

This is an edited version of a speech by Tony Wood, Grattan Institute Energy Program Director, to the All-Energy 2011 Conference in Melbourne on Wednesday 12 October.

Pricing carbon - the money and the myths

The transformation challenge

I would like to begin with an assumption that we are going to respond to the challenge of climate change and then move on from there to cover several key issues that follow:

1. Turning the challenge into effective policy.
2. Why a market mechanism is preferred.
3. Some myths associated with carbon pricing
4. Some major risks that arise for both governments and industry.

1. The energy sector must be decarbonised within forty years.

This is such a challenge, the forces for change are so weak and the headwinds so strong that there is simply no correlation between the challenge and what is being put into place.

Carbon Capture and Storage is a perfect example. CCS is projected by the International Energy Agency to contribute to approximately a quarter of emissions reduction globally. Unless greenhouse gas emissions from fossil fuel plants are captured and sequestered, global greenhouse gas emissions will continue to increase not decrease. However, these projections imply a need for approximately 100 large-scale, integrated CCS projects by 2020 and more than 3000 by 2050. This is not happening. No country or region has taken the challenge seriously. The problem is not one of technology. It is a problem of policy and political leadership.

The communiqué of the recent Carbon Sequestration Leader Forum in Beijing stated: "The long term deployment of CCS projects will require the development of conducive policies in order to underpin the necessary financial investment. We are committed to developing these policies." The reality is that no country, with the possible exception of the UK, has such policies and there is little if any evidence of commitment to develop them.

Unless something changes, nothing will change.

For Australia, the Treasury projections are equally challenging. They show that by 2050, our energy supply could be 30% CCS and 40% renewables. Geothermal is projected to make up the largest share, 43%, of the renewables. However, there are currently zero MWh being produced from either geothermal or CCS. This feels like a big challenge to me.

2. Why markets are the best way deliver the money

Earlier this year, Grattan Institute released an analysis of the outcomes of a range of policy interventions, for which reducing greenhouse gas emissions was a core objective. The analysis showed clearly that market mechanisms not only deliver the outcome at lowest cost and compare more than favourably with schemes such as capital grants, they also produce benefits in innovation that are far better than would be delivered otherwise.

Industry often prefers the security of semi-regulated oligopoly status. Laziness and risk-avoidance are dressed up as seemingly reasonable requests. Project proponents and their financiers will always favour feed-in tariffs or power purchase agreements since the firm revenue stream is far more bankable than taking market exposure to renewable energy targets or portfolio standards. Whenever industry advocates a specific support mechanism (they never call it a subsidy), a simple question of why they would do so will usually reveal commercial alignment. I am not arguing that industry is inherently evil, simply that industry is not impartial and its objectives are rarely congruent with those of government acting on behalf of the community.

However, market design is very important. Markets deliver what they are designed to deliver, which may not be what the designer intended.

The Queensland gas scheme delivered coal seam gas when it was expected to deliver gas from Papua New Guinea. The Mandatory Renewable Energy Target delivered wind, largely with existing technology, when it was expected to deliver bagasse and unleash a new wave of innovative renewable technologies across Australia. European feed-in tariffs delivered the Chinese PV manufacturing industry, hopefully they were not based on creating a sustainable European PV manufacturing sector.

This does not mean the results were bad. One outcome of the Queensland gas scheme was to underpin the step change for the coal seam gas industry in Queensland. It is just that unintended consequences are almost an inevitable outcome of markets, so aligning the market mechanism with the policy objective seems prudent. This also means that a favourite approach of

politicians -- to achieve multiple policy objectives (reduced emissions, new industries and more jobs) -- is actually a guaranteed formula for unintended consequences.

Payment for closure is just about the worst example of government trying to second-guess market design. The combination of upward cost pressure on thermal coal prices and LNG prices means that brown coal generators are likely to be in a good place even with the \$23 permit price. It would be against their commercial interest to shut down in such circumstances. So the cost of paying for withdrawal appears at the right hand side of the infamous McKinsey cost curve. And yet, the government, spooked by threats to security of supply, proposes to reach across to the right hand side of the curve, intervene in what could have been a functioning market and pay for early closure. The only good thing could be that the result is public.

The success of the market design will be seen in lower prices and innovative practices that government could not have foreseen.

To date, industry has had a very strong incentive to ensure that the likely market responses are opaque to government. Once the rules are set, and markets respond to those rules, then industry will act.

For example, the coal industry has forecasted significant mine closures, particularly for mines with high fugitive emissions of methane. It was therefore interesting to read this week about the ASX-listed Gujarat Coal. The company was faced with a dramatic slide in share price amid predictions that the carbon price could reduce profit margins from its NSW coal business by up to \$16 a tonne. Then the Chairman announced that the company had identified actions that would reduce the impact to less than \$3 per tone.

Turning to the myths

First myth: Low prices and/or price volatility is a measure of market failure. This really depends on how you define success and failure. The objective of pricing carbon is supposedly to reduce emissions at lowest cost. It is not to deliver stable prices nor to support specific business models. Only a few years ago, companies in New South Wales that had failed to adequately manage through a period of low prices for New South Wales Greenhouse Gas Abatement Certificates (NGAC), complained bitterly of failed markets and called for government intervention. The Government wisely refused.

I suspect that most people in this room know very well that periods of high or low prices are generally a reflection of supply and demand and act as signals

for actions. Of course, if either supply or demand is inappropriately influenced by governments or market participants, then perverse outcomes can be triggered. Anti-competitive pricing behaviour by suppliers or government subsidies for competitive products are examples of such behaviour. The impact of solar subsidies in Australia or changes in energy efficiency targets in the EU are both recent examples where well-intended government action triggered price collapses in associated markets.

Second myth: The absence of a level playing field justifies assistance to trade-exposed industries. Successive Australian governments have, over several decades, shown that protectionism is against the interests of Australians. It is creeping back in a new disguise. In the absence of global carbon pricing or constraints on emissions, there is a sound argument that assistance to trade-exposed industry is justified to avoid carbon leakage. This does not mean that assistance is justified when businesses in a competing country are not exposed to a carbon price. The legislation currently winding its way through Parliament risks straying into this area, thereby introducing a new wave of protectionism.

Third myth: Complementary measures are needed because the carbon price is not high enough. This myth is particularly insidious because it flows from a potential weakness in the ETS itself, and is related to the current positioning of a fixed price period as a carbon tax. The permit price may be lower than some would like or expect. That could be due to a couple of reasons. If it is because the emissions constraint is too loose, then it should be tightened - fix the right problem. If it is because we have found ways to meet our emissions constraint at lower cost or through more innovative solutions, then that is exactly the right answer and is a reason for using a market approach in the first place. If government responds inappropriately to the cries of industry whose business models have been inadequate for the market, then it will either make the problem worse or introduce a new problem and a new set of industry concerns. For example, a renewable target is introduced because the ETS price is not high enough to support renewable energy; then a feed-in tariff is introduced because the REC price is not high enough for solar energy; then segmented feed-in tariffs are introduced because the FIT only supports the cheapest solar etc. And, of course, every change, or even proposed change, triggers a response from those who have invested on the basis of a credible and predictable market.

Fourth myth: We should not transfer Australian wealth to foreign competitors - international trading is bad. This can be a tricky myth from a political perspective. It can also be cleverly disguised, particularly when argued by those normally in support of market solutions and free trade. During the US

debates on cap-and-trade schemes, some argued that the use of international credits to meet a domestic liability would provide a free kick to countries like China whose manufacturers were America's competitors. Ultimately, this is little different from Australian clothing manufacturers arguing that we should not be allowed to buy Chinese-made t-shirts on the ground that this represented a transfer of Australian wealth to China. Of course, there must be integrity in the creation and acquittal of international credits; this would seem bleedingly obvious.

So, what are the risks

The first is that the market becomes a victim of its own success. Energy price increases create political pressure, amplified by the cries of losers, that causes governments to intervene. Current maintenance of retail price controls and the adoption of feed-in tariffs are both examples of this happening. We therefore get the worst of both worlds: the higher costs that come with multiple retailers supporting call centres, sales forces and large IT platforms, without the real innovation that would come from a removal of retail price controls. Much as it pains me to say so, we would be better to revert to regulated retail monopolies rather than to be stuck in the muddle.

There is a risk to industry that its concerns deliver a worse outcome. We need to be careful of what we wish for. In the USA, opponents were successful in 2009 in seeing off the Waxman-Markey Bill. What they are now seeing is the application of state-based alternatives (eg California) and regulatory alternatives such as EPA-imposed emissions standards. Such approaches will be more expensive and come with more intrusive levels of administrative intervention than the alternative.

There is a risk to government revenue. As I said earlier, the permit price is inherently unpredictable. The market will most likely deliver emissions reduction at a price lower than today's forecasts. Of itself, this is clearly a good thing. However, if other decisions have been based on certain price outcomes, such as assistance to low-income households or to industry, then revenue shortfall due to either volume or price could be a future budget problem.

I think the biggest risk to driving sustained, long-term investment in low-emission energy technologies is that government is unable to create and sustain the credibility of the forward emissions constraint. Industry then creates its own options, and they will be more expensive than governments could have foreseen. We are already seeing this today in the development of

OCGT gas plants, creating greater flexibility at the cost of both higher emissions and higher cost, the worst outcome.

The way forward

It is worth reminding ourselves that there is a reason for pricing carbon. My doctor once told me that I would need treatment for an infection. I raised lots of objections: it would hurt too much; I was too busy that week; it would cost too much etc etc. However, when she said "If you are not treated, you will probably die", I decided to take her advice.

The biggest assumption is that the world acts, sooner or later, to avoid the worst impacts of man-made climate change. This is not today's paradigm. Assumptions of a global carbon trading scheme anytime soon are brave. However, the alternative, that the world fails to take action to avoid the catastrophic consequences for humanity of unmitigated climate change is surely untenable.

The world is uncertain. As with industry, government policy cannot be dependent on, or driven by, a specific view of an unknowable future. In the same way that industry approaches strategic decisions in uncertain times, the central principle must be to establish a core policy framework that facilitates the creation or emergence of options, whilst looking for no regrets choices.

The emissions constraint via the ETS must be the central and credible policy plank. Existing schemes pragmatically should die in a predictable way and only market failure addressed through other measures. No other schemes should be introduced.

If governments respond to vested interests, common myths or fear of markets, as evidence suggests they will, the result is likely to be worse for the environment and worse for the economy.

If industry waters down the core elements in the long-term market structure, as evidence suggests it will, they may find the alternatives are far worse than what has been avoided.

If however, we proceed with the right balance of confidence and caution, then the sky will not fall, jobs will continue to be created and incomes will continue to rise.

The first priority of any journey is to begin.