



Carbon Market

Insights

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Contents

Australian market recap

Development of a near-future carbon price 1

Carbon price and the business community 3

Possible carbon policies for the Australian market

Implications for transport companies 4

First time reporting under NGER 6



This is the first in a series of insights papers which will cover relevant domestic and international carbon market news and developments as well as analysis on commercial risks and strategic implications for the business community.

Recent Australian government announcements regarding the introduction of a carbon tax in July 2012, to be followed three to five years later by the introduction of an emissions trading scheme, are causing many people in the business community to ponder the potential commercial impacts of carbon pricing on their companies' value. Although the finer details of this impending carbon policy are still to be worked out, what is clear is that a carbon price will have strategic implications for most Australian industries and businesses.

While direct emitters will have carbon tax or permit liability obligations, many other companies will be subject to higher energy and supply chain costs. The potential impacts of the pricing of carbon emissions will depend on a company's carbon footprint plus its market position and negotiating power with suppliers and customers within its supply chain.

In light of the imposition of a carbon price, it has become increasingly important for companies to get an accurate picture of their baseline energy usage and greenhouse gas emissions. Collection, processing, analysis and verification of such data should be a crucial element of every company's risk management strategies. Assessment of the economic and environmental merits of any mitigation strategies, including energy efficiency, alternative fuels or new technology, can then be undertaken.

A low carbon economy in Australia is inevitable. Although the timing, framework and design elements of a carbon policy might change or be modified, the key message of this insight paper is that carbon management is an issue to act on now as it is a matter of key strategic importance and one that has the potential to erode company value and competitiveness.

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Australian market recap

Development of a near-future carbon price

Multi-Party Climate Change Committee

Following last year's election, the government, under pressure from the Greens and Independents, established a 'multi-party climate change committee' (MPCCC) to explore options for setting the Australian economy on a low carbon path through the introduction of a carbon price.

The committee, chaired by Prime Minister Gillard, includes representatives from the Greens and Independents as well as four experts including Professor Ross Garnaut, who is concurrently updating his 2008 'Climate Change Review'. The premise of the committee is how best to implement a carbon price, which it deems necessary in order to meet Australia's greenhouse emission reduction targets and aspirations.

Australia is likely to have a fixed price on carbon from July 2012, with an emissions trading scheme to follow three to five years later.

A carbon tax and an emissions trading scheme (ETS) are both mixed government/market solutions. With taxes, the government sets the carbon price and the market sets the quantity of emissions; while with trading, the government sets the quantities of emissions (i.e. the cap) and the market sets the price.

The government is planning to conduct a review one year ahead of the planned date for switching to an ETS. Some issues that will be considered include an assessment of how Australia's competitors are approaching carbon pricing as well

The MPCCC has established principles to guide the development of a near-future carbon price, including environmental effectiveness, economic efficiency, budget neutrality, energy security, investment certainty and competitiveness of Australian industries.

as an analysis of the economic impacts of carbon trading. In terms of coverage, the scheme will include the energy sector, transport and industrial emissions, and waste.

Although further details are still to emerge, it is possible that power generators will face a carbon price in the early phases of the scheme, with other sectors being included thereafter. Although agriculture and forestry will not be directly exposed to carbon pricing (with the government opting to omit these sectors) they are likely to face a cost increase in their carbon-intensive inputs such as energy, and raw materials such as fertilisers.

By opting to start with a fixed price, the government has avoided a policy impasse relating to setting mid-term emission targets. Previously, the Greens had strongly indicated that the government's interim target of 5% by 2020 was insufficient and that a more stringent target (i.e. above 15%) was necessary to achieve real emission reductions.

However, the government still has to contend with the Greens and Independents over the appropriate starting carbon price. Early indications are that the starting price will increase annually at a set rate.

Australian companies need to be conscious of the fact that although a fixed price avoids carbon price volatility, which may occur under an ETS, there is still a chance for the government to revise its fixed price in the event that the scheme fails to meet interim and long-term emission reduction targets.

Recent business as usual emissions projections emphasise that a strong carbon price signal is needed to meet interim targets. These projections indicate that Australia will produce 690 million tonnes (Mt) of carbon dioxide equivalent (CO₂-e) by 2020 which equates to a 24% increase when compared to 2000 emissions. The government has pledged to cut emissions by 5% of year 2000 levels by 2020 but, given the economy's growth (which is mainly driven by carbon-intensive mining industries and reliance on coal for power generation), a 5% cut means reducing emissions by 160 Mt CO₂-e by 2020¹.

To provide investment certainty and achieve significant emission reductions, the starting price under any future carbon policy needs to be sufficiently high. Previous trades under the now defunct carbon pollution reduction scheme (CPRS) began at \$25/t CO₂-e.

Further, Australia's electricity sector, which accounts for almost 40% of Australia's emissions, would need a carbon price of at least \$20 for investing in gas-fired power generation, which is less carbon intensive than coal. Previously, the CPRS was designed to start with a fixed carbon price of \$10/t CO₂-e in 2011 for one year before a switch to an ETS. At the time, the Greens deemed that this starting price was 'too low'.

One disadvantage of a carbon tax relates to the difficulty in linking with other global carbon markets which are predominantly based on carbon trading (e.g. the European Union, New Zealand and emerging markets such as California). This approach impacts the trading and hedging strategies of Australian companies facing a carbon price as they may not be able to utilise international markets to lower their compliance costs.

Under the proposed carbon policy framework, Australian companies will not be able to use international offsets such as Certified Emission Reductions, which are generated under the

United Nation's Clean Development Mechanism during the fixed price period.

However Australian companies can use offsets from the domestic market, primarily through the recently established carbon farming initiative (CFI) which allows farmers, forest growers and landholders to generate permits through reforestation, improved farming practices and avoiding emissions. By setting the starting carbon price at a lower than expected level (i.e. in the range of \$5–10/t CO₂-e), the government would jeopardise investments in the CFI market.

Market consensus indicates that the starting carbon price needs to exceed \$20 to create demand for CFI credits.

Another major issue which the MPCCC needs to resolve over the next few months concerns the distribution of free permits to emissions-intensive trade-exposed (EITE) industries such as cement and steel, as well as those deemed to be strongly impacted by a carbon price such as coal mining and power generators. In the past, the Greens rejected the CPRS legislation

because it gave too much compensation to the coal and power industries.

However, recent comments by Prime Minister Gillard tend to suggest that Labor is insisting that compensation for energy-intensive industries remain close to that offered in the deal between former Prime Minister Kevin Rudd and Opposition leader Malcolm Turnbull in late 2009. Under this deal, the majority of industries received at least 66% of their permits for free. Businesses were also set to receive compensation for their increased electricity and fuel prices.

Uncertainty remains regarding permit allocation for carbon-intensive (non-trade exposed) industries such as LNG production, with the Greens having previously opposed any assistance to such industries. The LNG industry was promised \$3.6 billion in free emissions permits under the CPRS and it has been speculated that without such assistance, the economics of getting LNG projects to the financial investment decision stage could become more challenging.



Carbon price and the business community

With the Greens holding the balance of power in the Senate, the government will have to compromise on compensation measures and starting carbon prices in order to have any chance of getting its carbon legislation passed. At this stage, a decision on how to design a pricing mechanism appears months away.

As far as the business community is concerned, despite the lack of overall progress on carbon policy architecture, the introduction of a carbon price seems inevitable. Through strategic risk planning, businesses first need to identify potential carbon liability risks and align their business models accordingly to mitigate future financial and valuation risks. The changing business landscape and impact on cost structures are likely to increase pressure on margins, as electricity, fuel and other input costs

are likely to rise in a low carbon environment. Australian forward electricity prices are factoring in an increasingly certain price on carbon from mid-2012 and, in response, some companies are analysing the carbon intensity of their supply partners and reviewing their supply contracts to ensure business readiness in coming years.

The issue of market positioning, pricing power and carbon cost pass-through should be discussed at board level to ensure that effective strategies are implemented now to future-proof businesses from a multitude of risks and business impacts. Companies already reporting under NGER (National Greenhouse and Energy) and EEO (Energy Efficiency and Opportunity) need to consolidate their baseline emissions and energy data and focus on strategic mitigation opportunities which will not only

reduce their future carbon liability but may also result in energy and subsequent cost savings.

With the price of oil rising again following recent political tensions in the Middle East, transport companies in particular need to review their mitigation opportunities and prevent near-future impacts on operating costs and overall business growth. These carbon risks on margins are compounded by carbon conscious fleet customers such as major retailers who are increasingly insisting on low carbon transport partners in order to contain their supply chain emissions and mitigate against future carbon cost pass-throughs. While industry laggards risk losing market share, there are growth opportunities for transport companies which have implemented low carbon fleet strategies.



Possible carbon policies for the Australian market

Implications for transport companies

As debate continues on the architecture and design of Australia's near-future carbon pricing policy, it is worthwhile reviewing the main options associated with the introduction of a carbon price, namely an ETS and a carbon tax.

Emissions Trading Scheme

An ETS effectively sets a cap on emissions, with the cap set to decline annually to achieve emission reduction targets (e.g. Australia's 5% by 2020 target), and lets the market determine the carbon price based on supply and demand dynamics. The cap is the total number of emission permits that will be available for any given year, with one permit being equal to one tonne of CO₂-e. The advantage of an ETS relates to the cap linking emission reduction goals with a carbon price. Companies that are liable under the ETS will have to surrender permits covering their annual emissions minus any government assistance in the form of free permits.

Under an ETS, there are no limits on emissions at a facility or company level. The idea is that as the cap gets stricter and permits become scarcer, the cost of permits will increase thus providing businesses with an impetus to invest in cheaper abatement measures. To avoid carbon price volatility, governments generally set a 'floor' and 'ceiling' carbon price and allow companies to bank their excess allowances for future usage. Further, businesses are allowed to borrow from their future allocations and can generally

purchase international offsets for compliance under an ETS.

The latter option might provide businesses with some cost savings when international prices are lower than the primary market permit prices. Understanding the dynamics of offset markets and carbon price drivers becomes important for businesses that plan to lower their trading costs by accessing international markets.

In essence, the robustness of an ETS relates to the flexibility it provides to businesses in their trading and hedging strategies.

For instance, the New Zealand ETS, which has been operational since 2008, sets a price cap of NZ\$25 in the transition period of the scheme (2010–2012). Price containment measures have also been implemented in California's impending ETS which commences in 2012. This includes a floor price of US\$10/t CO₂-e, which increases by 5%, plus inflation, annually.

Governments also generally hold a reserve of permits which they can release into the market to ease price pressures. The European Union ETS and the Californian ETS have both put a fraction of total allowances aside in reserve accounts.

The design of an ETS can be complex as it involves decisions on permit allocation, coverage (sectors, gases), point of obligation (direct, upstream, downstream) as well as price containment

measures and inclusion of industry compensation to prevent carbon leakage.

In terms of permits, governments can either allocate these for free based on 'grandfathering' or they can opt to auction these permits and use the raised revenue to compensate impacted industries (e.g. EITEs) and market participants as well as households.

So far, the majority of permits under the European Union ETS have been allocated for free, with Member States having the option of auctioning up to 10% of their national allocations. The level of auctioning is set to increase under the third phase of the scheme starting in 2013. Under the New Zealand ETS, free permits are allocated to EITE industries, with power generators and suppliers of liquid fossil fuels ineligible to receive free permits.

For transport and energy companies, the point of obligation is a crucial element of an ETS.

The CPRS covered transport through an 'upstream' point of obligation whereby upstream energy companies were required to purchase permits on behalf of their customers and pass through the carbon impost to their customers. This approach would have significant cash flow and working capital challenges. To offset the rising cost of fuel for heavy on-road transport vehicles (> 4.5 tonnes), the government had planned to cut fuel

tax on a cent-for-cent basis for the first year of the scheme.

Although at this stage there is uncertainty about the treatment of transport under future carbon policies, the inclusion of this sector seems inevitable when it is considered that transport accounts for 14% of Australia's greenhouse gas emissions (which are projected to increase by 15% by 2020¹).

Except for large energy users, a direct point of obligation (i.e. vehicle owner) under an ETS appears unlikely for the transport sector due to lack of complete coverage, difficult monitoring and enormous administrative cost. Conversely, midstream and upstream (e.g. refineries) approaches can guarantee close to complete coverage, relatively easy monitoring, and low administrative cost. It would not be difficult to implement them in Australia because the fuel suppliers or filling stations already have reliable data about their fuel sales.

Carbon tax

A carbon or a fuel tax is also certain to have a material financial impact for many transport companies through higher fuel prices, especially small and medium enterprises which have much tighter margins.

However, unlike an ETS, a carbon tax provides some price certainty as it avoids price volatility which may occur under an ETS. Further, there are likely to be more extensive administration and transaction costs under an ETS, especially for the larger transport companies which could directly manage their permit

liability obligations, and would need to develop expertise in carbon trading so that they could participate in auctions and better understand their hedging options.

The appeal of a carbon tax lies in the simplicity of its implementation and lower transaction costs and its ability to utilise existing tax structures.

A carbon tax that entails setting a fixed permit price cap (e.g. \$10/t CO₂-e) provides greater predictability and provides business certainty in terms of future investments in alternative technology and fuels as well as being less burdensome on a company's cash flow management plans. Liable businesses effectively pay a carbon tax for every tonne of their direct carbon emissions. Under a carbon tax, however, the government needs to estimate how emission levels would respond to a carbon tax rate, introducing uncertainty about whether the target would be reached. So there is a chance that a fixed carbon price may have to be revised upwards in the event that the government is struggling to meet its targets.

Under a carbon tax, the government still faces the challenge of how to compensate EITEs and other impacted industries.

One advantage of a carbon tax is that export-exposed industries can

be protected – a carbon tax, like the GST, can be rebated for exports and imposed on imports.

In contrast, while the carbon price will fluctuate under a cap and trade model, there is a capacity for firms to use market instruments to help manage movement in the carbon price. The cost of abatement can also be lower under an ETS if the national scheme is linked to other existing carbon schemes (such as the European Union or New Zealand schemes) as it puts downward pressure on the domestic permit prices and allows companies to take advantage of cheaper carbon markets and lower their cost of compliance. Such linkage would not be possible under a fixed carbon price.

Regardless of an ETS or a carbon tax, Australian businesses, including transport companies, need to prepare for a low carbon economy. The financial and commercial implications of both pricing mechanisms will have direct costs for liable entities and indirect cost liabilities related to higher energy and supply chain costs.

As well as addressing these risks, a strategic carbon response plan also needs to ensure that businesses are ready to respond to the impacts of carbon pricing on brands, investors and demand for services and products. Any new revenue and growth opportunities also need to be integrated as part of this plan.



First time reporting under NGER

NGER is now in its third year of operation. The corporation threshold for the 2010–2011 period has been lowered to 50 kilotonnes CO₂-e of emissions and 200 terajoules of energy consumed or produced (approximately 5.2 ML of diesel usage).

The facility threshold remains unchanged and transport companies must register and report if they consumed or purchased around 2.6 ML of diesel in 2010–11 within a state or territory. Businesses need to register with the Department of Climate Change and Energy Efficiency by 31 August and submit their reports by 31 October 2011.

For businesses reporting for the first time, it is essential that processes and control mechanisms are implemented to ensure that the necessary data is captured. The completeness and accuracy of energy usage and emissions data are compliance requirements under NGER. Also since many companies use such data to assess their direct and indirect liability to carbon pricing as well as assess the viability of alternative fuels and technology, it is crucial that data collection and analysis is as comprehensive as possible.

Companies must report on any facility, subsidiary, joint venture (unincorporated only), and/or partnership under their operational control. Operational control is defined as having the authority or greater authority to introduce and implement operating, health and safety, and environmental policies for a facility.

Following the identification of emissions sources relevant under NGER, which includes scope 1 (i.e. direct) and scope 2 (i.e. electricity/steam usage) emissions, transport companies then need to collect data such as fuel usage which can subsequently be used to quantify emissions. In terms of fuel usage, many transport companies utilise the aggregate fuel usage by their fleets. However, capturing fuel usage at a vehicle level can be far more beneficial for the business in the long run.

[Having vehicle level data allows fleet operators to assess the viability of alternative technology such as electric vehicles or alternative fuels such as LNG or biodiesel more effectively since such assessments take into account vehicle specific data such as kilometres travelled and application.](#)

It is important that companies reinforce their data management and control mechanisms to ensure that data is captured as effectively as possible, especially from fuel and electricity suppliers. Businesses should engage with their suppliers to discuss their data requirements and frame in any contract renegotiations or clauses stipulating the provision of data in a format that meets NGER requirements.

For transport companies, once the fuel usage data is in place, greenhouse gas emissions can be calculated by applying methodologies (i.e. method 1 using conversion and emission factors) outlined in the NGER measurement determination and technical guidelines. An uncertainty estimate must also be provided for any scope 1 emissions estimates. Areas to be considered under such uncertainty estimates include uncertainty of the energy content as well as uncertainties relating to activity data (e.g. diesel usage) and emission factors. The total uncertainty of scope 1 emission estimates for a company reporting under NGER is the aggregate of the total uncertainty for each facility. For combusted fuels, uncertainty values vary with fuel type. For instance, for diesel, the uncertainty level for energy content and emissions factors is 2%².

NGER Legislation Thresholds

	2008–2009		2009–2010		2010–2011	
	Corp.	Facility	Corp.	Facility	Corp.	Facility
GHG (t CO₂-e)	125	25	87	25	50	25
Energy (TJ)	500	100	350	100	200	100
Diesel (ML)	13	2.6	9.1	2.6	5.2	2.6

NGER's regulatory officer, GEDO (greenhouse and energy officer), intends to review submitted NGER reports to identify any outliers whereby reports for companies in the same sector present very different levels of greenhouse gas emissions and/or energy consumption data.

The GEDO may also refer to sustainability reports and other publicly available data in reviewing the accuracy of the NGER reports. Failure to comply with obligations under the NGER Act may result in penalties of up to \$220,000 for the corporation and for executive officers.

Managing financial impacts and reporting of carbon emissions

Companies that focus on improving the quality of their emissions data collection and reporting will have a significant competitive advantage in the emerging low carbon economy in Australia.

Once a company has a comprehensive picture of its climate impacts, it is in a better position to strategically and cost-effectively address its risks.

A complete GHG inventory allows companies to evaluate the risks of future carbon liabilities. It also allows companies to develop carbon intensity metrics relevant to their operations (e.g. tonnes CO₂-e per passenger trip) and to set appropriate targets to manage their exposure as well as improve their competitive positioning.

References

- ¹ 'Australia's Emissions Projections', Department of Climate Change and Energy Efficiency, Canberra, 2010,
<http://www.climatechange.gov.au/~media/publications/projections/australias-emissions-projections-2010.pdf>
- ² 'NGER Technical Guidelines', Department of Climate Change and Energy Efficiency, Canberra, 2010,
www.climatechange.gov.au/.../~/media/~/media/publications/nger-technical-guidelines-2010.ashx



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Rare Consulting is a specialist consultancy providing strategic services in the areas of transport and the environment, with a major focus on alternative fuels and technology, climate change, carbon risk management and energy efficiency.

Our diverse suite of strategic services ranges from evaluating company and industry level carbon risks and opportunities, assisting companies with their compliance reporting (NGER, EEO) and preparation of tailored carbon risk management plans which will protect and enhance company value in emerging low carbon economies.

For transport companies and other fleet operators this extends to assessing energy usage and carbon emissions of fleets at a vehicle level and formulating low carbon strategies by assessing the economic and environmental merits of alternative fuels, energy efficiency and low and new vehicle technologies.

Our team comprises highly qualified, experienced professionals who not only have a deep understanding of the issues associated with our core service areas, but have the practical capability to develop and implement innovative solutions.