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CarbonEdge

Intelligence services providing the information you need to have the edge in carbon markets...

CarbonEdge is published jointly by Fitzpatrick Woods Consulting and IndustryEdge on a bi-monthly basis.

The CarbonEdge team has committed to provide three editions free of charge. We will then assess the commercial viability of the publication and proceed on a subscription basis delivered through a cutting edge website.

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EXCLUSIVE

Allan Fels talks exclusively to CarbonEdge about carbon trading, establishing new markets and regulatory challenges

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IndustryEdge is a group of highly experienced professionals capable of addressing the complex issues facing the pulp, paper and forestry sectors. The company produces a range of analytical and insightful monthly and bimonthly market reports for an extensive subscriber base, plus annual multi client strategic reviews focusing on these and related industries. In addition, IndustryEdge provides consulting and retainer services for corporate and government clients.

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Fitzpatrick Woods Consulting

Fitzpatrick Woods Consulting is a sustainable development consulting firm with expertise in climate negotiations, research, public policy and campaigning in Australia, the Pacific and Asia. FWC provides industry, business and investment analysis and support. FWC works with affiliates in Indonesia and Papua New Guinea and recently opened a project office in the Solomon Islands.

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In This Issue...

Feature

In the News

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Two Heads are Better than One

Our regular column featuring the often different views of Tim Woods from Fitzpatrick Woods Consulting and Robert Eastment from IndustryEdge. In this first edition, Tim and Robert outline their views on whether an emissions trading scheme can act to reduce emissions of CO_2 and other greenhouse gases.

Tim Woods

Economic orthodoxy suggests that markets can solve problems. But if we accept that climate change is a problem and that humans – market participants – created the problem, then we have to be more cautious as to whether markets can solve the climate problem.

Sir Nicholas Stern described climate change as perhaps the world's greatest market failure, and if it is, then markets are not going to fix it.

Markets are organic beasts that grow from perceived demand and opportunistic supply. They create efficient distribution for something scarce. It is only subsequent to its existence that a market normally requires regulation. Establishing a market mechanism is anathema to the pure principle of markets.

An ETS is a soft option on strong regulation and taxation. It operates by creating scarcity, imposing an exchange method and cost, but leaving the distribution to this fabrication called a 'market'.

An emissions trading scheme is therefore not a true market mechanism. Nor is it a direct tax.

An ETS is neither fish nor fowl.

As a result, we should not expect an ETS to operate effectively as either a market or a regulatory mechanism. This type of mechanism will increase costs and might adjust a few behaviours at the margin, but it will not drive or create new behaviours to the extent that the climate challenge clearly requires.

But will the Rudd Government get its way and pass the CPRS legislation ready for the scheme to commence on 1st July 2010. Not likely. And in the end, they may not even try.

Robert Eastment

The pressing need for an ETS to slow, or even place climate change on hold, is a political process rather than being a pragmatic one. There is no doubt action is desperately needed on a global scale to act on the rate of climate change. However, any political pretence that the introduction of an ETS is going to save the Great Barrier Reef will be pathetic at best.

Australia currently produces close to 1.5% of the global emissions of Green House Gases, and if the target is to reduce our emissions by 5.0% by 2020, then we will still be producing 1.425% – assuming all factors including emissions by other countries will remain the same – which they won't.

Going forward it is recommended and commendable to be in an ETS, however, entry must be analysed extensively first and strategies developed that will create the desired economic benefits for businesses as well as the economy in general. Unfortunately ETS will not be a free market mechanism, but rather a political process with admirable intentions.

The structure of a future ETS is certain to benefit those in the process more than those who opt not to join. However, the dynamics of any such scheme and the implications on Australian business cannot be left to chance.

The difficulty for any businesses is that they are being encouraged (forced) to play in an ETS league without knowing the rules or who the umpires will be. The goal posts are likely to move anyway.

The political process will be tough for business, and it is doubtful if the environment will even notice. CE

An Emissions Trading Scheme

we will get, but when it will start is anyone's guess...

Key Points

- **A carbon tax is not an option**
- **Senate will give way on ETS, but probably not to operate from 2010**

CarbonEdge was initially intrigued on 12th February 2009 that the Federal Government proposed to send its own proposals for the Carbon Pollution Reduction Scheme to a review by the House of Representatives' Economics Standing Committee. The Government has the numbers in the Committee and the House so it is just a rubber stamp. Of course it could be just as the Treasurer said, that the Government was just doing what a prudent Government always does.

But this added prudence was more likely to be about retaining control of the legislation if the Senate tries to make significant amendments to it. The recent difficulties with the economic stimulus package, the alco-pops nonsense and the new industrial relations regime demonstrate why that's necessary.

The Liberals and especially the Nationals in the Senate are by no means predictable on emissions trading. If they seek major amendments or refuse to support the legislation, the Greens, Family First's Steve Fielding and Nick Xenophon come into play. For the Government, we think that would be like another episode in herding cats – annoying, by no means guaranteed and potentially expensive.

So it is just possible that the House of Representatives' review was intended as a back door exit from, or delay to the CPRS, should it be needed. But more likely, before it withdrew the inquiry because of the mixed messages it was sending, the Government intended to use its numbers to lambast the carbon taxation alternative being proposed by some economists and a couple of mischievous Shadow Ministers.

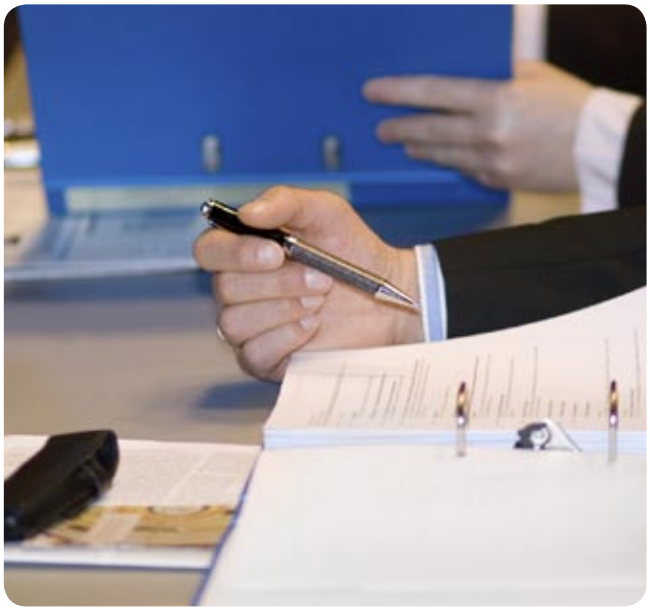
The Government would have been heartened to hear its 'chief business advisor', Helen Ridout from the Australian Industry Group say that Australian businesses could tolerate the emissions trading scheme, but not the start date and that a 2012 kick off would be more appropriate. That was a signal to the Liberal and National parties that business would not be pleased to go through the whole negotiations again and they will not be keen on a tax alone.

CarbonEdge has conducted its own reviews and they show most of the economists arguing for a carbon tax were silent when the Government (then in opposition) first proposed to sign the Kyoto Protocol and implement emissions trading. It's a bit rich for them to change their minds on an ETS and then expect the Government to do the same.

We don't expect the Government to move from an ETS to a carbon tax. True, a carbon tax would broaden the base and spread the load, but it is not the most efficient measure and criticism always lands with Governments for taxes but not so much with markets. The truth is, even if the Government was minded to a change (and it isn't), there's too much political water and too much time and energy spent in design and negotiation for a change at this late date.

The Obama administration may move on a carbon tax and if they do, that could provide the necessary wriggle room for a change of direction. However, we think that's a very unlikely outcome in the US. And we don't think the Rudd Government will follow them if they do.

It's an ETS for Australia. But the start date and the detailed rules are still anyone's guess. CE



The CarbonEdge Interview

Professor Allan Fels, AO

Professor Allan Fels talks privately to CarbonEdge about climate change, carbon management, emissions trading and the roles and relative merits of regulation and markets.

Undoubtedly Australia's best known regulator, for more than a decade, Professor Allan Fels was Chairman of the Australian Competition and Consumer Commission (ACCC). Turning a previously sterile organisation into an advocate for competition and genuine markets as a means of protecting Australian consumers, Professor Fels took on many high profile and occasionally controversial matters in a firm and often forthright manner.

CE: Professor Fels, thanks for speaking to CarbonEdge today in this inaugural interview.

Sir Nicholas Stern said that the failure to address climate change represented perhaps the greatest failure of markets in recent history. How would you personally characterise climate change?

I agree. Climate change is a market failure that cannot be remedied or reversed without regulatory intervention because the incentives that would drive an effective free market mechanism simply aren't there. It should also be added that Australia has a larger interest in mitigating climate change than other developed countries because of its characteristics. As Ross Garnaut noted, small variations in climate are more damaging to us than to other developed countries because we are already hot and dry. At the same time, our existence in a region of developing countries far less able to adapt to climate change than us would see their problems would become our problems. Then there are our terms of trade – more likely to be damaged by the effects of climate change than any other developed country.

CE: One thing that is clear is that climate is truly international. That suggests that effective solutions to climate change will similarly have to be truly international. At a global level, which is likely to be more effective in providing a lasting solution – free market mechanisms or regulatory approaches?

Regulatory, definitely. Yet the process of arriving at a regulatory regime that meets the dual objective of tackling and reversing the effect of climate change is a great challenge. Climate change itself is uncertain in its form and extent, and its impact and remedies are long term, rather than immediate. No one nation's actions will cure the problem. International co-operation of unprecedented dimension and complexity is required.

CE: Can you outline situations where you think there is space for a mixed approach in which both markets and regulation are likely to work in concert to deliver a better climate solution than either on its own?

I think for any carbon pollution reduction scheme to work, government and industry need to work together in a spirit of co-operation. I also think that no carbon market, no matter how free, could function effectively without regulation assisting it and enforcing it.

...The CarbonEdge Interview

" I also think that no carbon market, no matter how free, could function effectively without regulation assisting it and enforcing it."

CE: Emerging markets, such as the one developing for carbon, can be distorted through the introduction of subsidies and other government 'assistance' as a result of susceptible industry sectors submitting strong business cases for protection. Do you believe a new market, such as carbon trading, should be government established and controlled or should the space just be left for free enterprise to establish unfettered markets?

I think it's fair to say that the time for self-regulated markets to form and function fairly, transparently and efficiently has gone. There are too many interests among industry for any unfettered market to achieve a significant reduction in Australia's greenhouse gas emissions.

CE: The international treaty to reduce Australia's greenhouse impact was signed by the Federal Government, but some state governments are implying they will establish schemes to promote carbon trading. We have already seen this approach in the United States. Surely the signatory to the international treaty would have the sole right to promote or manage schemes, both internationally and domestically. Is this view correct or misleading?

The short answer is that it's not as simple as saying to the states, 'Keep your hands off'. Legally, the Federal Government has the right to sign international agreements on Australia's behalf. It also has the right to pass legislation to implement an international convention not otherwise within its power in the Constitution. At the same time, however, the States have the power to legislate with respect to the environment and the power to challenge the validity of the Federal Government's legislation ratifying any international agreement. A State would only be successful in its challenge, however, if it is found that the legislation does not reasonably conform to the international agreement and the Federal Government is not exercising this power bona fide.

Having said all of that, it should also be noted that in the last decade or so, the States have worked quite closely with the Federal Government in a spirit of co-operation regarding the environment.

CE: It is difficult to be certain about the passage of the Australian Carbon Pollution Reduction Scheme through Parliament at the moment and we know that lack of certainty is a concern of business right now. What other issues are Australian business people you meet currently most concerned about with carbon markets?

The fairness of the scheme as it stands today – the free permits provided by the government under the current scheme, whether the way they have been allocated will distort the market, and whether all strategies to abate greenhouse gas emissions are capable of recognition under the scheme.

...The CarbonEdge Interview

CE: CarbonEdge is aware that some businesses are already carrying significant costs associated with carbon management. From a business perspective do you believe there needs to be a significant financial commitment up front before business can participate in a carbon market? In what areas will costs have to be borne? (Will it be expensive for business to comply?)

Of course there will be costs associated with compliance. There are with any new regulatory regime. Some parts of the resources sector have voiced their concerns about the threat that a price on carbon poses to their competitiveness and it is true that our trade-exposed, emissions-intensive industries have valid concerns, but any regulatory regime would ensure that these costs were minimal. It is nevertheless important to remember the wider context and keep in mind that businesses have their own agendas to pursue, with profits, investors and shareholders front of mind.

CE: From a regulatory perspective, what would be your primary concerns if you were asked to design a fair and equitable carbon market? Is there anything in the current design of the Carbon Pollution Reduction Scheme that you would have done differently or that you think will change over time as the market becomes more mature?

I think it's important to recognise strategies across the spectrum that already abate carbon, such as closed-loop recycling and remanufacturing. When you're distorting the market for a public good, it is important to distort it in a way that achieves that public good. The risk in not including current efforts to abate in the scheme is that those efforts already being pursued are discontinued. In other words, there could be unintended disincentives for firms that are doing the right thing but aren't recognised for it.

One example is the remanufacturing of waste that occurs in Australia. Right now, it is often cheaper for raw materials to go offshore to be processed and recycled – a process that emits carbon. Recognising remanufacturing in Australia as a process of carbon abatement would create incentives to remanufacture here rather than overseas and encourage those who are already remanufacturing here to keep re-investing in the process. .

CE: The White Paper states clearly that an unlimited number of complying international credits will be allowed into the Carbon Pollution Reduction Scheme. Do you have any views about the way Australian industry will take advantage of this opportunity and is it just cheap credits for Australia or could there be some positive co-benefits in developing countries?

I think this has the potential to be win-win for Australia and developing countries because of the potential technology transfer and the incentive to research and develop new technologies. As acknowledged in the Garnaut report, it is developing countries that are likely to be unable to afford

...The CarbonEdge Interview

many carbon abatement measures – they need our help and expertise. Remember that climate change is a global problem so reducing emissions in developing countries is just as important as reducing emissions in Australia.

CE: Many claims are made about the environmental credibility of various products and of course, the same applies to many financial products, so it's reasonable to assume there will be claims aplenty about the qualities of carbon market products. What issues will need to be addressed by the regulators to ensure that the Carbon Pollution Reduction Scheme and other markets meet their overarching objective and still meet the requirements of a genuine market?

The scheme itself must be and be seen to be equitable. The government must not bend to powerful lobby groups and self-interest and it must be aware that what may seem like small compromises today has the potential to undermine the scheme in the long term.

The scheme must be based on clear and soundly based principles that are articulated to industry as well as the public and these principles must be implemented by strong, effective and well-resourced institutions so that the market is transparent and seen to be fairly regulated. It is important that the regulator cannot be given the run around by industry. The regulator must be given ways and means of enforcing the scheme and ensuring compliance.

CE: Professor Fels, thank you for your time today and for speaking candidly to CarbonEdge. All the very best to you and to your team and endeavors at the Australian and New Zealand School of Government. CE

" It is important that the regulator cannot be given the run around by industry. The regulator must be given ways and means of enforcing the scheme and ensuring compliance."

Emissions Reduction from Waste Sector Requires More Attention

Key Points

- **The waste sector makes a significant contribution to emissions reductions**
- **The CPRS White Paper does not adequately cover the waste sector**
- **Recycling, reprocessing and re-manufacturing require more attention in the final legislative, regulatory and support packages of the CPRS**

Both the international and domestic debates regarding the reduction of carbon pollution have been focused on primary and secondary sectors, especially energy production and manufacturing industries. However, CarbonEdge thinks there needs to be greater debate on the benefits of recovering material before it enters landfill systems and ultimately, proper recognition of the quantifiable emission reductions. In times when employment and value adding through manufacturing is increasingly at the forefront of national concerns, the employment and recycled input opportunities provided by the waste sector require an even closer examination.

In our view, reducing the release of CO_2e and equivalent gases from landfill should be accounted for in the same manner as the reduction of CO_2e in direct manufacturing, however, this will require adjustments to the current thinking of the Australian Government's development of the CPRS.

CarbonEdge was particularly impressed by the breadth of the submission on the Carbon Pollution Reduction Scheme of the nation's largest recycler of paper and paperboard, Visy, who are also one of Australia's largest operators of mixed recycling facilities. We include the key points from that submission in this edition of CarbonEdge.

The following points summarise Visy's submission and the adjustments to the CPRS proposed by the firm:

Visy is strongly committed to re-investing in its Australian recycled products manufacturing business with environmentally-advanced facilities providing highly-skilled jobs. The company's investment in collecting recyclables has been driven by the need to secure feedstock for domestic remanufacturing plants – principally for recycled packaging paper.

Independent life-cycle assessments of Visy's paper remanufacturing activity shows that for every tonne of recycled paper manufactured, around 0.4 t of CO_2e are abated. That is, paper remanufacturing is much better than carbon neutral. These data derive from the AGO-based landfill avoidance (credit) for paper products of 2.08 t CO_2e per tonne of paper, minus the emissions generated by the paper remanufacturing process (1.66 t CO_2e per tonne). Recycling of paper is a major weapon against greenhouse gas emissions, not primarily because of its comparative emissions intensity in manufacture, but because of the landfill avoidance benefits of recovering waste paper. That said, remanufacturing has many other environmental benefits – such as reduced water use, protection of virgin material stocks, etc., many of which fall outside the immediate market system.

The CPRS White Paper makes virtually no mention of genuine "closed-loop" recycling in the context of the White Paper's greenhouse gas reduction objectives.

In recording its assumption that CPRS coverage of the waste sector (i.e. landfills) will automatically drive greater recycling, the White Paper states that the CPRS permit market/system will force materials to flow to their lowest point of liability. On this basis, the Government appears to believe that awarding some form of special recycling offset/credit under CPRS could amount to "double counting" because the landfills themselves will be liable parties under the Scheme.

...**Emissions Reduction** from Waste Sector **Requires More Attention**

However this theory fails on two counts:

1. The imputed permit price for landfill emissions is not likely to be high enough to change behaviour, because the landfill market is controlled by a few large players. Recent significant gate fee increases (through landfill levies, etc) have not materially changed the amount of landfilling, and
2. Even if material is diverted from landfills, we can't be confident the collected waste will go to any Australian remanufacturing plants at all. It is often simpler and less capital-intensive to just export the collected waste in raw form. Export of Australian-collected waste paper to China would result in significant carbon leakage, even when that waste paper is remanufactured in China.

A government-sponsored system for incentivising local remanufacture from recycled feedstock is required, with the logical point of applying the incentive being the place of remanufacture (for example, recycled paper plants).

If the benefits of domestic remanufacturing from recycled feedstock were properly accounted for in the CPRS arrangements, and/or under some form of complementary measure, Visy would be able to commit to further remanufacturing investments, with more skilled jobs, into the future. An immediate example is a new recycled paper mill in Sydney or Melbourne, at a capital investment of around AUD300m and more than 200 jobs.

Under the current plans, the CPRS designers have not properly evaluated the vulnerability of the domestic recycled products manufacturing sector under the CPRS. That is, while coverage of the waste sector may be valuable in winding back emissions from landfill, Australia will likely see a hollowing out of its recycled products manufacturing base. New remanufacturing investments will not be able to proceed. Yet there will be a rise in emissions in Asia due to higher intensities from recycled paper making there, with mills sourcing some of their waste paper feedstock from Australia.

Visy believes that, on the basis of the high trade-exposure of its Australian recycled paper manufacturing, the Company would be forced to close immediately at least two of its paper mills. These would probably be in Melbourne and Sydney. In the medium and longer term there would be further closures as the price of carbon emissions increases, and we would be unable to proceed with other linked investments.

A more appropriate turnaround mechanism would be to credit the authenticated carbon abatement of its recycling and remanufacturing, thereby reducing its net permit liability. Since this activity provides Australia with a perpetual abatement benefit, such a credit arrangement should be built into the overall Scheme design rather than being simply a transitional measure as proposed with EITE assistance.

In parallel with a special offsetting arrangement for genuine remanufacturing, Visy's submissions proposed an investment incentive policy be developed to encourage investment in domestic remanufacturing from recyclables. This could be as simple as an accelerated depreciation regime for qualifying projects. CE

Economic Crisis Slows Climate Change

The global finance crisis is bringing international climate negotiations back to a realistic level, but it will not stop them altogether as some have predicted.

Key Points

- **Acceleration of international negotiations unlikely to improve climate outcomes**
- **Global financial crisis has created inertia**
- **Smartest will use downturn to retool, pursue cheaper energy options – capital a problem**

With less money to fund the changes required to create significant reductions of greenhouse gas emissions, there is a new inertia in the international climate airwaves. That doesn't mean there is no activity, just that it has come back from the heady days of the Bali conference in December 2007 when the world was seemingly awash with money to 'fix the problem'.

As a result of the changed dynamics, expectations about the outcome from the global climate negotiations should be altered. While undoubtedly true that the final details will not be known until the end of the Copenhagen meeting in late December 2009, there are already enough signals available to make some informed guesses as to outcomes.

At a headline level, from the 2009 negotiations, CarbonEdge expects:

- relatively low emission reductions targets for developed countries (signalled by Australia's 5% target)
- rapidly developing and slightly more advanced countries like China, India and Brazil to commit to very small emissions reduction targets where they are wholly funded by developed countries (signalled by the nature of the negotiations in Poland, late in 2008)
- least developed countries to have more schemes funded by developed countries available to them to reduce or avoid emissions (no particular signal, but this is the cheapest way to reduce global emissions).

Lower Global Carbon Prices Put Pressure on Price Under ETS

Serious doubts are emerging that the Federal Government's Carbon Pollution Reduction Scheme will provide the revenues expected when it commences in July, 2010.

The declining global carbon price is a flow on of reduced economic activity and the inevitable, commensurate reduction in demand for carbon credits. The impact in Australia of this decline (the price is currently at or below AUD15 a tonne) is to significantly reduce the income the Federal Government will receive from the auctioning of permits to emit. With a notional AUD25 per tonne price tag, the Australian credits will be expensive and emitters will seek cheaper credits from overseas.

These overseas credits have to be 'Kyoto compliant' and will come from currently limited sources. Increased Australian demand will place upwards pressure on the price of international credits, but the price gap is already large and expected to grow.

...Economic Crisis Slows Climate Change

At the same time, the price in the voluntary carbon market is perilously low. Even 'premium credits' where there is credible verification, significant social benefits like reduced impoverishment and improved livelihoods for indigenous people and collateral environmental outcomes such as enhanced biodiversity are being achieved, the price of these credits is around US2.50 per tonne. These credits may not currently be of optimal use to a business requiring credits for acquittal in Australia, but they continue their role as a price indicator, lower the average cost of carbon credits globally, providing for downwards pressure on prices.

The upshot of lower carbon revenues is less funds available for household and business compensation with an increased likelihood of funds being drawn from general Government revenues. Emissions Intensive, Trade Exposed businesses already have serious cause for complaint about the increased costs they will bear disproportionately under the CPRS. Many of these are marginal businesses, employing thousands of Australians in quality, mainly blue-collar, jobs that the Australian economy seems incapable of replacing. An added carbon cost in extremely tough economic conditions is further impetus for declining investment and employment.

We are not alone in considering the current proposals to be untenable – at least in terms of start date. CarbonEdge expects to see some deft political footwork applied to address this potential public policy train wreck. (see the related news article on page 4)

" With less money to fund the changes required to create significant reductions of greenhouse gas emissions, there is a new inertia in the international climate airwaves."

Business to Take Opportunity to Retool

The volume of carbon credits that businesses need to purchase to cover either a higher Australian emissions reduction target or higher emissions from much higher levels of production has already decreased because of the economic crisis. It will decline further in coming months.

With lower construction and capital costs, CarbonEdge expects to see a rapid increase in efforts to reduce energy use and to retool existing energy plant with reliable and viable renewable energy technologies. We are aware of some activities in this area already. Realistically, this will occur primarily in heavy industry, especially in integrated plants where at least some energy and energy by-products like steam are created internally.

Chemical manufacturers, pulp manufacturing and we understand at least one large concrete products manufacturer have significant rebuilds under consideration for existing plant.

The investment markets should be awash with opportunities to assist with funding these developments by years end. CarbonEdge is aware of several that are in the investment pipeline and a number that are on the drawing boards. CE

Business Must Prepare for Emissions Trading

The responsibilities and management issues presented by the introduction of an Emissions Trading Scheme are very substantial. In this edited extract of a longer article, Fred Rowley, actuary and Principal at Professional Financial Solutions comments on the need for business to develop new processes, and to improve information quality and quantity.

Despite the inevitable current emphasis on the economic crisis and economic stimulus in various forms, the Carbon Pollution Reduction Scheme (CPRS) – and the emissions trading scheme (ETS) integral to it – still represent a cornerstone of government policy.

It is unlikely the CPRS will provide the impetus for Australia to take full advantage of the opportunity to use elements of the current economic stimulus package to transform the Australian economy's energy and emissions profiles. However, the ETS in particular will still be transformative for Australian businesses.

The recent release of guidelines covering assistance to the energy-intensive trade-exposed (EITE) sectors of the economy demonstrates the sense of urgency Government is applying to the implementation tasks. Of course the legislation still has to run its course, but the wisest thing for business to do is to consider:

- what costs and risks it will be exposed to, and
- what opportunities it may be able to exploit.

Strategy and Planning a Must for Every Business

All Australian businesses will feel some impact from the ETS.

The 'top 1000' emitters, mainly in the EITE and coal-fired generating sectors, will be the most deeply involved. They will face additional activities in measuring and reporting their emissions, in permit trading, compliance and risk management activities.

Most importantly, big emitters will feel direct business and pricing impacts, leading them to programs of selective and well-timed actions, to reduce or eliminate emissions.

This 'top 1000' may need to hedge the emissions component of input costs, by buying and selling permits to match the estimated emission component of future production.

Where there are long-term supply contracts, this type of hedging may be crucial to maintaining profit stability. If hedging is undertaken, then it might feed into contractual terms.

Emissions reductions will involve significant decisions on capital equipment and operations. Strategy will therefore involve complex project analysis, with strong engineering and financial aspects. Implementation timing will be crucial.

Large emitters may find it favourable, both financially and to demonstrate their commitment to emissions reductions, to create their own emissions mitigation projects, or to seek joint ventures. There are already several available in domestic plantation forestry. While participation in voluntary offsets is an option, these must be rigorous and robust. Government has recently issued a further consultative paper on this topic.

Listed companies need to consider and adapt 'triple bottom line' reporting to address their emissions profiles and emissions reduction efforts. These businesses should expect even more attention in the future.

...Business Must Prepare for Emissions Trading

There will be new opportunities in trading permits and potentially in insurance, banking, and wealth-management products.

We should expect to see some re-financing – and even merger and acquisition activity – as larger groups restructure to face the new trading situation.

New projects will generate massive capital demand as whole industry sectors are restructured, and major infrastructure projects are pushed forward. In turn, prolific additional investment opportunities are expected in technology solutions, research and development, and product developments.

Investor Opportunities and Risks Require Proper Responses

Investors may be more aware of the scale of the potential impact of the ETS than many within the community. However, the impenetrable fog surrounding the policy and data upon which many key decisions will be based is only just clearing. More concrete data will be key to investor decision making.

Businesses without robust emissions data will find capital raising and investor support all the more difficult. They will likely face detailed stakeholder questioning on diverse topics, including:

- revenues and profitability
- employment levels and security
- corporate social responsibility, including the veracity of product and labelling claims and
- investment potential and long term return profiles.

These questions will require improved financial modelling capabilities, including product-level analyses, especially for new financial products based on emissions trading and risk-management, and for emissions reduction projects.

Investor questions on risk-management will be equally crucial. The structure and capabilities of hedging and compliance processes will be tested both in public and during internal and external audit processes.

All these stakeholder questions, and especially those supporting investment analysis, will require consistent and reliable answers - and must equally be reflected within business decision making, analysis and data systems.

Prepare Now – The ETS Will Be Here Soon Enough

Regardless of its start date, business must expect the ETS to be a vital and permanent feature of government policy for years to come.

Certainty around government policy, and the quality and quantity of business information, are both improving and can increasingly be relied upon. However, investors and other stakeholders will require more information than is currently available in many cases.

Businesses that prepare well for the inevitable changes the ETS will bring will find it far easier to prosper, grow and take advantage of the opportunities. ☑CE

To download a free copy of the full article, click here.

Shift to Renewable Energy
Driving New Technology Solutions but...

To be viable, broad scale energy from renewable energy sources must be able to provide base loads power, requiring the energy sources to operate continuously.

In this quick review, CarbonEdge addresses some basic issues with the most common forms of renewable energy and assesses their prospects. We haven't included geo-power options like 'hot rocks' because while they are new energy sources, they are not renewable.

Key Points

- **The base load power problem**
- **Solar Parks produce energy at high cost**
- **Wind Power has a high carbon cost**
- **Biomass energy has a regulation issue to overcome**
- **Poor quality regulation limits potential of some sources – too many barriers**

Solar

CarbonEdge understands that some current 'solar park' proposals are only viable investments where the wholesale electricity price is above AUD200 per megawatt. Sources suggest the cost of industrial solar will fall as efficiencies improve, especially with better inversion from DC to AC and grid links.

However, with long term industrial supply contracts being written for less than AUD50 per megawatt, solar isn't currently the answer for businesses with significant energy needs.

There is no short term solution to the base load issue for solar power.

Wind

We would all be mistaken for thinking that wind power was the energy of the future when we travel through various parts of coastal Australia and observe the 'wind farms'. However the fact is that while it may be part of the solution, it is only a very small part.

There are two underlying and inter-related issues with wind power as CarbonEdge sees it. First, there is a very high embodied energy cost in the manufacture of wind turbines that will see them carry a reasonably high carbon cost from their manufacture and installation and with the relatively low output (that's the second problem) comes at great expense, including maintenance costs.

On face, wind power is less viable than solar power.

Waste Generated Power

As evidenced in this edition of CarbonEdge, increased effort is going into using greenhouse gases from landfill (methane in particular) to make electricity. This is a proven form of energy generation and one that appears highly scalable.

Shift to Renewable Energy Driving New Technology Solutions but...




A simple analysis suggests that as the inputs – garbage mainly – are going to landfill anyway, the energy in the production process is already accounted for. Assessments of the volume of potentially available gases are under way and increased capture and use of these gases is a real possibility, particularly in large urban settings.

Biomass Energy

Biomass energy – the production of either liquid or gaseous biofuels or the burning of agricultural or forest biomass has greater potential for providing base load power than solar or wind power. That is because it does not require an external and uncontrollable factor like the sun or wind to be in play. It is true that biomass energy requires sufficient feedstock, but that is no less the case with a coal fired power station.

Forest biomass in particular has potential because of the quantity of available feedstock from plantations as well as native forest residue.

Even with this more stable source of renewable energy, there are issues to be addressed, not least the overly difficult and confusing regulatory hurdles that projects have to pass. As recent projects in Western Australia have found, there are steps to be taken at all three levels of government and the community issues around land use options still have to be addressed. Farmers are concerned about land values, communities about changing the nature of their economies and societies and there is even a domestic version of the global 'food versus fuel' debate that proponents have to traverse.

Where Developments Will Come

CarbonEdge acknowledges that like any new investment or field of activity, the risks are greater earlier in their development. Ultimately, success of one or another form of renewable energy will depend in large part on whether those risks can be overcome.

Where the risks are lowest is within existing manufacturing and heavy industrial contexts where energy production is already or can be a by-product and energy input to the production process. These 'brownfields sites' have several features that give them less risk than a stand alone or greenfields renewable energy development.

CarbonEdge is already aware of several industries that are considering re-investment into new renewable energy facilities and numerous businesses that are proposing to shift to self-generated renewables as soon as possible.

These investment opportunities may be a little harder to find, but in a time where capital and debt will be hard to attract, it is likely these will provide the real value investment opportunities.

The second edition of CarbonEdge (29th May 2009) will include a special feature on biomass energy. CE

EMISSIONS INTENSIVE TRADE EXPOSED ASSESSMENT PROCESS SETS CRACKING PACE..

As CarbonEdge comments elsewhere in this edition, there is concern about unfair load sharing in the Carbon Pollution Reduction Scheme. Those most concerned are the emissions intensive, trade exposed firms, who are frantically gathering data to meet the Government's assessment process to determine how much support they will receive.

CarbonEdge understands industries with high emissions and trade exposure will be required to provide data to the Department of Climate Change by mid May. Several industry associations have commented this is a very short timeframe with haste increasing errors and risks.

The EITE support regime is a major outstanding issue with the CPRS and the one that could result in the greatest political, economic and social impact.

A.C.T FEED IN TARIFF NUMBERS DEMONSTRATE SOLAR'S INEFFICIENCY

If Crispin Hull writing in the Canberra Times on the 7th March 2009 is right – and CarbonEdge thinks he is – then solar power is dreadfully inefficient. As Hull writes:

> " You put a solar generator on your roof ... [and] ...when you are not using much power the extra power generated is fed back into the grid ... and you get paid for it at a rate of about AUD0.50 a kilowatt hour. ... when you buy electricity from Actew [the ACT Electricity and Water Authority] it costs about AUD0.12 a kWh."

> " The more people go solar and feed into the grid, the more Actew is required to buy their electricity at four times the cost of coal electricity. As Actew buys this high-priced electricity it becomes entitled to pass on the cost by charging more for the electricity it supplies across the grid. So the more people go solar, the higher the cost of electricity and the bigger the incentive to go solar."

It may provide renewable energy, but it is hard to see how this is a sustainable approach. At a time when the funds available for real investment in sustainable and renewable energies is so difficult to attract, investors and proponents are right to ask serious questions about policy priorities.

US ETHANOL RULES UNDER PRESSURE

With implications for global policy, there appears to be increasing pressure for raising the ethanol limit from 10% to 15% of gasoline. This pressure comes as petroleum demand is falling, leaving excess production capacity and resulting in significant plant closures in recent months.

Of course, the opposition from automakers, petroleum producers and the food production sector continues. CarbonEdge understands there is a diversity of opinion among US farm groups, presumably divided by whether they grow ethanol crops or not.

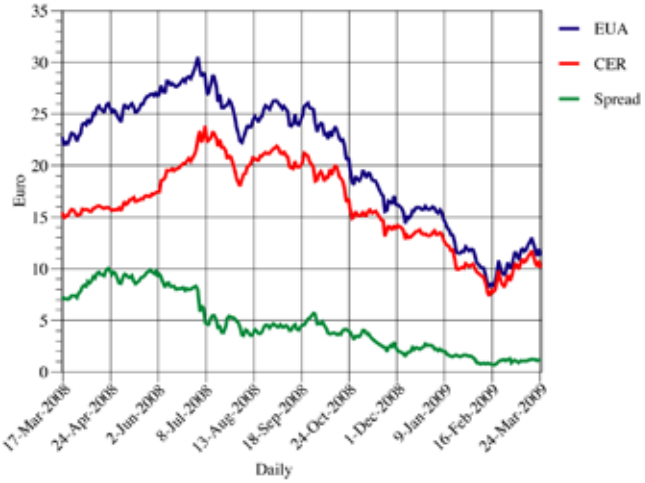
While there are powerful interests opposed to increasing the ethanol limits, expect the US EPA to increase the limit at least by a couple of percent, even if only because as the retired General Wesley Clark (who heads a pro-ethanol group) said: "For every billion gallons of ethanol we produce, that's a billion and a half dollars we don't spend on foreign oil."

The CarbonEdge Charts

More and more information is becoming available on markets and carbon prices. CarbonEdge expects this information to multiply rapidly over the next few months and years.

Here, CarbonEdge provides four charts showing the prices of several forms of emissions allowances and credits. All of the charts refer to European base prices.

Organisations and individuals are free to use the CarbonEdge charts and other information contained in this document. However, we do request that you attribute the charts to CarbonEdge and where appropriate, include the CarbonEdge logo and website: **www.carbonedge.com.au**



CER-EUA Futures Spread
14 Mar '08 - 24 Mar '09 (Euro)

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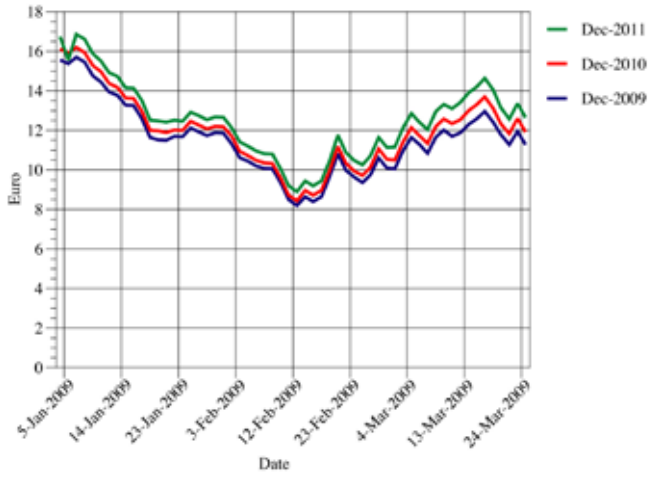

EUA Futures Dec'09, Dec '10, Dec 11 Settlement Prices
2 Jan 09 - 24 Mar 2009 (Euro)

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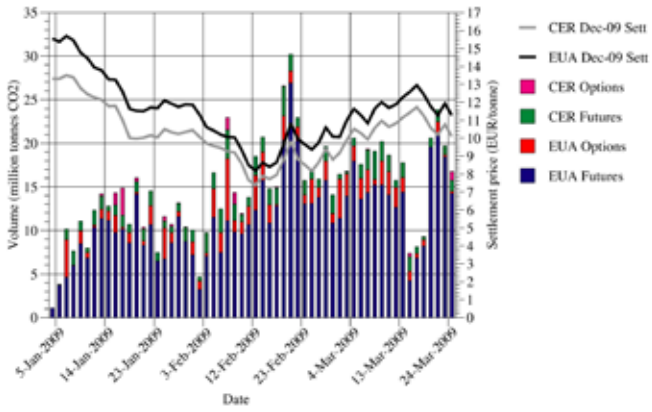

ECX EUA & CER Contracts Daily Volume
2 Jan'09 - 24 Mar'09

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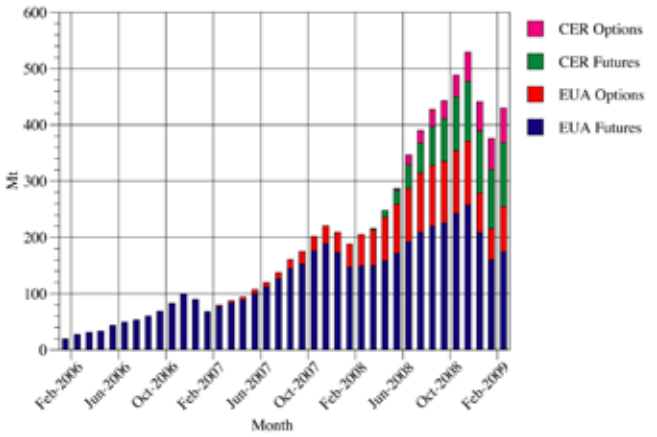

ECX Open Interest Breakdown
Jan'06 - Feb '09 (Mt)

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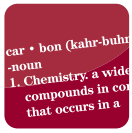
For definitions and methods used to compile these charts, please download a free copy of the powerpoint presentation and notes.



The CarbonEdge Dictionary

As the CarbonEdge team goes about its business, we work hard to ensure we use consistent definitions that subscribers can rely on. Over these first few editions, we will provide definitions for our regularly used terms in the text of each edition. Later, CarbonEdge subscribers will be able to download a copy of the dictionary and register to be alerted when the dictionary is updated.

Base load
The minimum level of electric power demand of a grid, region, or utility customer, generally expressed in units of kilowatts or megawatts. In Australia, the term is usually used to describe system (normally a state or territory) or grid wide minimum power requirements.

Biomass energy or bioenergy
Energy produced by the conversion of biomass directly to heat or to a liquid or gas (biofuel) that can be converted to energy. Biomass comes from materials that were once living, such as plants.

Biofuel
Any solid, liquid, or gaseous fuel produced from organic matter. Covers a wide range of products, some of which are commercially available today, and some of which are still in research and development.

CPRS
Carbon Pollution Reduction Scheme – The Australian Government's 2008 policy to address anthropogenic climate change through a mix of international and largely domestic measures and underpinned by a limited number of permits to emit and the establishment of a market to trade in permits.

EITE
Emissions Intensive Trade Exposed industries – Industries that are both emissions intensive because of their high energy use per unit of production and that are also exposed to international trade. For these firms, an additional 'cost of emissions' could increase the competitive pressures they face from international competitors.

ETS
Emissions Trading Scheme – A financial and administrative approach used to control emissions by providing economic incentives for achieving reductions in the emissions of pollutants. It is sometimes called a cap and trade system and operates in effect to increase the cost of emissions to apply financial pressure for less energy to be used. An ETS is the alternative measure to a carbon tax or direct regulation of the level of emissions.

Geothermal energy
Energy that is generated by converting hot water or steam from deep beneath the Earth's surface into electricity. An emerging geothermal technology is known as 'hot rocks' technology.

Kyoto Protocol
The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions. These amount to an average of five per cent against 1990 levels over the five-year period 2008-2012.

REDD
Originally 'Reducing Emissions from Deforestation in Developing Countries' but now broadened to be known as **'Reducing Emissions from Deforestation and Degradation in Developing Countries'** – a reasonably recent initiative to assist developing countries to institute programs that address the underlying drivers of emissions associated with deforestation and forest degradation that are estimated to account for up to twenty percent of global emissions.

UNFCCC
United Nations Framework Convention on Climate Change – A treaty that came into force in 1994 and has been ratified by 192 countries. The Convention sets an overall framework for intergovernmental efforts to tackle the challenges posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases.

The CarbonEdge Calendar

Do you want to publicise your event or know of a conference or seminar that should be included in this calendar? Send an email to **info@carbonedge.com.au**

Date	Event	Details
29th March - 8th April 2009	UN Climate Change Negotiations - Periodic meetings addressing detailed matters	Bonn, Germany United Nations www.unfccc.int
2nd - 3rd April 2009	Climate Change - Senior Policy Leaders Course	Canberra, Australia Australia & New Zealand School of Government www.anzsog.edu.au
21st - 22nd April 2009	Biofuels, Bioenergy & Carbon Trading Symposium	Melbourne, Australia Australasian Pulp & Paper Industry Technical Association (Appita) www.appita.com
29th May 2009	CarbonEdge publication date	
1st - 12th June 2009	UN Climate Change Negotiations - Periodic meetings addressing detailed matters	Bonn, Germany United Nations www.unfccc.int
23rd - 24th June 2009	Expanding Asia's Carbon Markets Carbon Markets Asia	Kuala Lumpur, Malaysia
31st July 2009	CarbonEdge publication date	
9th - 11th September 2009	'Managing the Transition to resource efficient and low carbon industry'	Manila, The Philippines United Nations Industrial Development Organisation www.unido.org
25th September 2009	CarbonEdge publication date	First subscription based, web access service
28th September - 9th October 2009	UN Climate Change Negotiations - Periodic meetings addressing detailed matters	Bangkok, Thailand United Nations www.unfccc.int
27th November 2009	CarbonEdge publication date	Second subscription based, web access service
8th - 18th December 2009	UN Climate Change Conference - The annual meeting including head of state and ministerial meetings at which global climate agreements can be reached	Copenhagen, Denmark United Nations www.unfccc.int

Feedback

CarbonEdge needs your views and feedback on the publication, its contents and ideas for future editions. Please Contact:

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Let us know what intelligence and information you need on climate change, carbon management and carbon markets.

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Coming up In Edition 2

CarbonEdge Special Feature
Biomass sequestration and energy – its potential for Australia's energy future

Latest carbon prices and carbon market updates from around the world

The CarbonEdge Interview

Up to date international climate news from CarbonEdge insiders

Edition 2 will be sent to your email free of charge on 29th May 2009.

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