

11 July 2011

Australian carbon price

Carbon price to start at \$23/t

\$23/t to start, \$29 in FY16; many details from 2009 plan retained

The Australian Government announced today that its planned carbon price will start at \$23/t on 1 July 2012, rising by 2.5% plus inflation before switching to a floating price estimated at \$29 in FY16. The Government's plan retains most of the features of the 2009 Carbon Pollution Reduction Scheme proposal, including free permits to trade-exposed firms and electricity generators that will limit the impact on emissions-intensive companies.

Stock impacts vary widely

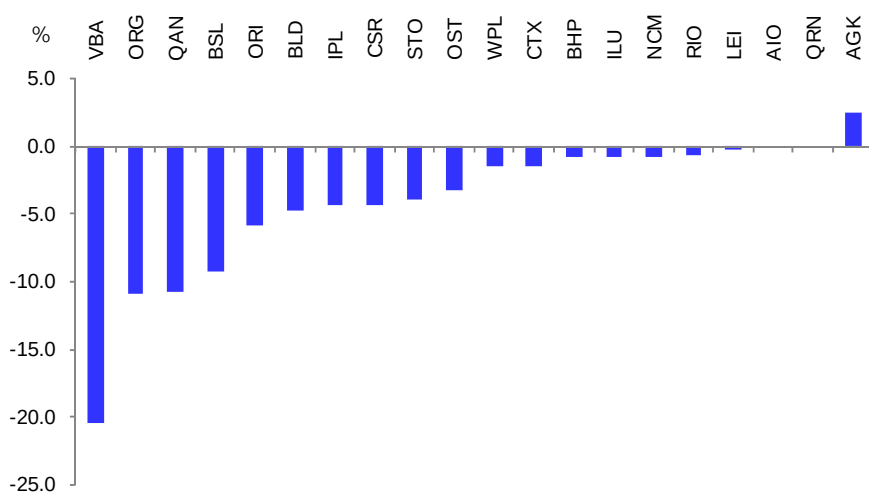
We think the impact on FY13 earnings will be modest for many carbon-intensive firms, though some sectors (airlines, steel, building materials, chemicals) face a material impact. AGL Energy is placed to benefit in FY13 via electricity prices.

Our methodology

We assess company-level impacts by taking into account equity emissions, free permits for emissions-intensive trade-exposed producers and strongly-affected electricity generators, capacity to pass through carbon costs to customers, any increased input costs and a company's scope to reduce emissions.

Legislation in coming months

Legislation is expected in August or September, followed by a Senate inquiry later this year. If the Government's agreement with the Australian Greens and key independents holds, legislation is expected to pass in November.

Figure 1: Estimated FY13 NPAT impact of \$23/t carbon price

Source: Deutsche Bank

Note: Airlines are assumed to be able to pass through 20% of their carbon costs

Note: AGL and ORG impacts assume that carbon costs will be passed on at 75% of network average emissions intensity; at 100% pass-through, impact is ORG +2.9% and AGL +8.4%

Note: Eraring Power Station (Origin) is assumed not to be eligible for free permits

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Carbon price announced

\$23/t to start, \$29 in FY16; core features of 2009 plan retained

The Australian Government announced today that the proposed carbon price would start at \$23/t on 1 July 2012, rising by 2.5% plus inflation until 2015 before switching to a floating price estimated at \$29 in FY16.

Figure 2: Australian carbon price

	FY2013	FY2014	FY2015	FY2016
Carbon price (nominal AUD)	23.00	24.15	25.40	29.00 (est)

Source: Australian Government

A long list of policy details, assistance packages and new grants were announced today, but the core features of the Carbon Pollution Reduction Scheme (CPRS) proposal in 2009 have been retained, including:

- extensive assistance to **emissions-intensive trade-exposed firms** (94.5% or 66% allocated using an industry average emissions benchmark)
- assistance to strongly-affected **coal-fired generators** (was \$7.3 billion in free permits under the CPRS, now \$5.5 billion plus loan guarantees and a tender for the closure of brown-coal capacity).

Most of the major sources of Australia's carbon emissions will be subject to the carbon price, including stationary energy, industrial processes, fugitive emissions (other than from decommissioned coal mines), and emissions from non-legacy waste. Business-related transport emissions will subject to an 'equivalent carbon price' applied through fuel tax changes.

While there were few surprises in the announcement, some notable developments included:

- a new mid-century carbon target of 80% below 2000 levels
- a locked-in switch to a floating price in FY15, not subject to a review
- a price floor and ceiling during the floating price period
- a 50% cap on international permits during the early years of the floating price phase
- a Clean Energy Finance Corporation allocated \$10 billion over five years to commercialise and deploy renewable energy, energy efficiency and low-emissions technologies
- a \$250 million fund to purchase non-Kyoto-compliant offsets from landholders under the Carbon Farming Initiative.

Legislation in coming months

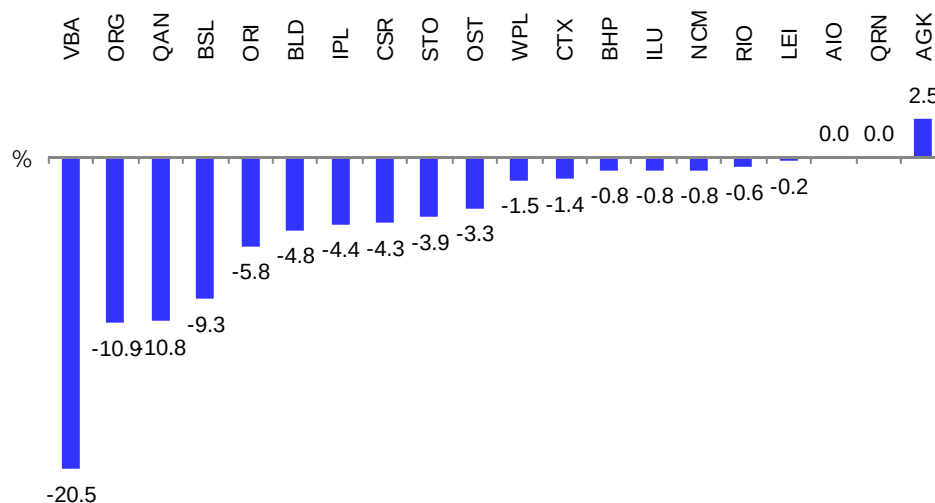
Legislation is expected in August or September, followed by a Senate inquiry later this year. If the Government's agreement with the Australian Greens and key independents holds, legislation is expected to pass in November.

FY13 company impacts

Estimated company impacts

The estimated impact on FY13 NPAT ranges from -20.5% (VBA) to +2.5% (AGK) (see Figure 3).

Figure 3: Estimated FY13 NPAT impact of \$23/t carbon price



Source: Deutsche Bank

Note: Airlines are assumed to be able to pass through 20% of their carbon costs

Note: AGL and ORG impacts assume that carbon costs will be passed on at 75% of network average emissions intensity; at 100% pass-through, impact is ORG +2.9% and AGL +8.4%

Note: Eraring Power Station (Origin) is assumed not to be eligible for free permits

We assess the impact on earnings by taking into account:

- scope 1 (direct) and scope 2 (electricity) emissions data
- equity-accounted carbon emissions (eg emissions associated with JVs)
- free permits for emissions-intensive trade-exposed activities and strongly-affected electricity generators
- capacity to pass through carbon costs to customers
- any increased costs from carbon-intensive inputs other than electricity (eg coal)
- the relative emissions intensity of a company compared to its competitors
- whether the company has any scope to reduce the emissions intensity of its output.

Assistance dilutes the impact

CPRS-style assistance moderates impact on trade-exposed firms

Today's announcement includes very few changes to the assistance arrangements for trade-exposed firms proposed as part of the Carbon Pollution Reduction Scheme (CPRS) in 2009. Firms with carbon-intensive outputs facing prices set in global markets will be eligible to for shielding from the impact of the carbon price (see Figure 4).

Figure 4: Thresholds for receiving free permits are unchanged from CPRS

Carbon intensity threshold	Assistance category	Assistance rate
$\geq 2000\text{tCO}_2/\$m$ revenue or $\geq 6000\text{tCO}_2/\$m$ value-added	Highly emissions-intensive	94.5%
1000-1999tCO ₂ /\$m revenue or 3000-5999tCO ₂ /\$m value-added	Moderately emissions-intensive	66%
<1000tCO ₂ /\$m revenue or <3000tCO ₂ /\$m value-added	Ineligible	0%

Source: Australian Government, Deutsche Bank

The list of activities already identified as eligible for free permits (see Figure 5) is likely to grow before the carbon price starts.

Figure 5: Emissions-intensive trade-exposed activities will receive free permits

Alumina	Ethylene	Packaging and industrial paper
Aluminium	Flat glass	Petroleum
Carbamide (urea)	Glass containers	Printing and writing paper
Carbon steel from cold ferrous feed	High-purity ethanol	Pulp and paper
Cartonboard	Integrated iron and steel	Silicon
Clinker	Integrated lead and zinc	Sodium carbonate and sodium bicarbonate
Coal mining	Lime	Synthetic rutile
Copper	LNG production	Zinc
Dry pulp	Newsprint	

Source: Australian Government, Deutsche Bank

For each eligible emissions-intensive product, a firm will receive free permits on the following basis:

$$\text{permit allocation} = \text{output} \times \text{allocative baseline} \times \text{assistance rate}$$

eg 4.724Mt of crude steel $\times$ 1.705 permits per tonne of crude steel $\times$ 94.5%. The assistance rate will decline at 1.3% each year, as proposed under the CPRS.

Productivity Commission to review assistance rates

The Productivity Commission will review assistance for trade-exposed firms in FY15, though any changes the Government makes in response will not take effect until FY18.

No-windfall provision removed

Importantly, the Government announced a reversal of its 2009 proposal to cap free permit allocations at 100% of liabilities. Allowing firms to earn permits above their liabilities will promote investment in technology or process improvements to reduce emissions beyond industry benchmarks.

\$5.5 billion free permits for most emissions-intensive generators

Electricity generators above an emissions intensity of 1.0tCO₂e/MWh will share in a pool of permits valued at \$5.5 billion over six years.

Under the CPRS, free permits worth \$7.3 billion were to be shared among generators with emissions intensity above 0.86tCO₂/MWh. The assistance pool is smaller this time around, but it will be shared among fewer recipients.

The most emissions-intensive plants – those with emissions intensity above 1.2tCO₂e/MWh – will be eligible to tender for payments to shut down capacity. The budget for that tender process has not been specified.

Figure 6: Brown-coal generators may be eligible for closure payments

	Capacity	Units	Commissioned
	MW		Year
Victoria			
Loy Yang A	2120	2x515, 1x530, 1x560	1984-87
Hazelwood	1600	8x200	1964-71
Yallourn	1480	2x360	1973-75
		2x380	1981-82
Loy Yang B	1000	2x500	1993-96
Morwell	195	1x90, 1x30, 1x75	1958-62
Anglesea	160	1x160	1969
South Australia			
Northern	540	1x265, 1x275	1985
Playford	240	4x60	1960

Source: ESAA, Deutsche Bank

Where does the carbon revenue go? 56% goes to households

Over the forward estimates, households will receive ~56% of the revenue from the carbon price in the form of tax cuts and changes to welfare payments. The policy is budget-negative over the first four years by ~\$4bn.

Figure 7: Budget impact of carbon pricing

	FY2012	FY2013	FY2014	FY2015	Forward estimates	Share of revenue over forward estimates
Revenue						
Revenue from sale of permits	0	7,740	8,140	8,590	24,470	89.8%
Other carbon revenue	0	860	940	990	2,790	10.2%
Expenses						
Household assistance	-1,533	-4,196	-4,802	-4,825	-15,356	56.3%
Industry support	-26	-3,017	-3,475	-3,773	-10,291	37.8%
Electricity sector support	-1,009	-1	-1,003	-1,042	-3,055	11.2%
Clean Energy Finance Corporation	-2	-21	-467	-455	-945	3.5%
Land sector measures	-69	-131	-506	-489	-1,195	4.4%
Governance	-78	-90	-106	-107	-381	1.4%
Total impact	-2,717	1,144	-1,279	-1,111	-3,963	114.5%

Source: Australian Government, Deutsche Bank

The floating price phase

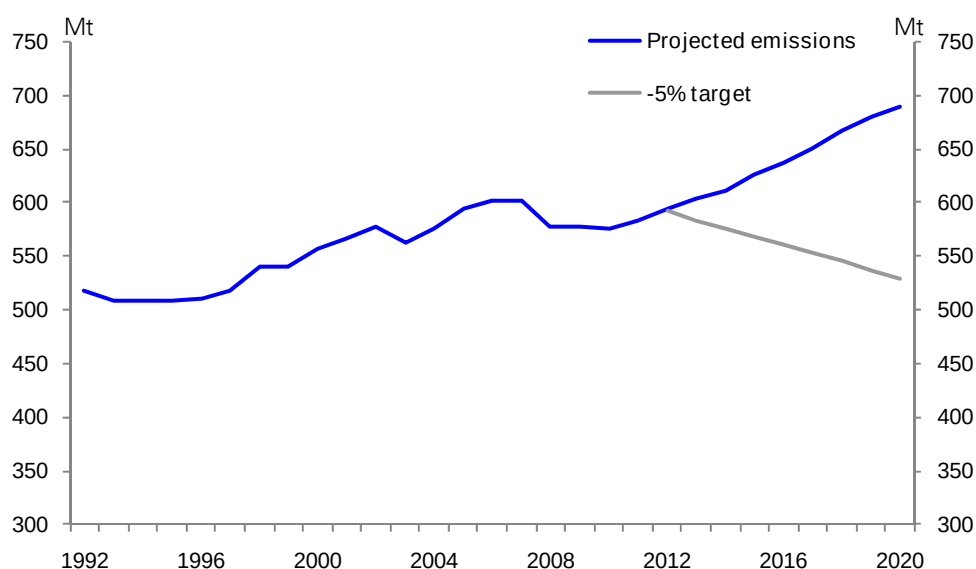
Locked-in switch to floating price in 2015

The Government has withdrawn its proposal to review the state of international carbon markets before making the switch to a floating carbon price in 2015. Locking in the switch to a floating price will help a forward carbon price curve to develop, which in turn will give investors more clarity about the expected returns to investing in low-carbon technologies.

Setting Australia's carbon cap

The Government will set emissions trading caps for 2015-2020 in the 2014 Budget, and will extend that range by one year each year. The path to 2020 is likely to be a straight line (see Figure 8), though if the fixed carbon price period achieves more or less abatement than anticipated, the slope may vary.

Figure 8: Estimated emissions pathway to 2020



Source: Australian Government, Deutsche Bank

\$15 price floor; ceiling at international price + \$20

A price floor of \$15 (rising at 6.5%/year) and a price ceiling set at \$20 above the international price will apply during the first three years of the floating price phase. While a price floor and ceiling would in principle constrain the development of the market, the floor and ceiling prices are unlikely to bind.

Cap on international permits; full access to land sector offsets

Firms will not be entitled to use international carbon permits during the fixed-price phase, but they will be eligible for use when the floating price period starts, subject to a 50% cap during the first five years of that phase.

For the first three years of the carbon price, a 5% cap will apply to the use of offsets generated by landholders under the Carbon Farming Initiative, but unlimited use of those offsets will be permitted in the floating price phase.

Stock by stock

Steel

BlueScope (carbon impact: -9.3% FY13E NPAT)

OneSteel (carbon impact: -3.3% FY13E NPAT)

We anticipate that both BlueScope and OneSteel will receive extensive shielding from the carbon price in the form of free permits (see our **ESG Dashboard: Modest carbon price impact for Australian steelmakers** of 8 April). The impact of a \$23/t carbon price on Australian steelmakers is relatively modest (-\$27M post-tax for BSL and \$12.4M for OST), but presents a risk relative to FY13 earnings.

Today's announcement included a \$300M package for steelmakers in addition to the free permit allocation. Little information was provided, but the Government said that the package is designed to 'encourage investment and innovation' and would include an increase to the free permits allocated to steel from 2016-17 onwards.

Building materials

Boral (carbon impact: -4.8% FY13E NPAT)

Boral's Australian operations generated ~2.9Mt of carbon emissions in FY10, with around half coming from clinker production. We anticipate that Boral will receive free permits covering around two-thirds of its emissions, leaving it liable for around 1Mt of carbon in FY13.

CSR (carbon impact: -4.3% FY13E NPAT)

CSR produced ~1Mt of carbon emissions in the production of building products in FY10, and a further ~2MtCO₂e through its stake in the Tomago aluminium smelter. While the Tomago smelter is likely to receive free permits that more than fully offset its emissions exposure and CSR is likely to recover a significant share of its own emissions costs from its customers, we see CSR facing a liability for ~0.5Mt of carbon emissions.

Contractors

Leighton Contractors (carbon impact: -0.2% FY13E NPAT)

Leighton reported nearly 1Mt of carbon emissions in FY10, but we note that Leighton has reviewed and renegotiated most of its contracts to ensure that increased costs under a carbon price are passed through to its clients, and we think that it will have negligible direct exposure.

Chemicals

Orica (carbon impact: -5.8% FY13E NPAT)

Orica was responsible for ~2.6MtCO₂e of direct and indirect emissions in Australia in FY10, largely from nitric acid and ammonia production and electricity-intensive chlorine production. In 2010, its largest carbon emitting sites globally were Kooragang Island, NSW (44%), Yarwun, QLD (27%), Carseland, Canada (14%), Botany, NSW (4%) and Laverton, VIC (4%). Kooragang Island, Yarwun and Carseland produce nitric acid, and Kooragang Island also produces ammonia. Its Botany, Laverton and Yarwun facilities produce chlorine.

Orica reports that it installed secondary N₂O abatement equipment on Nitric Acid Plant 1 at Carseland in Canada in May 2008 to break down the N₂O molecule into nitrogen and oxygen, reducing emissions by 72% 2010. Secondary N₂O abatement technology was also

successfully installed on Bacong's Nitric Acid Plant in July 2009, achieving a reduction of over 67% of carbon emissions.

If comparable levels of abatement are achieved at Orica's Australian plants before the introduction of a carbon price, we anticipate that Orica's exposure to a carbon price would be substantially reduced.

Incitec Pivot (carbon impact: -4.4% FY13E NPAT)

Incitec Pivot produced ~1.2MtCO₂e of direct and indirect emissions in Australia in FY10 from its nitrogen-based manufacturing. We assess that while IPL is likely to receive some free permits associated with its urea (carbamide) manufacturing, those free permits will not fully offset the cost of meeting its carbon liabilities, leaving it liable for ~1Mt of carbon costs each year.

The company reports that it has scope to increase its operational energy efficiency and to help its customers improve their emissions efficiency with low emission products and support services such as soil management and energy efficient blasting.

Resources

Rio Tinto (carbon impact: -0.6% FY13E NPAT)

BHP Billiton (carbon impact: -0.8% FY13E NPAT)

Iluka (carbon impact: -0.8% FY13E NPAT)

Newcrest (carbon impact: -0.8% FY13E NPAT)

Resources companies face a small carbon impact relative to projected FY13 earnings. While most resources companies sell products into global markets where prices will be unaffected by an Australian carbon price, coalmining, alumina, aluminium and synthetic rutile production are likely to receive free permits to shield those producers from the full impact of a carbon price.

Final details of the assistance arrangements for coalmining are yet to be released, though we note that today's announcement included a \$1.264 billion assistance package for the coal sector, and an additional \$70M to help coalmines abate emissions. We expect that free permits for coalmining will be focused on the most emissions-intensive 'gassy' mines.

Energy

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Caltex (carbon impact: -1.4% FY13E NPAT)

Based on Government commentary, we believe Caltex will receive Level 1 EITE relief for its petroleum refining operations. Given Australia imports around 25% of refined products, the ability for Caltex to pass on the costs associated with carbon emissions from the petroleum refining process is very low. We do not believe Caltex will face higher input costs given oil prices are benchmarked globally and so suppliers of crude to Caltex will not be able to pass on their carbon costs.

Based on our assumed Level 1 EITE relief for Caltex's refining operations, we do not see material earnings implications in 2013 from a price on carbon. We estimate an impact of -1.4% on earnings, and -2.8% on company value. The higher impact on our valuation reflects the declining profile of the level of assistance to trade exposed industries. If petroleum refining were only eligible for Level 2 EITE relief, the FY13 EPS impact would rise to -6.6%, or -18.8% if there were no assistance provided. While we see Level 1 relief as the likely outcome, these scenarios point to the impact of a price on carbon to Caltex's business if relief in the form of free permits was not provided.

Valuation: Using a DCF approach our NAV for Caltex is \$12.52/sh. We use 11% discount rate which is derived by using a growth rate of 2.0%. The risk free rate used is 6.25%. The equity risk premium is 6%, and our terminal growth rate is 2%, which is the typical long-term growth rate for the refining business. Our price target of \$12.50/sh is based on our NAV.

Woodside (carbon impact: -1.5% FY13E NPAT)

We see little to no ability for Energy companies to pass on carbon related costs associated with the extraction, processing and transportation to customers for products with global benchmark pricing (oil, LNG, condensate, etc) given a lack of carbon costs in competing countries. Energy buyers could simply switch to non-carbon cost countries should Australian producers increase energy prices to pass on a cost of carbon. Woodside's Australian domestic gas operations are better placed to pass through carbon related costs to customers, we assume 75% of the costs of extracting and processing gas are passed through. We assume Woodside's international operations are not subject to any price on carbon at this point.

Based on our estimates of carbon intensity, we believe LNG production will be eligible for Level 2 EITE relief; however, the production of other commodities is unlikely to meet the intensity threshold. Given Woodside's earnings leverage to LNG, the impact of a price on carbon is relatively modest due to the free permits we assume will be received by the company's LNG operations. We estimate a 1.5% impact on 2013 earnings, and we note this figure would rise to c.3% if Woodside received no EITE relief for LNG production.

In addition, we would expect domestic gas demand to increase with a price on carbon due to a switch in the electricity generation mix away from coal and towards gas as a transition fuel. This is due to gas being a less carbon intensive fuel source, coupled with gas offering the only real baseload electricity generation alternative in Australia. Our Woodside forecasts do not assume gas demand uplift; however, we do see this scenario as offering potential upside to the company over the medium to longer term.

Valuation: Using a DCF approach, our NAV for Woodside is A\$54.41/sh. Using the Brent forward curve as at 1 Jul 11, our NAV is A\$47.66/sh. Our price target of A\$51.90/sh is derived by taking the mid-point of the two NAVs and adding a risked exploration figure of A88cps. We use an 11% WACC across our Energy coverage universe.

Santos (carbon impact: -3.9% FY13E NPAT)

We estimate over 50% of Santos' current emissions are sourced from the Cooper Basin given gas flaring and aging infrastructure. The Cooper Basin is now in decline, and the company's production is increasingly focused on LNG, which we believe will be eligible for EITE relief. As a result, our estimated 3.9% 2013 earnings impact from a \$23/t price on carbon falls over time for Santos as higher emissions intensity production is replaced by lower intensity, offshore, and EITE supported production.

In addition, we would expect domestic gas demand to increase with a price on carbon due to a switch in the electricity generation mix away from coal and towards gas as a transition fuel. This is due to gas being a less carbon intensive fuel source, coupled with gas offering the only real baseload electricity generation alternative in Australia. Our Santos forecasts do not assume gas demand uplift, however we do see this scenario as offering potential upside to the company over the medium to longer term given Santos is one of Australia's largest domestic gas producers.

Valuation: Using a DCF approach, our NAV for Santos is \$20.08/sh. Using the Brent forward curve as at 1 Jul 11, our NAV is \$16.26/sh. Our price target of \$18.40/sh is derived by taking the mid-point of the two NAVs and adding a risked exploration figure of 22cps. We use an 11% WACC across our Energy coverage universe.

Utilities

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AGL Energy (carbon impact: +2.5% FY13E NPAT)

Around 80% of Australia's electricity comes from coal. While a carbon price is clearly a medium-term risk for coal-fired generators, the majority of coal generation in Australia is either in government hands or under offshore ownership. Generation capacity operated by AGL has a relatively low carbon intensity, but AGL's stake in the 2,120MW brown coal-fired Loy Yang A plant (AGL 32.5%) pushes its equity emissions to nearly 8Mt/year.

AGL will benefit strongly from the effect of a carbon price on electricity pool prices, increasing the return to renewable generation, and Loy Yang A is likely to receive assistance to address the loss of asset value it faces when a carbon price is introduced. Once generator assistance ends, we estimate a carbon price will be earnings negative for AGL as the uplift from higher pool prices for the company's renewable generators will not be sufficient to offset the carbon liability from fossil fuel generators.

We estimate that Loy Yang A is 2% NAV negative for AGL under a carbon price, and if the company were to dispose of its 32.5% Loy Yang A stake, we estimate a 2% NAV uplift (to -0.6%). But selling Loy Yang A could be challenging given the carbon exposure that goes with it.

Valuation: We use a DCF approach to determine our NAV for AGL Energy of \$17.20/sh. Our price target of \$17.20/sh is based on our NAV. We use a WACC of 9% (rf = 6.25%, beta = 0.70, mrp 6%, cost of debt 7.45%, target debt to value ratio of 30%) in our DCF analysis.

Origin Energy (carbon impact: -10.9% FY13E NPAT)

On our estimates, Origin faces a carbon liability for its electricity emissions (17.6Mt, 92%) and its primary energy businesses in oil, condensate, gas and LPG (1.5 Mt, 8%) in FY13. APLNG (ORG 42.5%) will face a carbon cost from start-up, anticipated in 2015, but is likely to receive extensive free carbon allowances as an emissions-intensive trade-exposed activity.

The acquisition of the black coal fired Eraring Power Station generator rights has transformed Origin's carbon emission profile, and we estimate ~70% of total company emissions will be contributed by Eraring in 2013. Based on Eraring Energy's 2010 Sustainability Report, the power station's emissions intensity averaged 0.91tCO₂e/MWh in 2010, insufficient to receive any assistance according to today's announcement.

As a result, the impact of Eraring's carbon liability could have a significant impact on Origin's earnings. Based on our assumptions that 75% of generator costs are passed through across the network, and Eraring does not receive any free permits, we estimate a price on carbon will impact Origin's FY13 EPS by -10.9%, and valuation by -5.7%. This is materially different to the scenario where Eraring does receive free permits, where the FY13E EPS impact would be +1.2%. Under the CPRS, we believe Eraring would have received generator support.

The ability for Eraring to pass through carbon costs is a key variable. We assume the electricity sector will be able to pass through 75% of carbon related costs in the form of higher pool prices, however we note if 100% of costs can be passed through, the impact of a price on carbon is positive for Origin.

Figure 9: The impact of generator support and cost pass-through on Origin Energy

	Base Carbon Case	100% pass-through	Generator Support for Eraring
EPS	-10.9%	+2.9%	+1.3%
NAV	-5.7%	+7.7%	-2.8%

Source: Deutsche Bank

Valuation: Using a DCF approach, our NAV is \$17.42/sh. Using the Brent forward curve as at 1 Jul 11, our NAV is \$15.96/sh. Our price target of \$16.85/sh is derived by taking the mid-point of the two NAVs and adding a risked exploration figure of 15cps.

We use a WACC for Origin's E&P business of 11%, derived from the following assumptions: a Ke of 11.2% (beta of 0.80, rf of 6.5% and Rm of 6%), a cost of debt of 7.5%, and gearing of 30%, we use a 9% for the underlying utility business.

Airlines

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Qantas (carbon impact: -10.9% FY13E NPAT)

Virgin Blue (carbon impact: -20.5% FY13E NPAT)

Domestic airlines are unlikely to be able to pass through the carbon price without impacting their revenue profile, whether it is passenger or freight traffic. The degree of pass through will be dependent on the competitive positioning of the airline, exposure to the "relatively" more inelastic corporate/business segment, as well as the state of the Australian economy - if the carbon price was introduced in a recessionary climate, we expect the carbon cost pass through rate for QAN and VBA to be 0%. In relation to passenger travel, we believe that full pass-through is unrealistic given the highly discretionary nature of air travel, be it in the corporate or leisure segments. Whilst the air freight market is time sensitive, it is also highly cyclical - full pass through is also unrealistic; however, we would expect better end-user cost acceptance than passenger traffic. On a through-the-cycle basis, and considering our expectation that the Australian aviation market will continue to grow (leading to yield retention challenges), we expect in order for that growth to be sustained for QAN and VBA to be able to pass through c20% of their carbon costs.

The risks to the airlines from the implementation of a carbon pricing mechanism are to the downside. We also note that our analysis is specifically focused on the implementation of a carbon pricing mechanism in Australia, which only covers domestic aviation. International aviation fuel use is not covered by the Federal Government's proposal as this is subject to international negotiations. As indicated in the report **The Flight Path: Global views & valuations** dated 5 July 11, the European Union is seeking to implement an emissions trading system, which will cover carriers flying to Europe - this system is currently being challenged by the US airline industry on the question of whether Europe has the right to regulate emissions releases.

Rail transport

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Asciano (carbon impact: 0% FY13E NPAT)

QR National (carbon impact: 0% FY13E NPAT)

The carbon emissions exposure for each of AIO and QRN is primarily via their respective rail transport operations. We expect minimal earnings impact as a result of the implementation of a carbon pricing mechanism. Firstly, the rail freight mode of transport is considerably more energy efficient than other modes of transport including road. Additionally, freight rail exhibits far greater monopoly/duopoly market features versus air transport or road transport (AIO and QRN effectively operate a duopoly in relation to coal haulage). With such a competitive positioning, we envisage AIO and QRN to be able to pass through 100% of the costs associated with a carbon pricing system.

An issue of concern for the coal haulage providers may be the impact of a carbon pricing mechanism on Australian coal production. While this is a potential risk to coal volumes, we note that AIO and QRN transport coal under long-term take-or-pay contracts which protect them from volume downside. The willingness of the coal miners to enter into these contracts should serve to illustrate that they are comfortable with the long-term fundamentals of the coal industry in Australia.

Who are the major emitters in Australia?

Figure 10: Major Australian carbon emitters – FY10

		Scope 1 (direct) emissions tCO ₂ e	Scope 2 (indirect electricity) emissions tCO ₂ e
Top 10 direct emitters (excluding electricity generators)			
1	BlueScope Steel	10,791,351	1,424,605
2	Woodside Petroleum	8,391,652	38,443
3	Rio Tinto	7,701,301	9,651,903
4	Alcoa Australia	6,757,567	9,804,728
5	AZSA Holdings	6,117,764	526,177
6	BHP Billiton	5,150,942	1,819,255
7	Anglo American Australia	4,059,269	590,957
8	Qantas Airways	3,956,061	224,024
9	Santos	3,571,231	39,723
10	Queensland Alumina	3,556,459	726,522
Top 5 indirect emitters			
1	Alcoa Australian Holdings	6,757,567	9,804,728
2	Rio Tinto	7,701,301	9,651,903
3	Pechiney Consolidated Australia	983,247	6,899,753
4	Wesfarmers	2,403,609	2,760,935
5	Hydro Aluminium Kurri Kurri	366,598	2,509,193
Top 10 electricity generators			
1	Macquarie Generation	23,408,791	175,836
2	Delta Electricity	20,453,113	233,034
3	Great Energy Alliance Corp	19,797,636	231,396
4	International Power (Australia)	17,247,970	312,865
5	CS Energy	16,824,919	98,818
6	TRUenergy	15,612,214	227,828
7	Eraring Energy	12,067,677	49,594
8	Loy Yang	10,186,782	20,296
9	OzGen Holdings	10,173,421	38,468
10	Electricity Generation Corp	8,418,390	6,014

Source: Australian Government, Deutsche Bank
 Note: National Greenhouse and Energy Reporting data for FY10, unadjusted

Useful links

Full details of the Government's carbon policy announcement are available here:
www.cleanenergyfuture.gov.au

Updated Treasury modelling of the impact of a carbon price is available on the Treasury website: <http://www.treasury.gov.au/carbonpricemodelling/>

Authors' acknowledgement

This report has benefited from the generous assistance of Deutsche Bank analysts covering the Australian energy and utilities, transport, resources, building materials, steel, contractors and chemicals sectors.

Companies mentioned**Figure 11: Companies mentioned in this report**

Ticker	Name	Recommendation	Closing price (AUD)
AGK	AGL Energy Ltd	Buy	14.52
AIO	Asciano Ltd	Buy	1.65
BHP	BHP Billiton Ltd	Buy	44.95
BLD	Boral Ltd	Hold	4.24
BSL	Bluescope Steel Ltd	Buy	1.35
CSR	CSR Ltd	Buy	2.94
CTX	Caltex Australia Ltd	Hold	11.52
ILU	Iluka Resources Ltd	Hold	17.52
IPL	Incitec Pivot Ltd	Sell	4.01
LEI	Leighton Holdings Ltd	Hold	21.75
NCM	Newcrest Mining Ltd	Buy	38.79
ORG	Origin Energy Ltd	Hold	15.50
ORI	Orica Ltd	Buy	27.18
OST	Onesteel Ltd	Hold	2.03
QAN	Qantas Airways Ltd	Buy	2.00
QRN	QR National Ltd	Sell	3.47
RIO	Rio Tinto Ltd	Buy	84.35
STO	Santos Ltd	Buy	13.64
VBA	Virgin Blue Holdings Ltd	Hold	0.35
WES	Wesfarmers Ltd	Buy	31.98
WPL	Woodside Petroleum Ltd	Buy	41.20

Source: Deutsche Bank

Appendix 1

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Equity rating key

Buy: Based on a current 12-month view of total shareholder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield), we recommend that investors buy the stock.

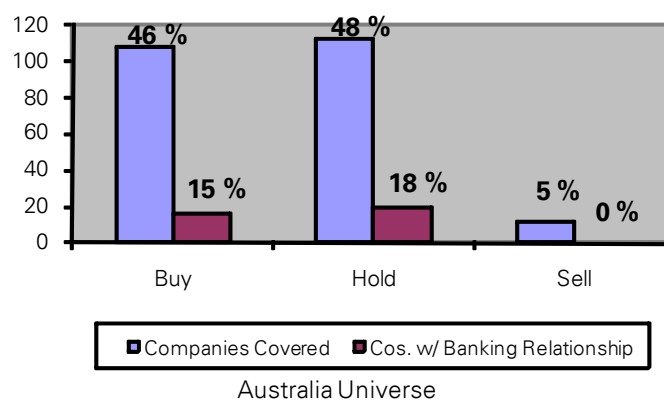
Sell: Based on a current 12-month view of total shareholder return, we recommend that investors sell the stock

Hold: We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

Notes:

- Newly issued research recommendations and target prices always supersede previously published research.
- Ratings definitions prior to 27 January, 2007 were:
 - Buy: Expected total return (including dividends) of 10% or more over a 12-month period
 - Hold: Expected total return (including dividends) between -10% and 10% over a 12-month period
 - Sell: Expected total return (including dividends) of -10% or worse over a 12-month period

Equity rating dispersion and banking relationships



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