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## Why Australia can't meet its commitment to cut carbon by 5%

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Australia is committed "unconditionally" to cut its carbon pollution by 5% against 2000 levels by 2020. This looks a small cut, easily achievable. On the contrary, it will require a herculean effort; it means cutting 23% off expected 2020 business as usual emissions. The 5% target in fact implies a rapid decarbonisation of the Australian economy over the next 9 years.



Australia's economy will keep growing at around 3% a year, requiring energy supplies to increase by some 2% a year, and generating rapidly rising amounts of carbon pollution. This will happen despite the government's Mandatory Renewable Energy Target, which will deliver 20% of electricity from clean renewable sources by 2020.

A price on carbon, intended to be the driver of this target, has been slated for introduction in 2012 by Prime Minister Gillard. This will make carbon-emitting fossil fuels, particularly coal, less attractive compared with such clean energy alternatives as solar and wind.

Under Gillard's proposal, energy generators will need to buy a permit for every tonne of carbon dioxide emitted. The initial price of permits probably won't be set higher than \$20-25 because of the need to contain the consequential increase in the cost of energy to business and households.

However, the price will need to be much higher than this to put Australia on the path to a low carbon economy. At \$20-25 it will still be cheaper for energy suppliers to pay up for permits to burn fossil fuels,

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rather than install renewable energy. Moreover, motorists are unlikely to abandon their cars as a result of the small rise in prices at the pump, implied by such a low price of carbon.

Another problem is that, even if the price of carbon is hiked by the government over the next few years, the switch to wind turbines and conventional solar panels will be restrained by the unreliability of electricity supply generated by these means. Power is generated only when the sun shines and the wind blows.

My calculations suggest that half of the increase in electricity required by 2020 needs to be 24-hour power, only presently available from fossil fuels. While solar thermal and geothermal are promising sources of baseload, they are unlikely to be widely available soon: perhaps taking 15 to 20 years for wide commercial adoption. (Nuclear power is also a baseload option but it has been ruled out by the Australian Labor Party.)

The reason that the RUDD government's original carbon pollution reduction scheme (CPRS) and Professor Garnaut's 2008 Review were able to deliver cuts in Australia's carbon emissions, was because they skirted the problem of high costs of renewable energy. They did this by assuming the availability of cheap international permits to offset a substantial proportion of Australia's growing emissions.

But it is now far too risky to continue to support a 5% target predicated on the availability of offshore offsets. The reality is that the prospects for an international agreement – that would establish a global market for carbon – have rapidly receded since the 2009 Copenhagen climate change conference.

Australia is a key player among developed countries in the fight against global warming. Australia's reputation will be damaged – moreover the already fragile fabric of international cooperation will be weakened – if it ditches its "unconditional" cut of 5%. Nevertheless, the government must take this decision now to avoid even greater embarrassment in the future.

After it has put a price on carbon the challenge for the Australian government will be to design and introduce an emission trading scheme (ETS).

The ETS should put a cap on national emissions strong enough to produce a price on carbon that is high enough to sustain the adoption of renewable energies beyond 2020, when the Mandatory Renewable Energy Target expires.

The trading of permits, between high-cost polluters and low-cost polluters, will deliver cuts in carbon at least cost. And the inclusion of forestry in the ETS, enabling landowners to receive credits for storing carbon, will hasten the transformation to a low carbon economy.

Meanwhile, there is a prospective pay-off from investment in research and development to hasten the harnessing of our hot rocks, through geothermal, and our abundant sunshine, through solar thermal.