
Business leadership on climate change adaptation

Encouraging engagement and action

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Foreword

"Adaptation to climate change is no longer the exclusive ambit of the public sector. Investment in adaptation makes business sense, due both to the need for companies to climate-proof their operations, as well as to the new business opportunities opening in the area of adaptation. Companies that act on this vision place themselves in the forefront of sustainable entrepreneurship."

Christiana Figueres, Executive Secretary of the UNFCCC

Even with urgent greenhouse gas emissions reductions, scientists expect that the world will face rising temperatures and, in many places, increasingly frequent and severe impacts of climate change. The international community is in the process of negotiating the future international framework for tackling climate change. Enhancing action on adaptation is a critical issue in these negotiations, with many different positions and perspectives.

Adaptation is also important for the private sector; and, just like the Parties to the UNFCCC, the private sector is not a single, homogenous community. It includes multinational corporations, micro enterprises and entrepreneurs, from both developed and developing economies. Different actors will play different roles.

This report highlights the need for greater partnership between the public and private sector on climate change adaptation. Its findings tie in with the Nairobi Work Programme on impacts, vulnerability and adaptation, in which Parties call for greater engagement of the private sector. It is important to understand where and how to catalyse public-private action on adaptation, whether in national planning, risk management, financing or delivering innovative technologies and services.

For the private sector, this means managing risks and discovering new opportunities, to maintain a competitive edge. But it also involves a new role, fostering and catalysing innovative solutions for tackling climate impacts.

For the public sector, the report highlights how to engage and mobilise the private sector more effectively. It contains recommendations to enhance engagement, build more productive relationships and promote more effective action.

Time is short. We should start work now.

Richard Gledhill
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Executive Summary

Executive Summary

Adapting to climate change

Scientists increasingly recognise that even under the most ambitious mitigation scenarios, it will still be necessary to adapt to the adverse effects of climate change. Rising temperatures, increasingly extreme and unpredictable weather events, decreased water availability, changes in crop productivity, loss of biodiversity and sea level rise are now believed to be unavoidable in many regions. These direct impacts would have severe knock-on effects on health, mortality, food security, migration patterns, natural ecosystem and economic prosperity, at both local and international levels.

‘Adaptation’ refers to the response of governments, businesses and society to the expected impacts of climate change. Adaptation actions aim to reduce the risk of negative climate impacts and to maximise any opportunities that might arise. Many of the impacts of climate change are already being felt by businesses, and experience of adaptation practices is steadily building. However, for the most part, adapting to climate change is still not mainstreamed into business activities.

Many developing countries also face particular challenges, with the negative consequences of climate change exacerbating existing development problems (e.g. water scarcity, food security). These countries typically have a lower capacity to adapt to climate change risks and opportunities, with less developed health and sanitation infrastructure, lower energy security, underdeveloped state institutions, poorer levels of education and a lack of investment capital. Economic growth in these countries is therefore central to increasing their ‘adaptive capacity’. Building blocks to economic growth, such as access to international markets, the development of competitive markets, improvements to institutions and infrastructure, and access to credit and increased investment, also underpin a healthy private sector and facilitate good adaptation.

This report presents the views of a range of businesses, which have recognised the need to rise to the challenges and opportunities from adaptation. It explores the scope for the private sector to mainstream adaptation action and capitalise on new opportunities and markets. But, just as importantly, it considers the need for enhanced engagement between the private and public sector, and provides recommendations of how joint and collaborative working relationships could help move society towards the common goal of a climate resilient world.

Improving business resilience and capitalising on market opportunities

Effective adaptation to climate change requires sound risk management and strengthening business resilience. Most companies are exposed, either directly or indirectly, to natural resource constraints, manufacturing or logistical interruptions, and financial or economic crises as a result of climate change. The level and type of response will depend largely on the exposure of the business: whether it is responding to direct risks to its core operations, or indirect risks via supply chain or other dependencies.

Risks also often drive opportunities. Private sector action is an important complement to secure commitments and concerted action by governments; and many areas of adaptation, including the need for technology development and transfer, finance and capacity building, will be implemented by or with the involvement of the private sector. New markets, products and services may also emerge from adaptation. Those with foresight, an informed position and the culture and capacity for change could be rewarded with sustained competitive advantages.

Challenges to action

Views from over forty organisations highlighted a number of challenges to the private sector that has restricted the scaling up of adaptation to climate change. They see constraints such as a lack of awareness on specific climate risks within some businesses, a lack of clarity on policy direction, and uncertainties regarding the extent of future risks. These are made more complex by the diversity and heterogeneity of the risks and opportunities from climate change across countries, sectors and communities.¹

Fostering private sector engagement

Fundamental to an effective response to climate change is enhanced collaboration and cooperation between governments, business and civil society. Our interviews and survey suggest that the private sector is prepared to be more engaged on adaptation issues, and help inform the recommendations in this report.

The overarching recommendation of this report is to encourage better representation and engagement of the private sector on adaptation at the international level. There are already a multitude of private sector organisations looking at adaptation, both at a sector level and on a cross-sectoral basis. Governments could draw upon this resource, as well as creating new channels for engaging private sector participation.

The subsequent recommendations in this report are targeted at the five priority action areas which constitute important elements of the UNFCCC international framework:

- National planning and implementation of adaptation
- Assessment of risks, impacts and vulnerability and knowledge sharing
- Disaster risk management and insurance
- Technology development and transfer
- Financing adaptation activities

Towards greater climate resilience

Adaptation is highly complex and involves dealing with significant uncertainties. Impacts will vary, and stakeholders are diverse. There is no silver bullet, no single solution. But these are not reasons for inaction.

Enhanced action on adaptation is central to any future international framework for tackling climate change. Any agreement, however, marks not the end, but the start, of a paradigm shift in how the international community responds to climate change. This report provides a private sector perspective on adaptation and suggests some first steps to catalyse greater private sector engagement.

It is up to all of us – national and local governments, civil society and the private sector – to take these recommendations forward, and work together effectively to deliver the climate resilience required.

Recommendations	
<i>International engagement</i>	1. Better representation of private sector and ease engagement process
<i>National planning and implementation of adaptation</i>	2. More inclusive consultation of private sector in the development of plans and strategies 3. More explicit recognition of the role of private sector actors in national adaptation planning 4. Capacity building through 'small' specific actions
<i>Assessment of risks, impacts and vulnerability and knowledge sharing</i>	5. Programmes focused more on the information needs of the private sector and what they can contribute 6. Synthesis and sharing of information
<i>Technology development and transfer</i>	7. Programmes focused more on showcasing successful technology diffusion, to build confidence 8. Private sector representation in existing programmes led by or affiliated with UNFCCC, tied in with mitigation needs and objectives
<i>Disaster risk management and insurance</i>	9. Public-private collaboration in the development of regional and national risk management frameworks and platforms, including risk pooling, insurance and DRR approaches 10. Evaluate options for using risk management and insurance expertise of the private sector in any future insurance mechanism
<i>Financing adaptation activities</i>	11. Awareness raising in investor and corporate community on investment opportunities associated with adaptation 12. National level engagement/consultation between private sector and governments to scale up private sector investment in adaptation activities 13. International level consultation on current private sector engagement in existing UNFCCC and multi-lateral bank adaptation funds 14. International level consultation on options for enhanced public-private engagement around the Green Fund

*Why the private sector
should respond*

Introduction

Delivering enhanced action on adaptation through a new international agreement on climate change will require greater levels of cooperation between government, business and civil society than ever before. Fundamental to this will be a more effective dialogue between the public and private sectors on adaptation responses, to agree priorities, balance interests, and set the frameworks within which to implement solutions.

This report aims to catalyse this dialogue. It provides insight to private sector expectations, ambitions, capacity and experience on adaptation, gathered through dialogue with business in both the developed and developing world. It looks at business in both developed and developing countries, but with a greater focus on the developing country context. It explores the adaptation activities of large multinational companies, but it also looks at the role of small and micro enterprises.

The conclusions and recommendations seek to enhance public-private collaboration. These serve both as a call to the public sector to engage better with the business community and to the private sector to engage more actively in the emergent adaptation framework and seek new commercial opportunities through positive action.

There is no silver bullet, no single solution. Governments and businesses across geographies and sectors need to work together to tailor actions and solutions to local needs and priorities to help build long term climate resilient economies and societies.

Examples of autonomous adaptation:

- *Changing crop planting dates to maintain yields*
- *Developing new relationships with suppliers*
- *Tailoring insurance products for communities vulnerable to the impacts of climate change*

Examples of planned adaptation:

- *Disaster planning and management*
- *Provision of public good such as sea and flood defences*
- *Water conservation programmes*

What is adaptation?

‘Adaptation’ refers to the response of governments, businesses and society to the expected impacts of climate change. Adaptation actions aim to reduce the risk of negative climate impacts and to maximise any opportunities that might arise. The Inter-Governmental Panel on Climate Change distinguishes between two types of adaptation: autonomous adaptation is where individuals or organisations respond ‘naturally’ to climate change, whereas planned adaptation is where deliberate policy actions are undertaken to respond to climate change issues.

Mal-adaptation refers to an action or process that is intended to reduce vulnerability to climate change-related hazards, but instead increases it. Mal-adaptive actions and processes often include planned development policies and measures that focus on short-term gains or economic benefits, but lead to exacerbated vulnerability in the medium to long-term.

The need to adapt and build climate resilience

Scientists increasingly recognise that even under the most ambitious mitigation scenarios, it will still be necessary to adapt to the adverse effects of climate change. Rising temperatures, increasingly extreme and unpredictable weather events, decreased water availability, changes in crop productivity, loss of biodiversity and sea level rise are now believed to be unavoidable in many regions. These direct impacts would have severe knock-on effects on health, mortality, food security, migration patterns, natural ecosystem and economic prosperity, at both local and international levels.

Climate impacts are diverse and complex, with substantial variations between regions and locations and significant uncertainties in the timing and scale of local impacts. Devising an appropriate adaptation response will need to take account of these complexities and uncertainties, as well as the costs and benefits of timely actions.

Climate resilience in the context of economic development

Countries around the world are at very different stages in the development and implementation of adaptation policies.

Many developing countries face particular challenges, with many of the negative consequences of climate change exacerbating existing development problems (e.g. water

scarcity, food security). These countries typically have a lower capacity to adapt to climate change risks and opportunities, with less developed health and sanitation infrastructure, lower energy security, underdeveloped state institutions, poorer levels of education and a lack of investment capital. Economic growth is central to increasing their 'adaptive capacity'. Building blocks to economic growth such as access to international markets, the development of competitive markets, improvements to institutions and infrastructure, and access to credit and increased investment, also underpin a healthy private sector and facilitate good adaptation.

Adaptation therefore should be considered within the context of broader development and socio-economic needs. At the same time the international community has embraced the need to 'speed up' and 'scale up' adaptation support to the world's poorest and most vulnerable countries, through committed action at an international level.

International and national commitment to adaptation

Adapting to climate impacts is a challenge faced by all countries, by all sectors of the economy and by communities and people everywhere. Through the UNFCCC process, governments are discussing international cooperation on adaptation; substantial funding has been pledged, in particular through the Copenhagen Accord signed at COP15, to support adaptation in developing and the most vulnerable countries: and at a regional, national and local level, governments are starting to demonstrate leadership on adaptation.

Relevant stakeholders, including the private sector, are also increasingly sought by governments to provide support and undertake action on adaptation in a coherent and integrated manner.

The role of private sector

Climate change adaptation is not just an issue for governments. The private sector has an opportunity to contribute to the development and deployment of public adaptation solutions, as well as preparing its own assets and operations for anticipated climate change.

Businesses in many regions are already experiencing climate-related challenges such as water scarcity, flooding and extreme weather events, and so are gaining experience of adaptation actions. However, many, businesses, in particular in the developing world, are trying to adapt without adequate resources, information or finance. Small and micro enterprises face particular challenges.

Sustained, consistent and coherent efforts to incorporate climate resilience need to be part of business-as-usual, maximising opportunities to innovate and deliver cost effective adaptation solutions for business and society. However, many in the private sector are not there yet.

This report explores the scope for mainstreaming adaptation action – and why it makes good business sense to do so. But, just as importantly, it considers the need for enhanced engagement between the private and public sector, and provides recommendations of how joint and collaborative working relationships could help move society towards the common goal of a climate resilient world.

Responding strategically to a changing climate: private sector adaptation

Why is adaptation just good business?

Successful organisations are those which best adapt to a continually changing market landscape, whether these changes are economic, social or environmental. Those that develop and sustain competitive advantages tend to be characterised by foresight, an informed position, the culture and capacity for change and a commitment to investing in future performance.

Some of the impacts of climate change are already being felt by business. To take action, companies need a clear commercial rationale. This business case for action will need to take account of the risks posed to its current business model, and the opportunities that will result from market and other changes.

Globalised business models and development

The globalisation of markets and supply chains means that organisations of all sizes are increasingly interdependent. Most companies are exposed, either directly or indirectly, to natural resource constraints, manufacturing or logistical interruptions, and financial or economic crises.

The long term viability of an organisation is also underpinned by the social and economic environment in which it operates, which includes access to reliable infrastructure services, secure financial systems, functioning markets and an agile workforce. All of these can be threatened by climate impacts.

For many companies, the risks associated with climate change will be a sufficient driver for action on adaptation. For others, opportunities for current or future business activities will provide an added incentive.

‘Game changers’ are likely to emerge through climate change adaptation. These are organisations with an appetite for measured risk, which capitalise on the shifting context in which business is done. This is apparent throughout the history of business: for example, adaptation of Western businesses to low-cost manufacturing or of traditional businesses to the digital age. Now it is adaptation to physical climate change which can reward companies that are innovative and agile, and threaten the viability of those that are complacent.

Diverse challenges: your organisation

Does business need to adapt beyond the boundaries of its own operations? How can businesses prosper if customers, workforces or supply chains are impacted by climate change? Is there a business case for supporting adaptation in the local community?

To really understand the rationale for the private sector to act on adaptation, it is necessary to consider the range of exposures businesses face, and the motivations for action on climate change. Figure 1 describes examples of the exposures which many organisations face.

Three key categories – direct, indirect exposure and business opportunities – form the strategic reasons for organisations to act. A fourth has been included for completeness: corporate citizenship enhances the rationale to act but is unlikely to drive strategic adaptation response.

“We do not know the future and we cannot use the past. So in order to make the most resilient decision, we have to make a decision that allows for change to another option or decision easily – a ‘no regrets’ decision”

Energy company

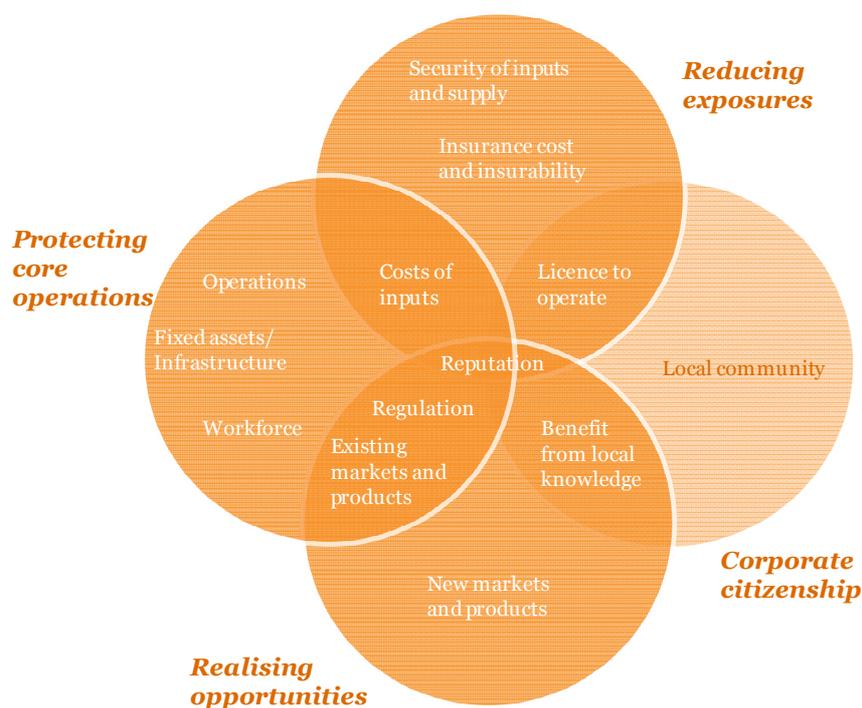
Figure 1: Exposure of organisations: the rationale and ability to adapt

Category of risks / opportunities	Examples of exposures	Examples of sectors most affected	Additional comments
1. Direct exposure of core operations	<p>Direct impacts on the business and its assets, e.g.:</p> <ul style="list-style-type: none"> • Extreme weather: Damage to physical assets and business interruption • Water scarcity: impact on performance, health or productivity of assets • Temperature change: impact on performance, health or productivity of assets • Sea level rise/coastal encroachment: damage to property and assets • Unsafe conditions for the workforce to operate 	<ul style="list-style-type: none"> • Agriculture • Mining / extractives • Property • Infrastructure operators (e.g. energy, public transport, ports) • Tourism 	<p>Mechanisms are sometimes in place to cope with predictable weather or climate fluctuations.</p> <p>Need to adjust or improve current mechanisms to cope with expected future changes in most cases.</p>
2. Indirect exposures	<p>Indirect impact on stakeholders in the business, e.g.:</p> <ul style="list-style-type: none"> • Impact on markets • Disruption of supply chains • Competition for resources (e.g. water resources may be affected even in non-water scarce regions if they are diverted away to other 'essential' industries) • Disruption of local infrastructure • Impacts on local communities (and consequences for the workforce etc) • Rising insurance costs 	<ul style="list-style-type: none"> • Food retail • Finance • Insurance 	<p>Awareness, information and risk assessment processes are essential in long term planning</p> <p>Ability to respond depends on a number of factors, e.g. level of buying power or influence with supply chain</p>
3. Business opportunities (solutions providers)	<p>Risks to one sector are often opportunities for another:</p> <ul style="list-style-type: none"> • New markets or increased demand for existing products or services • New products or services 	<ul style="list-style-type: none"> • Providers of risk management and reduction solutions, • Adaptive communications • Technological innovation e.g. to improve agricultural productivity • Plant science industry e.g. biotechnology, chemicals etc. • Engineering and construction 	<p>Opportunities often arise in sectors that are evolving or have high levels of change (i.e. through R&D).</p> <p>However, 'traditional' businesses may also see new opportunities emerging.</p>
4) Corporate citizenship / philanthropic opportunities	<p>Opportunities for 'doing good', for example by helping others to adapt.</p>	<ul style="list-style-type: none"> • Business with strong corporate responsibility programmes • Philanthropic foundations, cooperatives 	<p>More often than not, corporate citizenship is tied to areas that have direct or indirect linkages with the business.</p>

Businesses may fit into one or more of these categories – see Figure 2. Their response is determined by a number of variables, including:

- The commercial opportunity for the organisation - i.e. the size of the prize;
- The specific local risks to the business, its supply chain and operating environment; and
- The policy and regulatory environment for climate adaptation.

Figure 2: The exposure of business to climate change risk and opportunity: a rationale for action



Impact area	Rationale for action
New market and products	<ul style="list-style-type: none"> Mapping climate impacts can help ensure business plans and investment and loan decisions make the most of climate risks and opportunities
Existing market and products	<ul style="list-style-type: none"> Early response to changes in existing markets and products as a result of climate risks and opportunities could maintain or generate competitive advantage over peers
Security of inputs and supply	<ul style="list-style-type: none"> Supporting suppliers to become climate resilient can secure raw material supplies and therefore production. Strategies on diversification of supplies can help spread the risks of supply chain disruptions
Cost of inputs and supply	<ul style="list-style-type: none"> Awareness of how suppliers are affected can enable business to source from lower cost regions
Operations (continuity and costs)	<ul style="list-style-type: none"> Early recognition of climate risks can help identify impacts and develop more effective business continuity strategies Understanding how climate risks could impact operational effectiveness can help decision making on investments that can manage or lower longer term operational costs
Fixed assets/Infrastructure	<ul style="list-style-type: none"> Incorporating climate risks into site selection can help maintain operational effectiveness and desirability of business locations Incorporating climate scenarios into the asset design and specification can reduce avoidable future expenses e.g. in retrofitting
Regulation	<ul style="list-style-type: none"> Taking proactive steps to adapt to climate change can reduce the compliance or regulatory cost burden
Licence to operate	<ul style="list-style-type: none"> Having a track record of assisting communities local to operations to adapt to climate impacts can support the social licence to operate
Insurance	<ul style="list-style-type: none"> Demonstrable management of climate risks can improve insurability and reduce the cost of premiums and claims
Workforce	<ul style="list-style-type: none"> Helping future-proof the local community and employee conditions can ensure a mobile, healthy and safe workforce that can continue to operate effectively
Local community	<ul style="list-style-type: none"> Helping future-proof the local community can improve reputations and support for the business
Reputation	<ul style="list-style-type: none"> Disclosing how the business is managing climate risks and maximising opportunities can provide confidence to investors, consumers and other stakeholders Assisting communities to adapt and being seen as a solutions provider can provide reputational value

Figure 3: Examples of on-the-ground action

Type of exposure	Type of response	Examples of companies who have taken action
Direct exposure	Identification of risks	<ul style="list-style-type: none"> • Anglo American (mining/ natural resources) has commenced regional climate modelling exercises with UK Met Office, Imperial College of London and consultants to assess the long-term adaptation measures for operations and projects in South Africa, Brazil and Peru. A study of Peru's Tambo water basin will help enable the safeguarding of local assets, resources and communities.
	Change in operational strategy	<ul style="list-style-type: none"> • Thames Water (water utility) is embedding adaptation into its core operational strategy. The strategy is focused on water resources, sewer capacity and flood resilience. The company has also challenged their suppliers to consider its adaptation actions to ensure and maintain service levels in future.
Indirect exposure	Identification of risks	<ul style="list-style-type: none"> • HSBC (financial services) is developing a detailed understanding of the physical risks of climate change to help the bank maximise the opportunities that arise. For example, the HSBC Climate Vulnerability Assessment, which maps risks for the G20 in 2020, looks at the impact of climate change on food production, water availability and health. An understanding of the scale of the issues helps the bank – and its clients - to focus on how best to respond.
	Supporting the supply chain	<ul style="list-style-type: none"> • ITC (agribusiness) is using its 'Let's put India First' initiative to understand the impacts of climate change and has begun to undertake some risk management and adaptation measures. These include R&D in collaboration with external study groups and educating and supporting farmers. • Nestle (food products) in 2009 opened an R&D centre in Abidjan in Côte d'Ivoire with a focus on agriculture, raw materials and traditional African ingredients. It is helping to improve cocoa in extreme weather conditions, by providing farmers with 1 million high-potential cocoa trees each year from 2012. • British Sugar (food products) aims to build long-term relationships with its suppliers and so has an interest in the resilience of its suppliers. British Sugar Online is an internet portal system, designed to provide growers, hauliers and advisers with instant access to the latest technical information, self-administration and support tools. The technical information includes agronomic updates, the impact on crop production and the actions needed to manage them.
Opportunity	New products and services	<ul style="list-style-type: none"> • BASF (chemicals) has developed products that are helping coastal settlements protect local dikes by absorbing the force of breaking waves and slowing down water masses. BASF's researchers are also developing stress-tolerant plants that are more resistant to extreme weather conditions such as drought and superabsorbers are being trialed for a reforestation project in Brazil to increase water storage capacity. • Jain Irrigation (irrigation systems) has developed a range of irrigation products which reduce water wastage associated with agricultural crops. Jain has placed sustainable agriculture at the core of its business offering products such as bio-fertilisers, drip and sprinkler irrigation and water filtration systems. • Sompo Japan Insurance (insurance) developed a Weather Index Insurance scheme for farmers in north-east Thailand who rely on rain-fed agriculture where compensation is linked to precipitation.
	Expansion into new markets (e.g. developing countries or vulnerable communities)	<ul style="list-style-type: none"> • Allianz (insurance) offers micro-insurance products in six countries. With a highly established market in India, Allianz has extended its reach to Indonesia, Egypt, Cameroon, Senegal, and Colombia. Its first flood catastrophe bond is part of a USD 1 billion programme to mitigate the risk of severe, regional floods across a global fund. Allianz's schemes are typically managed in partnership with others. • Vodafone (telecommunications) offers a number of services which can support farmers in emerging economies, including standard voice communication (which gives them access to information to markets) and money transfer services (e.g. M-PESA in Kenya). • Swiss Re (re-insurance) forges partnerships with local insurers, banks, micro-finance institutions, governmental and NGOs to design risk transfer solutions that help lift smallholder farmers out of the poverty trap through its Climate Adaptation Development Programme. The Programme comprises an umbrella of activities to help develop financial risk transfer markets to tackle the effects of adverse weather in non-OECD countries. Swiss Re has designed and implemented index-based weather risk transfer instruments in India, Kenya, Mali and Ethiopia, protecting farmers against drought risk.
Corporate citizenship	Development and adaptation	<ul style="list-style-type: none"> • Cafédirect (fair trade agribusiness) and the German Technical Cooperation (GTZ) are engaged in a three-year Public-Private-Partnership with the Kenya Tea Development Agency to strengthen smallholder capacity to cope with climate related risks. The programme helps farmers which supply the Michimikuru tea factory to reduce their vulnerability to climate change through sustainable management of natural resources, use of good quality seeds, and investment in a self managed nursery. • LifeLines India (NGO) is a telephone-based information helpline that provides advice and guidance to farmers in rural communities. Benefits to the farmers have included crop efficiency improvements and better earnings potential².
	Reduced commercial returns	<ul style="list-style-type: none"> • GSK (pharmaceuticals) has agreed to reduce its prices for patented medicines in 50 least developed countries (LDCs) so that they will be no higher than 25 percent of the price in the developed world, and to reinvest of 20% of the profit it makes selling medicines in the LDCs by investing in community healthcare projects. Many of these countries are expected to be disproportionately affected by climate change.
	Disaster relief support	<ul style="list-style-type: none"> • Deutsche Post (logistics) has identified Disaster Management as one area of their global CSR priorities, and has initiated a global humanitarian partnership with the United Nations and a global network of DHL Disaster Response Teams in three regions: Asia-Pacific, Middle East and Africa and Americas. • HCC India (construction) has developed a number of adaptation activities including training employees as direct responders' for action in the event of extreme weather events.

Sources: Publicly available information³ (including the Carbon Disclosure Project and company websites), PwC survey and interviews

Why is business under-engaged on managing the risks and maximising the opportunities?

Sources of information add to the uncertainty:

“Clear policy needs to come from the national government, who need to have robust information.”

“The private sector is often reliant on local authorities to provide information”

“Would insurers have the information?”

Business leaders often have eureka moments:

“The turning point for us was when our Chairman realised how important this was to our business, and developed a structured programme to consolidate our activities”

Construction firm

“After investing in some work to identify the risks to our business, we are able to be more proactive in taking action.”

Agribusiness

“After the heat wave, I received the go-ahead from senior management to develop a climate hazard action plan, which looks across different climate hazards and the exposures of our business.”

Energy company

Whilst there is anecdotal evidence of on-the-ground adaptation, it is still not a mainstream and consistent practice for many businesses, even where there is a clear business case. Private sector organisations that participated in this study have revealed several key barriers to action.

Low levels of awareness, particularly of indirect risks

There is now broad awareness on the challenges of climate change in most large companies. Key direct risks tend to be more widely understood, but awareness of indirect climate impacts on core business processes remains relatively low.

Challenges in the interpretation of available information

Businesses need trustworthy and credible sources of information on which decisions can be based. Information also needs to be specific and relevant, both to the business sector and to the geographical location of the company's operations.

An increasing number of countries are investing in the provision of information regarding climate impacts. For example the UK Climate Impacts Programme (UKCIP) provides some of the most granular data publicly available in the world. However, in many countries data on impacts, even at a high level, is still not available.

Even when good information is available, many companies find it a challenge to translate information from academic climate models into direct impacts on their assets, operations and financials. The disconnect between the language in the science and business communities means that many businesses find it difficult to make informed decisions.

Uncertainty complicating decision-making

Uncertainty often affects or delays decision making, particularly on a long term issue such as adapting to climate change. Businesses need to understand how, when and what types of impacts to prepare for, and how and when to respond. More importantly they need to understand how to form decisions and manage under uncertainties.

Uncertainty can be exacerbated by a lack of clear policy direction from government. Businesses often expect that government will lead the way or prescribe the level of resilience that they need to prepare against. In the absence of government guidance, many businesses would prefer to ‘wait and see’.

Limited appetite or capacity to engage, in particular amongst key senior decision-makers

Senior management buy-in is crucial. Survey and interview responses expressed a step change in focus and action when adaptation to climate change is recognised as an important issue at the board level.

Engagement at a senior level sometimes results from a particular climate-related event that has affected the business or a country or community within which it operates.

A tendency to focus on short-term costs and cash flows

Even where climate change risks are factored into decision making, building in climate resilience can compete with other business objectives. With the exception of ‘no regret’ or ‘quick win’ measures, adaptation can often be low on the priority list.

Short term issues are likely to dominate the priorities for business. Many adaptation measures require investment now, whilst the benefits may not be realised until much later – in some cases 20-30 years. From a company’s perspective, short term costs and impacts on cash flows are often more important considerations than long term benefits, particularly for smaller businesses.

Similarly, governments may postpone decisions on large capital investment into adaptation measures, especially in the current financial climate.

However, adaptation responses can often have co-benefits that are linked to economic growth and the Millennium Development Goals (MDG). Examples include new agricultural techniques providing employment opportunities for women and the reduction of health impacts from flood related disease outbreaks following investment in water attenuation infrastructure.

Lack of capacity and authority

Businesses may face financial, skills or resource constraints that limit the types and scale of actions that they can undertake. Small businesses face the biggest constraints, as do many businesses in developing countries. Even for larger organisations, change often depends on the level of influence they have with their stakeholders. For example a monopsonistic buyer will be able to pressure suppliers to increase the resilience of their operations, whereas those with weaker buying powers may not.

The need for collaboration

The need to adapt to climate change is a challenge that involves individuals, businesses and societies, and spans administrative borders, markets and supply chains. Private sector businesses could respond alone; or they could partner with their peers, with the public sector or with the NGO community.

If each organisation seeks to protect its own resilience then it is likely to incur higher costs than by taking a collective approach, and there is a risk that crucial interdependencies will be missed. Importantly, more vulnerable entities are unlikely to be able to afford the costs of adaptation. Enhanced adaptation will therefore require unprecedented levels of collaborative action to achieve the best outcomes available.

The next section focuses on recommendations to foster greater engagement between governments and international organisations and the private sector. The recommendations focus primarily on developing countries and although international in scope are intended to and will resonate at the national and local levels.

“In many countries, water utilities can only invest if the work to be undertaken is critical. Adaptation by itself may not have a sufficient business case.

Regulators and government need to consider value for money for consumers (e.g. current water rates for customers,) but also recognise the investment needed for future security of supply.”

International engineering company

“Mitigation has taken the limelight. Private sector and governments in developing countries where mitigation can mean money are distracted on adaptation needs.”

Energy company

*Enhancing private sector
engagement*

Engagement at the international level

The international context for adaptation

In 1994, the United Nations Framework Convention on Climate Change entered into force, to enable actions to reduce greenhouse gases emissions that contribute to climate change (mitigation) and to cope with the inevitable impacts from climate change (adaptation). Fundamental to both adaptation and mitigation are technology, finance and capacity building. These form the building blocks for a global framework on climate change.

“Successful adaptation not only depends on governments but also on the active and sustained engagement of stakeholders, including national, regional, multilateral and international organizations, the public and private sectors, civil society and other relevant stakeholders.”

UNFCCC website

Adaptation issues currently in focus include:

- The commitment by all countries to prepare for and implement adaptation to climate change;
- The fulfilment of actions related to national planning and implementation;
- A commitment by developed countries to assist developing countries in meeting the costs of adaptation through the mobilisation of new and additional funding;
- Making progress on risk management and transfer, and providing adequate access to insurance;
- The facilitation of technology development and transfer; and
- The commitment to meet the specific needs and concerns of developing countries and take full account of those that are most vulnerable.

An enhanced international agreement on climate change is not the only remit of the UNFCCC. The UNFCCC process also facilitates adaptation implementation: e.g. through information sharing via the Nairobi Work Programme on Impacts, Vulnerability and Adaptation, through the delivery of resources via the Global Environment Facility (GEF), or through capacity building of national and local governments, for example, in Least Developed Countries (LDCs) to implement their national adaptation programmes of action (NAPAs).

Collaboration between the UNFCCC, national and local governments and the private sector will be essential to scaling up action on adaptation. Many adaptation responses, as well as technology, finance and capacity building programmes, will need to be implemented by or with the private sector. The views of over forty private sector organisations undertaken for this report confirm that the private sector is prepared to be more engaged on adaptation issues.

International private sector engagement

Disengaged:

“There are very few businesses from developing countries that participate well in the international forums. They probably do not see the value of participating.”

National energy company

“Micro-enterprise and small holders (who have a large global footprint) appear not to be represented at all.”

International food retailer

“As with most business, we do not find it valuable enough to justify the resources required. We are, however, engaged with trade associations and other groups.”

Agribusiness

“We are interested, but the process is so rigid and structured that involvement is difficult.”

*Energy company
(developing country)*

Desire to be engaged:

“We would like to be more involved at the international level. We operate across countries and an international forum would allow us to reflect the views across markets.”

International conglomerate

“We have been at COPs since Nairobi and find them a very effective way to exchange information, especially on the side events.”

Energy company

“We have expressed interest to our local UN office to participate more actively on climate change issues.”

Oil and gas company

Private sector organisations consulted for this report suggested a level of disengagement between the private sector and the international process, and in particular with the intergovernmental negotiations around the UNFCCC. However, many organisations do see the potential benefits for greater engagement and want to be better involved.

There are already a multitude of organisations, both at a sector level and across sectors, which governments could draw upon more effectively. Greater international representation of the private sector could be encouraged by making greater use of existing organisations or by creating new channels of engagement. The former would avoid duplication of effort; the latter may provide greater focus for new or emerging issues.

Many leading businesses have become increasingly engaged with governments to address climate change mitigation. The private sector provides inputs to the design of the frameworks, mechanisms and institutions that aim to facilitate governments’ efforts to address climate change. Many of these same issues are relevant to the adaptation debate (including the issues on finance, technology diffusion and R&D and capacity building). The time is ripe for the private sector to broaden its attention to adaptation when engaging on climate change mitigation.

The remainder of this chapter investigates the key elements of the UNFCCC adaptation process and the specific role of the private sector. It sets out a range of recommendations for greater private sector involvement and enhanced private sector engagement, structured around the five priority action areas in the current negotiations, which are developed and informed by the survey and interviews carried out for this study. The priority areas are summarised in Figure 4.

Recommendations to improve private sector engagement

1 Better representation of private sector and ease engagement process

The performance of current private sector engagement in international mechanisms should be evaluated, to draw out areas for improvement and recommendations. Private sector expertise should be sought on the design of enabling environments and financing modalities of adaptation activities.

Sector-based input (applicable for both mitigation and adaptation) could comprise technical and advisory roles to identify and address sector-specific challenges. These roles need to be independent from specific national agendas.

If effectively designed, advisory input from the private sector could help the UNFCCC process to ensure that mechanisms and standards developed at the international level can be implemented effectively in practice.

New channels of international private sector engagement may be required in areas that are currently not viable under national or sectoral systems, for example cross-border issues such as watershed management.

Depending on the specific need, effective input from a variety of private sector participants should be considered. Different parts of the private sector could provide varying geographic-specific insights or sectoral perspectives.

Figure 4: Relevance of UNFCCC priorities on adaptation to private sector

Adaptation theme	Focus areas	Description of activities	Sectors impacted
National planning and implementation of adaptation	National: <ul style="list-style-type: none"> Enhanced action on adaptation Incorporation of adaptation into country-level planning, policies and actions Local and national institutional capacity building 	Seek agreement on national frameworks on adaptation that: <ul style="list-style-type: none"> Plans and prioritizes programmes and actions which are ‘country-driven, gender-sensitive, participatory and fully transparent’ Is guided by the best available science and local knowledge Builds institutional capacity and enabling environments Integrates adaptation into relevant social, economic and environmental policies Builds socio-economic and ecological resilience 	<ul style="list-style-type: none"> All major sectors, especially those exposed to extreme weather events e.g. agriculture, mining and extractives, power, utilities and infrastructure Other nationally important sectors
	UNFCCC: <ul style="list-style-type: none"> Support LDCs through the development of National Adaptation Programmes of Action (NAPAs) Stakeholder engagement 	<ul style="list-style-type: none"> Facilitate NAPA development through a LDC Expert Group Administer the LDC Work Programme including the collection and publishing of NAPAs Promote the Adaptation Private Sector Initiative 	
Assessment of risks, impacts and vulnerability and knowledge sharing	National and regional: <ul style="list-style-type: none"> Improve research and understanding of climate risks, impacts and vulnerabilities 	<ul style="list-style-type: none"> Conduct or commission national and local assessments of impact, vulnerability and adaptation options Strengthen systems on information, knowledge, education and public awareness Improve research, climate data collection, archiving, analysis and modeling capacity Establish regional centres and networks 	<ul style="list-style-type: none"> ICT Environmental and engineering consultancy Key exposed sectors e.g. agriculture, water utilities, insurance
	UNFCCC: <ul style="list-style-type: none"> Nairobi Work Programme (NWP) Local coping strategies database 	<ul style="list-style-type: none"> Implement the NWP on impacts, vulnerability and adaptation to climate change. Host a local coping strategies database to facilitate knowledge transfer of coping strategies and knowledge 	
Disaster risk management and insurance	National and international: <ul style="list-style-type: none"> Enhance climate change related disaster risk reduction and management strategies 	<ul style="list-style-type: none"> Align adaptation with the implementation of the Hyogo Framework for Action (Building the Resilience of Nations and Communities to Disasters) Use early warning systems and risk assessment tools Develop or expand risk sharing and transfer mechanisms e.g. insurance (local and national) 	<ul style="list-style-type: none"> Agriculture sector Insurance ICT Engineering and construction Disaster relief and response Health and pharmaceuticals
	UNFCCC: <ul style="list-style-type: none"> Link climate adaptation and disaster reduction with appropriate references 	<ul style="list-style-type: none"> Build upon the Hyogo Framework for Action and the United Nations International Strategy for Disaster Reduction (UNISDR) Consider arrangements to address loss and damage from climate change impacts 	
Technology development and transfer	National and international: <ul style="list-style-type: none"> Research, development, demonstration, diffusion, deployment, and transfer of technologies, practices, and processes 	<ul style="list-style-type: none"> Accelerate technology development and transfer for adaptation and mitigation, e.g. through a Technology Mechanism, Climate Technology Centre(s) and Network and a Technology Executive Committee 	<ul style="list-style-type: none"> Agriculture Bio-technology Engineering and Construction Consultancies Information and communications Financiers
	UNFCCC: <ul style="list-style-type: none"> Facilitate the Technology Mechanism 	<ul style="list-style-type: none"> Focus on facilitating access by developing countries to appropriate technology, and associated capacity building support 	
Financing adaptation activities	National, regional and international: <ul style="list-style-type: none"> Financial support for vulnerable communities 	<ul style="list-style-type: none"> Copenhagen Accord: pledged ‘new and additional resources’ for climate change mitigation and adaptation of USD 30bn for 2010-2012, with a goal of mobilising up to USD 100bn a year by 2020. 	<ul style="list-style-type: none"> Institutional investors Insurers Fund management agents Consultancies Private sector actors implementing adaptation activities (e.g. engineering and construction)
	UNFCCC: <ul style="list-style-type: none"> Financial mechanism to support adaptation, particularly in developing countries (operated by GEF and AFB) 	<ul style="list-style-type: none"> Supports the development of NAPAs and their implementation through the Least Developed Countries Fund (LDCF) Supports developing countries more generally (including on adaptation) through the Special Climate Change Fund (SCCF) Supports “concrete adaptation” activities through the Adaptation Fund, funded by a levy on carbon credit projects Consider future arrangements under the financial mechanism that allow for the mobilization and provision of scaled-up, new and additional financial resources 	

Source: PwC summary of draft negotiating text⁴ (Adaptation theme, Focus areas and Description of activities) and interpretation of impact on private sector (sectors impacted)

National planning and implementation of adaptation

“It is difficult to understand high level ideas. It is specific actions that are important.”

*Energy company
(international)*

“People have difficulty translating longer term models into clear things that they can do on the ground.”

*Energy company
(national)*

“Our national authorities and government are really keen to have our views on the issues as they may not know what is feasible.”

Oil and gas company

“We hope to develop and present a private sector position on issues such as climate change to the government. We want to take this step before it becomes a compliance issue for us.”

Agribusiness

Adaptation policies and plans by national and local governments are key drivers of adaptation actions within a country. Many countries have developed plans to address adaptation needs. LDCs in particular have produced National Adaptation Programmes of Action (NAPAs) for the UNFCCC to identify priority activities on urgent adaptation needs.

These plans tend to identify sectors and geographies that are vulnerable to climate change impacts, as well as key initiatives to address adaptation needs, but the extent to which the private sector has been recognised as an important stakeholder is mixed. For example, there were explicit references to private sector involvement in 38 of the 45 currently published NAPAs⁵.

Figure 5: Examples of involvement of the private sector within NAPAs

Role	Involvement	Examples of NAPAs
Planning	<ul style="list-style-type: none"> Private sector bodies were included in a multi-sector task force that consulted for the development of the NAPA. Sectors vary across countries but could include agriculture and livestock, forestry and biodiversity, health, water resources, energy and infrastructure. 	<ul style="list-style-type: none"> Bhutan Maldives Tanzania
Capacity building	<ul style="list-style-type: none"> Highlight the need to strengthen the capacity to adapt to climate change in both the public and private sector, with particular reference on capacity development needs in the private sector. Make use of existing schemes such as the World Bank’s Private Sector Competitiveness Project to strengthen and support the private enterprises⁶. 	<ul style="list-style-type: none"> Gambia Lesotho
Mainstreaming of activities	<ul style="list-style-type: none"> Recognise ‘community, private sector, and civil society’ as key stakeholders Aim to mainstream adaptation activities into national budget framework and align with sector priorities. Recognise weak private sector engagement and the need for more ‘rigorous’ engagement. 	<ul style="list-style-type: none"> Lesotho
Implementation	<ul style="list-style-type: none"> Identify and provide details on specific priorities for the private sector through project plans 	<ul style="list-style-type: none"> Sierra Leone

Recommendations to improve private sector engagement

2 ***More inclusive consultation of private sector in the development of plans and strategies***

The private sector wants to be engaged in the development of national plans and strategies. It has knowledge and expertise that is important for the development of national adaptation plans. Regulated entities such as transport companies and utilities are likely to be able to make a particularly important contribution to these plans.

Business inputs could range from data and information provision (e.g. on risks, vulnerability, exposure, adaptation solutions and technology), to policy advisory functions. Inclusive representation of the private sector in national planning activities would enhance local buy-in and encourage more effective implementation of agreed policies.

Adaptation solutions tend to be issue or sector-specific, which supports a sector-by-sector consultation approach. Where engagement is usually led by industry associations, governments could make use of existing private sector representatives in the development of their adaptation plans. Representation from small enterprises and social entrepreneurs is vital to the consultation process. Cross-sector representation is also important to identify broader areas of adaptation needs or linkages between different parts of the economy and society.

3 ***More explicit recognition of the role of private sector actors in national adaptation planning***

Governments need to identify the specific role(s) that the private sector can play. This could include reviews of adaptation investment proposals or the scheduled implementation of adaptation activities. Recognition of best practices already observed in the private sector, and an action plan that replicates or scales up these best practices, would help the private sector to integrate adaptation into mainstream business decision making.

4 ***Capacity building through 'small' but specific actions***

The changing climate may present structural shifts for some businesses that small enterprises might struggle to cope with. Specific on-the-ground actions may help to build capacity and accelerate businesses up the learning curve, especially when presented with new risks and opportunities. Small, localised adaptation projects can make a valuable contribution to national capacity.

Larger businesses, which may have greater resources and capacity, could collaborate with the public sector to help more vulnerable businesses adapt by exerting influence through the supply chain.

Assessment of risks, impacts and vulnerability and knowledge sharing

“The private sector tends to assume that information will come to them, but in reality it needs investment on their part.”

National business support organisation

“The Nairobi Work Programme provided an opportunity to think about what we are doing and share it with other people. It is not a grand gesture, but actually having a conversation with others is valuable and we have gained from that.”

Water utility company

National governments and the international scientific community (through bodies such as the IPCC) have played central roles to date in the provision of information on climate change impacts and risks.

Businesses interviewed for this study expressed a critical need to improve knowledge and information sharing processes. This includes climate impacts and vulnerabilities as a minimum, but also mechanisms and processes to incorporate this information into decision making processes, and potential adaptation options and solutions.

The UNFCCC Nairobi work programme (NWP) is a 5 year programme (2005-2010) to improve and share international understanding of impact assessment, vulnerability and adaptation actions, with a particular focus on developing countries. Despite its wide ranging remit, a large proportion of the private sector is not yet aware of the efforts of the NWP. As the current phase of the programme draws to an end, its successor will need to build on current progress and help address new challenges.

The good work that many businesses are currently doing on the ground – both in terms of protecting their businesses against climate risks and delivering and implementing adaptation solutions – is not consistently and coherently documented or articulated. Business could do more to showcase their good practices, as well as learning from others’ experience, for example other businesses which are already operating in a climate similar to their future projected scenario.

There are opportunities for the private sector to support the information collection and dissemination process. As summarised in the table below, there are market opportunities for the ICT sector and research institutes, but also scope for some other sectors to gain a competitive edge over their peers through early action.

Sector	Potential opportunity
ICT and information providers	<ul style="list-style-type: none"> • Provide GIS and remote sensing technologies • Compile and manage databases of adaptation information • Provide and disseminate information on climate impacts and vulnerability
Environmental and engineering consultancies	<ul style="list-style-type: none"> • Provide research and data collection capabilities • Advise on technical standards for climate resilient design
Affected sectors e.g. agriculture, water utilities, insurance	<ul style="list-style-type: none"> • Commission and carry out research on impacts, vulnerability and risks • Share results with sector or other relevant parties

Recommendations to improve private sector engagement

“We are quite limited in terms of what data we can offer, because impacts are so specific to our operations, but we want to be involved to help others get up to speed, for example on how we look at the issues.”

Water utility company

5 Programmes focused more on the information needs of the private sector and what they can contribute

An inclusive knowledge sharing platform needs to recognise the commercial objectives that underpin businesses’ actions. The private sector is not always willing to share information, particularly if it is commercially sensitive. A private sector-focused platform needs to be sympathetic to these concerns, and identify areas where the private sector can meaningfully contribute. For example, many companies are unwilling to share the results of privately commissioned research on climate risks to their specific assets, but tend to be happy to share information on their processes for information collection, issues that arise and the solutions implemented.

“The potential for companies to collaborate by sharing information and building capacity together is unique to each sector and country context.”

Energy company

6 Synthesis and sharing of information

Participants who have shared information need to see that the information is used effectively. An international programme has the potential to build a ‘bigger picture’ from the information collected. For example, conducting value chain mapping by sectors can help companies identify ‘pinch points’ or weak links in a value chain.

Feeding information back to companies helps highlight interdependencies and identify scope for collaboration to reduce climate impacts. Businesses often find working in partnership an effective and efficient way to reduce costs or improve outcomes. An international database of companies facing similar climate change impacts, albeit to varying degree and in different ways, would enable companies to identify partners to help deliver adaptation solutions or to establish networks for information sharing.

Technology development and transfer

“It appears widely thought by the private sector that the technology required to adapt to climate change is currently available. The challenge is raising awareness of what is out there (including by the technology providers) and ensuring that technology is directed to the right application.”

International engineering company

“There are many opportunities to learn about best practices, but the process is very slow. There is scope for knowledge transfer from developed to developing contexts. But we need people to contact us or to have access to them, and in the past we have even offered to invite people into our offices for site visits to facilitate knowledge sharing.”

Energy company (developing country)

Much of the international debate on the development and transfer on technology to tackle climate change has focused on the mitigation agenda. However the key issues that affect technology transfer on climate change mitigation are equally pressing for adaptation.

A Technology Mechanism to accelerate the development and deployment of climate change technologies is under consideration in the UNFCCC process. A recent report commissioned by the World Business Council for Sustainable Development secretariat⁷ illustrated a number of roles the private sector could play in these structures, albeit targeted predominantly in the context of mitigation needs:

- An observer/expert role in the Technology Executive Committee;
- Direct involvement with the Climate Technology Centre(s) in technical assessment and project implementation; and
- Involvement in an established roster of experts.

The technology required for most adaptation needs already exists. Indeed the majority of resources and technological solutions are, or are likely to be, provided by the private sector.

A key challenge identified by private sector organisations consulted for this study is the deployment of technology in the areas where they are required. The nature of the adaptation technologies might vary between industry sectors and also geographically. Sharing of best practices - regionally and internationally - is crucial to lowering the costs of enhanced technology diffusion, especially in developing countries. However, it is also recognised that many adaptation ‘solutions’ will involve local knowledge and practices.

Objective	Roles and opportunities
Provide adaptation technologies and solutions	<ul style="list-style-type: none"> • Biotech companies: R&D on new crop varieties with greater tolerance or improved yields under different climatic conditions • Chemicals sector: R&D on less environmentally damaging pesticides or water quality improvements • Pest control companies: bio-control measures • ICT sector: communication networks for disaster relief • Insurance: New products for climate risks (see below) • Manufacturing sector opportunities for adaptation solutions e.g. rainwater harvesting systems, building materials.
Reduce costs of technology transfer	<ul style="list-style-type: none"> • Explore innovative business models to reduce costs of technology, through partnerships • Establish knowledge sharing platforms to showcase solutions and access new markets

Recommendations to improve private sector engagement

7 ***Programmes focused more on showcasing successful technology diffusion, to build confidence***

A key barrier is the issue of trust and confidence in new technology. Knowledge sharing platforms need to showcase examples of successful technology diffusion, not just through documenting the process (many vulnerable communities, for example, would also lack access to information), but also with live demonstrations on the ground. This recommendation could be best applied at a sector level, and within geographical areas that are experiencing similar climate impacts.

8 ***Private sector representation in existing programmes led by or affiliated with UNFCCC, tied in with mitigation needs and objectives***

Businesses with specific or extensive knowledge of adaptation technology will have an important role in capacity building, particularly in developing countries. These need not be 'cradle to grave' specialists. Businesses with particular expertise in elements of the lifecycle of development and deployment - from project design to operation - can contribute to valuable knowledge sharing. The proposed Technology Executive Committee and the Climate Technology Centre(s) network (of experts) are platforms that could accommodate the involvement of organisations and experience. Individual sector representation would allow the private sector to take a broader view on both mitigation and adaptation needs.

Disaster risk management and insurance

Insurance approaches have been discussed in the UNFCCC process since the early 1990s. The current adaptation negotiations recognize the importance of these risk management and risk transfer approaches, and the focus has shifted towards consideration of their design and implementation within a possible loss and damage mechanism and through on-the-ground solutions.

The private sector, in particular the (re)insurance sector, has a wealth of experience in quantifying, pricing, reducing and managing weather-related risks across sectors and geographies. In partnership with governments, it can play an important role in collecting and disseminating data on weather and catastrophe risk, financing risk assessments, and supporting the design and provision of insurance schemes.

Key sectors, from micro-finance to agribusinesses and ICT, are also vital to the success of risk management and insurance mechanisms, particularly in developing countries. For example, a strategy for adaptation in the agriculture sector could be complemented by indemnity or index-based insurance to cover residual risk to farmers and agribusinesses. ‘Smart’ insurance contracts also often stipulate risk reduction mechanisms such as drought-resilient crop varieties, to help avoid mal-adaptation. Some examples for potential private sector engagement are listed below.

Relevant private sectors	Roles and opportunities
Insurance sector: - Global/ national (re)insurers International and local brokers - Distribution channels (internet, tele-marketing, corporate agents) - Micro-finance providers	<ul style="list-style-type: none"> • Building country capacity to analyse, prevent and manage risks related to climate variability and change by developing local hazard and risk assessment capabilities • Providing new insurance products to grow their markets in new territories, new perils and new products (e.g. traditional natural catastrophe coverage for businesses and governments, weather index products for businesses, and micro-insurance products for low income communities)
Information and Communication Technologies	<ul style="list-style-type: none"> • Early warning measures, e.g. development of integrated multi-hazard early warning systems • Communications, e.g. disaster communication systems for relief workers, mobile alerts on weather • Data and modelling solutions, including satellite imagery, GIS risk modelling and post disaster evaluation
Food/Beverage and Agriculture Sector	<ul style="list-style-type: none"> • Encouraging and promoting uptake of risk reduction and insurance innovations (e.g. weather index-based insurance) amongst farmer groups
Disaster relief and response	<ul style="list-style-type: none"> • Sectors with relevant skills: potential to support disaster relief efforts urgently and at scale, at local and regional levels

Recommendations to improve private sector engagement

9 *Public-private collaboration for the development of regional and national risk management frameworks and platforms, including risk pooling, insurance and DRR approaches*

Design and implementation of these mechanisms, particularly in developing countries, will involve a mix of partners including national governments, bilateral and multi-lateral actors and the global and domestic insurance sector. Private sector actors can help to identify key barriers to scaling up of risk reduction and insurance solutions, and options for policy interventions and incentives. An enabling environment for the private sector could include:

- Government support in implementation and regulation of insurance markets;
- Offering or brokering of pooling arrangements;
- Providing reinsurance of last-resort to protect against insolvency for under-developed domestic markets; and
- Identifying the role of insurance as a climate risk management instrument, particularly for the rural and poor segments of the population.

10 *Evaluate options for using risk management and insurance expertise of the private sector in any future insurance mechanism*

The proposed structure for handling loss and damage in developing countries, including insurance mechanisms, is still not clear. Given the technical knowledge of the private sector and its potential role in implementation, options to channel the private sector's risk management and insurance expertise should be evaluated. This could take different forms including:

- Active private sector observers in decision-making bodies/committees;
- An ad-hoc advisory group of experts to draw upon; and
- A network of regional centres to provide technical advice and support to countries and regional risk management efforts.

Financing adaptation activities

Financing short to long-term adaptation actions in developing countries is an important component of the UNFCCC process, in particular the role of developed countries to “assist developing country Parties that are particularly vulnerable to the adverse effects of climate change and in meeting the costs of adaptation to those adverse effects”.

The Copenhagen Accord in December 2009 also recognized the need for scaled-up, new and additional, predictable and adequate funding for adaptation and mitigation, with a pledge to provide \$30 billion of fast start funding for 2010-2012, and a goal of mobilising \$100 billion per year by 2020 from "a wide variety of sources", including public and private finance.

The proposed climate funding will be distributed in the short term through existing multi-lateral and bi-lateral funds and programmes (e.g. Adaptation Fund, GEF funds, the World Bank Climate Investment Funds). In the longer term a new global finance mechanism, referred to as the Copenhagen Green Climate Fund, is being discussed.

The private sector could take on various roles that contribute to the UNFCCC’s aims of scaling up adaptation finance as described in the table below.

Relevant private sector actors	Role in financing adaptation activities
Institutional Investors (pension funds, insurance companies) and banks Corporations seeking to expand adaptation related operations Public funds derived from private sector activities (e.g. Adaptation Fund)	<ul style="list-style-type: none"> Mobilising finance through climate adaptation bonds, loans or direct equity investments, credit lines to local finance institutions, including microfinance institutions, use of bonds for front-end loading of public pledges for financing (e.g. International Finance Facility for Immunisation model)
Consultancies and technical providers of fund management and monitoring, reporting and verification (MRV) capabilities Providers of micro-finance schemes	<ul style="list-style-type: none"> Management and disbursement of adaptation funds
Re-insurers and risk modellers Policy advisory consultancies	<ul style="list-style-type: none"> Provision of risk management data and tools Adaptation implementation Policy advisory and capacity building

Key areas envisioned for adaptation financing include those discussed in this report, i.e. national adaptation planning and implementation, impacts and vulnerability research, disaster risk management and technology development and transfer. In addition investments in development activities, such as health systems and poverty alleviation, can also help to strengthen climate resilience.

The private sector can play a critical role in financing adaptation interventions, provided that the necessary structural investments and policy frameworks are in place. However, many of these activities may not offer commercially attractive financial rates of return. Many vulnerable countries also lack access to private finance due to poor credit ratings, high political risk and limited institutional financial capacity. The poorest and most marginal sectors of society also lack engagement with either the public or private sector.

Policy instruments can help address some of these issues, for example, the use of debt and equity guarantees to underwrite climate-friendly investments and mobilise upfront capital, insurance subsidies to catalyse early market growth or outreach to vulnerable groups, and the use of market instruments such as water pricing. Businesses can help governments shape the right enabling environment for private investment, to both increase access to new markets and address investment risk.

Recommendations to improve private sector engagement

11 *Awareness raising in investor and corporate community on investment opportunities associated with adaptation*

New ‘responsible’ private capital could be attracted to adaptation projects, as early examples of Green Bonds have illustrated. The UNFCCC, UN Environment Programme Finance Initiative (UNEP FI), donors, multi-laterals and recipient governments can facilitate this by highlighting specific cases in which adaptation can be a viable commercial investment, and by partnering with finance institutions to identify and target a pipeline of concrete adaptation projects.

12 *National level engagement/consultation between private sector and governments to scale up private sector investment in adaptation activities*

Private sector representatives could share expert knowledge on the public-private investment structures and the policy incentives required for specific adaptation actions. For instance, in India, weather-index risk insurance is currently provided by the private sector, but is made possible by strong public-private engagement and by government support including public guarantees, subsidies, an enabling regulatory framework and improved climate data systems.

13 *International level consultation on current private sector engagement in existing UNFCCC and multi-lateral bank adaptation funds*

The degree of private sector engagement in adaptation funds varies greatly. At present, the private sector has a passive observer role in the Adaptation Fund Board meetings, and limited engagement in the GEF Funds, whereas in the Climate Investment Funds (CIFs), two active “observers” from the private sector are nominated to sit on the sub-committees of the Funds with an ability to provide comment. Options for enhancing private sector engagement to derive improved value both at the board/committee level and at the country level should be explored.

14 *International level consultation on options for enhanced public-private engagement around the Green Fund*

At the time of this report, it is still unclear how the “Green Fund” will evolve. This notwithstanding, the private sector could contribute valuable experience and expertise throughout the process, from fund design (e.g. finance experts advising on effective capital leverage structures) to operational project implementation (e.g. technical advice for project proposals evaluation, detailed investment and policy model development and regional and country-specific expertise). The appropriate governance structure to enable expert private sector advisory input at the decision-making level should be evaluated.

Concluding remarks

This report presents the views of a range of businesses, which recognise the need to rise to the challenges and opportunities from adaptation to climate change. It explores the scope for the private sector to mainstream adaptation action and capitalise on new opportunities and markets. But, just as importantly, it considers the need for enhanced engagement between the private and public sector, and provides recommendations of how joint and collaborative working relationships could help move society towards the common goal of a climate resilient world.

The private sector has much to contribute, in an advisory capacity supporting the UNFCCC process and national planning, by producing and interpreting data and through innovating and showcasing technology and solutions. In addition, individual sectors can contribute based on their specialist knowledge, not least of risk sharing by the insurance sector, of funding mechanisms by the finance sector and of technology development and deployment by IT and manufacturing.

The UNFCCC process and national governments need to recognise the private sector as a source of innovation and efficient delivery, as well as a central part of our global community. At the same time, the private sector must recognise that the key role that the UNFCCC process and national government play in encouraging and enabling timely action on adaptation. Collaboration and cooperation between public and private sectors is the key to delivering a climate resilient world, efficiently and effectively.

Appendix

Approach to interviews and survey

The recommendations in this report have been developed by PwC (UK), drawing on interview and survey results to present a broad private sector perspective, but do not reflect the views of any particular organisations.

To inform and validate the content of this report, a series of private sector soundings were undertaken. This consultation, with over forty private sector organisations, was conducted through telephone interviews with senior managers in functions such as risk and/or Corporate Responsibility, and through an email questionnaire. Participants included a blend of organisations from six continents and across a variety of industry sectors, both from developed and developing countries. The range of organisations consulted had an intentional bias towards sectors that are likely to have higher values at risk from direct climate change impacts.

The phone interview and email questionnaire sought to explore the following areas:

1. Current perceptions of impacts to the organisation, including risks and opportunities
2. Obtaining and applying information on climate impacts
3. Actions taken to adapt to climate change impacts, including the scope of action
4. Drivers and barriers for taking action
5. Engagement with policymakers and awareness of the international process
6. Thoughts on the roles of various parties in providing the solutions to adaptation
7. How the organisation could benefit from, and contribute to, international action on adaptation
8. What the private sector needs to scale up action on adaptation

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Arcelor Mittal	Ghana National Chamber of Commerce and Industry
BEA International	Great Eastern Energy Corporation
British Sugar	Grupo Bimbo
Bunge Emissions Group	Hindustan Construction Company
Cafédirect	Iberia
Caribbean Community Climate Change Centre	Islan Asset Management
CH2M Hill	ITC Ltd.
CLP Group	PPB Oil Palms Berhad
CropLife	Sime Darby
DfID Caribbean	Sompo Japan Insurance
DiGi Telecommunications	Thames Water Utilities
EDF	Transports Metropolitans de Barcelona
EDP Energias do Brasil	Vodafone
ENAGAS	Walmart de Mexico y Centroamerica
Eskom	Whitbread

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Endnotes

1 In PwC's 2010 Global CEO Survey, 61% of CEOs were preparing for the impacts of climate-change initiatives. More information available at <http://www.pwc.com/gx/en/ceo-survey>

2 Information from <http://www.lifelines-india.net/>

3 Public sources include: responses to the Carbon Disclosure Project (<https://www.cdproject.net/en-US/Results/Pages/responses.aspx>) and from company websites, e.g. GDF Suez: <http://www.gdfsuez.com/document/?f=files/en/prperthva.pdf>, BASF: http://www.basf.es/ecp1/Spain/es/function/conversions:/publish/upload/05_News_Infocenter/03_Brochures_Reports/expoquimica.pdf and <http://www.basf.com/group/corporate/en/products-and-industries/biotechnology/plant-biotechnology/agriculture/higher-stress-tolerance>, Jain Irrigation: <http://www.waterfootprint.org/Reports/IFC-2010-WaterFootprintAssessments-JainIrrigationSystems.pdf>, Allianz: https://www.allianz.com/en/about_allianz/sustainability/microinsurance/offer/page2.html, Vodafone: <http://sanhati.com/wp-content/uploads/2010/05/vodafone.pdf> and Lifelines India: <http://www.lifelines-india.net/>

4 Negotiating text, Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Twelfth session, 13 August 2010 (FCCC/AWGLCA/2010/14) and Thirteenth session, 29 October 2010 (FCCC/AWGLCA/2010/INF.1); information from UNFCCC website (<http://unfccc.int/adaptation/items/4159.php>)

5 The countries which have submitted NAPAs but do not mention the Private Sector are Burkina Faso, Cambodia, Guinea, Haiti, Kiribati, Sudan and Uganda. All other countries which have submitted NAPAs made at least one reference to the private sector in their reports (Afghanistan, Bangladesh, Benin, Bhutan, Burundi, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Gambia, Guinea-Bissau, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierre Leone, Solomon Islands, Tanzania, Togo, Tuvalu, Vanuatu, Yemen, Zambia). The NAPAs are available at http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php

6 The Lesotho Private Sector Competitiveness Project was established to facilitate increased private sector investment by improving the business environment and diversifying sources of growth.

7 Options for institutional engagement in the UNFCCC process (2010) – WBCSD, Climate Focus, Ecofys

