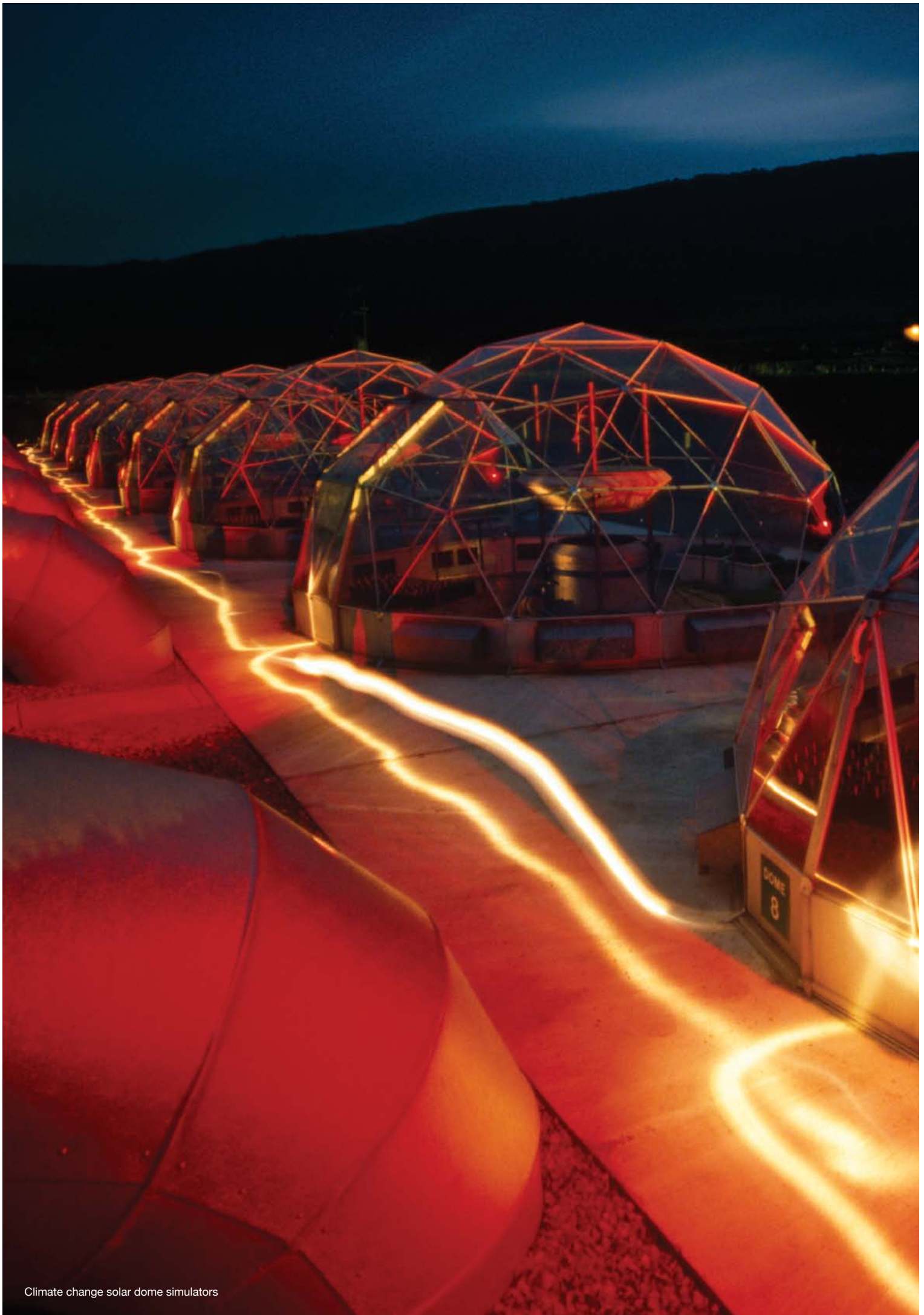


# Different shades of green?

The outlook for Industrial Products companies post-Copenhagen





Climate change solar dome simulators

## Political commitment, but little clarity

Prior to the Copenhagen Climate Summit, business had been pressing governments to send clear, long term signals about the pace and direction of climate policy. The outcome of the Climate Change Summit, known as the Copenhagen Accord, unfortunately does not do this. Instead, it reflects a broader coalition behind the intent to stay within two degrees Celsius (2°C) of warming, but fails to deliver any specifics on national emissions targets or mitigation plans for either 2020 or 2050. Even on issues where progress appears to have been made, such as technology transfer or adaptation, the Accord lacks the detail required to prompt action.

Our analysis shows that the level of commitment to date still lags far behind that which is needed to achieve the 2°C goal. Developed countries submitted pledges on carbon mitigation actions at the end of January 2010, whilst developing nations were encouraged to log mitigation actions by that date. We have collated these pledges in order to compare them to our projected low-carbon pathway that would be consistent with stabilising global warming around 2°C.

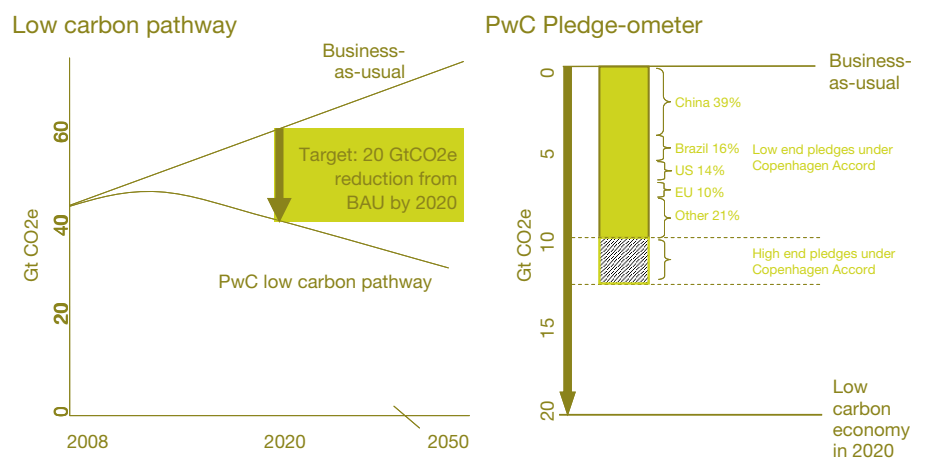
As Figure 1 shows, 9.7 GtCO<sub>2</sub>e of abatement commitments are currently pledged; this represents just under half the 20 GtCO<sub>2</sub>e reduction required from business-as-usual.

The reduction in carbon intensity implied by pledges under the Accord averages 2% a year to 2020, compared to the 3.4% our analysis calculates as necessary to stay on our low carbon pathway to 2050. Further, the Accord is not legally binding, so countries may have less incentive to ensure that they reach their targets.

The targets and plans submitted to date provide some granularity to the

Figure 1

PwC assessment of pledges made under the Copenhagen Accord



policy agenda in particular countries. Nonetheless, businesses looking for clarity will continue to face a period of uncertainty until specific targets are enshrined in national legislation.

## Likelihood of a patchwork of regional climate regulation increases

In the future, governments may look to other gatherings such as the Major Economies Forum (MEF) or G20 to help facilitate international cooperation around climate change. They may prove to be more effective at making progress than the UN Convention of the Parties (COP), though the UN will continue to play an important role in monitoring progress by countries. Effective partnerships, between countries and between public and private sectors, can drive the deployment of low carbon technology and accelerate investment where it is needed most.

A number of the industrial sectors (**steel, aluminium, cement, buildings and appliances**) are already participating in the Asia-Pacific Partnership on Clean

Development and Climate (APP). APP partners Australia, Canada, China, India, Japan, Korea, and the United States are working via public-private sector task forces to enhance technology exchange and facilitate reduction of GHG emissions and other environmental goals. In the steel sector, the World Steel Association is looking to promote a similar 'sectoral' model to help improve energy efficiency around the globe.

Still, government regulation at the national or regional level is likely to have the most significant impact in the near-term. In the **US**, there is probably a greater prospect of climate regulation now, whether it is implemented through Congressionally enacted legislation or through rules issued by the Environmental Protection Agency. Companies with significant activities in the US will want to monitor developments in Washington DC. Meanwhile, a sensible precautionary measure for US businesses would be to develop a better understanding of their GHG data and to start to quantify and cost the different measures available to reduce energy use and cut emissions.

In the **EU**, the proposed move from a 20% reduction target to 30% by 2020 would be hard to justify on the outcome of Copenhagen. Carbon prices in the EU Emission Trading System (EU-ETS) and more generally look set to remain relatively low in the short term, until economic growth picks up or a more ambitious target is adopted. This may act as a hindrance for step-change investment in low carbon generation and other significant capital investments in reducing emissions.

Companies with activities in **China** may have been watching with interest as the world's largest emitter unquestionably established itself as an equal to the US in shaping the post-2012 global climate architecture. China's commitments are likely to include its 40-45% carbon intensity reduction pledge for 2020 (over 2005 levels); its 15% primary energy supply target from nuclear and renewable energy sources; and a target to increase its forest cover. A commitment to reduce energy intensity, building on the 20% improvement target in China's current 11<sup>th</sup> Five Year Plan, are also likely to feature. Altogether China's efforts look likely to offer the largest chunk of the planned reduction against business-as-usual.

What has become apparent over the last year, and is likely to feature more in the future, is the recognition that climate policy is connected to trade policy. We anticipate increasing pressure on

governments in Europe and North America to introduce border tax adjustments to level the playing field for their sectors covered by carbon regulations.

### Reporting requirements and expectations on the rise; risks and opportunities will be sector specific

With some signs that a number of economies and sectors are beginning to emerge from the financial crisis, corporate boards and management teams are turning their attention to growth. As part of this shift in focus, they're revisiting emerging risks to assess potential impacts on their companies' prospects. For some business leaders, the risks and opportunities related to energy and climate policy are becoming a significant part of this picture.

Increasingly, stakeholders are calling for more information about the climate-related risks confronting companies – as well as the strategies management has, or will put in place, to respond. In the US, the Securities and Exchange Commission (SEC) has recognised these concerns and issued some interpretive guidance explaining how companies can disclose material climate risks. This action gives greater prominence to these disclosures in 2010.

With the new SEC guidance, companies don't face any new or modified legal

requirements. (Under existing rules, they already had to disclose material risks such as new environmental litigation that could significantly impact their financial position and results of operations.) But they do need to raise their awareness of the types of risks that could be material and warrant disclosure. In its guidance, the SEC takes a rather broad view of climate-related risk. It describes the obvious risks – such as direct consequences from existing or pending legislation or regulations restricting GHG emissions – and then goes on to ask companies to consider other risks, including:

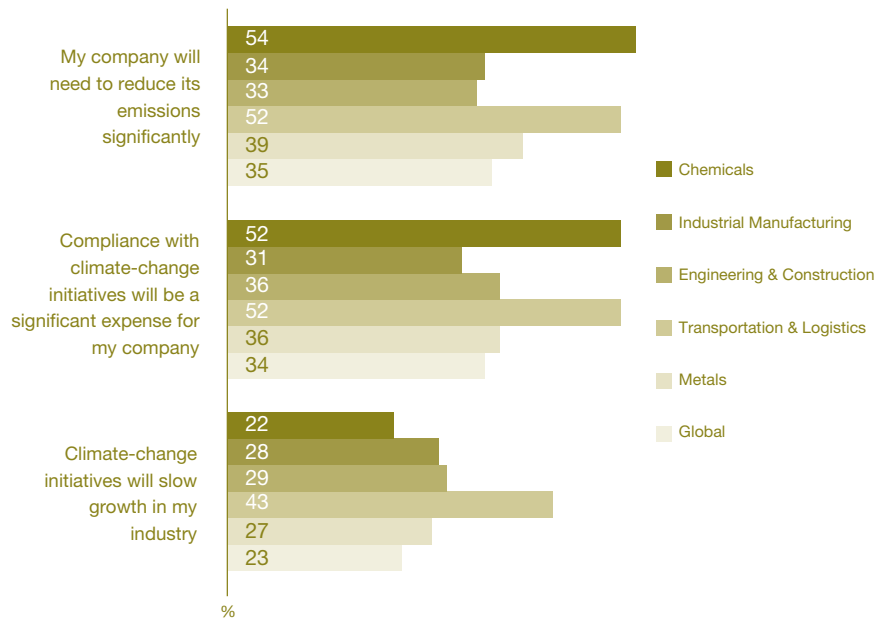
- Potential impacts from international accords and treaties related to climate change;
- The indirect consequences of climate change regulation, such as increased demand for goods that result in lower greenhouse gas emissions than competing products, which may lead to decreased demand for the company's products or services; and
- Damage to the assets of corporations, and, in turn, their customers' assets, as a result of floods, droughts or other severe-weather events.

It is clear investors in US-listed companies will be interested in seeing what companies disclose in reaction to the new guidance. Business leaders are also watching developments carefully and planning their response.

A recent series of industry snapshots prepared by PricewaterhouseCoopers for the Carbon Disclosure Project suggests that reporting on key areas, such as disclosing emissions figures and reduction targets, is on the increase for industrial companies, as well as commercial and professional services and transportation companies. Materials companies, i.e. those in extractive industries, chemicals, heavy manufacturing and forestry, are also increasing their reporting on reduction targets. Seventy-seven percent of materials companies disclosed their emissions reduction targets to the Carbon Disclosure Project 2009.

For some sectors, the potential costs and risks will be greater than others. PricewaterhouseCoopers 13<sup>th</sup> Annual Global CEO Survey showed that CEOs from diverse industries have very different perspectives on the potential impact of climate change. In the chemicals and transportation and logistics sectors, over half see compliance with climate change as a significant expense for their companies, compared to around one-third of the global sample, and around the same level in most of the other industrial sectors (see Figure 2). Transportation and logistics CEOs are also more likely to see climate change as slowing growth in their sector, with around two-fifths expecting initiatives to put the brake on growth, while only around one-fifth of chemicals CEOs expect such programmes to impede their sector's growth.

**Figure 2**  
Climate change poses risks for industrial products companies



Source: PricewaterhouseCoopers 13th Annual CEO Survey

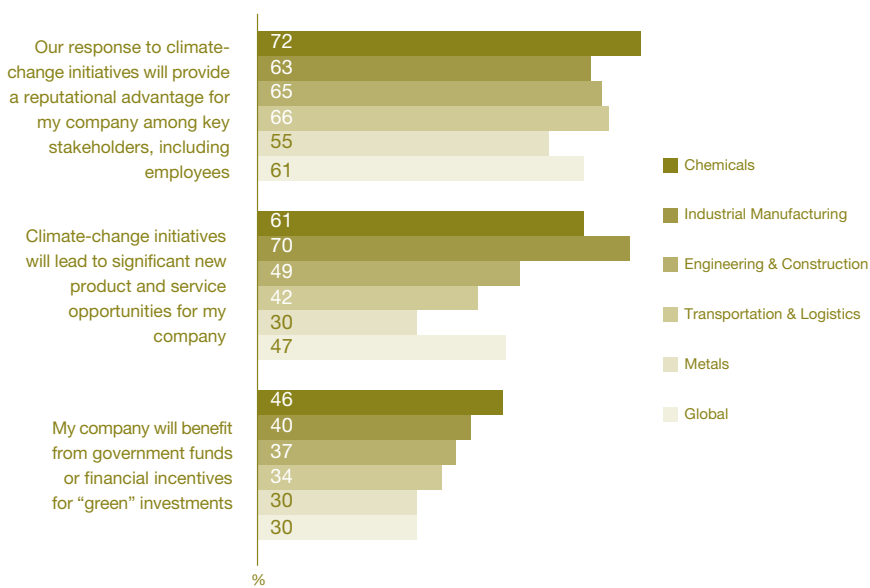
Q: How much do you agree or disagree with each of the following statements about the potential impacts of climate-change initiatives?

Base: All respondents (Chemicals, 46, Industrial Manufacturing, 102, Engineering & Construction, 75, Transportation & Logistics, 67, Metals, 33, Global, 1198)

Note: respondents who stated 'agree' or 'strongly agree'

Figure 3

But climate change initiatives bring opportunities as well



Source: PricewaterhouseCoopers 13th Annual CEO Survey

Q: How much do you agree or disagree with each of the following statements about the potential impacts of climate-change initiatives?

Base: All respondents (Chemicals, 46, Industrial Manufacturing, 102, Engineering & Construction, 75, Transportation & Logistics, 67, Metals, 33, Global, 1198)

Note: respondents who stated 'agree' or 'strongly agree'

And indeed, one company's risk may be another's opportunity. While chemicals executives expect high costs, they also anticipate substantial potential revenue growth related to climate change – 61% believe that climate change initiatives will lead to significant new product and service opportunities for their companies (see Figure 3). The expectation that their company will generate growth by developing new technology to help combat the effects of climate change is even stronger in the industrial manufacturing sector, where a full 70%

of CEOs expect to see new product and service opportunities for their companies.

Even prior to the passing of binding national regulation in some countries, other forces are strongly encouraging investments in greener technologies. In the same survey, 64% of CEOs surveyed say they expect consumers will be placing heavier emphasis on companies' environmental and corporate responsibility practices before they make purchases. Further, 61% of CEOs agree that a company's response to climate change

will create a reputational advantage in the minds of key stakeholders, and the figures for a number of industrial products sectors are even higher.

## Business caught between a rock and a hard place

For business, the current state of affairs presents a dilemma. On the one hand, key stakeholders such as shareholders, employees and customers are demanding that corporate players respond to the climate change issue and invest for the future. Many would like to; either because it's the right thing to do, or in search of superior returns. Some have already made substantial progress on operational improvements that improve energy efficiency or reduce emissions. Most of these advances are incremental improvements, however.

Many companies continue to be constrained from making the major investments necessary to enable a step change in energy and emissions efficiency by an uncertain regulatory architecture. In industries such as steel, capital investments have long lifetimes and represent major cost outlays. R&D programmes are also costly. Make the wrong investment, predicated on the wrong cost of carbon, and corporate executives face the wrath of shareholders. The ROI based on an estimated carbon price of \$20/tonne is very different to what might be expected if regulatory constraints cause prices to move into a \$50-\$75/tonne range, for example.

Notwithstanding these uncertainties, companies across the industrial products spectrum are beginning to take action on the issue. Motives may be mixed, as companies either react defensively or seek early mover advantage, but the trend towards engagement on the carbon issue is growing.

In **aviation**, some passenger and cargo operators affected by the impending inclusion of the sector in the EU-ETS are already starting to collect the data that will determine their allocation of free carbon allowances from 2012. Inclusion of airlines into the Scheme will create new assets and liabilities on the balance sheet worth around \$4.5bn per year at current prices.

Others are looking at the impacts on commercial strategy and operations; for example, running scenarios to look at their projected financial exposure at different carbon prices, and how this might be hedged. On the technology side, biofuel trials are continuing and various airlines are collaborating to explore procurement options for new, cleaner, blends which should lend support to these evolving supply chains. **Aerospace** companies are developing more energy efficient aircraft and engines. As fleets are replaced and refurbished, the aviation sector's carbon footprint will be reduced. Aerospace companies are also refining aircraft operation specifications to include fuel saving attributes e.g. continuous descent, weight reduction, maintenance actions, flight planning accuracy, fuel planning and routing etc.

Aviation sector experts believe more efficient air traffic control and management can make significant contributions to emissions reductions, and these improvements to operating specifications will be supported by government efforts to improve air traffic control processes in efforts such as the Single European Sky and US Next Generation Air Transportation System (NextGen) programmes.

The **defence** sector has developed monitoring technologies now in use in the oceans, atmosphere, and even outer

space which are contributing to a greater understanding of the impacts of climate change. Many defence companies are also increasing the efficiency of their products. Governmental customers are giving climate change issues a stronger focus as concerns around the 'carbon footprint' increase and climate change is acknowledged as an issue with strategic importance, so sector players are likely to step up efforts even further.

In **steelmaking, pulp and paper, chemicals, cement** and other **intensive manufacturing industries**, the key question of ensuring competitive product prices in a global marketplace remains. For those with operations in Europe, the crucial milestone will come later this year, once the European Commission finalises the benchmarks to be applied post-2012 under EU-ETS.<sup>1</sup> For many, this will result in a markedly lower allocation of free allowances than have been received to date. The implication of fewer free allowances will be greater financial provision in the years ahead and the need to devote greater internal resources to market participation (i.e. buying carbon in the secondary market or through auctions). Eurofer interpret the latest European Commission proposals on benchmarks in the iron and steel sector to imply a potential shortfall of 40-50%<sup>2</sup>; this would equate to a financial exposure of nearly \$2bn per year at prevailing carbon prices. CEMBUREAU, the European Cement Association, argues that the cement industry is highly vulnerable to carbon leakage and that the sector faces significant possible offshoring even without auctioning in the EU-ETS.<sup>3</sup>

The **forestry** sector was looking to Copenhagen for an agreement around the mechanism for so-called Reduced

Emissions through avoided Deforestation and forest Degradation (REDD) projects in developing countries, or more specifically, an expanded version of the concept known as REDD+. This was significant as it expanded the range of projects that could potentially benefit from the REDD mechanism beyond those which just reduce the loss of natural forest cover to a broader range of forest-related activities including the conservation and enhancement of forest carbon stocks and sustainable forest management. While the Copenhagen Accord noted the "need to...establish a mechanism including REDD+", specific details on how REDD+ should be financed or implemented were left for future negotiations. So, although key actors have committed to agreeing a REDD+ mechanism, the details have yet to be worked out and the future policy regime for REDD+ therefore remains unclear. Nonetheless, a number of REDD+ projects are already in the works and stakeholders continue to push for more regulatory clarity.

Finally, within the **logistics** sector we are seeing more attempts to achieve customer differentiation on the climate change or wider green agenda; in particular, the progressive greening of vehicle fleets to underpin Corporate Responsibility commitments.

For industrials located in the US, the provisions set out in the American Clean Energy and Security Act of 2009 (ACES) that passed the House of Representatives in June 2009 would impose compliance obligations for electricity generators, liquid fuel refiners and fluorochemical producers/importers from 2012, with large industrial sources included from 2014. In the spring of 2010, attempts to advance climate change legislation in

<sup>1</sup> See: [http://ec.europa.eu/environment/climat/emission/benchmarking\\_en.htm](http://ec.europa.eu/environment/climat/emission/benchmarking_en.htm)

<sup>2</sup> Eurofer, "Climate Change: EUROFER statement on ETS implementation - 5 November 2009" accessed at <http://www.eurofer.org/index.php/eng/Issues-Positions/Environment>

<sup>3</sup> Cembureau, "ETD - Carbon Leakage" accessed at <http://www.cembureau.be/topics/climate-change/etd-carbon-leakage>

the US Senate stalled when Republican Senator Lindsay Graham pulled his support for the energy and climate bill he developed together with Democratic Senator John Kerry and the independent Joseph Lieberman. Kerry and Lieberman have presented draft language for their American Power Act, which proposes a number of energy efficiency, development, and GHG reducing programmes. However, without cross-party sponsorship or a formally introduced bill, it is unclear whether the Senate will consider this proposal during 2010.

### Implementing a robust strategy

For climate change and sustainability issues more broadly to be taken seriously by business, they need to be articulated in the language of business. Whilst regulatory impacts, such as the direct cost of buying carbon allowances, may be relatively straightforward to quantify, others, such as the impact of changing stakeholder perceptions on product choice and brand, are likely to be more intangible.

Figure 4 illustrates one conceptual approach that might be applied. In this

case, a company seeks to define the key structural themes around climate change/sustainability affecting the business and then develops estimates for the likely impact of these in terms of earnings over time. As can be seen, positive action on some issues may enhance earnings; conversely, direct compliance costs may erode earnings. Such an approach may be attractive to CEOs and CFOs as it is more aligned to traditional business analysis.

In order to implement this type of analysis, it will be important to think carefully about the ease with which such data can be derived from the business, the level of uncertainty inherent in it (since, in many cases, estimates and/or proxy values may be required) and how management teams would integrate these new metrics in decision-making.

### Conclusions

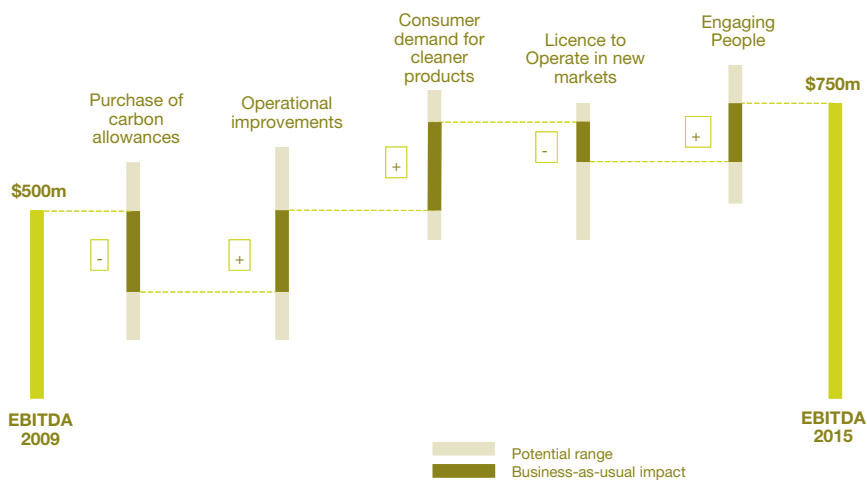
CEOs within Industrial Products are beginning to come to terms with some of the commercial risks arising from climate change, as well as some of the potential opportunities. For some sectors, such as transportation and

logistics, risks predominate at the current time; for others, in particular industrial manufacturing and chemicals, the potential to drive innovation in clean technology represents a significant potential upside.

For those companies already facing a carbon price in their business, the key issues remain ensuring efficient compliance through hedging arrangements and undertaking internal process improvements where possible. Achieving competitive advantage will be an additional upside if it occurs, but in the challenging trading conditions that many still face, it may not be the key driver for action.

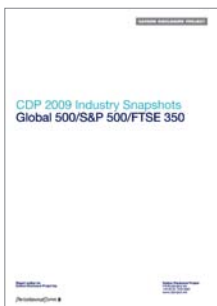
For those anticipating regulation, in addition to pursuing advocacy efforts, a pro-active approach is vital. Companies need to begin work on emissions inventories, data and systems. They also need to begin applying a shadow carbon price to major capital expenditure programmes and consider the impact of their climate change strategy on end-user markets.

Figure 4  
EBITDA bridge for selected sustainability themes



## Relevant Publications

### Carbon Disclosure Project 2009 Industry Snapshots

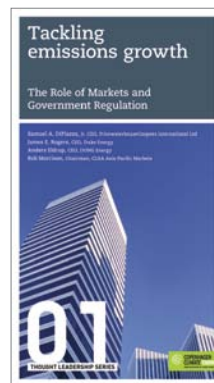


In 2009, the Carbon Disclosure Project (CDP) received the highest response rate to date, the highest level of disclosed emissions and greater detail than ever before on the activities being undertaken by the largest corporations around climate change mitigation and adaptation. This report, prepared by PwC, analyses a number of sector responses to the 2009 Carbon Disclosure Project Information Request, including responses from materials and industrials companies in the FTSE Global Equity Index Series (Global 500), Standard & Poor's 500 Index (S&P 500) and the FTSE 350 Index (FTSE 350). Responses to CDP 2009 are grouped according to the Global Industry Classification Standard (GICS).

### IETA Fifth Annual GHG Market Sentiment Survey

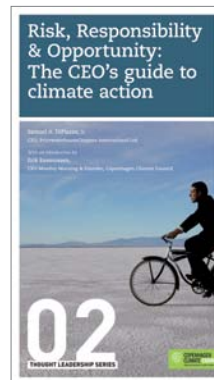


The International Emissions Trading Association (IETA) GHG Market Sentiment Survey, now in its fourth year and again conducted by PwC, provides an important barometer of market opinion in what is expected to be a pivotal year in the policy response to climate change. PwC surveyed the IETA membership and other major players in the carbon market worldwide, seeking views on current performance and on future developments from people in the market who will help to shape that future. The report, written by PwC carbon market specialists, provides timely views on prospects for a major deal in Copenhagen in December, the outlook for trading and prices in the EU-ETS, in the CDM and in the US, and structural issues such as caps and floors.



### Tackling emissions growth

This paper was published by the Copenhagen Climate Council as input to the World Business Summit on Climate Change in May 2009. It sets out the role that markets and other government interventions, such as energy efficiency standards, will need to play in order to build a low-carbon economy in the next five to ten years.



### Risk, responsibility & opportunity: The CEO's guide to climate action

There are five key steps that CEOs must take to address the challenge of climate change. Risk, responsibility & opportunity: The CEO's guide to climate action gathers insights from ten top executives and highlights how innovative companies across all sectors are facing up to climate change. Inside, CEOs discuss:

- Seizing growth opportunities
- Preparing and protecting your business
- Setting an example
- Empowering others
- Helping to define climate change policies

The guide also features checklists for change, the top ten things to know about climate change, and a call to political leaders preparing for the United Nations Climate Change Conference in Copenhagen in December 2009.

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