity to provide climate funding and has initiated a process to try to unlock or improve access to funds, mainly driven by the fact that they had also experienced difficulties with the international processes: "We are aware of the sources of finance, but have up to now experienced many obstacles in facilitation of access to these funds, which is why we are involved in this process."

5.3.4 Stakeholder willingness to invest in climate funds or projects

All respondents (74%), apart from the government departments and research agencies stated that they would be prepared to invest in a fund or participate in projects or investment vehicles at most stages of development, provided that risk issues are adequately considered, and that they satisfy specific criteria. In other words, they would invest if the returns were commensurate with the risk that the investment represents and, in the case of asset management companies and investment houses, if clients mandated them to invest in such assets.

As expected, there is a preference for commercial deployment (44%) or pilot-stage support (30%) as start-up and unproven or immature technologies have a high degree of risk. The general view is that public funds should be used to fund the early stages, and that government should play a pivotal role by providing fixed interest instruments and guarantees which could improve the cost of capital and the attractiveness of investments. A certain respondent stated that they believe that there is a need for "institutions that incubate early stage projects, promoting them to a commercially viable stage."

5.3.5 Mitigation or adaptation?

Although all stakeholders consulted stated that mitigation and adaptation projects are of similar importance, it appears that mitigation projects that are tied to targets tend to be prioritised for investment, not least because they have a predictable outcome and can be used to leverage further carbon funds. Adaptation projects are harder to predict, involve longer-term operational and cultural change, and are therefore more risky. Most of the banks commented that the risk profile would be the defining factor for investment. One stakeholder stated: "Frequently the projects that are needed to adapt to the impacts of climate change or build the new energy sources to help reduce emissions are only deliverable in the longer term. Focusing

on the mitigation means a two-strand approach where we can make a difference now whilst also planning for the future. International negotiations on legally binding carbon reduction targets make investment in mitigation a short term priority whilst longer term investment in mitigation and adaptation is critical to our operation in a carbon constrained world impacted by climate change.”

It was noted that the lack of tools to assess the viability of adaptation projects and the inability to calculate costs and benefits/returns is a major stumbling block. Based on verbal feedback from one stakeholder, business and financial analysts have not yet figured out a “standardised way of valuing”, in today’s terms, a company’s sustainability investments, since those returns may not be evident for years. Nor are there agreed-to methods for valuing products and services in fast-growing areas such as clean energy, water conservation or waste management.

5.3.6 Funding priorities

There is some agreement regarding funding priorities. All but one of stakeholders mentioned energy and water as the most important priorities. Energy and waste are considered the top mitigation priorities, while water and agriculture are considered the two most important adaptation priorities. Stakeholders see the transformation of the energy sector as a long-term project as there is an understanding that the move from coal to renewable energy, introduction of new technologies and innovation is complex and will require considerable coordination, support, regulatory reform and effort. Water availability is seen as a critical issue, which requires specific technical focus and interventions that emerge from existing technologies and skills sets. Agriculture is strongly linked to water scarcity, food security, job security and the economy and is particularly vulnerable to climate change.

Several stakeholders (54%) also mentioned infrastructure, the transport sector, mining and education as priority areas for investment. One research institution cautioned against the prioritising of specific sectors, as climate change will affect all sectors and must be looked at as a single system that requires an integrated approach: “There is a grave risk in looking to prioritise sectors. The key understanding is that the sectors are all part of a single system, which comprises the resource base, ecosystem services, society and the economy. A fully integrated approach is required that takes into account the interdependencies and feedback effects between sectors. For example, providing energy to support

economic development needs careful consideration of the impacts on land (agricultural, settlement, etc.) and water – which are also required to support economic development”

It was interesting that although the Climate Change response Green Paper (DEA, 2010) prioritises the health sector, this was not mentioned as one of the priority areas by any of the respondents, except in the context of poverty alleviation and vulnerability.

5.3.7 Stakeholder view of the role of different groups

All respondents cited government as the lead in terms of creating a sustainable climate financing environment: all agreed that government must set clear policies and provide an enabling framework that drives innovation, research and development. Most respondents believe strongly that while government must lead, financial institutions have a major or significant role to play in providing access to funds, creating products to spread the risk, and unlocking value or removing barriers to progress or opportunities.

One of the respondents commented that: “through the use of market-based instruments, incentives would be created that encourage the shift to low carbon, efficient technologies and contribute to a low carbon growth path. This may help improve trade opportunities in the long term as developed countries are considering border carbon adjustments for countries that do not implement appropriate carbon pricing.” It is the Trade and Industrial Policy Strategies’ (TIPS) view that government could “provide accurate, current and unbiased information on emissions, mitigation and adaptation actions; use fiscal policy to correct for externality costs and benefits (levelling the price playing-field); provide transparent and predictable policy support with a ‘line of sight’ that allows industry and investors to plan ahead, for example on feed-in tariffs or carbon taxes; use a variety of Public Finance Mechanisms (particularly to overcome country-specific risk – like currency risk across Africa and many other developing nations, including South Africa) to overcome the key challenge for virtually all climate solutions - high up-front costs which are recovered over an extended period of time – by reducing the Capital Recovery Factor (longer repayment periods, lower interest rate and interest rate spread, lower return on equity - in that order); issue and buy green [infrastructure] bonds, and also consider a sovereign wealth fund with a low-carbon and green industries investment mandate.”

5.3.8 Barriers to progress towards transitioning to a low carbon economy

All stakeholders stated that despite the emphasis on Government's role to lead and provide the enabling platform, there is unfortunately an absence of clear policy, an uncertain regulatory framework, and insufficient incentives or mechanisms in place to support cost-effective measures that will reduce the risk, or buffer the likely financial burden on the economy. Furthermore, many stakeholders commented (written and verbal) on what they believe to be institutional misalignment and insufficient public/private sector coordination/partnership activities to drive the low-carbon economy and facilitate long-term solutions. Government initiatives, such as public procurement, energy labelling of appliances, new building regulations, which are seen as relatively easy to implement via regulations, are not in place.

The following issues were cited as particular barriers to progress:

- Lack of a long-term policy framework and legislation at a national and international level creates uncertainty for business.
- The regulatory environment hinders the approval and implementation of untested technologies, which in turn hinders the approval of finance to pilot new or untested technologies. This acts as a disincentive to innovation as well as resulting in a reluctance to bring new technologies in from elsewhere.
- There is also a lack of consumer understanding of the issues, or demand for related products, and investment reduces the business case for taking action.

The above are exacerbated by short-term goals inherent in traditional investment culture. Currently, this reduces the incentive for long-term investment in new solutions and technologies.

5.3.9 Stakeholder views on R&D and climate information

All except five stakeholders (81%) consulted believe that there is sufficient R&D around climate change issues. The remaining stakeholders believe that while there is sufficient R&D and information on climate change, it is not properly disseminated, tested or packaged in an understandable way. A financial institution stated: "Technological innovations are being developed, but remains expensive and untested. Development Banks could be a vehicle to drive this innovation supported by the

private sector". Treasury agrees that there are mechanisms in place but that joint co-operation is going to be necessary to refine the process, and specifically in relation to R&D efforts: "There are specific tax incentives available for R&D that will apply to low carbon technology development. The National Cleaner Production Centre has also piloted projects focusing on energy efficiency and the effectiveness of the programme needs to be assessed. Private sector and government collaboration in identifying specific research areas may help to promote innovation in South Africa."

There is a general perception that skills to both undertake R&D as well as implement solutions are scarce, which results in pockets of activity within certain sectors. This also serves to limit the partnership opportunities between organisations. A research institution asserts that "It really needs to be understood that...solutions developed in the northern hemisphere have limited utility in the southern hemisphere. Similarly, what may be an appropriate response for a developed economy will not meet the requirements locally, especially given the particular need to consider livelihoods in the Southern African context. In reality, however, there simply isn't capacity to utilise a tenfold increase in funding in the short term. There needs to be substantial and sustained funding of R&D to attract people to the field and build the capacity the country needs. Such capacity will not be for R&D only, but will also be required for government planning at all levels, and private sector planning and adaptation. Dept Science and Technology is leading a R&D in this field, with limited funding, and the focus is on developing postgraduate capacity. However, people will not be attracted to the field unless there is potential for careers after qualifying. The Department of Environmental Affairs should be funding R&D in this area, but they tend to use existing expertise to provide answers as the need arises, rather than being prepared to fund R&D that provides better understanding to answer future questions. The Dept Trade and Industry should be funding R&D that supports a future lower carbon manufacturing industry."

It is public knowledge that many investment institutions such as the GEPF have their own set of value screens, and also use independent sustainability ratings to assist the decision-making process, while large institutional investors are becoming more inclined to favour socially responsible funds. The JSE reports that they are "definitely seeing a growing response from investors in relation to social and environmental issues.... and with the increase in understanding amongst investors about the impacts of climate change and the need for adaptation strategies, investors are increasingly becoming involved in the

conversation around how companies are dealing with environmental concerns. We are also seeing in the SRI Index process that stakeholders and investors respond to media stories around such issues.”

The investor movement to incorporate ESG concerns into investment in South Africa is mainly being driven by the major UNPRI signatories such as the Government Employees Pension Fund (South Africa’s largest institutional investor), with support of a number of investment managers, and is currently culminating in the creation of the Code for Responsible Investment in South Africa (CRISA), which has recently been launched and is expected to be in practice by 2012. The Code is the second of its kind in the world (following the Stewardship Code in the UK), and is a voluntary code in the vein of the King Code on Corporate Governance, urging those that ascribe to the code to incorporate ESG considerations into their investment decisions, and setting various guidelines for doing so.

Asset management companies are increasingly shifting their focus to investments in this arena, although this is still limited to a handful of companies in South Africa. With the introduction of the CRISA, this is likely to change.

Despite the fact that there is a wealth of international information available through research bodies, support organisations such as UNEP and UNEP-FI, and the World Business Council for Sustainable Development (WBCSD), local data, R&D efforts and local information seems to be lacking. All except one organisation either utilise international information or commission bespoke research of their own to inform their decisions. One of the respondents stated that they currently carry on research on how climate change affects their products through their normal business activities. In South Africa they have limited data and therefore not much to benchmark against:

Based on verbal feedback, modelling of climate change impacts, monitoring information/data and vulnerability studies are scarce, and when available are too technical to understand or too detailed to apply to business investment decisions. One of the respondents stated that

Institutions such as CSIR have done R&D work, however monitoring climate change effects and modelling future impacts will require more work, and collaboration between government and private sector is critical in leading research.

There is consensus around the need to collaborate and disseminate information in a form that can be applied and

used for capacity building purposes. One company suggested that research should be co-funded between business, government and academia as all will benefit. Collaboration and clear communication of research findings could be communicated in a way that can be digested and used by business, which is key to maximising the benefits of funding or investments. A financial institution observes that “there has been some good work done, however the major body of knowledge continues to be in the academic circles. There is still a gap regarding facilitating business understanding of impacts and the findings have yet to be applied in a business context.”

5.3.10 Stakeholder views on climate opportunities

All of the organisations consulted reported that they see major opportunities arising from climate change. These include:

- The increased demand and need for low-carbon energies to mitigate GHG emissions provides a business opportunity for project developers and investors through the creation of new markets;
- Carbon trading will increase the need for bankable projects and advisory services;
- Increased reporting regulations will create greater transparency on how companies are dealing with climate change and the risks involved, and will enhance investment decisions;
- Efficiency gains will be made in reducing energy consumption in light of potential increases in tariffs surrounding energy consumption and emissions;
- REFIT incentivises clean energy projects;
- New banking and insurance products can offer a method of spreading the risks associated with impacts;
- SRI Funds and Green Indices are seen as areas for development;
- Development opportunities and job creation from green enterprises are cited as areas to watch in future;
- Sustainable transport and low-carbon infrastructure development; and
- Sustainable agriculture and sustainable land-use are also areas where there will likely be increased focus.

5.3.11 Awareness of the Global Green Climate Fund

Eighty-three per cent of respondents stated that they were aware of the decision to establish a Global Climate Fund. Many said that it was unclear to them where the funds would come from or how they would be dispersed to countries, but that if South Africa could access such funding it should be for:

- Renewable or alternative energy, changing the energy mix, or eco-efficient energy solutions to reduce emissions (31%);
- Specific mitigation and adaptation projects and Nationally Appropriate Mitigation Actions (NAMAs) (17%);
- R&D, new technologies and demonstration projects (14%); and
- Green or low-carbon economy projects (17%); and

5.3.12 Knowledge and support for a National Climate Change Fund

As stated previously, in order for these opportunities to be fully realised, an investment-friendly environment is necessary. A total of 74% of respondents showed “conditional support” for a National Climate Change Fund, even if they were not aware of the government’s intention to establish one. 4% of respondents stated that they were not aware of a Climate Change Fund, and 9% declined to comment. Although many stated that they were unclear about how the Fund Would be financed or how the funds were to be used, 67% emphasised the pre-requisites of good governance, and their support would depend upon the type of projects, risk profile of projects, return on investment, independent assurance, and the impact of projects on emissions and climate resilience. Some (21%) stated the need to use this type of resource to fund early-stage projects, scale-up new technologies to pilot stage and to fund R&D. Most (75%) agreed that more funds are needed, which are ring-fenced and focused on low-carbon solutions, but the governance concerns were top of mind for everyone.

5.3.13 Monitoring, Reporting and Verification (MRV)

Most (75%) of respondents agreed that a finance tracking facility would be useful, stating that transparency and accountability are critical elements that would further enhance investor interest, and promote collaboration.

Data or information that are made available through monitoring, reporting and verification (MRV) would be very useful to assess impact, funding criteria, monitor flows of finance, aid decision-making by prioritisation, and track results. However, the MRV system should not be too burdensome.

5.3.14 The role of Government and Research Institutions

In line with other stakeholders’ comments and feedback, Government – in particular National Treasury – confirms taking the lead in developing market-based policy instruments to address climate change as well as creating credible, long-term price signals to encourage the shift to a low-carbon economy.

Government has a key role to play in developing the broad climate change policy framework that will provide certainty to business. This will involve alignment between regulatory, market-based, information and voluntary policy measures, and may include decisions on the nature of climate financing and providing seed funding to unlock IFI and private funding. National Treasury believes that the introduction of a carbon tax should be for the purpose of internalising the external costs of climate change and create incentives for behavioural changes towards energy-efficient and renewable technologies and encourage technology innovation. Raising revenue is a secondary objective and the earmarking of revenues is not supported. However, budget funding for specific environment or climate-related projects could be considered to the extent that sound business cases for these projects are provided; this could present a sustainable source of funding. Opportunities for a combination of domestic and international funding sources for these projects should also be explored. This would be in conjunction with DEA, the Department of Water Affairs (DWA) and the Department of Energy (DOE). While no feedback was received from the Department of Trade and Industry (DTI) or Energy Efficiency and Environment Division (EEED), it is assumed that they would play a key role in the design of incentives and industrial policy, which would be aligned with the statements made about the Green Economy. The Department of Transport sees itself more as an implementer, initiating climate change activities paid for with public funds in order to effectively address climate change.

It is suggested by respondents that Government needs to consider the following:

1. Include climate change in the developmental plans and programmes at all spheres of government, in order to ensure sustainability of funding.
2. Given the cross-cutting nature of climate change, experts from the science, engineering, accounting and economics professions need to work together to develop good policies. Due to the technical nature of the work, investment in environmental scientists and economists need to be explored within and between departments.
3. Funds or funding vehicles must demonstrate that they provide real developmental leverage and have strong governance.
4. Policy must strike a balance between the developmental mandate and climate change mandate of government.
5. Finance, changes in technological focus, capacity building and change in attitude within the industry is a necessary pre-requisite to the success of implementing climate change initiatives.
6. Climate change presents R&D opportunities and requirements, and there is a need for developing capacity in this field.
7. There is a need for further engagement, communication, information exchange and co-operation between government, business, academics and other stakeholders on climate change.
8. Business opportunities would translate into green jobs and increase the international competitiveness of the South African economy, but there needs to be a viable market with a stable regulatory structure.

The Council for Scientific and Industrial Research (CSIR) and the universities play an important role in climate change R&D, including understanding the drivers of climate change, system responses, risks and vulnerability, and adaptation and mitigation. There is every indication that this area of research will need to grow for the foreseeable future. The CSIR in particular would like to develop the capability to support informed decision-making on integrated resource planning and management for the optimal use of scarce resources in meeting development needs. The CSIR has done work in SADC, for example, extending the South African Risk

and Vulnerability Atlas to the region and supporting Mozambican planning for sustainable coastal infrastructure. Again, this is likely to grow in future, but is somewhat hampered by funding available in SADC. Furthermore, it is very important for the southern hemisphere to have a voice in the international climate change debate. The CSIR has established international credibility in climate change fields and participates in large global projects such as the Millennium Ecosystem Project. It also has an important role to play in developing global understanding. The Southern Oceans, for example, play a big role in global climate systems, but have been poorly researched. The CSIR is leading R&D into these systems and contributing to the development of global climate models.

Stakeholders would like to see the following emerging from government:

1. Political and regulatory certainty (as long term as possible) with regard to the national position on climate change and the resultant initiatives;
2. Public finance that can be used to leverage private finance;
3. An integrated approach to climate change;
4. Capacity of Government departments to undertake the various initiatives as well as spend the funds on projects intended to reduce the national footprint and grow the low-carbon economy;
5. Incentives, tax breaks, guarantees for start-ups, improved processes for approving new technologies;
6. Stimulation of the renewable sector beyond solar water heaters;
7. More consultation and engagement on solutions, partnerships and co-operation;
8. Integration of climate change into planning;
9. Harmonisation and alignment of other complementary policies such as the Industrial Policy Action Plan (IPAP 2), the Integrated Resource Plan (DOE, 2011), the Green Economy Strategy, and the National Climate Change Response Policy and Strategies; and
10. Access to better climate change information/data for modelling or predictions.

6 Conclusions

6.1 General conclusions

1. Reducing GHG emissions will require significant levels of investment, both private and public.
2. Investment in developed countries offers greater investment security due to efficient capital markets and investment processes not found in developing economies, although the latter present more opportunities due to greater rates of economic growth and infrastructure development.
3. Up-front capital investment is not likely to be attractive to the private sector unless governments provide sufficient cash flow support. Because only a minority of such investments are inherently financially viable, government-mandated incentives such as carbon pricing, standards, and direct subsidies/feed-in tariffs would be required to generate greater investments in mitigation.
4. The private sector would respond to incentives that provide a high degree of regulatory certainty into the future and would counter other actions such as rising energy tariffs and carbon taxes.
5. A few institutional investors and fund managers have acknowledged that climate change will have a material impact on their investments and that they are taking action to address the issue.
6. Investors who have been following SRI strategies for some years now treat climate change as a strategic factor in portfolio performance.
7. There is increasing evidence to indicate a positive link between good corporate environmental governance, including climate change, and good financial performance, but the actual causal link is difficult to prove with limited data at this stage. The JSE SRI has shown that the companies in the index have outperformed the rest, but stronger empirical evidence over a longer period is still required.
8. The comparability and quality of climate change information provided by companies remain insufficient for credible financial analysis, although the availability of comparable and consistent data on climate change and tools for fund managers to assess climate change risk in their portfolios, are increasing.
9. There is a lack of understanding among both institutional investors and consultants on how they should be evaluating the financial implications of climate change on investments.
10. Climate change, its implications and uncertainty around policy and regulation remain complex, acting as a barrier to entry to institutional investors and consultants in understanding the related financial risks.
11. Fund manager performance is measured over a short timeframe, causing fund managers to focus on short-term corporate performance, which is in direct conflict with the long-term nature of climate change.

6.2 Conclusions pertaining to specific interventions

6.2.1 Making Investment in Mitigation attractive for the Private Sector

Investment requires the right financial and regulatory incentives. Any investment needs to recover the initial investment and the cost of employing its capital over time, adjusted for the underlying risk of the investment. Governments could make the economics of mitigation projects positive for investors; this requires assurances of climate revenues for mitigation via policies and measures that will stay in place, despite changes in government, for the life of the project.

Currently, only a limited number of investments that will result in emissions reductions are inherently financially viable. An example would be energy efficiency projects that have energy savings that more than recoup the initial investment. However, even these projects may still require changes in government policies, regulation or support for up-front financing to realise the potential savings and overcome investment barriers. Other abatement opportunities require financial incentives to compensate investors for the higher cost of an abatement project relative to alternative investment opportunities. An example could be a wind farm that requires additional financial incentives in order to compete with a high-carbon coal-fired power plant.

Climate and other regulatory policies are the levers left in the hands of government to bridge the gap between returns that an investor requires in order to make a particular investment, and the returns that would otherwise be received. The main methods for incentivising investors are carbon markets, subsidies, and feed-in tariffs, as well as other policy instruments such as standards (e.g. building standards, vehicle emission standards, appliance standards etc.).

6.2.2 Carbon Pricing

Carbon pricing, either through taxing emissions or through a cap and trade or offset credit trading system, affects investment prospects by conferring a monetary benefit on emissions reductions. Attaching prices to carbon through regulation and markets increases the costs of high-carbon technologies and also the market prices of goods and services produced through such technologies, to the benefit of investments in low-carbon technologies. Carbon trading markets also generate commercially valuable carbon credits for low-carbon investments.

Not only does carbon pricing help align private incentives to reduce emissions with public goals, it can also create a revenue stream (either through carbon taxes or auctioning emissions permits) for governments to spend on emissions reduction in other sectors, or to use to reduce other taxation requirements. However, not all emissions can be easily captured in a cap and trade market or with a carbon tax, and long-term uncertainty about the level of the carbon price can blunt the incentives provided.

The CDM offset credit market has grown rapidly but is still limited in scale and needs to scale up significantly in order to play a major role in the international financing of abatement. It is questionable whether that will be possible with project-based offsets only. Sector-based schemes, which are typically large-scale by nature, may be required. Many mitigation technologies are capital intensive and have a long investment horizon, particularly those in the power sector. Relying on carbon markets to provide returns has proven to be problematic in some cases because of uncertainties created by large fluctuations in carbon prices. Many market participants have argued that some form of price regulation or government steps to establish a price floor might be required in order to make carbon markets more effective.

6.2.3 Subsidies

Direct subsidies for capital investment or operating expenses, such as those provided by feed-in tariffs in the power sector, which reward clean energy with a payment for each kilowatt hour (kWh) generated, promote certainty regarding returns (as long as they are in effect) and have a direct positive effect on the investment cash flow profile. Feed-in tariffs have proven to be one of the more effective policies in terms of stimulating investment and have been a policy of choice for many countries. However, they can be expensive for governments unless end users pay for them directly.

6.2.4 Regulatory Standards

Mandatory standards to promote climate objectives include engine efficiency standards for automobiles and other products, and renewable power standards that require power companies to produce a certain proportion of their electricity from clean sources. Although these standards do not include a direct financial element, they do impose the same standards on an entire industry, thus maintaining a level playing field and passing on costs to consumers through higher prices, thus, in effect, providing an increased return on the investment in abatement. Policymakers like standards, as they do not incur costs to the government. As a non-market approach, however, they can be inefficient by enforcing abatement even where it is very expensive to do so.

A limited number of best practice regulatory and policy measures can stimulate investment to achieve a significant amount of abatement, often in conjunction with carbon markets. These include:

1. **Renewable Power Standards (RPS):** can often boost returns from renewable power, making projects viable. Feed-in tariffs are an alternative to RPS; they can act as a guaranteed price for power generated, reducing project risks. Experience shows that feed-in tariffs have been as or more effective than RPS in driving uptake of wind generation.
2. **Energy efficiency in industry:** is often linked to upgrading facilities to best practice levels. China in particular is in the process of shutting down many sub-scale production facilities with low efficiency (e.g. in cement) and replacing them with best-in-class facilities, creating opportunities for investors.
3. **Energy efficiency standards:** for cars, building codes for houses, and appliance standards can drive innovation and investment in energy efficient technologies and their application. If investors have reasonable assurance that such standards will be maintained and strengthened, they will invest in the likely winners (e.g. car or appliance makers that are already more efficient than the competition and stand to benefit from tightening standards).
4. **Carbon-content fuel standards:** open opportunities for biofuels, and make them competitive. Without standards, biofuels are not economic compared to petrol or diesel.

6.2.5 Other Important Elements of Climate Regulatory Policies

When deciding on domestic regulation, policymakers could consider:

- **Regulatory risk:** As discussed previously, many climate-related technologies rely on government policies to be economically viable. While some government policies represent credible commitments over longer periods of time (e.g. most feed-in tariffs), others are subject to significant political uncertainty. New Zealand provides a recent example where the planned Emission Trading Scheme was put on hold after a change in government. Some type of policy guarantee may be required to induce the desired level of investment.
- **Agency problems/industry structure:** Principal-agent problems are a major challenge for energy efficiency projects. In many instances, the logical investors (e.g. owners of apartment buildings in case of building insulation) might not capture the benefits (e.g. reduced cooling or heating bills) because they will accrue to a third party (e.g. tenants). Alternate business structures like Energy Services Companies, (ESCOs), which invest in residential building energy efficiency in return for an annual fee are one way to offset this problem.

6.2.6 Attracting Opportunities for Investment in Climate Change

Mitigation can only exist if current policies are strengthened. It is said that to meet abatement targets the world needs €350 billion per year of incremental capital investment in mitigation between now and 2020, in six economic sectors across all nations, developed and developing. Policymakers, in all probability will need to create the conditions that will trigger private investment in mitigation and spur competition among companies to achieve low-carbon economic growth. Well-designed policies could, in principle, spur cost-effective emission reductions, increase energy security, make economies more robust, boost innovation rates, and support economic growth and development.

Finally, based upon the collective responses, it may be stated that the feedback, although not fully representative of all stakeholders, is fairly consistent. The market appears at all levels to be ready to embrace different forms of carbon and green finance mechanisms and instruments, and is waiting for government to create the right enabling environment for the private sector to participate. There is recognition that solutions need to be rapidly scaled-up. At the same time there are financial, regulatory and skills gaps. Most stakeholders believe that there are major opportunities and that they have a key role to play if some of these barriers are removed or the gaps are addressed. Major organisations are not waiting for government but are assisting in shaping policies and going ahead with initiatives. However these could be greatly enhanced by strengthening institutional structures, harmonising policies and regulations, as well as through partnerships, collaboration, better information dissemination, and capacity building.

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ANNEXURE A

CLIMATE FINANCE QUESTIONNAIRE

The South African government has issued the National Climate Change Response Green Paper for public comment. Climate finance is an emerging discipline in South Africa and it is certain that significant funding will be required to address this development issue. Further, given international developments around global climate finance sources, there is seemingly a need for the tracking and/or aggregation of funds within South Africa. Thank you for your time in responding to the questions contained herein aimed at i) assessing the current state of climate change investment activity, its constraints and impediments, ii) its future development and iii) the need for institutional and/of funding support mechanisms to catalyse investment.

Responses will be aggregated to form a view of the stakeholder group and not attributed to individual organisations. Your participation in this study will enable policy makers to develop a sustainable climate finance framework for South Africa. Thank you for your participation and detailed responses.

IDEAL RESPONDENT PROFILES: Senior professionals involved in sustainability and/or governance **AND** senior business practitioners involved in investment strategy, risk assessment and business development.

Kindly return the relevant section/s of the attachments to the research administrators Pieter van Zyl at Pieter.vanzyl@bigroup.co.za and Olaotse Matshane at OlaotseM@dbsa.org.

DEADLINE FOR SUBMISSION: Monday, 14th February 2011 (close of business)

Name		Company	
Position		Department	
Primary activities		# Years	

STAKEHOLDER GROUP

(Please select on basis of your primary activities, e.g. banks have both investment and assurance activities)

A – Reinsurance & insurance	<input type="checkbox"/>	G – Commercial & Investment Banks	<input type="checkbox"/>
B – Asset Management	<input type="checkbox"/>	H – Microfinance Institutions	<input type="checkbox"/>
C – Listed companies	<input type="checkbox"/>	I – State owned entities	<input type="checkbox"/>
D – Private Equity & Venture Capital	<input type="checkbox"/>	J – Civil Society	<input type="checkbox"/>
E – International Finance Institutions	<input type="checkbox"/>	K – Advisors (legal, tax, accounting)	<input type="checkbox"/>
F – South African DFIs	<input type="checkbox"/>	L – Regulatory bodies	<input type="checkbox"/>

Acronyms used herein

- CDP: Carbon Disclosure Project
- DFI: Development Finance Institution
- R&D: Research and Development
- SADC: Southern African Development Community
- SRI: Social Responsibility Index

ORGANISATIONAL INTEGRATION OF CLIMATE CHANGE (All to complete)

1. Are climate issues being integrated within your business activities? Please elaborate.

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2. Is there a common understanding of how “climate change” impacts your organisation? Please elaborate.

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3. What are the climate change sources of funding (domestic or international) you are aware of? Has your company successfully accessed such funding? If not, why?

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4. At what development stage of projects/programmes would your institution be willing or best positioned to participate in the financing of climate change, e.g. R&D, pilot project, commercial deployment or risk mitigation?

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5. Which area would you prioritise (e.g. mitigation, adaptation, both) for investment? Why?

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6. Which sector do you consider as priority in the short, medium and long term (e.g. water, energy, agriculture, etc.)? Why?

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7. In your opinion, is there sufficient R&D into climate science and/or technological innovations to inform your strategic business decisions? How can this research be improved? Who should be leading this research?

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8. Are you aware of the decision taken in the UNFCCC meeting in Cancun to operationalise a Global Green Climate Fund? How should South Africa utilise funding that may become available under this global mechanism?

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A - REINSURANCE INDUSTRY

1. What role is your industry currently playing in climate change finance, and what role do envisage in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. Have you launched any new products due to climate change related events? Please elaborate.

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4. What are the constraints (e.g. policy, legal, regulation, tax, mandate, tax, social and/or environment) related to the development of new climate change insurance products?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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- 5. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage the development of new climate change insurance products?
 - a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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- 6. Could you suggest any financial/resource support structures needed for your industry to absorb climate risk?

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- 7. In your opinion, what roles should the following parties play for South Africa to have a enabling and sustainable climate financing environment i.e.
 - a. Government (three tiers)
 - b. Public research institutions
 - c. Banking (commercial, investment, microfinance)
 - d. Insurance (re-insurance, long and short term)
 - e. Asset managers, private and venture capitalists
 - f. Development finance institutions
 - g. International funding institutions
 - h. Microfinance institutions
 - i. Business
 - j. Civil society

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8. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. How do you think this fund could contribute to a sustainable climate financing environment?

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9. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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10. Any other information/comments you believe to be relevant to this enquiry

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B – ASSET MANAGEMENT

1. What role is your industry currently playing in climate change finance, and what role do envisage in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing environment?
- a. Government (three tiers)
 - b. Public research institutions
 - c. Banking (commercial, investment, microfinance)
 - d. Insurance (re-insurance, long and short term)
 - e. Asset managers, private and venture capitalists
 - f. Development finance institutions
 - g. International funding institutions
 - h. Microfinance institutions
 - i. Business
 - j. Civil society

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4. How do you expect issues of climate change to affect your existing and future portfolio decisions? How much of your current portfolio focuses on climate change investments?

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5. What are the investment opportunities or new asset classes emerging from climate change?

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6. Under what conditions would you invest in asset classes labelled green or climate friendly (e.g. bonds, commercial paper, corporate)? Which asset class would you prefer?

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7. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change products?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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8. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change assets?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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9. Can you suggest any financial / resource support structures needed for your industry to absorb climate risk?

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10. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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11. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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12. Any other information you believe to be relevant to this enquiry

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C - LISTED COMPANIES

1. What role is your industry currently playing in climate change, and what role do envisage in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. What are the business opportunities emerging from climate change for your industry?

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4. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) to innovative business development related to climate change?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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- 5. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest/develop climate change related products/services?
 - a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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- 6. Can you suggest any financial / resource support structures needed for your industry to absorb climate risk.

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- 7. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.

- a. Government (three tiers)
- b. Public research institutions
- c. Banking (commercial, investment, microfinance)
- d. Insurance (re-insurance, long and short term)
- e. Asset managers, private and venture capitalists
- f. Development finance institutions
- g. International funding institutions
- h. Microfinance institutions
- i. Business
- j. Civil society

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8. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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9. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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10. Any other information you believe to be relevant to this enquiry

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Additional information required from the JSE

11. Please indicate the number of existing climate change/green company listings on the JSE or Alt-X (by sector, by capital)?Please indicate the number of new/anticipated climate change/green listings on the JSE in the next five years (by sector, by capital)?

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12. Is there any correlation between the results of the carbon disclosure report and the JSE SRI and share prices of listed entities participating in the CDP? Please elaborate.

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13. How does the number of JSE listings compare with international stock exchanges in new sustainable technologies for green / climate change interventions?

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14. Are investors in JSE listed entities responding to negative/positive environmental news in terms of particular industries e.g. natural disasters and is there any emerging shareholder activism in relation to social and/or environmental issues?

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D – PRIVATE AND VENTURE CAPITAL

1. What role are you currently playing in climate change finance, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.
- a. Government (three tiers)
 - b. Public research institutions
 - c. Banking (commercial, investment, microfinance)
 - d. Insurance (re-insurance, long and short term)
 - e. Asset managers, private and venture capitalists
 - f. Development finance institutions
 - g. International funding institutions
 - h. Microfinance institutions
 - i. Business
 - j. Civil society

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4. What do you believe are the investment opportunities emerging from climate change?

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5. What are the current and future trends in private equity/venture capital relating to climate change related investments? Is there a growth in specialist funds relating to climate change? Please elaborate

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6. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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7. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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8. Can you suggest any financial / resource support structures needed for your industry to absorb climate risk.

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9. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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10. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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11. Any other information you believe to be relevant to this enquiry

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E –INTERNATIONAL FINANCE INSTITUTIONS

1. What role are you currently playing in climate change finance, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.

- a. Government (three tiers)
- b. Public research institutions
- c. Banking (commercial, investment, microfinance)
- d. Insurance (re-insurance, long and short term)
- e. Asset management, private and venture capitalists
- f. Development finance institutions
- g. International funding institutions
- h. Microfinance institutions
- i. Business
- j. Civil society

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4. What do you believe are the investment opportunities emerging from climate change? Is your organisation developing these opportunities in partnership with any local or regional public or government entities? Please elaborate.

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5. What are the principal drivers of your organisations development and investment programmes in South Africa, and the SADC region? Do you have committed funds to apply to the SADC region for climate change? If so, please elaborate (amount, sector, beneficiaries and any pre-requisites attached)

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6. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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7. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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8. Can you suggest any financial / resource support structures needed for your industry to absorb climate risk.

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9. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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10. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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11. Any other information you believe to be relevant to this enquiry

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F – SOUTH AFRICAN DEVELOPMENT FINANCE INSTITUTIONS

1. What role are you currently playing in climate change finance, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.

- a. Government (three tiers)
- b. Public research institutions
- c. Banking (commercial, investment, microfinance)
- d. Insurance (re-insurance, long and short term)
- e. Development finance institutions
- f. International funding institutions
- g. Business
- h. Civil society

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4. What are the principal drivers of your organisations development and investment programmes in South Africa, and the SADC region? Do you have committed funds to apply to the SADC region for climate change? Where able, please elaborate (amount, sector and any pre-requisites attached)?

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5. What do you believe are the development opportunities emerging from climate change? Please identify the priorities in relation to your organisation's mandate.

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6. What existing capability is available to pursue investment and interventions in climate change? (e.g. funding, technical resources, skills, information)

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7. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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8. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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9. Can you suggest any financial / resource support structures needed for your industry to absorb climate risk?

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10. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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11. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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12. Any other information you believe to be relevant to this enquiry

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G – COMMERCIAL AND INVESTMENT BANKS

1. What role are you currently playing in climate change, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. Have you launched any new products due to climate change related events? Please elaborate (e.g. corporate loans, emergency working capital facilities etc)

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4. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.
- a. Government (three tiers)
 - b. Public research institutions
 - c. Banking (commercial, investment, microfinance)
 - d. Insurance (re-insurance, long and short term)
 - e. Asset management, private and venture capitalists
 - f. Development finance institutions
 - g. International funding institutions
 - h. Microfinance institutions
 - i. Business
 - j. Civil society

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5. What do you believe are the investment opportunities emerging from climate change?

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6. What are the principal drivers of your organisations development and investment programmes in South Africa, and the SADC region? Do you have committed funds to apply to the SADC region for climate change? Where able, please elaborate (amount, sector and any pre-requisites attached)?

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7. What do you believe are the development opportunities emerging from climate change? Please identify the priorities in relation to your organisation's mandate.

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8. What existing capability is available to pursue investment and interventions in climate change? (e.g. funding, technical resources, skills, information)

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9. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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- 10. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?
 - a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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- 11. Can you suggest any financial / resource support structures needed for your industry to pursue investment in climate change related projects/companies?

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- 12. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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- 13. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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14. Any other information you believe to be relevant to this enquiry

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Additional information from Business Banking:

15. Identify any directional trends in the new market entrants (mainly SMME) in climate change mitigation and adaptation sectors (sustainable technologies e.g. energy efficiency)

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H – MICROFINANCE INSTITUTIONS

1. What role are you currently playing in climate change finance, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.

- a. Government (three tiers)
- b. Public research institutions
- c. Banking (commercial, investment, microfinance)
- d. Insurance (re-insurance, long and short term)
- e. Development finance institutions
- f. International funding institutions
- g. Microfinance institutions
- h. Business
- i. Civil society

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4. What do you believe are the investment opportunities emerging from climate change?

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5. Identify any directional trends in the small business activity/ entrepreneurs in climate change related initiatives (e.g. sustainable technologies, energy efficiency, waste, water)

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6. What are the principal drivers of your organisations development and investment programmes in South Africa, and the SADC region? Do you have committed funds to apply to the SADC region for climate change? Where able, please elaborate (amount, sector and any pre-requisites attached)?

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7. What do you believe are the development opportunities for small businesses emerging from climate change? Please identify the priorities in relation to your organisation’s mandate.

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8. What existing capability is available to pursue investment and interventions in climate change? (e.g. funding, technical resources, skills, information)

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9. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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- 10. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?
 - a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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- 11. Can you suggest any financial / resource support structures needed for your industry to support small business activity in climate change related projects/programmes?

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- 12. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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- 13. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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- 14. Any other information you believe to be relevant to this enquiry

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I – STATE OWNED ENTITIES AND GOVERNMENT

1. What role are you currently playing in climate change, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.
- a. Government (three tiers)
 - b. Public research institutions
 - c. Banking (commercial, investment, microfinance)
 - d. Insurance (re-insurance, long and short term)
 - e. Development finance institutions
 - f. International funding institutions
 - g. Microfinance institutions
 - h. Business
 - i. Civil society

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4. How does climate change impact your business? What are the business opportunities emerging from climate change for your industry?

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5. What are the preconditions are needed for your industry to invest in innovative projects related to climate change mitigation and adaptation?

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6. What existing capability is available to pursue investment and interventions in climate change? (e.g. funding, technical resources, skills, information?)

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7. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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8. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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9. Can you suggest any financial / resource support structures needed for your industry to develop and invest in climate change related projects/programmes applicable to your industry/business?

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10. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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11. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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12. Any other information you believe to be relevant to this enquiry

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J – CIVIL SOCIETY

1. What role are you currently playing in climate change, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.
- a. Government (three tiers)
 - b. Public research institutions
 - c. Banking (commercial, investment, microfinance)
 - d. Insurance (re-insurance, long and short term)
 - e. Development finance institutions
 - f. International funding institutions
 - g. Business
 - h. Civil society

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4. What do you believe are the development priorities emerging from climate change?

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5. Identify directional trends within civil society related to climate change. Where possible, identify the local civil society organisations that are addressing climate change related issues (e.g. justice, advocacy, humanitarian relief, adaptation, mitigation)

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6. What existing capability is available to pursue interventions in climate change within civil society (i.e. resources, finances, technical skills, information)? What additional resources are required to build additional capacity?

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7. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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8. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage you to invest in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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9. Can you suggest any financial / resource support structures needed for civil society to develop and promote climate change related programmes?

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10. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you utilise such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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11. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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12. Any other information you believe to be relevant to this enquiry

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K – ADVISORY SERVICES

1. What role are you currently playing in climate change finance, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your business decisions?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.

- a. Government (three tiers)
- b. Public research institutions
- c. Banking (commercial, investment, microfinance)
- d. Insurance (re-insurance, long and short term)
- e. Asset management, private and venture capitalists
- f. Development finance institutions
- g. International funding institutions
- h. Microfinance institutions
- i. Business
- j. Civil society

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4. What do you believe are the primary concerns of the private and public sector in relation to climate change? Please elaborate on your assessment of the business opportunities and monitoring requirements relating to climate change mitigation and adaptation sectors.

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5. Identify any new developments either globally or locally within your professional discipline that relates specifically to climate change and environmental sustainability (e.g. accounting, legal, tax, due diligence and assurance/attest standards)

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6. What existing capability is available to pursue investment and interventions in climate change? (e.g. funding, technical resources, skills, information)

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7. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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- 8. What incentives (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) would encourage your clients to invest in climate change projects/companies?
 - a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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- 9. Can you suggest any financial / resource support structures needed for your industry to offer effective advisory support on climate change related matters?

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- 10. The Green Paper for the National Climate Change Response alludes to a National Climate Change Fund “that will mobilize resources from national and international sources for investment in climate change”. On what condition would you invest in such a fund? How do you think this fund could contribute to a sustainable climate financing environment?

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- 11. The Green Paper alludes to a Climate Finance Tracking Facility “to track flows of climate finance in both private and public sector and will be responsible for reporting on mitigation actions”. Under what conditions would such a facility be useful? Why?

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- 12. Any other information you believe to be relevant to this enquiry

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L – REGULATORY BODIES

1. What role are you currently playing in climate change finance, and what role do you see yourselves playing in the future?
- a. In South Africa
 - b. The SADC region,
 - c. Rest of the world

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2. What information do you rely upon when considering climate change from a strategic and operational perspective? What additional public information would you require to inform your regulatory determinations?

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3. In your opinion, what roles should the following parties play to have a sustainable climate financing framework i.e.

- a. Regulators
- b. Government (three tiers)
- c. Public research institutions
- d. Regulators
- e. Banking (commercial, investment, microfinance)
- f. Insurance (re-insurance, long and short term)
- g. Asset management, private and venture capitalists
- h. Development finance institutions
- i. International funding institutions
- j. Microfinance institutions
- k. Business
- l. Civil society

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4. What do you believe are the primary concerns of the private and public sector in relation to climate change? Please elaborate on the type of regulations needed to promote investment and facilitate monitoring of climate change mitigation and adaptation programmes/projects.

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5. Identify any new developments either globally or locally within your regulatory mandate that relates to climate change and environmental sustainability (e.g. capital adequacy, credit restrictions and other regulatory standards)

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6. What existing capability is available to re investment and interventions in climate change? (e.g. funding, technical resources, skills, information)

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7. What are the constraints (e.g. legal, regulatory, mandate changes, credit rating, social, financial, etc.) related to the investment in climate change projects/companies?

- a. In South Africa
- b. The SADC region,
- c. Rest of the world

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12. Any other information you believe to be relevant to this enquiry

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315 Pretorius street
cnr Pretorius & van der Walt Streets
Fedsure Forum Building
North Tower
2nd Floor (Departmental reception) or
1st Floor (Departmental information center)
Pretoria, 0001.

Postal Address
Private Bag X447
Pretoria
0001

www.environment.gov.za



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