



The CEO Guide to Carbon Emissions reporting and management in Asia Pacific

ADVISORY

Foreword

The United Nations Climate Change Conference held in Copenhagen in December 2009 — known as Conference of the Parties 15 or COP 15 — marked a key turning point in the history of the climate change debate. A compromise was finally reached at the eleventh hour and the Copenhagen Accord was drafted. Although not legally binding, the Accord does reflect international political consensus that there must be a long-term, global response to climate change.

The Copenhagen Accord differs from the Kyoto Protocol in a number of important ways. Most significantly, it takes a more pragmatic and less democratic approach. Rather than attempting to get 192+ nations to agree on everything, the Accord recognises that climate change will have to be solved by those nations and institutions with the greatest capacity to address both adaptation and mitigation. Why this approach? It has become clear in the political debate on climate change that nations that have historically been the greatest emitters of CO₂ are the same nations with the greatest resources and capacity to reduce their emissions and drive innovative solutions to climate change. These economic and political realities may have shifted the approach to a more meritocratic one, but these concepts of 'differentiated responsibility' and respective capacities — key features of the Kyoto Protocol — remain.

The Copenhagen Accord, the outcome of a challenging negotiation process, is regarded by many as a realistic recognition of the global nature of climate change and the role international finance has to play in solving it. The process by which the Accord was created is significant because it marked an important shift in the power balance of global climate change negotiations. For the first time, the major developing nations of Brazil, China, India, and South Africa had equal input as developed nations. Another first was a timetable for action: the text of the Accord indicates that it is operational immediately, with nations required to submit their action plans by January 31 2010 and commence work on establishing the Copenhagen Green Fund.

Although a formal agreement was not finalised, the Copenhagen Accord represents a political sea change in the global effort to address climate change. It has formulated a clear long-term goal, sparked targets and action plans from countries that account for more than 80 percent of global energy-related CO₂ emissions, and offered the prospect of very significant support to developing countries. In all of these ways it represents a 'wake-up call' in terms of how the world does business. The challenge now for CEOs is to create a competitive advantage. Active intent to change and innovate is now needed. A passive approach to climate change is now the most risky approach for a CEO.

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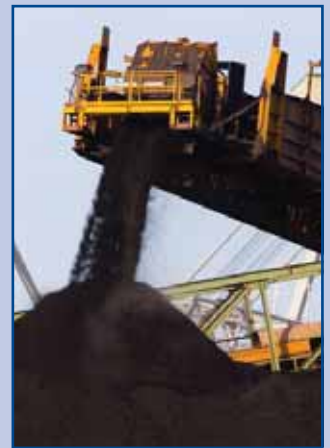


What is this guide about?

This guide will help equip CEOs with an understanding of the risks and opportunities presented by climate change and the related government policy and market responses in Asia Pacific.

It provides the CEO with some practical steps to prepare his or her organisation in this rapidly evolving area. In particular, it focuses on the first steps to responding to these issues, involving the measurement and reporting of greenhouse gas emissions.

The guide also provides insights into opportunities for business to reduce costs and build new market opportunities through managing rising energy costs, improving the understanding of supply chain impacts and finding business growth opportunities for low-carbon products and services.



Ten critical questions for CEOs

The following ten questions should be front of mind for CEOs as they equip their organisations to prepare for the impacts of government climate change policy. If the answers to any of these questions are unclear then this guide will provide some valuable direction.

CEO Checklist

- 1) Is your business involved in the “high risk” sectors with significant greenhouse gas emissions, particularly mining, energy, manufacturing and transport?
- 2) Does your supply chain include greenhouse gas intensive goods and services?
- 3) Are there major regulatory or policy changes such as proposed taxes, caps or mandatory reporting of greenhouse gas emissions in the countries where you have markets or suppliers?
- 4) How sensitive is your business to a tax or a cap on greenhouse gas emissions?
- 5) Can you assess the current and emerging carbon reporting obligations for each country where you operate?
- 6) How are you engaging with directors, customers and investors who want to better understand your carbon reporting?
- 7) Are you considering acquisitions, mergers or JV partnerships that may require you to consider the impact of carbon emissions?
- 8) Have you considered what tax incentives and grants may be available to support upgrades to cleaner technology?
- 9) Do you have someone in your business accountable for assessing climate policy and then responding to this, as well as for managing the emissions reporting process?
- 10) How confident do you feel about explaining your organisation’s climate policy and reporting at a shareholders’ meeting?

A compelling case for action



The world is inevitably moving towards a low carbon economy. Most national governments have now accepted the need for action to reduce greenhouse gas emissions. The levels of reduction vary, but the trend remains clear.

The United Nations conference in Copenhagen in December 2009 included, for the first time, a global agreement by 132 countries to limit temperature rises to 2 degrees.¹ A business-as-usual approach will not achieve these reductions and more government interventions are required to meet these commitments. This will involve a significant restructuring of the global economy.

No doubt there will be short term lapses and delays by governments but the issue of climate change is not going away. Since the Copenhagen agreement 79 countries have set emissions reduction targets that will cover 80 percent of global energy-related emissions. Irrespective of any superficial short term debate, a deepening level of commitment among governments and regulators is now evident. Across Asia Pacific, the speed and extent of government action varies considerably by country. This variation creates more complexity for businesses operating regionally.

The case for action will continue to strengthen. Substantial changes to the economy will be needed particularly in how we produce, and use energy. Pressure from customers to reduce carbon levels, both in their products and their supply chains, is increasing. The need for this transformation will be further accelerated by increases in global population and per-capita wealth.

The physical impacts of climate change will also continue to be felt by business and communities. Key issues such as water scarcity and extreme weather events will also require changes to our cities, infrastructure, food production and supply systems.

¹ Source: www.unfccc.int

There are a number of potential policy responses that governments will have to choose from. These include reporting requirements, incentives for energy efficient activities, mandatory use and incentives for cleaner fuels, and imposing price signals such as emissions trading schemes and taxes.

Governments are likely to adopt a variety of policies that will be different in each country. Irrespective of what actions a government undertakes they will all require a level of reporting and assurance on emissions and/or energy use at a company level, and careful management of business impacts.

CEOs in Asia Pacific will need to understand where their own organisations stand particularly well as the economies in this region are so heavily dependent on international trade.

Government climate policy now clearly has financial implications for businesses in Asia Pacific. These implications include:

- Legal requirements for reporting carbon emissions and/or energy consumption
- Carbon price liability from carbon taxes or emissions trading through tax or permit obligations – either directly or in the supply chain
- Market pressures from low carbon substitutes
- Trade barriers and border taxes based on carbon intensity
- New grants, subsidies and tax incentives that may become available.

What's happening in Asia Pacific

It is important to understand there are significant regulatory changes underway across the region. These changes include:

- Mandatory reporting of emissions and/or energy
- Emissions caps are proposed or are in operation
- Clean Development Mechanism (CDM) finance is available in many countries.

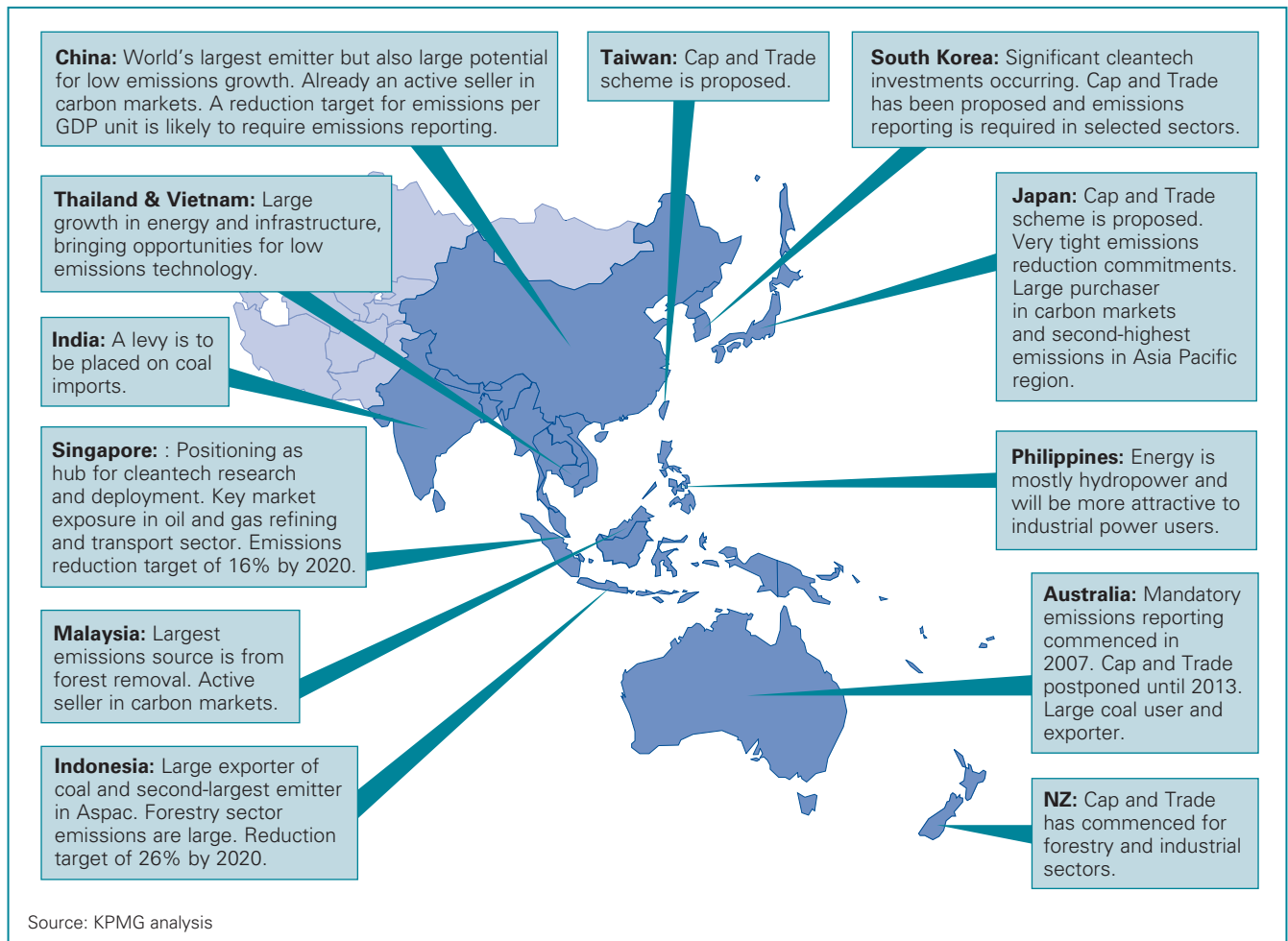
Policy options for governments and implications for business

Governments have a range of available policy measures to try and reduce emissions, including carbon reporting, energy efficiency initiatives, promotion of cleaner fuels, carbon pricing including emissions trading, taxes and trade barriers.

CEOs need to understand the likely direction of the policy in all the jurisdictions where they have operations, suppliers and customers. Ongoing monitoring is also important to understand the implications that further policy shifts may have upon cash flows, liabilities, operational controls and risk management.

Emissions and energy reporting

Mandatory reporting of emissions and/or energy is an essential platform to support other government climate policies. It also contributes to accurate reporting of national emissions and energy use. It is an essential prelude for governments to design an effective emissions trading scheme or a carbon tax. The appendix to this guide identifies the Asia Pacific markets where mandatory carbon reporting exists.



Voluntary reporting of carbon emissions may also be warranted for commercial audiences such as investors, customers and other external stakeholders. This is discussed further on page 12.

Energy efficiency measures

Saving energy is generally the cheapest way of reducing global emissions. However, there are barriers to the uptake of energy efficiency opportunities including lack of capital or knowledge. Many countries have committed to energy efficiency targets for business and promoted it as a “win-win” both for business and the wider economy. As energy prices rise, the business case for energy efficiency actions becomes more compelling. Governments will increasingly require business to account for this through reporting of energy use.

Cleaner fuels

Switching to cleaner fuels is part of the carbon reduction solution. Many governments are now requiring a proportion of electricity to come from renewable sources. This indirectly affects energy users as costs may increase with the switch away from cheaper fossil fuels.

Grants, compensation, and tax rebates and other incentives may also be available for the production and use of cleaner fuels.

Carbon emission pricing

A carbon emission price provides a way of making cleaner activities more competitive and viable compared to polluting activities. It is applied to an activity such as fossil fuel-generated electricity to increase the total cost of this and make a cleaner alternative such as natural gas more viable than coal.

Carbon emissions prices have been applied at many levels of government including, national, regional and local government. The two main ways of applying a carbon emission price are either with an emissions trading scheme (ETS) or a carbon tax.

Emissions trading scheme

Emissions trading schemes (ETS) most commonly take the form of a cap and trade scheme, creating an artificial market that attempts to reduce emissions by creating scarcity for a "permit to emit".

Such a scheme requires companies to report their carbon emissions and then surrender permits that match these emissions annually. Permits (usually equivalent to 1 tonne of carbon emissions) can be purchased from the government or from a secondary market. A capped number of permits are created by government and these decline over time, creating an increasing price that encourages emissions reductions.

A cap and trade has been operating in 27 European Union countries since 2005. The New Zealand scheme commences on 1 July 2010 and similar schemes are now proposed for Australia, Japan, South Korea and Taiwan.

Carbon tax

A carbon tax is a fixed price payment to government based on the carbon intensity of an activity (such as per tonne of carbon emissions). Emitters can reduce emissions rather than pay a tax. Carbon taxes have been proposed for coal use in India and in China.

Clean Development Mechanism

The Clean Development Mechanism (CDM) allows for revenue to be received from projects that reduce carbon emissions in developing countries. New investments in eligible countries should now always consider the opportunity for generating this additional revenue. The use of CDM is discussed further on page 20.

Trade barriers

In light of the Copenhagen conference of December 2009 it has become evident that striking a global agreement on climate change actions will be difficult. Indeed, a harmonised set of global emissions targets and carbon prices seems unlikely in the short term. Different countries will, and should, act at different rates. This presents an opportunity for countries to provide preferential trade agreements, or restrictions, based on the alignment of their carbon emission reduction actions.

This situation is likely to place more onus on corporate leaders to show they are engaged in this debate and driving the carbon agenda within their organisation. CEOs need to demonstrate their understanding of the issue publicly and also establish a way of keeping track on developments at the national and local level that may impact their business.

The absence of carbon emission reduction actions may lead to limits on access to a market where carbon pricing is occurring, particularly for carbon-intensive products. A provision now exists in draft US legislation to apply a "carbon border tariff adjustment" to imports from countries that do not have sufficient carbon emissions action. This could have significant ramifications for some Asia-based exporters. A global approach to carbon emission reductions is unlikely to be harmonised for some time, but there will be commercial value in responding to this issue particularly if your business, or your customer's business is dependent on international trade in carbon-intensive products.

Understanding your position



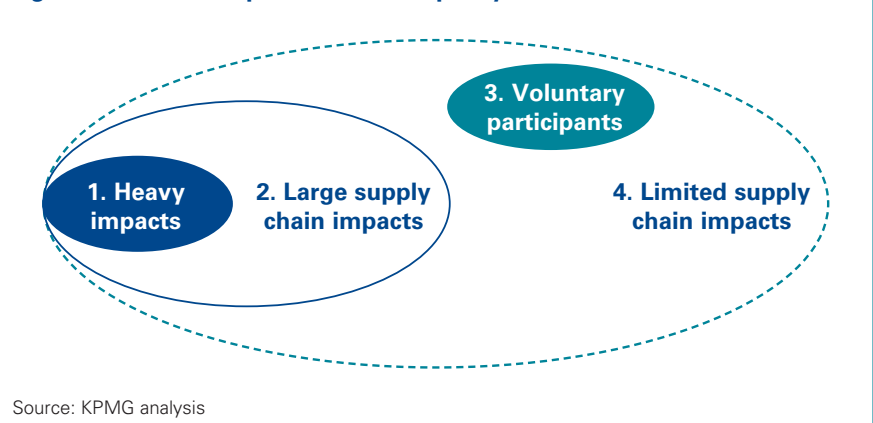
The most abundant greenhouse gas is carbon dioxide. It is mainly generated through the burning fossil fuels and from clearing forests. Other sources of greenhouse gases include farms mine leakage (methane), fertilisers (nitrous oxide), and smaller quantities of very potent greenhouse gasses from specific industrial processes.

Which sectors are most exposed?

Businesses with exposure to these activities need to spend time understanding their position. Sectors that are likely to be affected by government placing a price on carbon emissions include energy, mining, construction, manufacturing (especially steel, aluminium and cement), agriculture, food processing and forestry, and transport and logistics. There is a strong case for CEOs in these sectors to conduct further assessment of business impacts and their exposure.

Figure 1 represents the range of impacts of government climate change policy on businesses. Most business will not be heavily or directly impacted by the need to buy carbon emission permits or pay a tax on carbon emissions. However, a

Figure 1: Relative impacts of climate policy on businesses



Source: KPMG analysis

number will be indirectly impacted through supply chain cost pass-through and some of these businesses will be significantly impacted.

Group 1: Heavily impacted organisations

The most heavily affected companies are those that have both new costs and compliance obligations. These are businesses with a carbon-intensive activity in a country which imposes a carbon emissions trading scheme or tax and will have to comply with obligations such as carbon emissions reporting, trading schemes or carbon taxes. In Asia Pacific, such measures are in place, or proposed, in Australia, China, India, Japan, New Zealand, South Korea and Taiwan.

Carbon-intensive companies typically operate in the following sectors:

- Electricity generators
- Heavy manufacturing
- Some mining
- Oil and gas.

Group 2: Large supply chain impacts

Other businesses that are large energy users in a country which imposes a carbon emissions trading scheme or tax face price increases as their energy suppliers meet their compliance obligations. These are typically found in the following sectors:

- Large-scale retail
- Manufacturing
- Food production
- Property and construction
- Transport and logistics
- Some mining.

Group 3: Voluntary participants

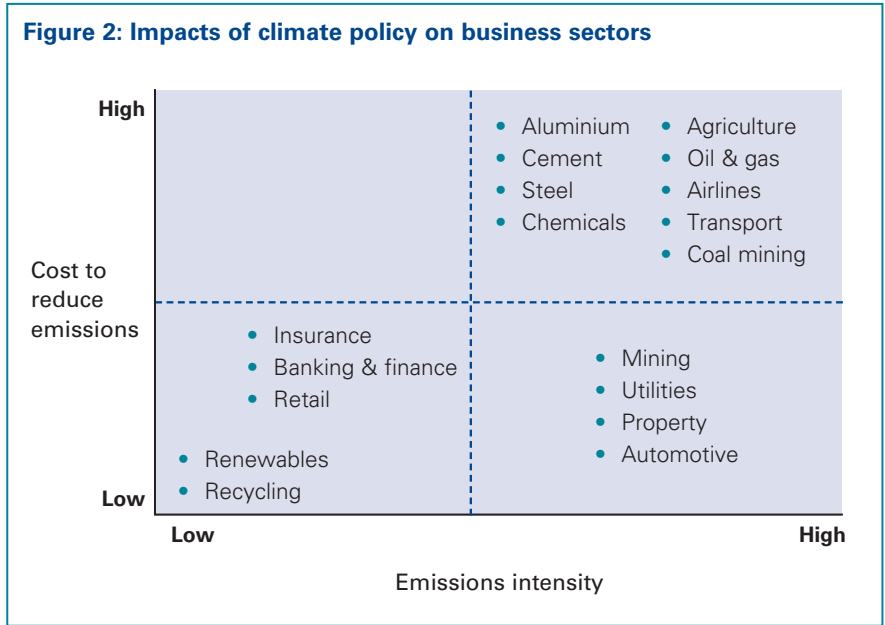
Voluntary participants are not obligated to be involved but choose to participate as they see new business opportunities.

These opportunities could include companies who create offsets (or credits) from energy savings or forestry projects in countries such as Cambodia, China, Taiwan, Indonesia, Laos, Malaysia, Philippines, Papua New Guinea, Vietnam, Singapore and Thailand.

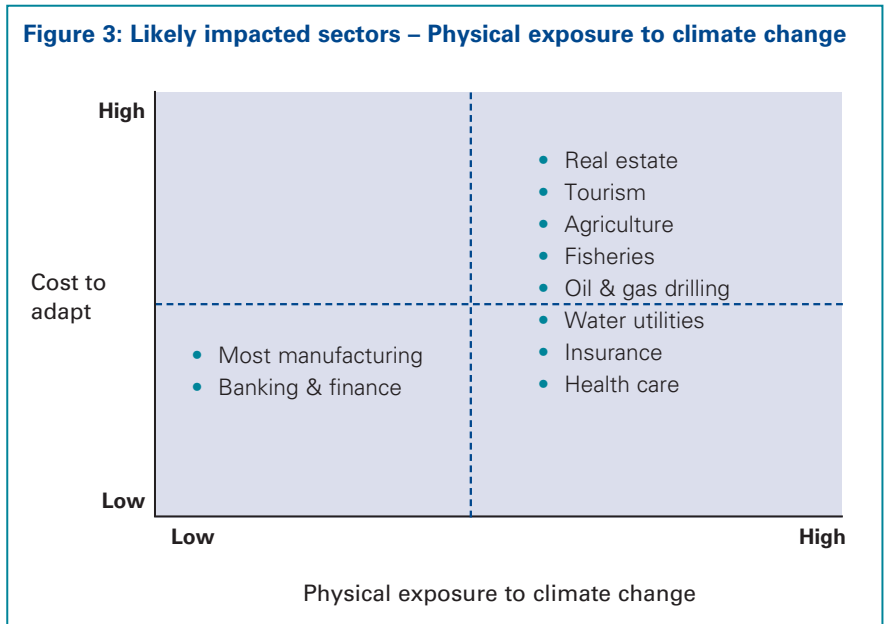
Financial institutions who provide permit trading and price hedging services would be another category of voluntary participant.

Group 4: Limited supply chain impact

Companies that have low greenhouse gas emissions and relatively low energy consumption should face limited impact from carbon policies. There may be some limited new compliance requirements for these entities. The primary impacts will come from the higher costs of carbon-intensive goods and services such as packaging, freight and increased energy costs.



The horizontal axis in this diagram shows the relative impacts of policy on a range of sectors, based on the intensity of their greenhouse gas emissions. The vertical axis shows the relative costs of reducing emissions in each sector.



This diagram shows the relative exposure of selected business sectors to physical impacts of climate change and the likely costs to adapt to these impacts. Physical exposure arises from operations dependent on climatic conditions. The costs of adapting to these impacts also varies by sector.



Overview of collection and reporting of emissions data



Mandatory reporting

Reporting of greenhouse gas emissions and energy use, at a company level or even at facility levels, will be required to underpin any government action to reduce greenhouse gas emissions.

Many governments have already introduced mandatory reporting for carbon and/or energy use. The appendix to this guide gives a summary of these requirements at a national level. There are also requirements from regional and local governments that need to be considered.

A system for reporting emissions gives governments a sound basis for further policy measures to reduce emissions growth. Clearly, any business with operations in a country with mandatory reporting obligations will need to comply or face legal risks.

Each reporting system will specify the thresholds that may apply and the sectors that need to report. Business will need to calculate their emission levels to understand if they are over the reporting thresholds.

Voluntary reporting

Voluntary reporting of carbon emissions is a useful first step to understanding your position. It can be used to give investors and customers some confidence that carbon liability is understood and being managed.

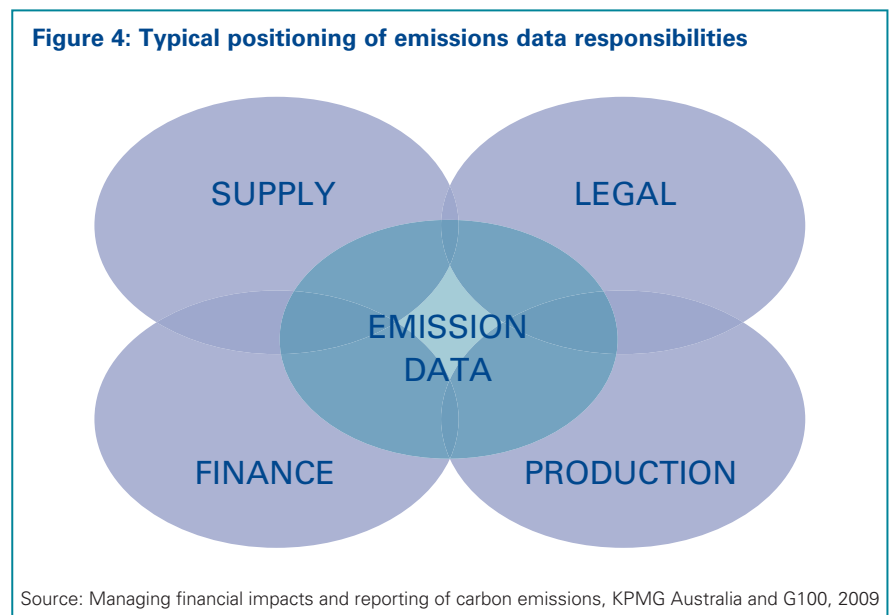
The most widely used voluntary reporting formats include the Carbon Disclosure Project (CDP) and the Global Reporting Initiative (GRI).

Reporting carbon emissions can also be a useful way of engaging employees via a Corporate Social Responsibility (CSR) initiative on an issue that many of them will be concerned about. It will highlight areas for individual contributions and provide a baseline to measure performance improvements over time.

Customers are increasingly keen to understand carbon intensity in their supply chain and examples exist of retailers exerting pressure on their suppliers. A credible report and responsive reporting system can help satisfy these expectations.

Governance

Responsibility for the collection and processing of carbon emissions data for most companies usually lies with an operating executive or environmental officer. Sometimes it is within the CFO's responsibility. Figure 4 shows the common overlap of this issue across an organisation.



Some key questions for CEOs in these situations include:

- 1 Who interprets the relevant regulatory requirements in each area of the entity's operations?
- 2 To what extent should the CEO ensure that the CFO is overseeing the collection and processing of carbon emissions data?
- 3 Who should approve the results of the carbon emissions data collection and processing?
- 4 Who should sign-off on the accuracy of the data to enable the CEO to sign off on any external report?
- 5 Who should ensure any carbon emissions financial liabilities are adequately recorded and disclosed?

A useful analogy is the responsibilities involved with managing and controlling inventory. Carbon emissions data should, wherever practicable, be managed as part of the existing business reporting systems rather than as a stand alone system.

Data controls

As in a business's finance function, a system of data controls is needed for emissions and energy reporting. The controls inherent in carbon emissions data collection systems, whilst improving in many organisations, are often not strong because:

- they are usually in sites remote from head office without a direct focus of attention
- they do not have a general ledger control account such as occurs with inventory
- checks and cross-checks common in financial systems are often missing due to the immaturity of systems.

Features of robust systems of carbon emissions data and collection include:

- regular checks and calibrations of monitoring devices or measurement equipment
- sign-off by the person taking measurements or making calculations
- approval by a more senior knowledgeable person of the recorded readings or calculations
- reconciliation of periodic measurements or calculations to six-monthly or annual results
- cross checks, with an analysis and explanation of variations, of qualitative data to other data such as production levels where a relationship exists and budgeted data and/or data from previous periods.

Collection and processing of emissions data

The stages for collecting and processing carbon emissions data can be summarised as follows.

Figure 5: Steps in preparing an emissions report



Source: Managing financial impacts and reporting of carbon emissions, KPMG Australia and G100, 2009

Here are some suggested responsibilities for CEOs to allocate in each of these stages.

Set reporting boundary

The definitions of the boundary for collecting carbon emissions data need to be consistent with the definitions used for financial data unless sound reasons for a difference exist. A good, and widely used, example of such a difference is under the GHG Protocol the boundary for ownership emissions expands beyond controlling equity ownership to operational control.

Aspects to consider in determining the boundary include: the existence of joint ventures, contractual arrangements, outsourced activities, associated companies and franchises. Contractor arrangements warrant close attention to ensure reporting coverage is complete.

Identify emissions sources

Checks should be run to ensure the different emission scopes have been considered by those responsible for data collection. Sources of primary carbon emissions include:

- stationary combustion – engines, boilers, furnaces, (or any process generating excess heat)
- mobile combustion – cars, trucks, planes and ships
- process carbon emissions from physical or chemical processes
- fugitive carbon emissions from waste, coal piles and gas pipelines.

Collect data

Carbon emissions data can be obtained by:

- direct observation (rarely used)
- estimation by reference to readily observable variables that are closely related to carbon emissions such as the quantity of fossil fuels consumed
- sampling and analysis of a fuel consumed for its carbon content and other qualities that will affect actual emissions generated by its combustion at a facility
- direct monitoring through reliable metering devices

Appropriate technical guidelines should provide methods that allow for both direct emissions monitoring and the estimation of carbon emissions through the tracking of observable, closely related variables. Carbon emissions may be estimated by reference to reportable data such as fossil fuel consumption evidenced by invoices, and the use of specified emission factors provided in these technical guidelines.

Apply emissions factors

Applying emissions factors, which is the carbon content of an energy source, requires levels of technical knowledge and this is best located in an operational area. The technical experts should:

- provide assurance that the emissions factors are relevant and consistently applied in accordance with the appropriate standards under which the carbon emissions are being reported.
- provide details of any areas of uncertainty or significant assumptions or judgement applied in this process.

Consolidate/aggregate

The consolidation of multiple facility carbon emissions data to the corporate level should be overviewed at a corporate level to confirm accuracy and completeness and to avoid double counting.

Information and management systems

A vital component of successful data collection is the integrity, robustness and adaptability of the information systems being used.

Some of the key considerations regarding new and existing carbon emissions data systems include:

- the ability to capture, calculate and report carbon emissions accurately from a number of energy sources, sites and activities
- the system's ability to collect and process information necessary to meet statutory reporting requirements
- the availability of an appropriate IT system
- the capabilities of the system for migrating data
- the adequacy of the training of the people to use the systems correctly

Many IT organisations are developing commercial software solutions for carbon emissions data collection and management. This is likely to be a significant growth area, allowing organisations to select an appropriate information system.

Emissions reporting should be based on a streamlined reporting process to provide a single, robust, source of emissions data. This reporting should link to other corporate reporting systems including finance, rather than operate a stand alone system where data can be lost or corrupted as it is moved.

Managing the financial impact

In a competitive global market place it can be the carbon emissions metrics of a company, relative to its competition, that determines winners and losers arising from the introduction of carbon pricing.

Entities required to purchase permits or pay additional tax or penalties will seek to recover the costs through the supply chain or suffer lower margins. They face becoming uncompetitive.

These issues will vary depending on the company, and roles may include supporting commercial and strategic decision making. These decisions include assessing the financial and commercial viability of investments to reduce the company's exposure to carbon pricing and the impact of carbon pricing on mergers and acquisitions. It can also include permit trading, involvement in supplier and customer negotiations along with input to costing and pricing strategies for products and services.

This is in addition to the impact on the balance sheet in areas such as permit asset valuation (for companies required to purchase permits) and asset value impairment, carbon emissions liability and measurement, understanding the implications for cash flow management, carbon price hedging strategies and the tax treatment of carbon-price related transactions.

The tax treatment of transactions related to most emission reduction schemes will vary. Permits or certificates may be treated as assets in some circumstances. Specialist tax advice should be sought on these transactions particularly on the tax implications of any international transfers of any emissions related permits or certificates.

The introduction of a price on carbon will also require adjustments to a range of financial management processes such as budgeting, forecasting and risk management.

Internal audit and independent assurance

Carbon emissions and energy reporting can have a range of potential audiences. Each of these audiences will gain increased confidence if an internal and/or third party review of the report is available.

Internal audit teams may need to be supplemented with a carbon emissions specialist who is not involved with the underlying systems and report compilation.

The internal audit function can enhance the quality of carbon emissions data. Internal audit can assess the design and operation of emissions data collection and processing systems and report findings to management and the audit committee.

Third party assurance of the reporting can make the investment in carbon reporting more valuable, particularly where the assurance is provided using a recognised standard. The credibility of the report, and its review processes, can give confidence to external stakeholders that the reporting was prepared with transparency and rigour. In many cases this will be more valuable than the investment required for the assurance processes.

Business opportunities



Leadership for reducing emissions

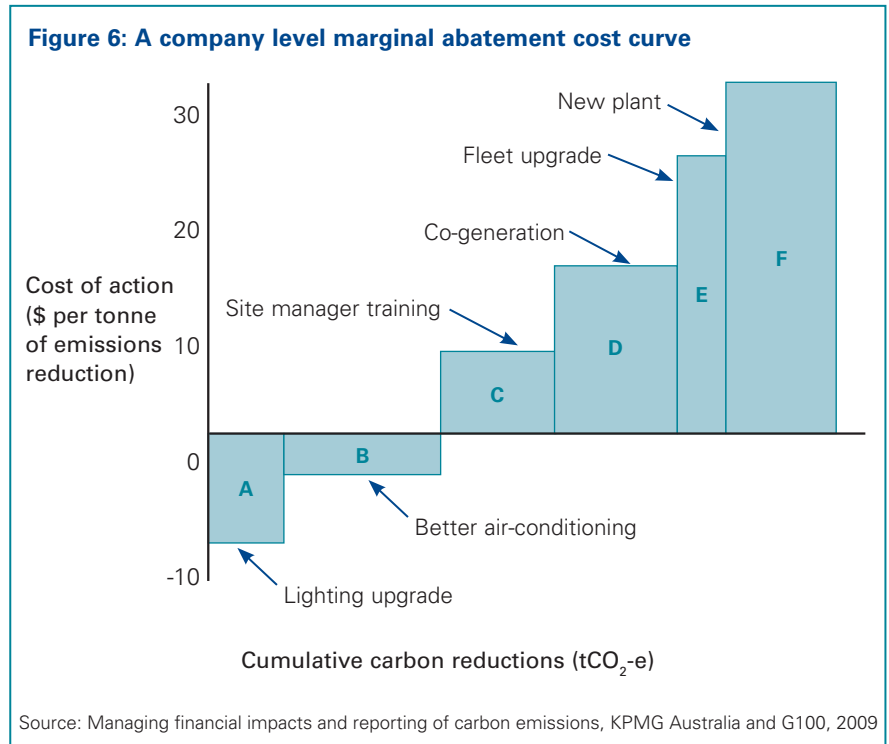
Reducing greenhouse gas emissions requires both bottom-up innovation and top-down leadership. The technical knowledge needed to identify better processes and performance is often already held within an organisation.

In such a situation, the CEO can play a key role in establishing the vision and goals and then the structures and responsibilities that promote innovation. This might include:

- engaging managers and staff on the importance of efficiency
- assigning accountability for reporting and managing each item of energy consumption.
- rewarding energy saving initiatives with incentives to individual staff and business units
- ensuring some of the savings are returned to business units for reinvestment
- having a robust evaluation process for capital expenditure on emission reduction projects
- using realistic energy price forecasts (where the business case for energy savings initiatives is assessed using rising rather than historical prices).

Managing energy costs

Energy costs are likely to continue rising and managing these costs will therefore become a more valuable activity. A useful tool for undertaking this is to prepare a marginal abatement cost curve for your organisation. This tool provides a way of evaluating investment priorities for implementing actions that save energy and emissions (see figure 6).



Innovation and opportunities in a low carbon economy

The emerging low carbon economy will provide many great opportunities for business in Asia Pacific. Government, consumers and other businesses are now looking to understand how climate change affects the competitiveness of businesses and where there is room to gain an advantage.

Businesses need to understand the carbon intensity of their products and services and analyse the potential low carbon substitutes that may affect customer demand. This low carbon substitution can bring new market share.

Substitution with low carbon products could occur in many areas such as:

- gas heating replacing coal heating
- marine shipping instead of air freight
- timber materials substituting for steel in construction
- marketing locally sourced food instead of long distance freight
- using recyclable packaging material.

A key competitive advantage comes from being able to offer your customers the ability to understand, and then reduce their supply chain emissions. Increasingly large multinationals in many sectors are seeking suppliers who can support these requests.

Procurement specifications are being updated to incorporate these requirements. This is particularly true for companies that have consumer facing reputations to protect such as banks, and retailers of fast-moving consumer goods.

Product design innovations that reduce lifetime emissions are being increasingly sought by consumers. Repackaging to reduce the use of paperboard and plastics is often a very visible low-carbon innovation

Accessing finance for low carbon growth

CEOs need to consider these finance sources when considering their international growth options. Financing clean development on greenfield sites in the growth areas of Asia Pacific will be cheaper than retrofitting the existing sites in developed nations.

Mechanisms to transfer this finance for these greenfield sites can be used to pay for emissions reductions. The two most common carbon finance mechanisms are managed by the United Nations. These are known as the Clean Development Mechanism (CDM) and Joint Implementation.

These finance sources have already driven significant investment in the Asia Pacific region. Over 75 percent of all CDM projects to date have been hosted in Asia Pacific countries, mostly in China and India with a substantial number in Indonesia and Malaysia.²

Clean Development Mechanism (CDM)

The Clean Development Mechanism (CDM) allows for revenue to be received for projects that reduce carbon emissions in developing countries. These projects could be partly financed by polluters in a developed country.

Activities, such as reducing energy use or switching to a cleaner fuel source, may generate offset or carbon credit income from carbon reductions. The CDM was established by the United Nations as a way of transferring finance and technology from developed to developing nations.

Approved projects in developing countries generate “credits”, or Certified Emissions Reductions (CERs), that can be purchased by developed countries, or companies in these countries, to meet their domestic carbon emission permit liability.

Joint Implementation (JI)

Joint implementation is a similar mechanism to CDM except that the project for investment is in a developed country that already has a UN-approved emissions cap under the Kyoto Protocol.

² Source: United Nations Framework Convention on Climate Change

Conclusion



Emissions management is no longer an optional issue for business, it is core to future growth and financial performance. There are substantial changes occurring in government climate change policy across Asia Pacific. Whilst the policy timetable is uncertain, there is a clear trend. Every CEO needs a strategy to deal with climate policy impacts and to be able to clearly explain this to shareholders.

Many large global companies are already acting on climate change. Well-known retailers and manufacturers are looking to enhance their profits through energy savings and by seeking better performance and transparency from their suppliers. These consumer-focused businesses have recognised that market expectations have changed. Consumers are demanding more sustainable products and services and their expectations will continue to mature. Brand value can be exploited by early movers and can be lost by those who have to catch up.

Considering the climate policy impacts of longer term decisions such as acquisitions, mergers and joint ventures is now an essential responsibility for any successful business leader.

CEOs also need to establish accountabilities in their business for understanding any potential liability and preparing for new opportunities. The first steps are to prepare a carbon emissions report to give understanding of the impacts of policy changes on operations and the supply chain. This can be followed by searching for new market opportunities.

All this is not difficult, but it needs institutionalising. The first steps are a small investment, compared to the potential opportunities and risks.

These risks are even more acute for organisations that are dependent on international trade as different countries will regulate at different rates. Simply waiting for global climate change policy agreement is the most risky response.

Appendix

Carbon liability for businesses in Asia Pacific

	Carbon reporting obligations	Carbon price liability	Levels of emissions reduction commitment to United Nations ³
Australia	The National Greenhouse and Energy Reporting Act (2007) requires reporting on carbon emissions and energy use for over 1000 largest emitters.	Proposed emissions trading scheme has been delayed until 2013. Final approval by Parliament is still required. Interim measures are possible.	5% up to -15% or -25% from 2000 levels by 2020.
China	Mostly voluntary. Some municipal governments have begun to set energy intensity limits that require users to report. Monitor progress towards national targets will require increased reporting by businesses.	ETS is unknown and carbon pricing is more likely to be a fixed price cap.	Reduce emissions per unit of GDP by 40-45% by 2020 compared to the 2005 level 15% energy from renewables by 2020 Increase forests by 40 Mha by 2020 from 2005.
Japan	Emissions reporting is required under the Volunteer Action Plan (VAP) in selected sectors.	Japanese companies are required to meet agreed reduction targets under VAP. These can be met by purchasing international credits. ETS also remains possible in the short term. ⁴	25% reduction from 1990 levels by 2020.
Indonesia	Voluntary	Unknown	26% reduction by 2020. Baseline is uncertain.
Laos	Unknown	Unknown	No submission
Malaysia	Voluntary	Unknown	No submission
New Zealand	Mandatory reporting has commenced in most sectors to support ETS.	Emissions trading scheme commenced on 1 July 2010 initially with a NZD 12.50/t price cap. Agriculture sector will be included by 2015.	Between 10 per cent and 20 per cent below 1990 levels by 2020.
Papua New Guinea	Voluntary	Unknown	At least 50% before 2030 Carbon neutral before 2050.
Philippines	Voluntary	Unknown	No submission
Singapore	Voluntary	Unknown	16% reduction from Business as usual (BAU) in 2020.
South Korea	Green Act requires reporting of carbon and energy in selected sectors from 2010. Independent verification will be required.	The introduction of a carbon tax has been considered. A pilot ETS is under consideration for 2013.	30% reduction from Business as usual (BAU) by 2020.
Thailand	Voluntary	Unknown	22.5% reduction in energy emissions by 2020. ⁵
Taiwan	The Greenhouse Gas Reduction Act will require reporting and verification of designated sectors.	The Greenhouse Gas Reduction Act proposes a Cap and Trade scheme but timing is unclear.	The Greenhouse Gas Reduction Act proposes a Cap and Trade scheme but timing is uncertain.
Vietnam	Voluntary	Unknown	No submission

³ The targets were sourced from responses to the Copenhagen Accord. Many are dependant on an effective global agreement being in place.

⁴ IETA, 2010 Greenhouse Gas Market report 2010

⁵ Thailand is not a signatory to the Copenhagen Accord.

Glossary

Business as usual (BAU)	Business as usual is the projected emission levels of a nation or other entity if no action was taken to reduce emissions.
Cap and Trade	A system that limits, or caps, pollution permits (usually for greenhouse gasses). The permits become scarce and emissions will reduce. Surplus permits are generally tradable.
Capex	Capital expenditure
Carbon	A term used to cover the group of greenhouse gases that drive global warming. The most prevalent of these gasses is carbon dioxide.
Carbon price	Carbon price is a cost placed on an activity that contributes to global warming. The cost is usually dependent on the level, or intensity of that contribution. Carbon taxes and emissions trading schemes are the most common types of carbon price.
Carbon tax	A carbon tax is a fixed price levy payable to government for a specified activity that contributes to global warming such as burning fossil fuels. The amount payable is usually expressed in dollars per tonne of emissions.
Clean development Mechanism (CDM)	CDM is a finance mechanism administered by the United Nations that allows emission reduction projects in a developing country to count towards meeting the emission reduction obligations of a developed country.
CERs	Certified Emission Reductions are the tradable units created by a Clean Development Mechanism project.
CO2	Carbon dioxide is the most abundant of all the gases that contribute to global warming. It mainly comes from burning fossil fuels or forests.
CO2-e	Carbon dioxide equivalent is an expression of the relative potency of all the greenhouse gases compared to the potency of carbon dioxide. Most emissions sources are expressed in this way.
Emissions	The release of greenhouse gases into the atmosphere.
Emission Trading System (ETS)	ETS is a government-run scheme that requires permits to be provided to government by emitters of specified greenhouse gasses. These permits are created by the government and over time there will be fewer of them which will encourage emission reductions. Surplus permits can generally be traded. The EU scheme is the most well known emissions trading scheme.
EU	European Union
GDP	Gross domestic product is a measure of economic activity for a nation over a fixed time.
Greenhouse Gas (GHG)	Greenhouse gases are the group of gases that contribute to global warming. The most common gases are carbon dioxide, methane and nitrous oxide.
JI	Joint Implementation is a finance mechanism administered by the United Nations that allows emission reduction projects in one country to count towards meeting the emission reduction obligations of another developed county.
tCO2-e	Metric tons of carbon dioxide equivalent.
UNFCCC	United Nations Framework Convention on Climate Change provides the global framework for nations to develop and monitor progress towards resolving the issue of climate change.
UN	United Nations

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KPMG's services and capabilities are closely aligned to helping our member firm clients with the challenges and opportunities that will be presented through the current market conditions.

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