



Impact on Australian futures prices of ETS delay announcement

Report to Major Electricity Users' Group

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1. ETS announcement

On 27 April 2010, the Australian federal government announced that it was delaying implementation of its emissions trading scheme (ETS) for Australia until after expiry of the Kyoto Protocol at the end of 2012.¹

This followed its May 2009 announcement of a one year postponement to July 2011.²

2. Impact on futures prices

In this short report, we examine how the prices of electricity futures contracts in Australia changed in the wake of the above announcement.

2.1 Data

We obtained from d-cyphaTrade the daily settlement prices of contracts for the 2012 calendar year, over the approximately three months 1 February to 7 May 2010, in each of four markets – New South Wales (NSW), Queensland (QLD), South Australia (SA) and Victoria (VIC).

2.2 Price changes

Figure 1 shows daily settlement prices in each market over 1 February to 7 May.

Note that there were no actual offers and bids made in the South Australian market over this time period. The settlement prices reported for this market were determined by the clearing house on an administrative basis rather than reflecting market transactions. We therefore focus our analysis on the other three markets, but include results for South Australia for completeness.

Price differences between the other three markets may reflect to some extent differences in fuel mix in different states (e.g. over 50% of Australia's hydroelectricity generation is located in New South Wales³) and the different treatment of renewable and fossil fuel electricity generation under the ETS.

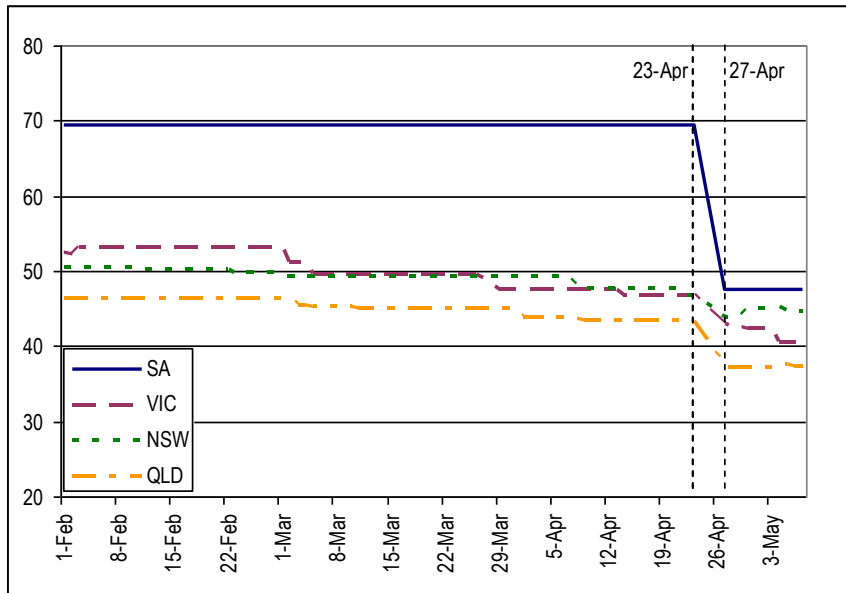
Visual examination of prices shows a noticeable drop in all four markets between when markets closed on Friday 23 April and when they closed on Tuesday 27 April, after observation of the ANZAC Day public holiday on Monday 26 April.

¹ *Kevin Rudd delays emissions trading scheme until Kyoto expires in 2012*, The Australian, 27 April 2010, www.theaustralian.com.au/news/kevin-rudd-delays-emissions-trading-scheme-until-kyoto-expires-in-2012/story-e6frg6xf-1225858894753

² *Rudd confirms ETS delay*, ABC News, 4 May 2009, www.abc.net.au/news/stories/2009/05/04/2560078.htm

³ Australian Government (2010) *Energy in Australia 2010*, Department of Energy, Resources and Tourism, www.ret.gov.au/ENERGY/FACTS/ENERGY_IN_AUST/Pages/default.aspx Table 16, p.32.

Figure 1 Daily prices of contracts for 2012 calendar year
AU\$



Source: NZIER, d-cypha Trade

On Tuesday 27 April, the day of the government's announcement, prices fell by between 6.1% in New South Wales and 13.4% in Queensland. These differences may again reflect in part differences in fuel mix and the effects of the ETS (e.g. the ETS would have less effect on the costs of hydroelectricity generation in New South Wales than on the costs of fossil fuel electricity generation in other states, so it is not surprising that prices in New South Wales were less responsive to a delay in implementing the ETS).

Table 1 Change in daily prices

AU\$

		NSW	QLD	SA	VIC
23-Apr	Price	46.85	43.25	69.46	46.92
27-Apr	Price	44.00	37.45	47.51	43.00
	Price change	-2.85	-5.80	-21.95	-3.92
	Price change	-6.1%	-13.4%	-31.6%	-8.4%
4-May	Price	45.17	37.64	47.51	40.49
	Price change	-1.68	-5.61	-21.95	-6.43
	Price change	-3.6%	-13.0%	-31.6%	-13.7%
7-May	Price	44.69	37.28	47.51	40.49
	Price change	-2.16	-5.97	-21.95	-6.43
	Price change	-4.6%	-13.8%	-31.6%	-13.7%

Source: NZIER, d-cypha Trade

Over the following week, to Tuesday 4 May, prices rallied slightly in New South Wales and Queensland, but fell further in Victoria.

Prices in New South Wales and Queensland resumed falling shortly thereafter, overtaking the earlier gains made in Queensland, but retaining some of the earlier gains made in New South Wales. By the end of that week, Friday 7 May, prices closed between 4.6% and 13.8% below those of two weeks previously, just before the government's announcement.

In all four markets, prices therefore showed a lasting change following the government's announcement, to 7 May at least. Only in New South Wales was the longer run price change smaller than the initial price change. In Victoria, the price change was considerably larger in the longer run than initially.

2.3 Statistical significance

We next examine whether these price changes were statistically significant or within the normal variation in daily prices around this time.

On Tuesday 27 April, the day of the government's announcement, prices closed statistically significantly lower than over the preceding period 1 February to 23 April. They remained statistically significantly lower to 7 May. These findings hold at not only the 95% level of confidence, but even the 99% level of confidence (the range in prices within which 99% of observations lie).

In all four markets, prices were therefore statistically significantly lower after the government's announcement than before it.

Table 2 Distribution of daily prices

AU\$

		NSW	QLD	SA	VIC
1-Feb to 23-Apr	Mean	49.30	45.21	69.46	50.22
	Standard deviation	0.93	1.14	0	2.46
	Number of observations	58	58	58	58
	95% confidence interval	49.06 to 49.54	44.92 to 45.50	69.46 to 69.46	49.59 to 50.86
1-Feb to 7-May	Mean	48.66	44.15	66.51	49.06
	Standard deviation	1.84	2.89	7.49	3.74
	Number of observations	67	67	67	67
	95% confidence interval	48.22 to 49.10	43.46 to 44.84	64.72 to 68.30	48.17 to 49.96
27-Apr	Price	44.00	37.45	47.51	43.00
27-Apr to 7-May	Mean	44.58	37.32	47.51	41.60
	Standard deviation	0.44	0.20	0.000001	1.02
	Number of observations	9	9	9	9
	95% confidence interval	44.29 to 44.87	37.19 to 37.46	47.5099996 to 47.5100004	40.94 to 42.27

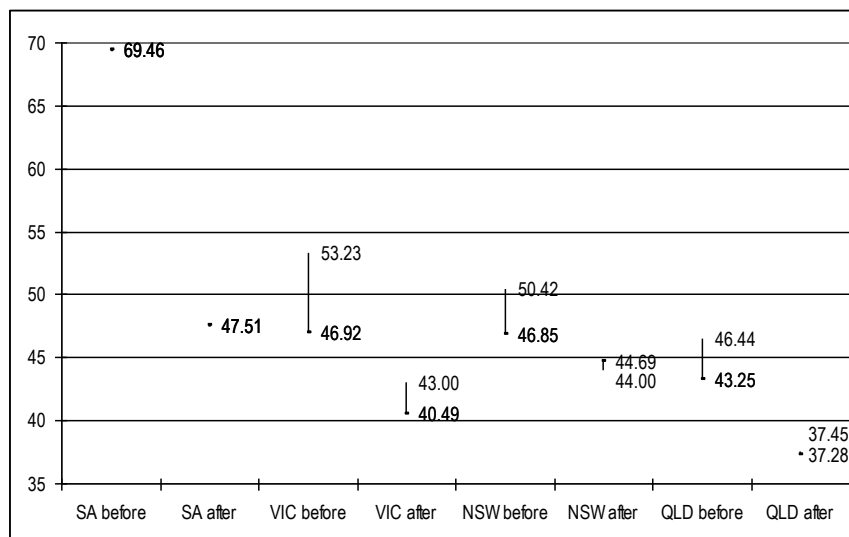
Source: NZIER, d-cyphaTrade

2.4 Price spread

Indeed, even the highest price after the government's announcement was considerably lower than the lowest price before the government's announcement, in each of the four markets.

Figure 2 Spread of daily prices

AU\$



Notes: Shows high and low prices; data points mark closing prices.

Source: NZIER, d-cyphaTrade

3. Conclusion

This simple analysis cannot prove causation, without isolating the market response to the government's announcement from other factors affecting these futures contract prices over this time period. The data do, however, show that prices fell immediately following the government's announcement and these price changes were lasting, to 7 May at least, and considerably larger than normal price variation.

If these price changes were indeed the result of the futures markets responding to the announced delay in implementation of the Australian ETS, the implication is that New Zealanders will face even higher prices for electricity than Australians if the New Zealand ETS proceeds ahead of the Australian ETS.⁴

⁴ In Queensland, for example, generation costs account for around 44% of the final price of electricity (Queensland Government, 2010, *Electricity costs affect prices*, www.dme.qld.gov.au/Energy/electricity_costs_affect_prices.cfm). If the 13.8% fall in futures price in Queensland following the government's announcement was to flow through in full to retail price, it would reduce the average price of electricity to Queensland's businesses and households by around 6.2%, all else being equal.