

# 2008 Survey of Signatories

Best Practices and Policy frameworks

*Working Document*



# CARING FOR CLIMATE SERIES

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## About the United Nations Global Compact

Launched in 2000, the UN Global Compact brings business together with UN agencies, labour, civil society and governments to advance ten universal principles in the areas of human rights, labour, environment and anti-corruption. Through the power of collective action, the Global Compact seeks to mainstream these ten principles in business activities around the world and to catalyze actions in support of broader UN goals. It is the world's largest voluntary corporate citizenship initiative, with over 5,000 signatories based in more than 120 countries. For more information, please visit [www.unglobalcompact.org](http://www.unglobalcompact.org). About the United Nations Global Compact

## Executive Summary

### Introduction

The United Nations Global Compact engaged GlobeScan to carry out a study of climate strategies implemented by companies signed up to its Caring for Climate initiative. Caring for Climate, launched in July 2007, is a voluntary global business initiative to mobilize the business community to develop solutions which reduce climate risk and create value for the company. Of 200 signatories, 81 companies responded to the survey, and 19 also gave in-depth interviews.

### Companies and their climate activities

Caring for Climate signatories rate positively the effectiveness of their own climate change activities overall; almost no company rates its performance on climate as 'very poor', and five rate their performance as 'excellent'. Signatories also rate positively their performance in specific climate activities, such as building internal capacity to understand climate change, setting voluntary targets and strategy, and engaging stakeholders; however, they recognize room for improvement in implementing strategies, and in sharing climate experience with other companies. According to their responses, the best performing segment of signatories comprises large companies with high revenues and large workforces. These companies also report higher-costing climate activities that bring substantial financial benefits.

Signatories implement a wide range of activities to address climate change, across a variety of industries and geographical regions, including 35 countries. Most initiatives are implemented at a relatively low cost of less than US\$1m, and are expected to bring low financial benefits. The main difficulties faced are financial constraints, low awareness, and technical limitations. Strategies to overcome these difficulties rely on technological, internal, and external resources. Champions offer a selection of stories about successful initiatives to reduce greenhouse gases (presented in Appendix 2).

Signatories define companies that play a climate leadership role as those that provide solutions and lead by example; exercise social responsibility beyond reducing their own emissions; and demonstrate a sincere commitment to addressing climate change. The climate priorities for companies operating in large emerging economies, according to signatories, are to focus on clean and efficient energy; to employ climate-friendly technology; and to set targets and standards.

### Climate policy frameworks

Signatories most often mention the UN Global Compact and Caring for Climate as a global business initiative that helps companies achieve their climate change goals. Signatories also suggest the Caring for Climate initiative could strengthen its advisory function, its advocacy to influence governments, and its authority—by introducing benchmarking and compliance monitoring (an approach favoured by almost one-quarter of signatories). A plurality would also like to see the initiative communicate to reach more companies, and collaborate effectively with similar initiatives.

Signatories indicate the most helpful national government policy approaches include investing in technology, long-term climate planning, encouraging citizens to contribute, and promoting international policy. Fewer signatories find national policy approaches that put a cost on carbon to be helpful. Signatories also call for national government leadership in addressing climate change, and active governmental support for developing and implementing climate solutions. Some would like to see governments focus on regulation and compliance enforcement. Most signatories also stress the need for governments to develop education and awareness-raising activities to address climate change.

Signatories recommend that governments meeting to finalize the post-Kyoto agreement in December 2009 should ensure universal participation by developed and developing nations, as well as the United States. The governments should provide visionary leadership by actively ensuring they reach an agreement, and setting GHG reduction targets even if compromise is required. They should also establish workable mechanisms to help nations meet targets, along with incentives for business. Similarly, signatories believe the most important outcomes from a post-Kyoto agreement will be participation by all major GHG emitters, and financial mechanisms that support reductions in developing countries. Other important outcomes will be broad consensus on emission targets, a cap-and-trade system that includes developed and developing countries, and an agreement to mobilize business by sector.

## Methodology

The entire universe of signatories (about 200 companies, including small and medium-sized companies), were invited by Caring for Climate to participate in the online survey. GlobeScan expected about half of the signatories to participate at minimum (approximately 100 responses). In the event, 86 responses were received, representing 81 different companies. The companies represented range in size from having fewer than 1,000 employees to more than 50,000 employees, and from revenues of less than \$1m to more than \$10bn. Over half of survey respondents indicate their company has significant operations in a large emerging economy, such as Brazil, China, India, South Africa, and Russia.

The survey was fielded between July 24 and August 15, 2008.

Over half of survey respondents were willing to have information about initiatives included in the report and their company identified.

### Preliminary research

To prepare for the design of the on-line survey, in-depth interviews were conducted with 19 corporate leaders identified by the UN Global Compact Office as 'Champions' in the Caring for Climate initiative. The champions were selected among early supporters of Caring for Climate, who had developed comprehensive climate strategies and proactive outreach (see list on page 48). Interviews were conducted by telephone, although a small number of interviews were completed electronically to facilitate communication across time zones and language barriers. The interviews took place in June and July, 2008.

All interviewees were willing to have information about initiatives included in the report and the company identified, though some requested a chance to review their entry before publication. Many champions provided written material to summarize their good practices.

The Champions interviewed represent a variety of regions and sectors. However, almost half operate in the chemical and utilities sectors (see Annex 1).

In addition, the survey benefitted from desk research carried out by students from the Center for Business and the Environment at Yale University. The study identified actions taken by "Caring for Climate" signatories according to their pledges made under the initiative; examined how signatories' actions compare to defined best practices for business solutions to climate change; and made recommendations for scaling-up efforts by signatories.

### Notes to Reader

All charts in the report present figures in percentages calculated from 86 respondents. Total percentages may not equal 100, due either to rounding or to multiple responses given by respondents. In some bar charts, white space represents the portion of respondents who answer 'do not know' or who offer 'no answer' (i.e. DK/NA).

## Section A: Companies and Climate Practices

### 1. COMPANY PERFORMANCE

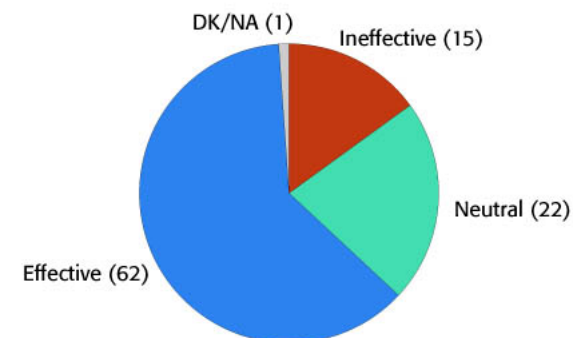
Signatories rate positively the effectiveness of their climate change activities overall; almost no company rates itself as performing very poorly, and five rate their performance as ‘excellent’. Signatories also rate positively their performance in specific climate activities, such as building internal capacity to understand climate change, setting voluntary targets and strategy, and engaging stakeholders; however, they recognize room for improvement in implementing strategies, and in sharing climate experience with other companies. The best performing segment of respondents, it appears, comprises large companies with high revenues and large workforces; they also report higher-costing climate activities that bring substantial financial benefits.

#### 1.1 OVERALL EFFECTIVENESS

When asked to rate the overall effectiveness of their company’s activities aimed at mitigating climate change, on a scale of one to ten where one means ‘poor’ and ten means “excellent,” six in ten signatories rate their company positively (7 to 10) while almost one-quarter of signatories opt for ‘neutral’ (5 or 6), and fifteen percent rate their company’s performance as negative (1 to 4). While almost no company rates itself as performing very poorly, only five companies award themselves an ‘excellent’ rating.

#### Overall Effectiveness of Company’s Climate Change Activities

Unprompted, All Signatories



#### 1.2 CLIMATE ACTIVITIES

When asked to rate company performance on a number of activities aimed at mitigating climate change, signatories also tend to rate themselves positively; they also recognize their performance could improve.

##### Building capacity

Almost three-quarters of companies feel they perform positively on building internal capacity to understand the implications of climate change, although only one in ten companies award themselves an ‘excellent’ score on this activity. Companies appear to have learned quickly, as climate change has become an increasing priority across all sectors.

##### Setting targets

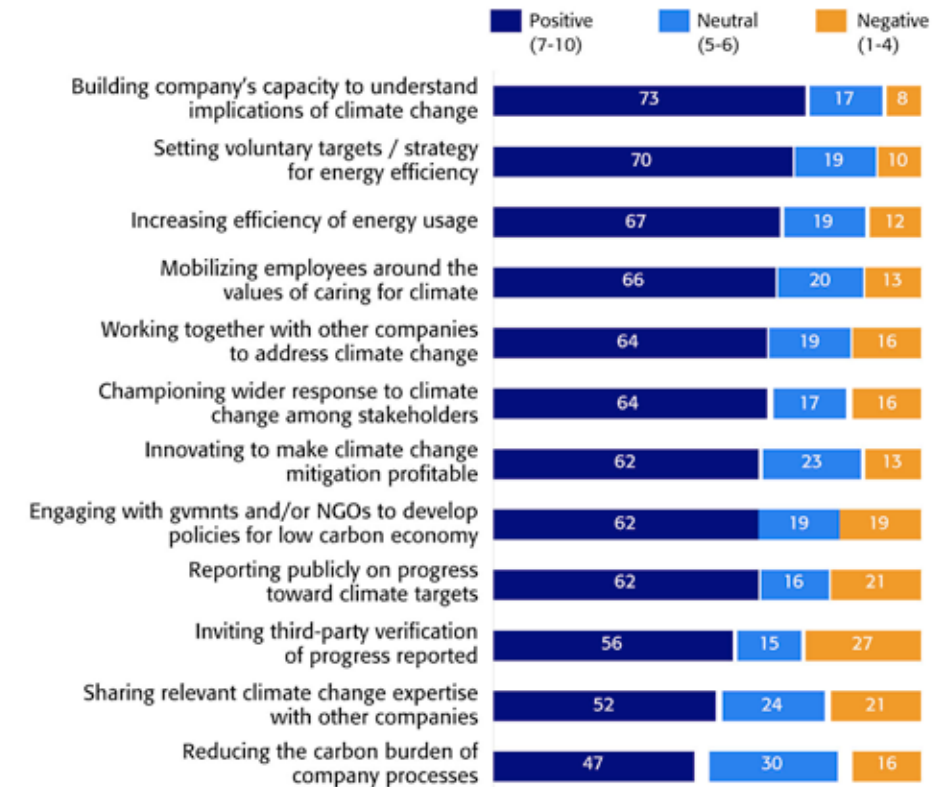
Signatories are also generally satisfied with the setting of voluntary targets and strategy for energy efficiency, as well as their performance in increasing energy efficiency. However, signatories are more likely to rate themselves as ‘excellent’ on setting targets and strategies for energy efficiency, than for actually implementing such strategies. Indeed, companies also rate themselves the lowest on reducing the carbon burden of company processes, with just under half of signatories awarding themselves a positive rating. The challenge for signatories, it appears, will be to move from careful assessment and planning, to actual implementation of climate strategies.

##### Engaging stakeholders

Signatories also view positively their performance when it comes to engaging with stakeholders, including employees and other companies. Around two-thirds of companies rate themselves positively on mobilizing employees around the values of caring for climate, working together with other companies to address climate change, and championing a wider

#### Performance of own Company

All Signatories



White space means “DKNA.”

response to climate change among stakeholders. Over six in ten companies view positively their performance on engaging with governments and/or NGOs to develop policies for a low carbon economy.

##### Sharing experience

Fewer (just over half) view positively their performance when it comes to sharing relevant climate change expertise with other companies. Companies appear to find it easier to engage in broader advocacy for climate change mitigation, than to actually share the technical expertise needed to implement available solutions. One reason for this may be the absence of forum for such exchange; several signatories point to a need for industry-specific networks that would serve this purpose.

#### 1.3 TYPOLOGY

Companies can be categorized into three segments according to how they rate their performance in the areas of education, engagement, energy usage, and transparency. By these ratings, the ‘low performing’ segment is smallest, while the ‘high performing’ segment is the largest.

The high performing segment tends to consist of large companies with high revenue and a large workforce. Companies in this category tend to report that their climate initiatives, although associated with higher cost, also bring substantial financial benefits. Medium performing companies tend to be smaller, with smaller revenues and workforces, and are associated with climate initiatives that bring smaller financial benefits.

Medium performing companies are most likely to

have significant operations in large emerging economies; seven in ten companies in this segment operate there. Just over half of the companies in the high performing segment report significant operations in large emerging economies, while more than six in ten companies in the low performing segment do not have significant operations in a large emerging economy. High performing companies tend to report that their major climate change initiatives are based in Australia, Denmark, Germany, Greece, India, and the United States.

Companies in the high performing segment are more associated than the other segments with high performance in reducing their carbon burden, and in reporting to the public. High performers also rate themselves highly on setting voluntary targets. Medium performing companies tend to rate themselves higher on engagement with other businesses and with government, and on innovating to make climate change profitable, increasing efficiency, and increasing capacity to understand the implications of climate change.

## 2. BEST PRACTICES

Caring for Climate signatories implement a wide range of activities to address climate change, across a variety of industries and geographical regions, including 35 countries. Most initiatives are implemented at a relatively low cost of less than US\$1m, and are expected to bring low financial benefits. The main difficulties faced are financial constraints, low awareness, and technical limitations. Strategies to overcome these difficulties rely on technological, internal, and external resources. Champions offer a selection of stories about successful initiatives to reduce greenhouse gases (see Appendix 2).

### 2.1 MOST SIGNIFICANT CLIMATE ACTIVITY

Signatories were asked to describe their company's most significant activity or program aimed at addressing climate change. Specifically, they were asked to summarize reductions achieved, approximate cost and expected financial benefits, the primary difficulty faced, and the strategy used to overcome the difficulty.

#### Sectors

Initiatives described by signatories are concentrated in a variety of sectors. The largest number of initiatives was carried out in the Industrial Goods and Services sector, followed by Financial Services, and (equally) Oil and Gas, Utilities, and Banks. Initiatives were also undertaken in the sectors representing Chemicals, Basic Resources, Telecommunications, Technology, Construction and Materials, Automobiles and Parts, Food and Beverage, Retail, Travel and Leisure, Personal and Household Goods, Health Care, Insurance, and Real Estate.

#### Locations

Projects are located in 35 different countries across the regions of Africa, Asia, Australia, Europe, the Middle East, North America, and South America. The largest number of initiatives was undertaken in the United Kingdom, followed by Germany, the United States, and (equally) Denmark and India. Initiatives were also

carried out in Armenia, Australia, Bosnia and Herzegovina, Brazil, Chile, China, Ecuador, Egypt, Finland, France, Greece, Iceland, Italy, Japan, Jordan, Latvia, Netherlands, Norway, Pakistan, Philippines, Portugal, Republic of Korea, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, and Uganda.

#### Reductions

Half of the initiatives described by signatories report measured reductions. Several projects report significant reductions in greenhouse gas emissions reaching over 20 percent, but comparing results is complicated by references to various baselines and units of measurement. Of the initiatives unable to report precise results, several point to the difficulty of measuring emissions and reductions.

#### Costs and benefits

The costs of the climate activity range from less than US\$1m to more than US\$10bn; many initiatives were carried out at a cost of less than US\$1m and a majority of projects cost US\$100m or less. Around one in ten initiatives described was undertaken at a cost of more than US\$1bn.

The expected financial benefits also range widely, between no financial benefit to more than US\$10bn. Most activities yield an expected financial benefit of less than US\$1m, or no financial benefit. However,

several projects, such as the Bayer Climate Program, The Sasol Environmental Roadmap, and initiatives by Cierra Total Recycling Solutions, DuPont, and Johnson Controls, are expected to benefit these companies more than US\$1bn.

### 2.2 DIFFICULTIES FACED

When asked to summarize the primary difficulty faced in realizing the initiative, signatories point to difficulties in three main areas: financial constraints, low awareness, and technical limitations.

#### Financial constraints

Several signatories note the challenge of developing a business case to justify their climate initiatives, or mention difficulties balancing emission reductions with business growth. As the business grows and production increases, is often difficult, they find, to justify the implementation of programs that limit energy consumption and demand ever-increasing efficiency to lower emissions or to keep them stable.

Several signatories also note the difficulty of ensuring funding for an initiative that may not be considered a core activity; and cost is often a primary obstacle to implementation. If implementation of climate change mitigating activities is perceived to affect competitiveness, by imposing costs or constraining productivity, a company will struggle to convince internal and external stakeholders of its value.

#### Selected comments:

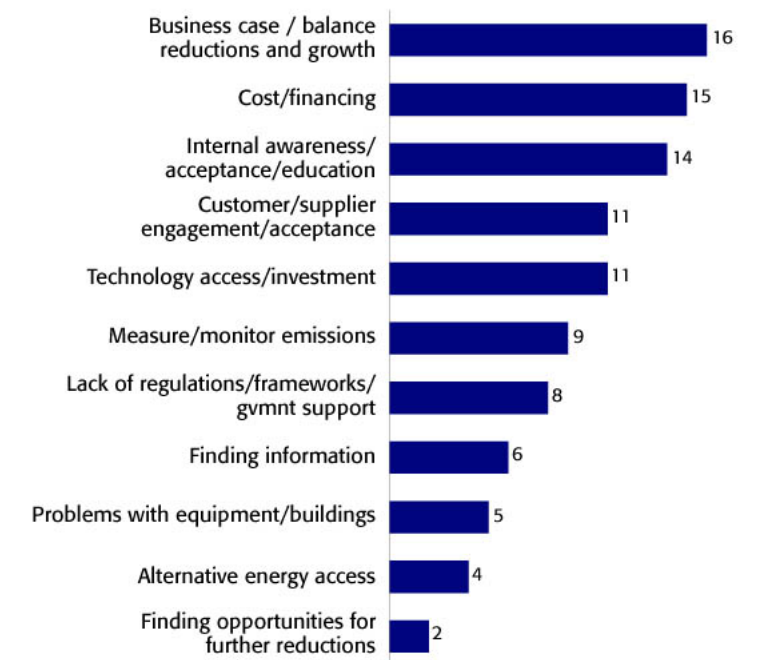
- **Limiting growth of energy use and increase of GHG emissions while the company is growing by double-digit numbers**
- **Balancing quality, cost, delivery and reduction of CO2 emission in business activity and energy-consumption product**
- **Very difficult to build the value case for climate change investments as most drivers are assumptions that can't be quantified yet**
- **The target of CO2 emission reduction was a soft target, therefore, its relationship with the profitability was difficult to be made at the shop floor level**

#### Low awareness

Several signatories mention difficulties arising from low awareness and acceptance of climate change, both internally and externally (among suppliers and customers). When employees do not understand the purpose or benefits of programs to reduce emissions, they do not offer cooperation and compliance. Since climate activities often require many small actions

### Primary Difficulty of Company's Climate Initiative

Unprompted, All Signatories



that collectively achieve substantial reductions, success often relies on the engagement of staff throughout an operation. In companies with operations in many different countries and varying degrees of awareness about climate change, information needs to be disseminated, and attitudes changed, across different corporate cultures; this presents a formidable challenge.

The challenge of creating awareness of climate change and acceptance of mitigating programs extends to suppliers and customers; as companies strive to be climate-friendly throughout their supply chain, and to offer customers climate-friendly options, it is increasingly necessary to educate external stakeholders. This is particularly challenging in countries where national governments are not engaged in the climate issue and where general awareness is low.

#### Selected comments:

- **Having everyone in the company understand that everything makes a difference, that everyone has to do something**
- **As we operate in more than 50 countries, caring for climate might not be equally important in every country. We must constantly bring forth our environmental policy and educate and train people, so that climate change will be taken seriously everywhere**

- **In the Middle East region, there are not many companies which are climate-conscious, and therefore many difficulties stem from unawareness and lack of systems and infrastructure necessary in order to implement any effective climate-friendly project**

### Technical limitations

Climate initiatives are often limited by a lack of technical capacity, as limited resources and skills have an impact on companies' ability to create effective climate programs. Signatories often note that they have limited access to technology, either because of resource limitations or a lack of available technology. Obtaining or developing climate technology requires substantial investment, and employing the new technology requires skills that the company does not currently possess.

A lack of technology or skills also leads to challenges measuring and monitoring emissions. Signatories note that they have difficulties gathering reliable data; a particular challenge faces multinational companies or companies with operations in many different areas, where data management sometimes varies widely.

Several signatories also mention difficulties with assets, such as old equipment or buildings, which affect their ability to carry out programs effectively. Some signatories also indicate a lack of government support or sufficient regulatory frameworks as an obstacle facing activities to reduce emissions.

### Selected comments:

- **Meeting the climate change challenge will be obtained through combining technology breakthrough and management. The possible emerging technologies will be not ready without some massive investments, international clustering of efforts and at least not before 20 years**
- **Collect greenhouse gas emissions data: [company] is a multinational, so there are important differences in data management from each country**
- **Complicated legacy inherited from the Soviet time in terms of the environmental conditions of the assets**
- **Implementing of technology related to reduction of GHG in the region was a major issue; no Hybrid Vehicles; no alternative energy providers; lack of regulations to control the emissions**

## 2.3 STRATEGIES USED

When asked what strategies were used to overcome difficulties, signatories point to three main approaches, which call primarily on technological, internal, and external resources. Most of the difficulties were overcome with a combination of the approaches.

### Technological approach

Signatory companies have sought to overcome difficulties by using technology-based approaches that increase their capacity to reduce emissions; these include investing in new technology and upgrading facilities, and developing the capacity to measure and monitor emissions.

### Selected comments:

- **The Company has created a Greenhouse Gas Emissions inventory procedure, which permits [it to] calculate and compare data from each country, through standardization, in order to know its global footprint**
- **Reporting procedures and tools were developed along with the initiation of a corporate-wide program management team**
- **Measurement, reports, evidence to move from theory to practical results**
- **Company-wide installation of necessary systems and training of staff on how to use it**
- **Massive investments in research and development for new technologies**

### Managerial approach

Companies have sought to overcome difficulties by mobilizing internal resources; these include developing clear targets and systems, defining a climate change policy, building a business case for an activity, or dedicating a team or appointing specialist advisors. Companies also educate staff about climate change to develop internal engagement and boost commitment.

Champions advise companies developing a climate change strategy to take the time to do it right; to carefully analyze where the company can make the biggest impact and where it should focus its efforts to reduce emissions. This can be done by establishing an inventory of emissions throughout all stages of operations, or by carrying out a Life Cycle Assessment that measures emissions from individual products, to pinpoint where reductions may be achieved most efficiently. Companies are then advised to establish a firm time target for reductions, and to monitor progress using internationally recognized methodologies in order to validate results and ensure that reductions qualify for tradable permits or flexible mechanisms.

Another piece of advice from champions is to be pro-

active and to “be there early.” Several champions emphasize the importance of placing the climate change strategy at the very strategic core of the company, and making sure it is integrated into regular business operations rather than delegated to a separate department. A company needs to be able to communicate where it is going to all its employees; equally it is important to carry out a dialogue with stakeholders and broader society – one champion suggests that this ensures the strategy is sustainable.

### Selected comments:

- **We created an in depth internal audit to benchmark performance and best practices which allowed us to set targets and identify the most feasible and effective targets.**
- **We prepared Mid-range Environmental Plan to respond to climate change approved by a steering committee composed of company executives.**
- **Set up of a global environmental and obligatory environmental management system**
- **We will have to make more calculations to make sure that we use money where we will have the biggest effect.**

### External approach

Signatories have also sought to overcome difficulties by drawing on external resources; these approaches include partnering with other companies or organizations, seeking and obtaining government support, or engaging with stakeholders. Companies taking this approach also attempt to educate stakeholders, and

## 3. LEADERSHIP

Signatories define companies that play a leadership role in addressing climate change as those that provide solutions and lead by example; exercise social responsibility beyond reducing their own emissions; and demonstrate a sincere commitment to addressing climate change.

### 3.1 CORPORATE LEADERSHIP ACTIVITIES

When asked to name the three most important activities carried out by companies that play a leadership role in helping society address climate change, signatories emphasize three main areas of expectation: providing solutions, social responsibility, and commitment to climate.

the wider community, about climate change, and to advocate for political solutions.

### Selected comments:

- **We are creating alliance with NGOs, government and private industry to work together**
- **Our relentless and hardworking efforts to educate our clients, partners and stakeholders...**
- **Public affairs to persuade governments and regulators of the benefits of energy-efficient technology solutions**
- **We strive to recommend that clients use environmentally better alternatives**
- **Broader engagement and advocacy to raise awareness of the issue amongst the broader community, government and our customers**
- **A constant pressure on the responsible authorities, and lobbying to accelerate the approval process**

## 2.4 SUCCESS STORIES

When asked to speak about initiatives by their companies that they considered most successful toward reducing greenhouse gases, champions offered a selection of stories (listed in Appendix 2). All are willing to share them with other companies, and for their company's name to be associated with their story in the UN Global Compact's report, although one requested a chance to review the entry before publication. The stories include global, national, and local efforts; they are presented by sector: chemical, energy, and other.

### Providing solutions

Signatories expect climate leaders to ‘walk the talk’ and to lead by example. Leaders show others what can be done to achieve real emissions reductions and energy savings, and to use or develop renewable energy to replace fossil fuels. Several signatories note that in order to be leaders, companies need to measure and report on their activities. Leaders also provide

“Companies that play a leadership role in addressing climate change are those that provide solutions and lead by example.”

solutions through innovation; more than one-third of signatories mention innovation of new technologies or products that contribute to reduced emissions as an important leadership activity.

Champions observe that a leader must also recognize the frame of business has changed. A leader is open to a transformation of the business model, such as moving into renewable energy rather than remaining dependent on conventional sources. A leader may also be a company that is truly innovative, introducing groundbreaking new products such as the hybrid car.

#### Selected comments:

- Developing/offering true effective solutions to address climate change issues
- Innovation on new low carbon processes / technologies
- Lead peers by example and share the knowledge
- Leading by example in reducing own carbon footprint

#### Social responsibility

Signatories expect climate leaders to reach beyond their own reductions and to affect broader change. Leaders engage with employees, suppliers, and customers to educate and create awareness about climate change. A further step is to engage at industry or corporate levels, through partnerships and initiatives that allow for cooperation and sharing. Furthermore, leaders take the climate issue to a broader community and even to global society, raising awareness and advocating action on climate change.

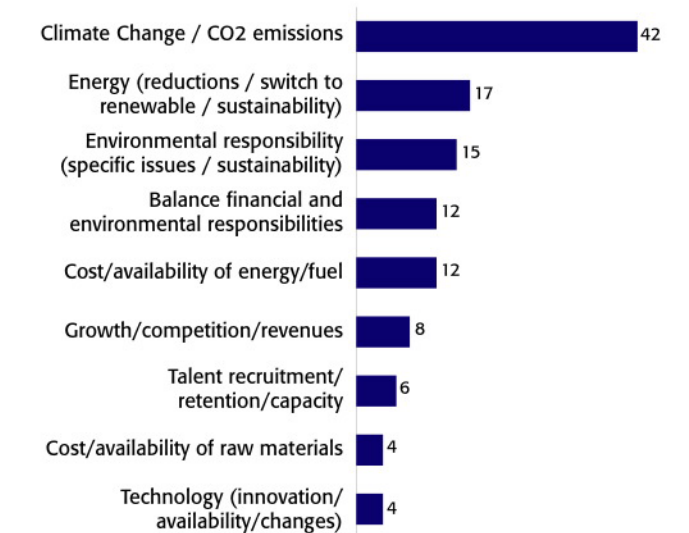
Many champions, when asked what attributes define a company that plays a “leadership” role in addressing climate change, also highlight the importance of communication to influence social change. While it is essential to set targets and to transparently demonstrate achieved reductions, champions emphasize that leadership implies further social engagement, sharing best practices with other businesses, and explaining the benefits of addressing climate change. Leaders in climate change may engage with their own employees, as well as with the public, to educate and promote behaviour that reduces personal emissions. Furthermore, champions suggest leaders actively engage with a broad range of stakeholders, such as government and NGOs, to add their voice to the public policy debate where a business perspective is often lacking.

#### Selected comments:

- Public awareness, community outreach, and stakeholder engagement

#### Most Important Challenge over Next Ten Years

Unprompted, All Signatories



- Efforts to bring collaboration between industry and government
- Engage in public policy debate
- Working with customers and suppliers to help them improve performance
- Encouraging employees to reduce impact both at home and at work
- Leadership means encouraging change in society. Finding internal solutions for climate change isn't enough. Climate change is a global, societal challenge. Leadership companies will know this and take steps to influence customers, government, suppliers, their industry, and other stakeholder groups in order to change behaviour and drive society towards a low-carbon economy

#### Commitment to climate

Signatories also expect leading companies to demonstrate that their commitment to climate change mitigation is genuine. To play a leadership role, companies must define their targets and strategy. Leaders show they have a clear vision for dealing with climate change; and that the vision comes from the top of the company.

In order to play a leadership role in addressing climate change, some champions also emphasize that engagement on climate change should be truly central to the company; leadership needs to come from the top, to be strategic, and long-lasting. One champion mentions that addressing climate change needs to become part of the brand “essence”. Another champion points to strength of conviction; the company

needs to have a genuine intention to contribute on climate change - even if it makes mistakes, a leader is a company with “the right attitude.”

#### Selected comments:

- Commitments towards effective realistic reduction targets

- Setting targets and time frames for reducing carbon footprints
- The climate change policy has been incorporated in its vision statement
- Public statements by the CEO on climate change
- Consideration of climate change issues within internal business decision making

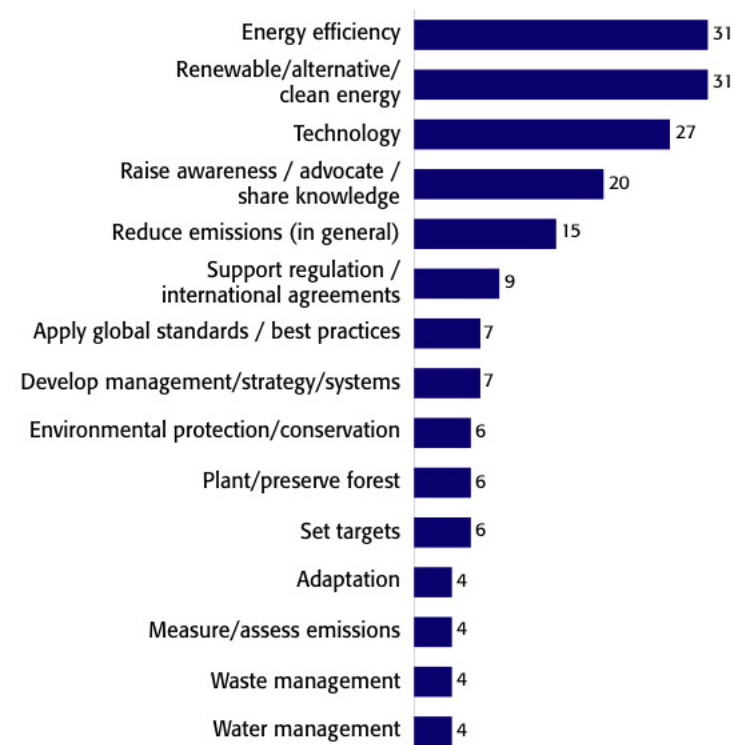
## 4. COMPANIES OPERATING IN EMERGING ECONOMIES

The climate change priorities for companies operating in large emerging economies, according to signatories, are to seek out clean and efficient energy; to employ climate-friendly technology; and to set targets and standards.

Over half of survey respondents (56%) indicate that their company has significant operations in a large emerging economy, such as Brazil, China, India, South Africa, and Russia.

### Climate Change Priorities for Companies Operating in Emerging Economies

Unprompted, All Signatories



### 4. 1 PRIORITIES FOR COMPANIES IN EMERGING ECONOMIES

When signatories were asked what should be the two climate change priorities for companies operating in large emerging economies, three different sets of recommendations emerge: focus on clean and efficient energy; use climate-friendly technology; and set targets and standards.

#### Focus on clean and efficient energy

Companies operating in emerging economies should find alternative sources of energy, and focus on energy efficiency. Signatories suggest the companies should source energy locally, and rely on renewable sources; this will help to develop local low-carbon markets. Companies operating in emerging economies should also develop energy-efficient processes to meet surging energy demands within carbon constraints.

Champions also mention the Clean Development Mechanism and carbon credits as incentives for companies operating in developing countries, although they note that these are incentives for large companies (especially those operating globally) rather than small ones that may find the process too costly to consider. Other champions observe that government intervention is needed in order to create incentives in developing countries, in the form of tax incentives, investments in renewable energy, etc. Equally, companies operating in developing countries may not recognize incentives for reducing emissions, such as energy cost savings, opportunities for making profit, risk management, and reputation enhancement.

#### Selected comments:

- Utilize locally harvested renewable energy to power a company's operations
- Developing low carbon energy schemes locally
- Application of energy efficiency technology - in operations and end products
- We strongly believe that business can deliver economic development whilst reducing GHG emissions. Implementing renewable technologies and developing new business centred on GHG reductions will provide employment and other benefits, and examples in the health sector are numerous

#### Use climate-friendly technology

Companies should ensure they use the most climate friendly technology available, promoting its introduction into emerging economy operations. By using new and efficient technology, companies can encourage its dissemination, and increase local capacities to employ it.

Opportunities specific to businesses operating in developing countries include the ability to bypass or “leapfrog” inefficient technologies, and to gain competitive advantage by moving early and avoiding the rising costs of conventional energy use.

Access to technology is also emphasized by several champions as a global policy priority through technology transfer and the elimination of cost barriers to implementing climate-friendly technologies. Ensuring that climate-friendly technologies are implemented may be particularly important for industries that play a critical role in development. One champion suggests specific sectors that are large emitters of greenhouse gases should be approached separately to ensure their buy-in.

#### Selected comments:

- Promote technology transfer and the use of the best available technologies
- Lead by example, introducing latest technologies available
- Innovations and continuous modernization by introduction of modern technologies

#### Set targets and standards

Companies operating in emerging economies should also focus on developing good management of their

climate change strategy. Signatories advise that targets should be set, and a system or strategy put in place to ensure the targets are met; this includes measuring and assessing emissions. Signatories also recommend that companies apply global standards and industry-wide best practices in their climate change strategies.

When champions were asked specifically about incentives to develop climate strategies for companies in non-Annex 1 countries\*, they mention the tangible benefits of reduced costs and the business opportunities afforded to companies that differentiate themselves on climate change, especially in gaining share with key customers in developing countries.

#### Selected comments:

- Compliance with environmental legislation, standards and industry best practices
- Keep to high environmental standards from home markets when possible
- Develop comprehensive climate change strategies that are tailored to emerging economies
- Strengthen environmental management

#### Raise awareness

Raising awareness of climate change is another important priority for companies operating in emerging economies, according to signatories. Companies are advised to contribute to raising awareness among the public, government and other stakeholders, and to advocate for action on the issue. Furthermore, signatories urge companies operating in emerging economies to share their climate change knowledge with local companies.

To help disseminate and replicate good practices concerned with renewable energy and energy efficiency, especially in emerging economies, champions emphasize the importance of educating businesses, as well as consumers. First, businesses, especially in emerging economies, need to be made aware of the opportunities that exist in the area of climate change, as well as the rules and processes involved in gaining access to incentives such as carbon credits. Businesses in emerging markets need case studies and examples, which can be provided by industry associations and media. Expertise can also be shared through international platforms, such as the World Economic Forum, or through region-specific programs run by international companies. Second, several champions, primarily in emerging economies, also emphasize the importance of raising awareness among consumers to

\* The industrialized countries listed in Annex 1 to the United Nations Framework Convention on Climate Change include the 24 original OECD members, the European Union, and 14 countries with economies in transition. (Croatia, Liechtenstein, Monaco, and Slovenia joined Annex 1 at COP-3, and the Czech Republic and Slovakia replaced Czechoslovakia.)

create demand for environmentally friendly products and an understanding of how individuals can save money by becoming more energy efficient. Education could be provided by the government through the school system, or with help from media and NGOs.

#### Selected comments:

- Create an awareness of the issue in the population
- Be part of national programs on educating the public about the issues
- Advocacy - engaging in addressing the issue and provide solutions
- Share best practices on environmental protection
- There is scope for better information, better templates, case studies, and educating companies about opportunities in the developing world. There's a need for understanding the process, how long it takes, and legalities around it. The education and resource flow around that could be improved. That means showcasing what has worked well, so that they [companies in the developing world] can learn from them and replicate them

#### 4.2 DIFFERENT APPROACHES

Respondents urge a differentiated approach to climate change activities by companies in developing countries. Although champions agree that business can contribute to economic development while stabilizing or reducing greenhouse gases, some note this to be more difficult in developing countries—where fewer incentives exist for companies. Some champions observe that getting companies in large emerging economies to commit to reductions requires differentiation: recognition that countries need to develop; and different targets and mechanisms, such as per-unit consumption targets that emphasize efficiency rather than total reductions.

Respondents also urge a differentiated approach to climate change activities by governments in developing countries. Several champions stress that differences in local conditions and levels of development need to be included in national policies. Champions also point to the importance of funding mechanisms to help developing countries adapt to climate change; recognition of differences; and inclusion of other priorities, such as development and poverty reduction. Indeed, signatories suggest the inclusion of all developing countries in a post-Kyoto agreement depends on such differences being recognized and reflected.

## Section B: Climate Policy Frameworks

### 5. GLOBAL BUSINESS INITIATIVES

Signatories most often mention the UN Global Compact and Caring for Climate as a global business initiative that helps companies achieve their climate change goals. Signatories also suggest the Caring for Climate initiative could strengthen its advisory function, and its advocacy to influence governments; and enhance its authority by introducing benchmarking and compliance monitoring (an approach is favoured by almost one-quarter of signatories). Signatories would also like to see the initiative communicate to reach more companies, and collaborate effectively with similar initiatives.

#### 5.1 HELPFUL INITIATIVES

Signatories to the UN Global Compact and Caring for Climate tend to mention this initiative, when asked to name any global business initiative that helps companies achieve their climate change goals. Almost four in ten respondents name the Caring for Climate initiative. Other initiatives frequently mentioned, by one or two in ten respondents, include the World Business Council for Sustainable Development (WBCSD), UNEP Finance Initiative, and the Carbon Disclosure Project.

The Global Reporting Initiative and UK Carbon Trust are also mentioned by several signatories.

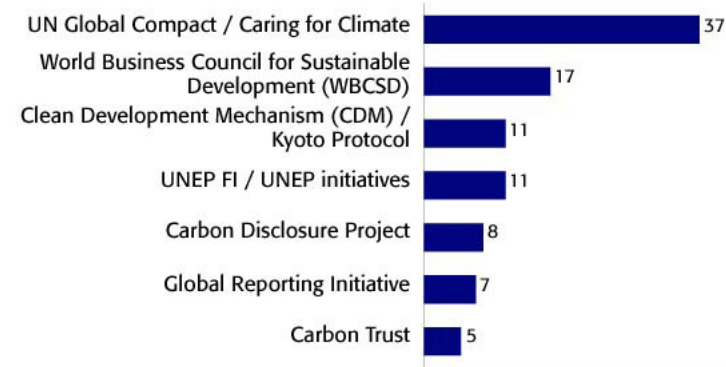
#### 5.2 IMPROVING CARING FOR CLIMATE

When asked what would make the Caring for Climate\*\* initiative more effective, signatories suggest the initiative should focus on making improvements in three main areas: advisory; advocacy; and authority.

**“Signatories most often mention the UN Global Compact and Caring for Climate as a global business initiative that helps companies achieve their climate change goals.”**

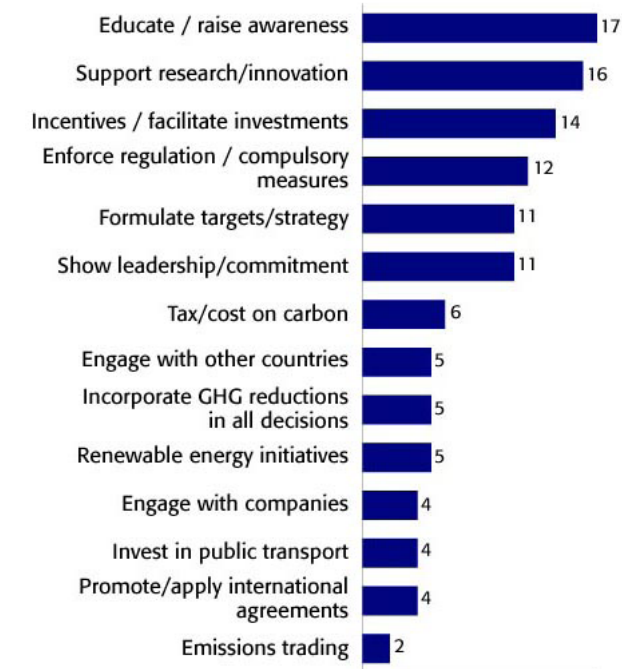
### Global Business Initiative Helping Companies Achieve Climate Change Goals

Unprompted, All Signatories



### Suggested Government Actions to Address Climate Change

Unprompted, All Signatories



\*\*Caring for Climate is a voluntary global business initiative to mobilize the business community to develop solutions which reduce climate risk and create value for the company.

### Advisory

Signatories would like to see Caring for Climate provide more advice (and information) about how to develop climate solutions. This, they suggest, could be done by developing guidelines, or by providing case studies and examples of best practices that members could use to improve their own practices.

#### Selected comments:

- Provide overview of clean energy technology and approaches to members
- Share examples of successful initiatives and the benefits of them
- Make a Climate Change roadmap for the companies that support the initiative
- Inform about good practices or activities carried out by different companies

### Advocacy

Companies suggest that the Caring for Climate initiative should take a more active role in influencing governments and advocating for political action on climate change. Signatories also call for the initiative to help raise public awareness about the climate change issue.

#### Selected comments:

- Lobby governments for increased commitment to reduce emissions
- Promote climate change lobbying at national and international trade associations
- Global involvement with key governments to push GHG reduction
- Public awareness campaigns

### Authority

Signatories suggest that Caring for Climate should strengthen its authority by introducing benchmarking and targets, and by monitoring member companies to ensure compliance. This approach is favoured by almost one-quarter of signatories.

#### Selected comments:

- Clearly define goals and priorities for each member organization
- Creating a system of follow-up on implementation of the program by stakeholders
- Follow up - it is too easy to be a member
- Develop suitable monitoring mechanism for gauging the effectiveness
- To establish strict policy to accept organizations aggressive about the issue

In addition, several respondents would like to see the Caring for Climate initiative communicate to reach more companies. Many also ask that the Caring for Climate initiative should engage effectively with similar initiatives. Collaborating more with other initiatives would avoid duplication and help to make the initiative more effective.

### Selected comments:

- Spreading awareness of this initiative and information about its activities
- Work with other groups currently working on this - don't reinvent the wheel
- Better connection with other global initiatives

## 6. NATIONAL POLICY

Signatories indicate the most helpful national government policy approaches include investing in technology, long-term climate planning, encouraging citizens to contribute, and promoting international policy. Fewer signatories find national policy approaches that put a cost on carbon to be helpful.

Signatories also call for national government leadership in addressing climate change, and their active support for developing and implementing climate solutions. Some would like to see governments focus on regulation and compliance enforcement. Most signatories also stress the need for governments to develop education and awareness-raising activities to address climate change.

### 6.1 HELPFUL NATIONAL GOVERNMENT POLICIES (RATED)

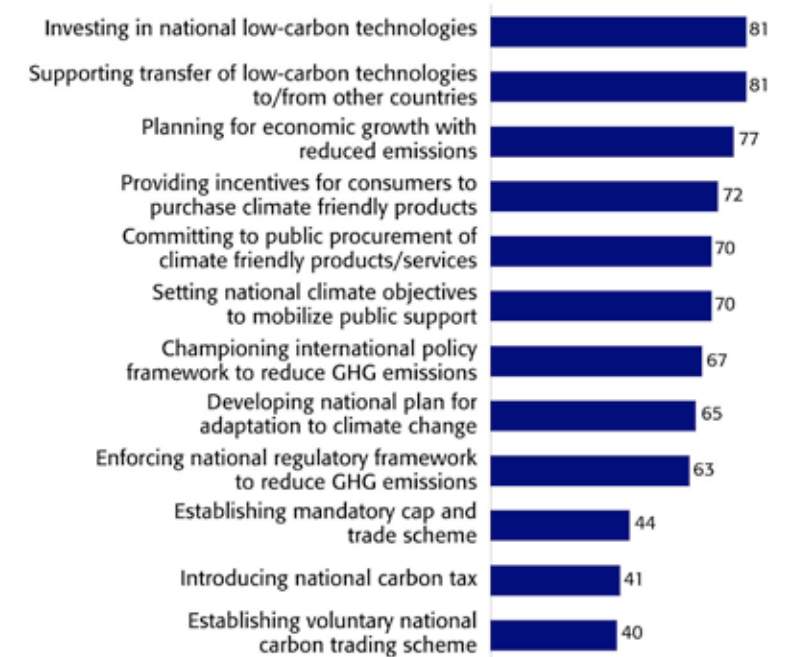
#### Investing in technology

When asked to rate the helpfulness of a range of national policy approaches in terms of assisting companies in achieving their climate change objectives, signatories agree that technology is a key policy area. Eight in ten respondents say that governments investing in national low-carbon technologies, [for example procurement of existing technologies, or funding for research and development of new technologies], would help companies and one-third of respondents would find this policy approach 'extremely helpful.' Eight in ten signatories also believe that governments supporting the transfer of low-carbon technologies to or from other countries would be helpful, with one-quarter of respondents rating such a policy as 'extremely helpful.'

Some champions emphasize the role of public-private partnerships, as governments may be able to fund risky or long-term innovative projects, or cutting-edge research, that would otherwise be unviable from a business perspective. Other champions point to tax incentives as a way to encourage initiatives, through preferential treatment or deductions for innovative companies, or as an incentive for consumers who find the current pay-back on energy-efficient products too long-term.

### Helpfulness of National Government Policies

"Helpful,"\* All Signatories



\*7 to 10 on a scale from 1 to 10, where 1 means "not at all helpful," and 10 means "extremely helpful."

### Long-term planning

Signatories also agree that governments taking a long-term approach to climate change would help companies. Three-quarters of respondents believe that governments planning for economic growth with reduced emissions would help companies achieve their climate change objectives, and around seven in ten call for governments to commit to public procurement of climate friendly products and services. Part of a long-term approach, respondents also believe it would be helpful if governments set national climate objectives to mobilize public support.

Some champions also emphasize the need for gradual change through medium to long-term planning. Particularly in developing countries, time is needed to change mindsets and business models to become more sustainable, and measures may need to be taken by governments to counter negative effects on employment or increased poverty.

### Encouraging citizens

Governments can also encourage the public to contribute to the climate agenda by providing incentives for consumers to purchase climate friendly products, something that seven in ten signatories say they would help companies achieve their climate change objectives. One-quarter of signatories would find this policy ‘extremely helpful.’

Champions also suggest governments could provide the necessary information, educating consumers about simple steps that we all can take together to make a difference; they could also provide companies with toolkits and standard methods on how to create a greenhouse gas inventory, etc., to facilitate the integration of a global carbon market in the future. Governments may also offer audits to companies that do not have the capacity to map their emissions internally. In order to facilitate the sharing of information between companies, governments could also take on the task of convening companies to discuss and share best practices.

### International policy

Signatories are also supportive of governments promoting an international policy framework to reduce GHG emissions and enforcing national regulatory frameworks; around two-thirds of respondents find these approaches helpful and around one-quarter believe it would be ‘very helpful.’

### Costing Carbon

Fewer signatories find national policy approaches that put a cost on carbon to be helpful; only around four in ten respondents believe that introducing a national carbon tax or that mandatory or voluntary trading schemes would assist companies in reducing emissions.

In order to let the market steer reductions to where they can be made most cheaply, several champions call for the introduction of a cost on carbon — noting the importance of governments ensuring predictability and maturity of any future global carbon market.

More broadly, in terms of most effective national government policy approaches, champions point to the need for governments to strike the right balance between a market-based cap and trade approach and a government-imposed tax on carbon. While a few champions prefer a purely market-based approach (noting that a tax may lead to distortions), most recognize the need to complement a cap and trade system with a carbon tax to ensure that companies will act on the issue. Most champions also agree the approach needs to be mandatory rather than voluntary; a voluntary approach is no longer thought to be credible as it has not been effective in the past. However, one champion warns that a too prescriptive approach by government will most likely lead to distortions.

#### Selected comments:

- **Overall, governments should support long-term research into new [climate] solutions, to make them more cost effective. There are lots of ideas on doing things differently, but they don’t compete well with old technologies that are now cheap**
- **Within the country we need leadership. We need to create right framework conditions, through public policy. We need market intervention - countries need to operate a carbon tax or some kind of carbon trading system. We need to put a price on carbon. Without that, the market won’t operate properly**
- **Climate change is a complex issue and the “policy mix” required to enact change may vary greatly from situation to situation. Depending on the immediate challenge at hand, and the local context, any of the above efforts may be of great use in helping us create a low-carbon economy**
- **We strongly believe that business can deliver economic development whilst reducing GHG emissions. Implementing renewable technologies and developing new business centred on GHG reductions will provide employment and other benefits, and examples in the health sector are numerous**

### 6.2 HELPFUL NATIONAL GOVERNMENT POLICIES (UNPROMPTED)

When asked to suggest other actions that national governments should take to help address climate

change, signatories bring forward proposals in a number of different areas:

#### Providing leadership

Signatories call for governments to engage in addressing climate change, and to lead the way by setting clear national targets and strategies for reduced emissions. Governments should also show leadership on climate change through their international engagement, support for international frameworks, and cooperation and assistance with other countries to address climate change.

#### Selected comments:

- **Show leadership - practice what you preach in all areas**
- **Be more courageous in addressing public transportation and heating issues**
- **Introduce strict medium and longer term emission reduction targets**
- **Participate and drive international binding agreements on climate change**

#### Supporting solutions

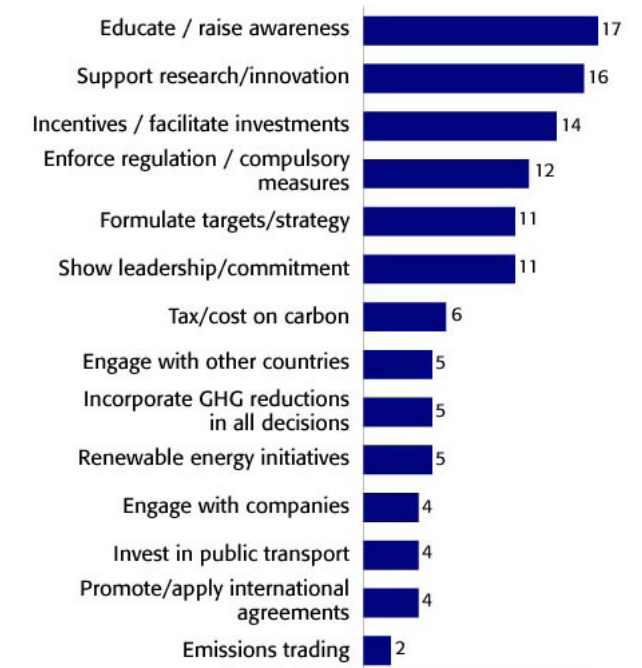
Signatories recommend that governments actively support the development and implementation of climate solutions. They should support the development of solutions, by funding research and by providing financial incentives to stimulate corporate initiatives and consumer demand for climate friendly products. They should also support implementation by investing in renewable energy and public transportation, and by ensuring that GHG reductions are incorporated into all government decisions.

#### Selected comments:

- **Supporting innovation and investment in low carbon technologies and products**
- **Funding and supporting innovative solutions that address climate change issues**
- **Mega boost to research and education to investigate new technologies**
- **Create a pro investments milieu (regulatory framework, bureaucratic simplification)**
- **Tax incentives for investments in more eco-efficient technologies**
- **Offer incentives to stimulate technological development**
- **Increasing the quota of renewable energy in the portfolio**
- **Providing a better mass transit infrastructure**
- **Incorporate carbon emissions in purchasing policies**

### Suggested Government Actions to Address Climate Change

Unprompted, All Signatories



#### Regulating and enforcing

Some signatories would like to see governments focus on regulatory frameworks to address climate change, and on enforcing compliance. A number of signatories also urge governments to put a cost on carbon either by taxation or by creating a trading scheme, and to eliminate subsidies that sustain the current energy regime.

Regulations, such as new building codes or requirements for energy labelling, are also called for by several champions; although, they state, these regulations should come with incentives rather than just restrictions.

#### Selected comments:

- **Executing high fines to factories who produce high carbon emissions**
- **Energy Audit should be made compulsory for high energy intensive industry**
- **Strengthen the implementation of current environmental regulations**
- **Tax goods from countries that do not make commitments to reduce GHG**
- **Eliminate subsidies and establish market prices for energy products**

### Educating and raising awareness

Signatories urge governments to address climate change through education and awareness-raising. This may be especially important in countries where awareness about climate change is low, and where companies struggle to achieve their climate objectives amid a lack of understanding from customers and suppliers.

#### Selected comments:

- Address climate change in kindergarten and schools
- Implement different measures to educate consumers and change consumption habits
- Increase people's knowledge on climate change issues

### Local context\*\*\*

Government policy approaches should also be adjusted to the local context, according to champions. Several mention the need to take into account local conditions, such as levels of development. One champion notes that in countries like India policy goals should first focus on intensity rather than reduction, to allow further economic growth. Another champion observes that targets need to be relative rather than absolute, again to account for differences between countries.

When asked if they believe business can contribute to economic development while stabilizing or reducing greenhouse gases, champions agree this is possible – although some note that it is more difficult in developing countries where incentives are lacking for many companies.

## 7. INTERNATIONAL POLICY

Signatories recommend that governments meeting to finalize the post-Kyoto agreement in December 2009 should ensure universal participation by developed and developing nations, as well as the United States. The governments should provide visionary leadership by actively ensuring they reach an agreement, and setting GHG reduction targets even if compromise is required. They should also establish workable mechanisms to help nations meet targets, along with incentives for business.

Similarly, signatories believe the most important outcomes from a post-Kyoto agreement will be participation by all major GHG emitters, and financial mechanisms that support reductions in developing countries. Other important outcomes will be broad consensus on emission targets, a cap-and-trade system that includes developed and developing countries, and an agreement to mobilize business by sector.

### 7.1 RECOMMENDATIONS TO GOVERNMENTS FINALIZING A POST-KYOTO AGREEMENT

When asked what recommendations signatories would make to the governments that meet at the UN Climate Change Conference in December 2009 in Copenhagen to finalize a post-Kyoto agreement, respondents offer suggestions in three main areas:

#### Ensure universal participation

Signatories call for an agreement to include all countries, with mechanisms that support reductions in developing countries. Respondents note that the inclusion of all countries will require differences between developed and developing nations to be recognized and reflected in an agreement. India and China,

in particular, should be secured to participate in the initiative. Signatories also stress the necessity for the United States to participate in a post-Kyoto agreement.

Similarly, champions recommend that governments agree on reachable targets for reductions, ensuring broad agreement among all major economies. Several champions note that differences between countries need to be recognized, and that developing country agendas must include other priorities, such as development and poverty reduction.

#### Selected comments:

- There is a need to understand poverty in the developing world first hand

- Marrying development and growth with climate change mitigation
- Common but differentiated responsibility is the starting point
- Try to engage all the major GHG emitters in the new targets
- Developing countries should take proactive role to join post-Kyoto agreement
- It is compulsory that the USA should sign the Kyoto agreement

### Provide visionary leadership

Signatories urge governments to actively ensure that they reach an agreement and set GHG reduction targets, even when that requires compromises. Signatories call on governments to secure consensus, which will require their flexibility and vision beyond national agendas. They also urge governments to show commitment to fighting climate change, by acting quickly and substantially to implement the agreement.

While some champions recommend that the process run faster because there is no time to lose on climate change, one champion warns that governments must also allow themselves enough time to find the right solutions the first time round. One champion also calls for leadership from the United States on climate change.

#### Selected comments:

- Don't leave until enforced targets are agreed on
- Need to view this as a deadline for long-term global GHG reduction action plan
- Ambition - make a agreement that is strong and ambitious enough
- Prepare for debate and compromise to gain common ground

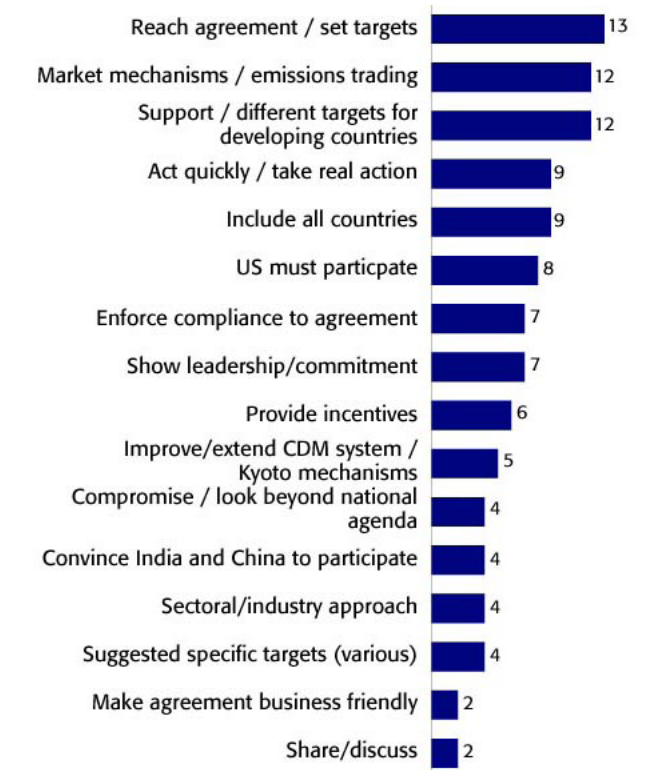
### Establish workable mechanisms

Signatories recommend that governments agree on workable mechanisms to help states meet their targets, with incentives for business to move in the right direction. Respondents suggest governments agree on an emissions trading scheme, or other market-oriented mechanisms. A few respondents suggest these mechanisms ought to work at a sector or industry-specific level. Other signatories would like the Kyoto mechanisms, in particular the Clean Development Mechanism, to be improved or extended.

Champions in particular recommend workable financial mechanisms that will actually achieve reductions, as well as funding mechanisms to help

### Recommendations to Governments Finalizing a Post-Kyoto Agreement

Unprompted, All Signatories



developing countries adapt to climate change.

#### Selected comments:

- Harness the power of global markets and purchasing power to drive businesses
- Support market mechanisms that will help drive the best/most economical solution
- Provide incentives to the industries for adoption of low-carbon technologies

### 7.2 IMPORTANT OUTCOMES FROM POST-KYOTO AGREEMENT

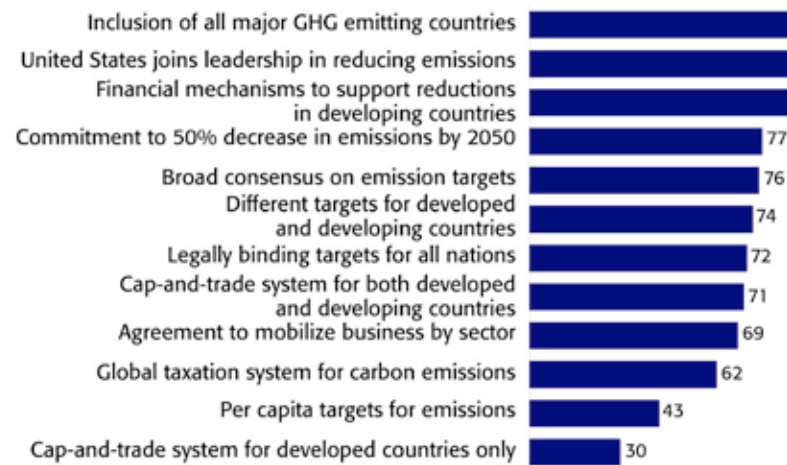
#### Participation by emitters

When asked to rate a selection of possible outcomes from a post-Kyoto agreement, signatories stressed the importance of participation by all major GHG emitting countries and the United States in particular. More than half the respondents say it is 'absolutely critical' that all GHG emitting countries are included,

\*\*\* This section comes from the Champions. It is presented here for additional information

### Importance of Possible Outcomes from Post-Kyoto Agreement

"Important,"\* All Signatories



\*7 to 10 on a scale where 1 is "not at all important" and 10 is "absolutely critical."

and that the United States takes up a leadership role. Seven in ten believe these outcomes to be 'very important' (9 and 10 on a scale where 1 is 'not at all important' and 10 is 'absolutely critical').

#### Financial mechanisms

The inclusion of all countries in the climate agenda requires financial mechanisms that support reductions in developing countries, according to signatories. Half of respondents view the creation of such mechanisms to be a 'very important' outcome from a post-Kyoto agreement. Four in ten also believe different targets for developed and developing countries to be a 'very important' outcome of an agreement. Around one-quarter, each, think both outcomes are 'absolutely critical.' However, fewer signatories support per capita targets for emissions — an outcome favoured by those who believe developing countries should be able to increase absolute emissions, as long as per capita emissions are restricted.

#### Consensus on targets

Signatories also prioritize broad consensus on emission targets, and call for legally binding targets for all nations; both outcomes are thought to be 'very important' by just under half of respondents. Half of respondents also believe that commitment to a 50 percent decrease in emissions by 2050 (compared to 1990 levels) is 'very important'; one-third of respon-

dents believe commitment to this target is 'absolutely critical.'

#### Cap and trade

A cap-and-trade system, that includes both developed and developing countries, is considered a 'very important' outcome from a post-Kyoto agreement by three in ten signatories, although only one in ten believes this outcome is 'absolutely critical.' However, fewer signatories support a cap-and-trade system for developed countries only. Three in ten respondents also support the creation of a global taxation system for carbon emissions in saying this outcome is 'very important'.

#### Business mobilized

One-third of signatories also believe that an agreement to mobilize business by sector would be a 'very important' outcome of a post-Kyoto agreement.

“Governments should provide visionary leadership by actively ensuring they reach an agreement, and setting GHG reduction targets even if compromise is required.”

## Appendix 1: Climate Champions interviewed

Company	Country	Sector
ARAMEX PJSC	Jordan	Transportation & Storage
Areva	France	Utilities
Asia Pacific Resources International Holdings Limited	Singapore	Paper & Forestry Product
Bayer AG	Germany	Chemicals
Broad Air Conditioning	China	Technology Hardware & Electrical Equipment
China Mobile Communications Corporation	Singapore	Telecommunications
CPFL Energia SA	Brazil	Utilities
DONG Energy a/s	Denmark	Utilities
DuPont	United States of America	Chemicals
ESKOM	South Africa	Utilities
Fuji Xerox Company Ltd.	Japan	Technology Hardware & Electrical Equipment
Koninklijke Philips Electronics N.V.	Netherlands	Technology Hardware & Electrical Equipment
Sasol Ltd.	South Africa	Chemicals
Statoil ASA	Norway	Oil & Gas
Tata Steel	India	Metals & Mining
The Dow Chemical Company	United States of America	Chemicals
United Company RUSAL	Russian Federation	Metals & Mining
Veolia Environnement	France	Environmental Services
Westpac Banking Corporation	Australia	Finance & Insurance

## Appendix 2: Climate Success Stories

When asked to speak about initiatives by their companies that they considered most successful toward reducing greenhouse gases, champions offered the following stories. All are willing to share them with other companies, and for their company's name to be associated with their story in the UN Global Compact's report, although one requested a chance to review the entry before publication. The following stories include global, national, and local efforts; they are presented by sector: chemical, energy, and other.

### CHEMICAL

#### Bayer acts to innovate

Bayer AG, the German-based global enterprise, is looking for unique and innovative ways to address climate change through its new Bayer Climate Program. The program is scheduled to run for several years and brings together the wide-ranging areas of expertise of Bayer AG's subgroups and service companies, which specialize in health care, nutrition and high-tech materials.

Launched in 2007, the program has already initiated several "lighthouse" projects that provide examples of tackling the consequences of climate change and supporting climate protection. In developing the Bayer Climate Program, the company also developed a new climate policy and set new reduction goals.

New and unique approaches to protecting the climate and dealing with climate change include the Bayer Climate Check, a new control instrument for energy-efficient and climate-friendly production. This comprehensive tool enables the company to systematically evaluate its production plants throughout the world, as well as its capital investment and technology projects in terms of their climate relevance. The tool also analyzes what effect the raw materials used by Bayer have on GHG emissions, whether the chosen form of energy really is the best, and how CO<sub>2</sub>-intensive the logistics are.

Another lighthouse project is the first "EcoCommercial Building," a concept for zero-emission industrial and office buildings that is suitable for all the Earth's climate zones. Between now and 2010 Bayer will be investing one billion euros in these and other climate protection projects. The company also contributes to the discussion of how to avoid the conflict between food and biofuel, by looking for a plant that is rich in fuel and can be planted in dry areas but that cannot be used for food.

Bayer's Manfred Marsmann told GlobeScan that "we asked ourselves if we should do more, and in a more stringent way... the result is we want to do more than just broad best practices: we completely adjusted our architecture." Marsmann told GlobeScan that Bayer AG is looking for best practices that are specific and unique, "more than the usual examples, initiatives that make the company a forerunner and a leader in addressing climate change."

#### Dow cuts intensity by 20 percent

Dow, the US-based chemical company, successfully reduced the energy intensity of its processes by more than 20 percent after setting this as a goal in 1995. Even though Dow did not set a goal to reduce greenhouse gases, the company's GHG emissions, on an absolute basis, also went down by 20 percent in the same timeframe - in large part because of the energy intensity improvement effort.

When the goal to reduce energy intensity was set in 1995, it was a public commitment to sustainability. At that time, energy costs were lower and the rationale for increasing energy efficiency was not to save money. The commitment originated from the very top of the company and was presented in a public press conference in New York. The commitment included a collection of goals set around uses of raw materials, uses of energy, environmental performance, and safety performance.

Dow's Rich Wells told GlobeScan that when setting the goal to reduce energy intensity, the company did not know how it was going to be achieved. Dow recommends businesses set aspirational goals and then use the power of the organization to work on them. To reach the goal, the company identified opportunities for reductions and invented management systems that put the operating discipline in place.

"We got a bit more intelligent, we leveraged, and low and behold when it was all said and done we were able to lower our energy intensity of our company by 22 percent by 2005," Wells comments. "I was amazed to see how easy it really it was for us to obtain - and how much opportunity was out there and how easy it was to rally the troops to get it done."

In 2005, Dow set its new 2015 Sustainability Goals: a public commitment to save 25 percent in energy intensity and 25 percent in greenhouse gas emission intensity in the same timeframe. As a complementary policy, Dow is putting a cost on CO<sub>2</sub> emissions and is now asking businesses to cost in the price of CO<sub>2</sub> when doing analyses of new projects. This purely economic evaluation is done in anticipation of a real cost of CO<sub>2</sub>, that will make reduced emissions an economic decision as well as a commitment to sustainability.

### DuPont site slashes consumption

DuPont, the US-based chemical company, reduced emissions at one of its largest plants by cutting energy consumption during a six-year program. The company's Sabine River Works site in Texas slashed its energy consumption by 20 percent in 2006 compared with 2000 levels, saving enough natural gas to heat some 257,000 American homes for one year. Using less energy, the site produced lower-cost products and became a more financially secure local employer.

Meanwhile, the site's reduced energy consumption also brought reduced greenhouse gas emissions equivalent to 276,000 mid-sized cars being taken off the road, according to DuPont. The site reduced its greenhouse gas emissions by 1507 million tons per year, totaling 25,000 BTUs over the period. And the reduced consumption also led to savings of \$101 million. By 2007, the sites reduced energy costs saved \$33 million per year, and by 2008, savings increased further as energy prices increased.

The Sabine River Works initiative began in 2000, when the site renewed its commitment to reduce energy costs, sparking decentralized programs that were easily identifiable and inexpensive to implement. When the easy energy reductions were in place, site and area leaders established a centralized program that used Six Sigma to implement non-capital projects for saving energy. DuPont consultants conducted an energy assessment to identify new opportunities, and the U.S. Department of Energy (DOE) carried out an independent assessment. A total of more than 55 projects were undertaken.

DuPont's Dawn Rittenhouse told GlobeScan that driving growth and reducing costs was a balancing act. The site's success was partly due to the leadership of the plant manager, who insisted that reducing energy and meeting emission goals were keys to progress. DuPont, a company that claims to "put science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere," aims to source 10% of all its energy from renewables.

"If you reduce emissions through reduced energy use, there's probably an economic benefit, and especially in a country implementing Kyoto," Rittenhouse observed. "Now there's starting to be an international cost to carbon, so it is good to stay ahead of the trend. Not least, it is increasingly important to reputation and customers." Incentives are not dissimilar for companies operating in emerging economies, suggested Rittenhouse. "If you are exporting to another country, especially to the European Union, reducing emissions allows you to work with leading retailers and electronics companies, and offers a way to gain share with key customers."

## ENERGY

### Areva has permanent reductions plan

Areva, the French energy company, has a permanent plan in place to reduce emissions and compensates remaining emissions through the use of carbon credits.

The company's policy is to reduce its GHG emissions as much as reasonably possible, and it has a target of reducing its energy consumption by a few percent each year to reduce the corresponding CO2 emissions. Areva's main target is to reduce its SF6 (Sulfur Hexafluoride, a highly potent GHG) emissions, and the direct emissions of SF6 during the manufacturing of SF6 loaded T&D equipment have already been reduced by 15 percent. The company is also conducting studies in order to limit the N2O (Nitrous Oxide, a major GHG) emissions of some of its facilities. In addition, Areva has introduced a systematic analysis of the GHG emissions consequences (positive or negative) in its investment review process.

Areva's plan began with strong commitment from the chairperson to become carbon neutral. The first step toward this goal was to reduce the company's own emissions, a challenge for a company that is growing quickly and last year recruited over 10,000 new employees. In order to contain its emissions year after year as the company's activities increase, Areva has developed a plan and dedicated a team to the challenging task of implementing it throughout the 43 countries where the company operates.

The company voluntarily compensates for its remaining emissions through the purchase of carbon credits. In doing so, the company gives priority to projects that facilitate development in emerging countries, such as Niger and India. Areva only acquires credits from projects in emerging economies that third parties deem responsible and sustainable, and that are considered relevant.

Areva's Laurent Corbier admits that there can be tensions between business and climate responsibilities and notes the importance of executives at corporate level discussing implementation with those at the operational level. He notes that there is a need for knowledge and awareness at every level, as decisions are not all obvious and may meet resistance on the operational side when involving, for example, costly changes of equipment (as was the case when changing the process at Areva's N2O gas plant).

"We make sure in the review of one investment, that several alternatives are presented and viable" he comments, although "some things are not negotiable" and some reductions have to be made with support from the leadership. Corbier observes that it is preferable not to reach that stage, as "discussion helps to find the best alternative and get ownership."

### CPFL modernizes hydro plants

CPFL Energia, the electric energy company based in Brazil, introduced a program to "repower" its small plants. The restoration or installation of new turbines, peripheral equipment, and automated systems in its small plants will result in the reduction of 921,000 tons of CO2 from 2003 to 2023.

Starting in 2003, CPFL Energia has now repowered 30 of its small plants through the launch of its Repowerment of Small Hydroelectric Plants Program. In 2006, the first part of the program was finished, and the plants now generate an average of 12 kW of energy per km inundated instead of 0.7 kW of energy per km inundated. In order to sell carbon credits, Kyoto calls for 10 kW of energy per km inundated; in 2006, the successful implementation of the first part of the repowerment initiative qualified the company to obtain credits through the Clean Development Mechanism.

CPFL Energia's CEO has driven the sustainability agenda though a very advanced attitude to business and sustainability, stating that "today sustainability is a choice and soon it will be market survival."

CPFL Energia's Henrique Lian told GlobeScan that the company also has opened a cultural centre where issues like climate change can be discussed. The initiative has brought scientists, such as Prof. Carlos Nobre of the IPCC, to talk to the company and to the community and has provided series where journalists talk to common citizens about what they can do in their house and neighbourhood to help minimize the effect of climate change.

### DONG develops renewables

DONG Energy, a large energy company based in Denmark, is addressing the climate challenge by investing in renewable energy, such as water, wind, sun, biomass, and geothermal energy. Today, DONG Energy is one of Europe's leading wind power generators, with more than 16 years of experience in building and running offshore wind farms.

DONG Energy recognizes that as an energy company involved in power and heat generation from coal and other fossil fuels the company is a co-owner of the CO2 problem and should therefore naturally be part of the solution. Noting that renewable energy is key to reducing CO2 emissions, DONG Energy therefore works to expand energy supplies based on renewable energy sources.

An early player in the wind energy market, DONG Energy has developed strong wind energy capabilities. The company has helped establish half of the world's ten largest offshore wind farms; today, DONG Energy has around 500 MW of wind capacity and more than 1,000 MW in the pipeline, especially in Britain,

Germany, and Poland. In Denmark, DONG Energy's "home" market, the proportion of wind energy is among the greatest of any country in the world.

In Denmark, the development of wind energy production capabilities has received good government support and widespread public support in the 1980s and 90s, despite not being a good business case. At that time, DONG Energy decided it was willing to take some risks and expand its focus away from coal. DONG Energy's Villy Dyhr notes that "it was government support that started this, combined with public participation."

One challenge to the generation of wind power is exporting excess production to other locations, as it requires cables through which local markets can connect to become one big market. Today, the markets are not efficiently connected, and having more cables is an important requirement for expanding the wind energy sector.

Achieving the ability to store wind energy would also be a significant next step. One obvious opportunity would be to develop plug-in hybrid cars that could be charged during the night and drive on a mixture of petrol, bioethanol, and electric power. Another would be to convert the energy to district heating. Villy Dyhr told GlobeScan that in response to this challenge, the company has launched a partnership where they will try to develop the logistics for a grid for electric vehicles.

### Eskom focuses on efficiency

Eskom, the South African public electricity utility, is implementing a multifaceted response to climate change. It includes short- to medium-term initiatives focused on energy efficiency, as well as a diversification of the energy mix in the medium- to long-term, which will result in significant cuts in emissions. Measures to reduce emissions through demand-side management have achieved CO2 emissions savings of 289kt (2006: 271kt).

An increase in the nuclear component, together with more extensive deployment of renewable energy resources, forms the basis for long-term cuts in Eskom's greenhouse gas emissions. Eskom intends to significantly increase the nuclear component of the energy mix to about 25 percent in 2025. The company will also accelerate the deployment of renewable energy technologies, investing in wind, solar, and thermal power.

Eskom is also planning to progressively harness cleaner coal technologies, such as clean coal, capture and storage, and efficient mining. The company recognizes that South Africa will continue to depend on coal in the foreseeable future, as coal makes up most of the existing energy mix and offers the country an

inexpensive and abundant source of energy.

While the company is investing tens of billions of rand in building new power generation, it is including the long term into decision making and is factoring CO2 into the price. Eskom's Dr. Lennon observes that it is difficult to make a business case for Eskom to reduce emissions, but factoring in the value of CO2 helps level the playing field. The company now uses multi-criteria decision-making in investment and does not only look at cost; instead a lifecycle approach looks at the cost risk and includes externalities of environmental and societal costs.

Public perceptions are a major constraint to achieving reductions, according to Dr. Lennon. "It is difficult to get decision makers to approve investment in technology that may be unproven or seen as unreliable," and there is a need for partners who are willing to take this technology risk.

### Sasol converts from coal to natural gas

Based in South Africa, Sasol, the energy company, has implemented a major conversion from coal to natural gas project. The Mozambique Natural Gas Project brings natural gas from Mozambique into the company's Sasolburg plant in South Africa, and has saved 6 million tons of CO2.

The Mozambique Natural Gas Project initiative started in 2001, when Sasol decided to start looking at alternatives to the "business as usual" situation of burning coal as feedstock for facilities. Instead, the company decided to bring in natural gas from Mozambique. The difficulty was that at that time there was no real business case, as natural gas was more expensive than coal. The company also needed pipeline infrastructure, as well as cooperation from Mozambique's government to allow Sasol to explore for gas and to bring it to the plant.

Sasol's Fred Goede told GlobeScan that since there was no business case for the initiative, the project had to be justified to the Board by the prospect of carbon credits. "We knew from Kyoto that there would be carbon credits in the future and that we might qualify."

Despite significant reductions in emissions, the company still has not received credits through the Clean Development Mechanism. The methodology needed to qualify has taken years to develop, and the company is still working on it.

"Luckily for us the price of natural gas makes the project today more of a business case," Goede comments. Despite the stumbling blocks, today the pipeline is in and the natural gas is in the system. The project has now been achieving massive emission reductions for three years.

### StatoilHydro catches and stores emissions

StatoilHydro, the Norwegian energy company, has stored roughly ten million tons of CO2 from natural gas production in the Sleipner field off-shore in an aquifer more than 800 metres below the seabed. This pioneering carbon capture and storage (CCS) project continues to capture one million tons of CO2 a year.

The Sleipner initiative started in 1990 as part of normal planning for this off-shore natural gas installation, when tests showed that the natural gas in the reservoir contained too much CO2. Soon after, the Norwegian government introduced a CO2 tax and the project became commercial. Despite the risk of introducing a new technology, the project was always economically viable and costs have been mainly associated with funding for research.

StatoilHydro's Trude Sundset explained that the decision to develop the technology for carbon capture and storage was "a choice we made, a wish to do something for the environment." This was a decision that "engaged people in the company; we realized how important it would be, that we influenced the world in showing it is possible."

The initiative required the use of new technology, and there were challenges to adjust the design for an off-shore platform. In response to this challenge, StatoilHydro started a research program and was able to apply in-house knowledge to the project. "The company learnt a lot about CO2," Sundset observes.

The reservoir is continuously monitored, with the participation of several national and international research organizations. Data and knowledge gained from the initiative have been shared in a number of articles, and have enabled StatoilHydro to propose guidelines for a legal framework for how carbon storage should be monitored.

## OTHERS

### Aramex transporters adapt fleet

Aramex, a global transportation and logistics services company headquartered in Dubai, is in the process of working with leasing companies to change its fleet to hybrids. In its 2006 Sustainability Report, the first sustainability report issued in the region, the company set the goal to become the first carbon neutral global logistics and transportation company in the world. Introducing hybrids to all fleets is seen as a milestone to reach this objective.

It is the CEO of the company that is driving the decision to convert the fleet. The decision is motivated by the fact that hybrids use half of the fuel required by conventional cars, significantly reducing emissions. Using less fuel also makes economic sense, as costs are also cut by 50 percent. Aramex's Raji Hattar observes that "any initiative you take is usually associated with cost; a hybrid is more expensive to buy but in long term, running cost will go down. In all initiatives there is cost investment, but in [the] long run cost benefits."

Changing the fleet to hybrids is a difficult process; Aramex does not own its vehicles, so the company has to work with leasing companies to reach this objective. Because the price of oil is low in the gulf region, savings on fuel is a less motivating factor, especially as hybrids are still very expensive. Availability of hybrid vehicles is also limited, because it is difficult to convince car dealers that hybrids will sell (or work), and most hybrids are distributed in the US or Europe. Hattar notes that in one instance, it took six months to get four hybrid cars delivered from Toyota.

In addition to introducing hybrids, the company is also transitioning some of its fleet to run on natural gas, which is cheaper than gasoline and produces fewer emissions. Now half of Aramex's fleet in Egypt runs on natural gas. The company is also achieving reduced emissions through route optimization, by sending one vehicle instead of two, and delivery timing optimization. In Dubai, the company also uses waterways for transport.

### BROAD Air Conditioning develops non-electric 'chillers'

Broad Air Conditioning, a company based in China, sells air conditioning units that produce less CO2 emissions than conventional units and are two times as energy efficient. For every kW output, it releases 0.15 kg of CO2, while electrical A/C releases 0.68 kg of CO2 - four times as much.

Known as an absorption chiller, the unit works through "non-electric refrigeration," in which a liquid is heated, boiled and then cooled so the vapours

condense and cool their surroundings. The unit can be fueled by local energy sources such as natural gas, avoiding increasing peak loads on the electricity grid. Zhang Yue, the CEO of Broad Air Conditioning, notes that many provinces in the most populous parts of China experience large-scale blackouts, so non-electrical air conditioning can provide stability in addition to decreasing CO2.

BROAD's non-electric air conditioners were invented in 1992 and have achieved very high energy efficiency through many upgrades. The units are sold in over 60 countries and can be found in many tall buildings and some of the biggest airports in Europe and Asia.

Nevertheless, Mr. Zhang observes that he is "far from content with the product penetration, for most of the owners and building and facility engineers are still not aware of non-electric air conditioning. They are accustomed to selecting electric chillers for over one hundred years. The promotion of non-electric chillers is still quite difficult, except for those customers who are able to see further down the road."

In recent years, the annual sales of BROAD non-electric air conditioning have contributed to reduced CO2 emissions equivalent to 160 million trees planted. "That is to say, 80,000 trees for every BROAD employee every year, which really makes us proud," notes Mr. Zhang.

### China Mobile improves network efficiency

China Mobile, a telecommunications company, works continuously to increase network efficiency as a key way to reduce their climate impact. Increasing network efficiency is a part of the company's Green Action Plan, which aims to increase energy efficiency (per unit of telecommunications traffic) by 40 percent by 2010 compared to 2005 levels and prevent the emission of over 6.8 million tons of CO2.

Network equipment is the most energy intensive component of China Mobile's business and the company's largest source of carbon emissions. The company plans to reduce energy use of their network equipment through standardizing requirements for auxiliary parts and for the structures within the base stations. China Mobile is encouraging its suppliers to reduce the amount of energy used for each carrier frequency by designing products that reduce materials used, require less energy, and can be manufactured more simply.

China Mobile has implemented technical innovations in its network equipment to reduce energy use, and has conducted environmental and energy assessments for its wireless equipment, switches, trans-

mitters, and small-scale servers. For auxiliary components, the company has implemented integrated systems management for its equipment rooms, power system improvements that shut off power automatically when not in use, lighting system improvements, energy saving improvements to air conditioning, and other energy saving methods. In addition, China Mobile has reduced energy use by using IP technologies to communicate data electronically, reducing the materials used in network equipment and reducing the weight of network equipment.

"In 2007, we focused our efforts on our most energy-intensive base stations. We developed, patented, and implemented cutting-edge energy-saving technology and created a new standard policy, 'China Mobile Base Station Energy Conservation Technical Protocols,' which has been integrated into our centralized purchasing and bidding system. In addition, we are currently using 1,109 sets of 'Intelligent Base Station Heat Exchange Systems' and have implemented 2,523 'Intelligent Ventilation Energy Saving Systems,'" notes China Mobile's CEO. "Based on initial calculations, these systems have helped us reduce energy by 7 million kWh."

### Fuji Xerox makes production and recycling more efficient

Fuji Xerox, the office products company based in Japan, is developing products that are energy efficient and recyclable. Between 1997 and 2007, the company reduced the energy usage of its machines by half, while also achieving a 50 percent reduction in cost. After several years of innovation and persistence, the company also managed to make the recycling of its products profitable.

Despite an increase in the number of Fuji Xerox machines (the population of machines has increased 1.5 times) the company has reduced energy by 17 percent. The company has designed new energy saving technologies that allow the fusing of toner onto paper at lower temperatures, and has reduced the size and weight of machines to reduce the quantity of materials used to build the machine. Fuji Xerox has also made a significant contribution of ideas and technologies, obtaining over 200 patents to make recycling of machines and cartridges economically viable. In recognition of its efforts to save energy, the company has been awarded the METI (Government) Energy Award for nine consecutive years.

Fuji Xerox began its environmental engagement in the early 1990s: in 1991 the company established a basic environmental policy, and in 1994 it created a Year 2000 Vision that declared the company would become a world leader in environmental contribution. Fuji Xerox set a target of implementing the "three Rs"

of reduce, reuse, and recycle, and started to focus on developing energy saving technology. The company started to gather machines for recycling in 1993, and launched its recycling system in 1995, changing the designs of machines to make recycling easier.

In the beginning, the company experienced losses with its recycling program, as recycling cost more than buying new parts and building new machines. To finally become profitable after eight years, Fuji Xerox's Toshio Arima explains that the company needed a clear policy that this was the way it needed to move. "We really worked to make this socially good thing become economically viable, through many new ideas and technologies and schemes throughout the gathering process, logistics and transport, breaking down machines... creating a three-generations design where one component can be used in [the] next generation product." Today, the company is establishing its recycling process in other Asian countries where it operates.

The effort to reduce the power consumption of Fuji Xerox's machines was also challenging in terms of achieving economic viability. Arima observes that the common perception among engineers was that if they used materials for better fusing, the cost would go up. The top management, however, had the vision and perception to recognize that environmental concerns and recycling was an upcoming trend. "We had to make our policy very strong and clear that this is the way we will go — and you guys have to work on this."

### Philips Electronics replaces lighting

Royal Philips Electronics, a producer of energy-efficient lighting based in the Netherlands, is working actively for legislation that will cause the incandescent lamp to be replaced by more efficient lighting solutions available today. The company maintains that a successful switch-over would make a significant contribution to addressing climate change, as 80 percent of all lighting in the home is still using incandescent light bulbs that wastes 95 percent of energy as heat.

In a press release, Royal Philips Electronics notes that today a large number of alternatives for the incandescent light bulb exist; the company offers a new generation of high-quality Compact Fluorescent lamps and a new generation of energy-saving Halogen retrofit light bulbs, which offer 50 percent energy savings compared to incandescent lamps. In addition, new LED lighting technologies offer promise of even greater energy savings in the future.

Royal Philips Electronics has been lobbying actively in Europe to legislate the phasing out of incandescent light bulbs, observing that a switch would support the EU's new energy efficiency plan to achieve 20 percent savings by 2020. Legislation has already been intro-

duced in Australia and in the state of California, and now the EU Commission is also working on it.

De Bruin notes that the switch needs to be done mainly in office and street lighting. "Interestingly, for street lighting the owner is usually the government, so this is a real 'practice what you preach' story: most governments want to reduce CO2 emissions, but they also need to purchase street lighting - in most cities around the world street lighting is a technology 30 years or older, so it's a real business case for us and we have great solutions there. We could easily save on a global level 160 billion euros in cost savings, and it's a tremendous amount of CO2 that we could reduce."

### UC RUSAL develops new technologies

UC RUSAL, the aluminum and alumina producer based in Russia, adopted the "Paving the Way to a Safer World" strategy in 2007 as part of an initiative to minimize the risk of climate change. The company currently invests US\$100 million in R&D annually to improve energy efficiency, and will have invested over US\$10 billion into new projects and the modernization of current production capacities over the next three years.

The company is developing and implementing several energy-efficient reduction technologies at its production sites, and will also be able to reduce direct greenhouse gas emissions by 50 percent across its smelters through the introduction of environmentally friendly technologies and modernization of existing smelters. In addition, the company uses hydropower as a clean energy source to satisfy 80 percent of its energy demand for aluminum production.

UC RUSAL became the first Russian company to complete the monitoring and analysis of greenhouse gas emissions, and as part of its environmental strategy the company emphasizes compliance with environmental legislation and modern standards. All aluminum smelters and 7 alumina refineries are certified in line with ISO 14001 (environmental management), and an integrated corporate management system is being established for the management of environmental issues and risks.

The company has also signed a memorandum with United Nations Development Program regarding a preparatory project designed to accelerate greenhouse gas emissions reduction efforts among industrial companies, and participates in international initiatives, such as UN Global Compact.

UC RUSAL's Vera Kurochkina told GlobeScan that there has been no difficulty implementing the strategy, and that the government has been supportive of the effort.

On its website, the company writes that "UC RUSAL places great emphasis on assessing the impact its

activities have on the environment; the safeguarding of nature reserves; environmental awareness, and cooperation with the communities within its operational regions."

### Tata Steel saves energy and cuts emissions

Tata Steel, based in India, reduced the energy consumption of its steel production from 12 to 6.5 gigacalories per ton of liquid steel over 30 years, and plans to bring it to 5.5 in the next four years. The company has set a vision to reduce CO2 emissions from 1.8 to 1.5 tons by 2012.

As part of the company's continuous effort to reduce energy, an intensive energy saving campaign achieved a drop from 45.39 G. Joules/ton to 29.52 G. Joules/ ton of crude steel between 2003 and 2004. Initiatives of the campaign included modernization of plant and machinery, use of fuel substitutes, recovery and re-use of by-products, as well as retirement of old units.

Tata Steel's effort to improve the energy efficiency of its production process originated during the world oil crisis in 1973-74. At that time, the company's energy consumption was high and ever since there has been a continuous effort in the company to reduce usage. By 1985, energy consumption was brought from 12 to 10 gigacalories per ton of liquid steel; by 1995 it was brought to less than 9 and by 2005 to less than 7. Now it is 6.5 gigacalories per ton of liquid steel; in next four years the company will bring it to 5.5.

Muthuraman of Tata Steel told GlobeScan that the company plans to achieve further reductions in CO2 emissions by installing 13 new projects between now and 2011. These are capital projects in various areas, such as iron making and steel making. "In 2008, we said we must have a vision for next 5 years. We sat down and made that vision; we set goals," Muthuraman explains. "We have cascaded to all departments: sites in India, UK, Netherlands, South East Asia, etc. I am talking 13 projects in India."

"There has been no resistance to this; the goals have been accepted," Muthuraman continues. "These cost money but there are returns to the business. We would still implement it anyway. There have been no difficulties; it is our vision."

### Veolia heats town with renewable energy

Since Veolia was contracted to manage the district heating network in Vénissieux, France, the company has upgraded the facilities, saved costs, and protected the environment.

By switching its boiler plant in 2001 from high viscosity heating oil to renewable energy—animal fat, wood and cogeneration—risks in consumer energy

bills were halted. Since then, the Vénissieux boiler plant's improved energy mix helped reduce energy costs and cut pollution emissions. In 2002, Veolia Energy replaced 16% of the heating oil used to fire the boiler with an original form of renewable energy: animal fat. This switch led to savings of 6,880 metric tons of CO2 right from the first year. In 2006, Veolia Energy optimized the boiler plant's energy mix by building a wood-fired boiler, which now supplies 15% of the energy, and a gas-fired cogeneration plant that supplies 42% of the energy mix. As a result, CO2 emissions have been cut by 19,700 metric tons, dust particles by 30%, and sulfur dioxide by 44%.

A total of €6 million was invested to replace part of the energy generated from heating oil with energy generated from wood. As a source of energy, wood has high environmental qualities: a biomass product, unlike fossil fuel energy, wood is a renewable source of energy. Further, its use is carbon neutral. The medium-term goal is to raise the share of renewable energy from 15% to 35% by increasing the amount of energy supplied from wood.

The cost of the installation (wood boiler and cogeneration plant) amounted to €14 million; by 2006, it generated revenue of €9 million. Since 2002, the cost per kWh has increased at a slower pace than if energy derived from fossil fuels alone had been used. Also, the price of hot water has stabilized below what it would have been had the energy sources not been diversified.

As Veolia's Muriel Voisin explains, the company's integrated management systems are designed so that all its activities may contribute to reducing emissions. "Our business model is to contribute to reducing emissions by trading emissions and capturing carbon. We measure greenhouse gas emissions that come directly and indirectly from our activities, so that we also avoid emissions for the client."

In a statement to GlobeScan, Veolia adds "The company puts great emphasis on raising customer awareness of the impact of their consumption on the environment in order to encourage them to adapt their behaviour in favour of sustainable development and responsible consumption and to enable customers to increase energy efficiency and lower energy and water bill."

"Management of the GHG emissions enables us to broaden the scope of our energy efficiency and carbon services."

### Westpac reduces carbon footprint

Westpac, an Australian bank, has reduced its carbon footprint by reducing emissions, largely from premises and paper use, by around 45 percent since 1996. The company has also been an early leader in supply chain management, and has put all its core suppliers through the sustainability system of which carbon is a key piece.

The company looked intensely at its supply chain to manage significant reductions in paper use, and introduced advanced technology, such as automatic lighting systems and movement sensors in new buildings, to reduce energy consumption. "It's a boring story in a way, but you can get very significant reductions by doing relatively straightforward things," notes Westpac's Noel Purcell.

One of the initiatives, launched in 2004, is "The Great Paper Challenge." Westpac looked at its extensive use of paper across the company, looked at the supply chain intensely, and managed very significant reductions in paper use. The initiative was then extended into the wider community, offering the 1.9 million customers who use Westpac's internet banking services to receive their statements on-line through the company's 'e-statements' initiative. Apart from significantly cutting paper consumption and the resulting greenhouse gas emissions, the initiative has also led to substantial bottom-line benefits.

Westpac has also taken a leadership role in terms of advocacy, and was one of the key drivers of what became the Australian Business Roundtable on Climate Change. Six months or so before the Stern report came out, the Australian Business Roundtable on Climate Change published a report that came to similar conclusions and had a major impact on changing the whole political and policy environment in Australia. Purcell notes that many of Westpac's customers — many of the bank's customers are in the coal and other carbon-intensive industries — were unhappy with the report's call for urgent action on climate change and its suggestions for emission caps and a trading system.

In response, Purcell remarks that "the business world can not afford to sit back and think that this is someone else's problem, that government and regulators have to prepare the way for them. Business has to take leadership and has to speak out. It's not always easy, and will come at the cost of adaptation and change; but the alternative is a lot worse; inaction is a lot worse."

# The ten principles of the United Nations Global Compact

## Human rights

- Principle 1** Businesses should support and respect the protection of internationally proclaimed human rights; and  
**Principle 2** make sure that they are not complicit in human rights abuses.

## Labour

- Principle 3** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;  
**Principle 4** the elimination of all forms of forced and compulsory labour;  
**Principle 5** the effective abolition of child labour; and  
**Principle 6** the elimination of discrimination in respect of employment and occupation.

## Environment

- Principle 7** Businesses are asked to support a precautionary approach to environmental challenges;  
**Principle 8** undertake initiatives to promote greater environmental responsibility; and  
**Principle 9** encourage the development and diffusion of environmentally friendly technologies

## Anti-corruption

- Principle 10** Businesses should work against corruption in all its forms, including extortion and bribery.

