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Australia's Clean Energy Future

Frank Jotzo analyses Australia's package of climate legislation – which puts this erstwhile carbon laggard at the forefront of efforts to tackle global warming.

It was in the making for five years, cost several prime ministers and opposition leaders their jobs, but it is now a reality: Australia, one of the world's highest per capita emitters of greenhouse gases (GHGs) and largest coal exporter, is putting a price on carbon and is strengthening other aspects of climate policy. Although not without flaws, the policy brings a sound economic approach and novel features to the climate policy arena, and does so with quite some ambition. The question is, however, whether it will last.

The 'Clean Energy Future' legislation was passed on 8 November. The centrepiece is a price on carbon through a permit system, which from 1 July 2012 will cover an estimated 60% of Australia's GHG emissions.

Emissions from electricity generation, fossil fuel combustion by industry and households, industrial processes, fugitive emissions and new waste are all captured by the permitting system. Emissions from some types of transport, as well as synthetic GHGs, will be subject to an equivalent emissions price through changes to existing taxes and levies. Agriculture and forestry are excluded, but are eligible to produce offset credits under the 'carbon farming initiative', which is akin to a domestic version of the Kyoto Protocol's Clean Development Mechanism.

The scheme begins as a fixed price permit scheme – that is, businesses need to surrender permits as in an emissions trading scheme, but unlimited permits can be bought from government at a predetermined price, starting at A$23 (US$23.5) per tonne. It acts like a carbon tax. After three years, the scheme transforms to an emissions trading system: a fixed number of permits will be sold at auction and international trading is allowed. The price, however, will be kept within a defined range for at least three years (see box 1).

The reason for this unusual architecture was political. The government needed the support of the Greens, but the two parties could not agree on Australia's national target. The solution was to postpone the decision about the target and the scheme cap (the number of permits issued), and instead to just get going with a fixed price on carbon.

A trading scheme was chosen for the medium to longer term because it is seen as the better option for meeting a national target, and because many businesses prefer to manage their liabilities through a market mechanism. A new independent body, the Climate Change Authority, is to advise on the cap and other future features of the scheme.

******Box 1: Keeping prices under control

Australia's carbon price is fixed at A$23 during 2012-13, rising to A$24.15 and A$25.40 in the subsequent two years. In this first period, permits cannot be banked for future use, and international emissions credits are not eligible for compliance.

Fixing the price has the distinct advantage that, for three years, there is no risk that the Australian carbon price will emulate the rollercoaster ride to which the EU emissions price has been victim. It also means that the price of carbon in Australia is likely to be higher than that in the EU. At the prevailing exchange rate, A$23 is equivalent to €17.50, while the EU permit price was around €7/ton in early December 2011.

From mid-2015, market pricing with international linking applies, but with a floor price of A$15 rising by 4% real per year, and a ceiling price set A$20 above the expected international price, rising at 5% real per year. The rationale for the price floor is to improve confidence for low-carbon investments, in the context of volatile and fragmented international carbon markets that could otherwise determine Australia's price. The price ceiling is meant to give reassurance to emitters by providing a firm upper boundary for their exposure.

On current market expectations, the price ceiling is unlikely to apply, but the price floor might well kick in. It would be implemented by way of a reserve price in domestic permit auctions, coupled with a fee to surrender international emissions units. The price floor and ceiling apply for the first three years of the trading phase, but could potentially be extended.

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The fixed price and price floor mean that incentives in Australia to invest in mitigation are stronger than they would be under a pure trading system. That in turn has caused complaints by some heavy emitters who lobbied for a carbon price of A$10/ton.

But industry need not fret. "Emissions-intensive trade-exposed" sectors will get free permits to the tune of 95% of benchmarked emissions. These benchmarks are set on a unit-of-production basis, so businesses have full incentives to reduce the emissions-intensity of their production, but no incentive to cut production. A more efficient and less generous model was suggested by Australia's Garnaut Climate Change Review, but dismissed.

For most businesses in the emissions-intensive trade-exposed categories (such as aluminium, cement and others), any impact on their bottom line will be small. The steel industry, which is under pressure from the strength of the Australian dollar and high costs because of the mining boom, even negotiated special cash assistance on top.

Domestically oriented industries, meanwhile, will be able to pass on increased costs to their customers in Australia. Profitability will be affected between companies using different technologies, rather than for industries as a whole – for example gas-fired and renewable power will be more profitable, coal-fired generation less so. The most emissions-intensive coal-fired power plants will be given free emissions permits to the tune of A$5.5 billion dollars over five years.

The payments to industry have been widely criticised as too generous, and can be seen as politically motivated handouts to shareholders. The distributional concerns may be partly alleviated by the fact that industry assistance is smaller than under the first two phases of the EU's ETS, and that provisions for review and phase-out are in place.

Meanwhile, over half of the projected revenue in the early years of the scheme will go back to households, to help offset increased prices for energy and some goods and services. Income tax for low- to middle-income earners will be cut by around A$2.5 billion dollars per year, and welfare payments will be raised by a similar amount. Most

lower income earners will be better off under the carbon price even before they change consumption patterns. Higher income earners will shoulder a large portion of the costs.

This tax switch is probably the largest ever shift from income taxation to environmental taxation, something that environmental economics textbooks have been advocating for decades, but which is rarely seen in practice. It also entails deliberate income redistribution.

***** *Box: Extra support for renewable energy and energy efficiency*

Australia's Clean Energy Future package is not just about the carbon price. It also includes measures to support clean energy innovation, energy efficiency, and programmes for land-based carbon sequestration.

The standout among the new measures is the Clean Energy Finance Corporation, inspired by the UK Green Investment Bank. It is to invest in the commercialisation and deployment of renewables, other low-emissions technologies (but not carbon capture and storage) and energy efficiency, by way of commercial and concessional loans, loan guarantees, and equity stakes.

The corporation is to be funded with up to A$10 billion dollars of public money over five years (more than twice the UK Green Bank commitment), starting in 2013-14. The agreed policy leaves a fair amount of leeway in terms of its precise investment mandate. A chair and several board members have been appointed. Public consultation on the investment mandate is to occur in coming months, to be followed by legislation.

Existing federal grant programmes for renewable energy will be bundled under a new independent body, the Australian Renewable Energy Agency. The hope is for better outcomes than under the existing hodge-podge of initiatives under a number of different departments and funding bodies. Energy efficiency is also flagged for further policy efforts, with a 'white certificate' scheme (to reward energy efficiency improvements with tradable certificates) foreshadowed but not yet legislated.

What the package does not do is rationalise the maze of schemes for emissions reductions run by the Australian states, including feed-in tariffs and various grant programmes. It also leaves the existing renewable energy target and certificate trading system untouched, which has supported mostly wind power and solar hot water systems and which runs until 2020.

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Of course, the ultimate question is, will the package of policies cut emissions levels, and put Australia on track toward its new 80% reduction target for 2050? The government's own modelling is sobering in that regard, projecting that domestic emissions will stay roughly constant over time under a carbon price.

The reason is that there is a strong underlying growth trend in emissions, due to expected growth in both population and economic activity, and fast expansion of energy-intensive resource industries such as gas extraction for export. The carbon price will result in a shift from coal to gas, investment in more efficient equipment, changes in inputs and production structures, and it will encourage longer-term renewable energy investment. Without new policies, Australia's emissions might be in the order of 20% higher in 2020 than in 2000. This compares to the unconditional target of a 5% reduction, increasing to up to 15% or 25% reduction depending on other countries' commitments.

It could well be that the abatement response is stronger than projected, or that underlying growth tails off. In addition, Australia may claim emissions savings from forest management and reductions in deforestation towards the national target. Nevertheless, expectations are that Australia will need to invest in emissions reductions overseas in order to help meet its target. CDM credits will be eligible for use by emitters, and other emissions units, including from new mechanisms, may be included later.

But will the scheme last? The politics of climate change in Australia have been toxic, and a Damocles' sword hangs over the carbon pricing scheme. The current Labor minority government under Prime Minister Julia Gillard got the scheme passed with support from the Greens and several independent members of Parliament, after extended negotiations.

The previous government under Prime Minister Kevin Rudd came out of the 2007 election with a strong mandate for climate change action, and had negotiated an emissions trading scheme with the Liberal (conservative) party opposition, which in turn had supported emissions trading since 2006. That scheme came within a whisker of being enacted in late 2009, but was frustrated by a last minute change in Liberal party leadership from Malcolm Turnbull to Tony Abbott who withdrew support. Rudd's failure on climate policy was a big factor in his being replaced by Gillard as Prime Minister.

Opposition leader Abbott rejects carbon pricing outright, and has pledged to repeal the legislation if he takes office. His strong political commitment throws a question mark over longevity of Australia's carbon pricing policy. On the other hand, repeal would likely be a cumbersome legislative process involving a special election, and it seems unlikely that it would bring great political advantage once the scheme, along with assistance for households and industry, is in place.

Finally, perceptions about climate change action (or lack thereof) in other countries play strongly in the Australian public debate. Developments elsewhere could ultimately hold the key for climate policy in Australia – a country that has been a traditional laggard on climate change policy but that right now is, perhaps somewhat reluctantly, in the front row.

Frank Jotzo is director of the Centre for Climate Economics and Policy at the Australian National University. He was advisor to the Garnaut Climate Change Review. E: *frank.jotzo@anu.edu.au*.