BLACKWATER SYSTEM COAL RAILINGS FORECAST

Abridged Version

A report prepared by Energy Economics for the Queensland Competition Authority

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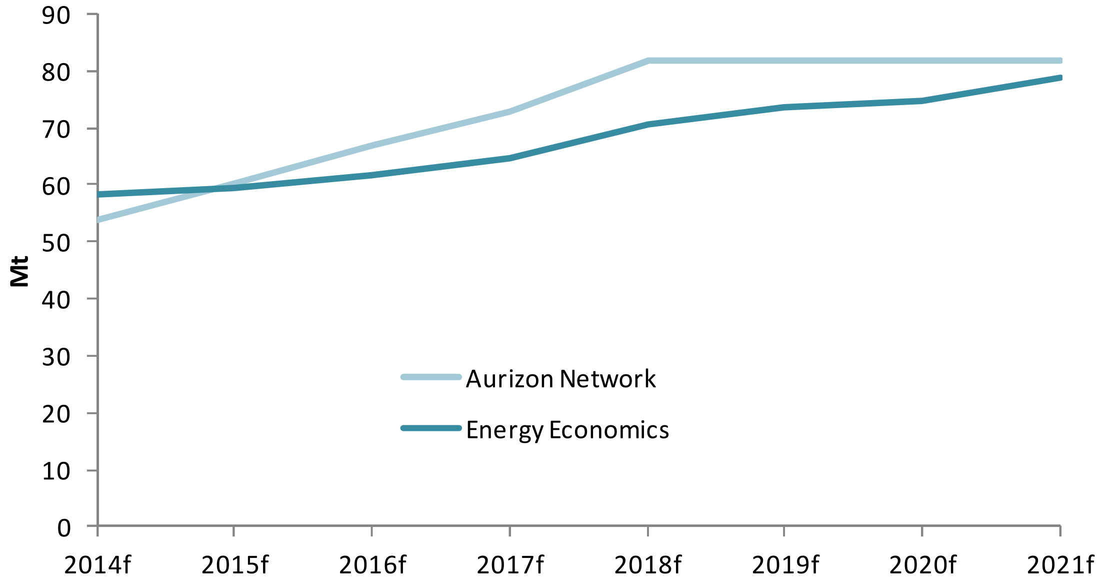
1 EXECUTIVE SUMMARY

Overcapacity is expected to continue to be the main theme in international coal markets over the next three to four years, with prices for Queensland's metallurgical and thermal coal exports expected to remain low over this timeframe. However these weak market conditions are due primarily to excessive new production capacity having been brought on stream, rather than any prolonged downturn in global demand for coal imports. Significant growth in international trade volumes is expected through the forecast period, driven by Asian coal demand, and Queensland mines will participate strongly in that growth.

Global demand for metallurgical coal imports is forecast to grow from 296 million tonnes in 2012 to 455 million tonnes in 2021 – an average growth of 18 million tonnes per year over that period. Similarly, world thermal coal imports are forecast to grow from 930 million tonnes in 2012 to 1,342 million tonnes in 2021 – an average of 46 million tonnes per year.

Domestic Queensland coal demand has fallen over recent years, as increased gas-fired and renewable electricity generation capacity has impacted coal-fired generation. Some recovery in domestic demand is expected over the forecast period, based on the Australian Energy Market Operator's forecasts that Queensland's electricity demand will exhibit strong growth in demand and predicated on gas prices increasing to export parity levels.

Figure 1 Blackwater System coal railing forecast comparison



Source: Energy Economics

Table 1 Blackwater System coal railing forecast comparison, Mt

Financial year to June	2014f	2015f	2016f	2017f	2018f	2019f	2020f	2021f	Total
Aurizon Network	53.7	60.3	66.8	72.8	81.7	81.7	81.7	81.7	580.5
Energy Economics	58.4	59.6	61.8	64.7	70.6	73.4	74.6	78.8	542.0
Difference	4.7	-0.7	-5.1	-8.1	-11.1	-8.3	-7.1	-2.9	-38.5
% Difference	8.7	-1.2	-7.6	-11.1	-13.6	-10.1	-8.7	-3.5	-6.6

Energy Economics forecasts growth in Blackwater System coal railings from 58.4 million tonnes in fiscal 2014 to 78.8 million tonnes in fiscal 2021. As graphed and tabulated above, Energy Economics' forecast railings are some five million tonnes higher than Aurizon Network's forecast in fiscal 2014, but over the remainder of the eight year forecast period Energy Economics' forecast railings are lower than Aurizon Network's forecast volumes.

Over the course of the eight year forecast period Energy Economics forecasts total Blackwater System railings of 542 million tonnes, which is 39 million tonnes (6.6%) lower than the Aurizon Network forecast of 581 million tonnes.

The major differences between Energy Economics' forecasts and Aurizon Network's forecasts are listed below.

- Aurizon Network has assumed flat railings for the second half of the forecast period, whereas Energy Economics has used the same forecasting method throughout the forecast period.
- Energy Economics has assumed the Crinum longwall mine (part of the Gregory mining complex) will shut in fiscal 2019 due to reserve exhaustion, in line with BHP Billiton's latest coal reserves report.
- Energy Economics forecasts the Togara North thermal coal project will commence production in the final year of the forecast period.
- Energy Economics has been more bearish than Aurizon Network in terms of the speed of development of mining projects destined to utilise the new Wiggins coal Export Terminal, and in some cases the ultimate production levels of these mines.
- Aurizon Network has included near-term railings from the idled Norwich Park mine, whereas we have assumed a restart of mining in fiscal 2018.

The levels of coal railings forecast by Energy Economics are not expected to be constrained by rail and port capacity. There are comfortable margins between forecast railings and the throughput capacity at the Port of Gladstone. Volumes forecasts for railings using electric traction have been provided to the QCA in a separate confidential report.

It is noted that the balance of risks to our forecast is weighted to the downside. Mining costs remain high in relation to current price levels, particularly for some opencast operations with high overburden to coal ratios. Further mine closures cannot be ruled out if prices remain low or if the fall in the Australian dollar is not sustained.

2 INTRODUCTION

In May 2013, the Queensland Competition Authority (QCA) engaged Energy Economics to assist it in verifying the reasonableness of traffic volume forecasts submitted to the QCA by Aurizon Network Pty Ltd (Aurizon). Specifically, Energy Economics was asked to provide an independent review of coal railings on the Blackwater System from the mines to various export terminals and domestic customers for an eight period commencing the year ending June 30 2014 (fiscal 2014) and ending in fiscal 2021.

In formulating its view on future coal railings Energy Economics has based its evaluations on the parameters listed below.

- An appraisal of current mine capacity and capacity expansion projects;
- Potential changes at the mine/company level in terms of railing practices, changes in contractual arrangements, mine problems, new markets or contracts, etc;
- Domestic and international market conditions;
- Coal reserves;
- Mining costs;
- Port capacity and charges; and
- Rail infrastructure capacity and charges.

This version of the report excludes confidential and detailed proprietary information and has been made available to the QCA for publication on its web site. A more detailed report has been provided to the QCA for its internal use.

3 DOMESTIC COAL DEMAND

Railings to customers within Queensland accounted for 8% of total railings in the Central Queensland coal region in fiscal 2012. Coal demand in Queensland is dominated by the electricity generation sector, which accounts for 91.0% of coal distributions to Queensland consumers. The non-ferrous metals processing sector and the cement sector are also significant coal consumers in Queensland, accounting for 6.7% and 0.8% of intra-state coal distributions respectively. Together, these three end-use sectors account for 98.5% of total coal distributions within the state.

Table 2 Coal distribution within Queensland by district (tonnes)

	2010-2011			
	Northern	Central	Southern	**Total**
Consumer group				
Agriculture	-	-	881	881
Basic Metal Products	-	-	-	-
Basic Non-Ferrous Metals	321,969	1,199,251	-	1,521,220
Beverages And Malt	112	-	-	112
Cement And Concrete Products	-	-	188,782	188,782
Chemical,Petroleum And Coal Products	64,047	-	-	64,047
Clay Products And Refractories	-	-	5,794	5,794
Coal	-	2,650	14,750	17,400
Electricity	243,457	5,399,799	14,870,096	20,513,352
Fruit And Vegetable Products	-	-	21,344	21,344
Glass And Glass Products	-	-	-	-
Health	-	-	3,457	3,457
Meat Products	7,674	5,364	57,748	70,786
Milk Products	-	-	1,177	1,177
Mining	-	326	-	326
Not Known	-	1,607	-	1,607
Other Non-Metallic Minerals	-	-	331	331
Paper,Paper Products,Printing And Publishing	-	-	97,953	97,953
Railway Transport	96	333	-	429
Road And Transport	-	2,355	516	2,871
Services To Transport	-	-	-	-
Sugar	20,469	258	2,948	23,675
Wholesale And Retail Trade	-	-	1,623	1,623
Wood,Wood Products And Furniture	-	-	4,211	4,211
Agriculture,Forestry,Fishing And Hunting	-	125	100	225
Construction Materials	-	-	1,573	1,573
State total	657,824	6,612,068	15,273,284	22,543,176

Data Source: DNRM

3.1 Electricity sector

Energy Economics has based its view of coal demand in Queensland's power sector on electricity generation forecasts it has commissioned from Intelligent Energy Systems Pty Ltd (IES). IES is a specialist electricity industry forecaster.

Grid electricity demand has stalled in Queensland over the last six years; with electricity generation in the state being lower in fiscal 2012 than it was in fiscal 2006. The table below shows electricity generation by fuel type in Queensland. These figures only include generation by the major power stations that supply electricity to the National Electricity Market.

Table 3 NEM Electricity generation by fuel in Queensland (TWh)

FY ending June	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013f	2014f
Coal	46.8	50.3	50.9	53.2	51.5	50.3	51.2	50.0	45.8	44.8	43.8	46.6
Gas	0.6	0.7	1.3	3.2	5.4	5.7	5.6	8.4	11.2	11.0	9.7	10.7
Hydro	0.4	0.4	1.0	0.6	1.0	0.9	0.8	0.6	1.0	0.7	0.7	0.8
Total	**47.8**	**51.5**	**53.2**	**57.0**	**57.9**	**56.9**	**57.6**	**59.0**	**58.0**	**56.6**	**54.3**	**58.1**
Increase		3.7	1.7	3.8	1.0	-1.0	0.7	1.4	-1.0	-1.4	-2.3	3.8
% Increase		7.8	3.3	7.1	1.7	-1.8	1.3	2.4	-1.7	-2.4	-4.1	7.0

Data source: IES

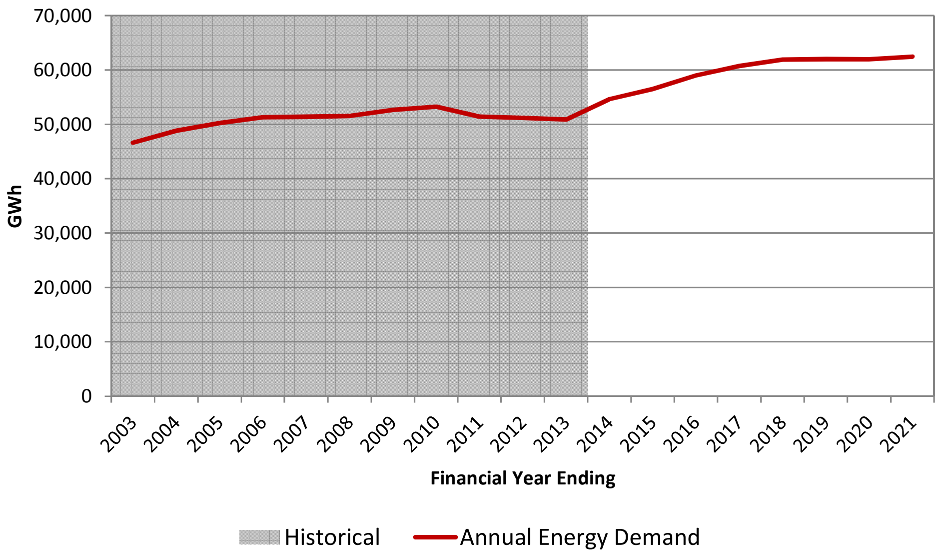
There are four main causes of the lack of sustained growth in grid electricity demand in Queensland since fiscal 2006.

- Sharp rises in electricity prices have constrained electricity consumption across eastern Australia. The introduction of the carbon tax from July 2012 further increased electricity prices and is having a disproportionate impact on coal-fired generation, as it is designed to do.
- A surge in roof-top photovoltaic systems is supplying consumers at source, reducing demand on the National Electricity Market grid.
- As of May 2013, 152,657 solar hot water systems were installed in Queensland. While these systems do not produce electricity, they obviate the need for electricity when they are installed in lieu of an electric hot water system. IES estimates the demand offset from these solar hot water systems has risen from about 60 GWh in 2004 to approximately 380 GWh in 2012.
- Net electricity exports from Queensland have fallen from 6,546 GWh in fiscal 2010 to a projected level of 3,452 GWh in fiscal 2013. The IES forecasts assume that exports to New South Wales will remain at low levels "due to increased build of wind farms in NSW, growth in demand in QLD and low projected levels of demand in NSW".

IES has based its electricity generation forecasts on the Australian Energy Market Operator's (AEMO) low growth scenario[1]. The Australian Energy Market Operator forecasts a steep rise in Queensland's electricity demand between 2014 and 2018. IES understands this rebound in generation is predicated on "a number of industrial facilities related to the burgeoning LNG export industry that will commence operation and drive electricity demand."

[1] Australian Energy Market Operator. 2012 National Electricity Forecasting Report

Figure 2 QLD historical and forecast annual electricity demand "as-generated" – AEMO Low scenario



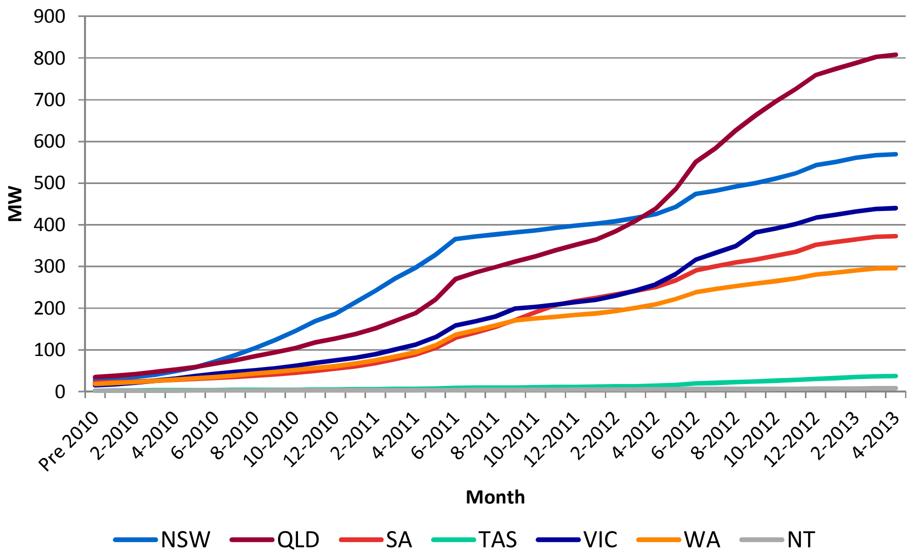
Source: IES, AEMO National Electricity Forecasting report 2012

The combined impacts of flat demand and increased coal, gas and photovoltaic generation capacity over recent years have resulted in substantial overcapacity in Queensland. There is a total of over 13,000 MW of capacity installed, while peak demand was only 8,760 MW in 2012. There appears to be no need for the construction of any new fossil-fired power station units in Queensland within a ten year timeframe. Subsidised wind and solar capacity will, however, continue to grow despite the chronic overcapacity already in the system.

3.1.1 Renewable energy

IES estimates that annual generation from photovoltaic systems in Queensland has increased from negligible levels pre 2010 to 838 GWh in 2012. Furthermore, IES estimates yearly generation with current photovoltaic capacity is 1,213 GWh.

Figure 3 Installed Capacity of PV systems across Australia (IES)



The Queensland Government's Solar Bonus Scheme pays eligible customers for the surplus electricity generated from their solar photovoltaic panel systems, which is fed back into the electricity grid. Customers who have joined the Scheme since 10 July 2012 are paid 8 cents per kilowatt hour for surplus electricity fed into the grid, compared with 44 cents per kilowatt hour for pre-existing customers[2].

IES notes "There was a rush to install systems before the feed-in tariff was reduced from 44c/kWh to 8c/kWh in June 2012. Since then the rate of installations has been more moderate. However, PV systems continue to represent a worthwhile investment for customers in Queensland." IES cautions that in future the rate of installations might slow down substantially with the proposed introduction of a levy on photovoltaic system owners.

The Australian Government's Large-scale Renewable Energy Target drives investment in renewable generation capacity. IES estimates that to meet the renewable energy target in its current form, some 7,800 MW of wind farms need to be built across Australia. IES has the view much of this capacity will be constructed in New South Wales and Victoria. They have assumed a total of 739 MW of wind projects will be constructed in Queensland before 2020.

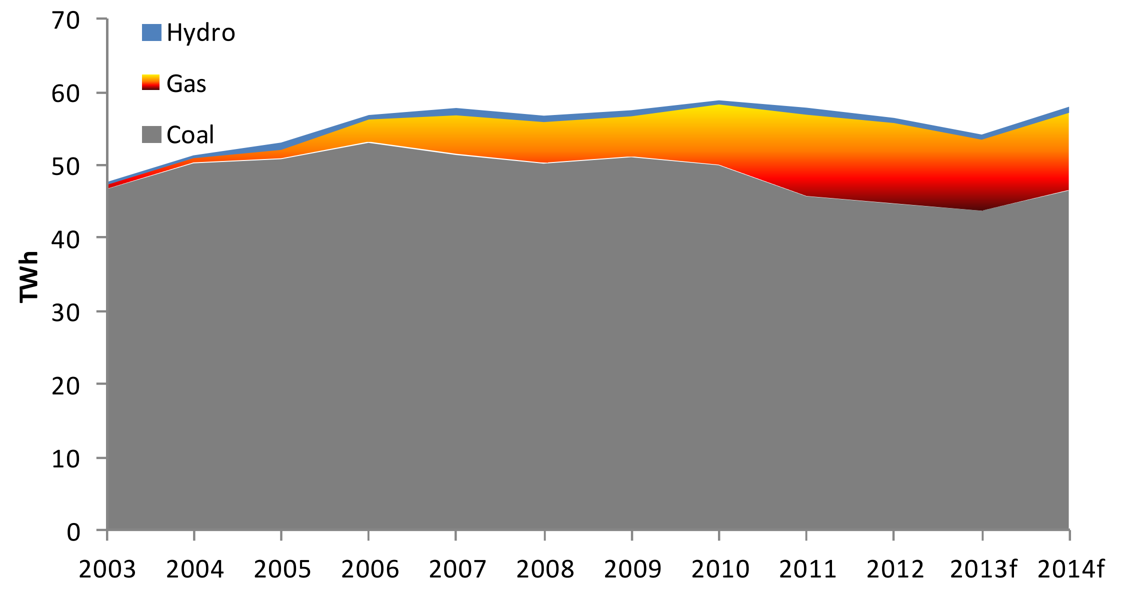
3.1.2 Gas-fired generation

Significant additional gas-fired generation has been commissioned in Queensland and elsewhere in the National Electricity Market over recent years. An example is the 630 MW base and intermediate load Darling Downs Power Station (a combined cycle gas turbine), which was commissioned in

[2] Queensland Government, Department of Energy & Water, http://www.cleanenergy.qld.gov.au/demand-side/solar-bonus-scheme.htm

Queensland in November 2010. Gas-fired electricity generation in Queensland grew at a compound annual rate of 41% between fiscal years 2004 and 2012.

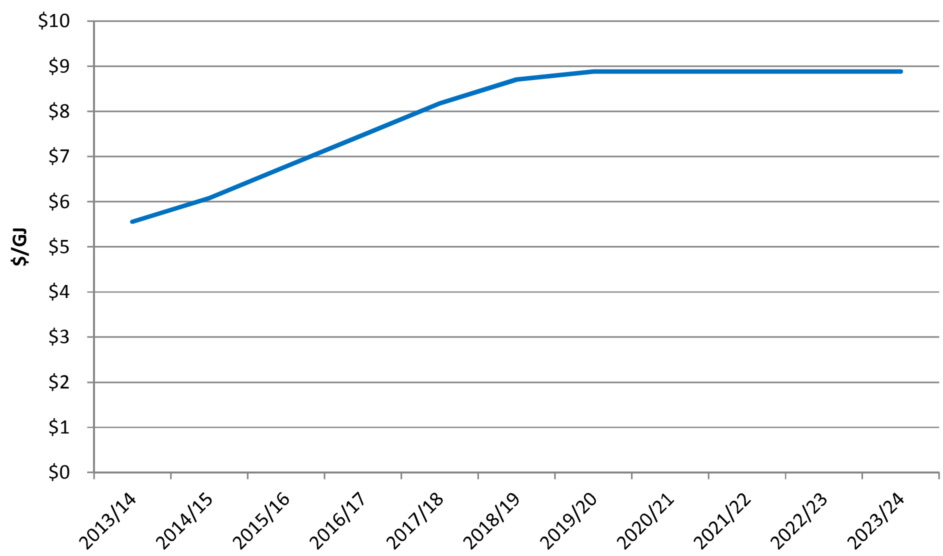
Figure 4 NEM Electricity generation by fuel in Queensland



Data source: IES

For its electricity generation forecasts IES has assumed that domestic gas prices will move towards export parity netback (i.e., the world energy price less processing and transport charges) as exports of LNG from Gladstone commence and grow. IES has assumed gas prices will increase steadily from recent levels of $5.50 per gigajoule up to $9 per gigajoule in fiscal 2013, and then remain flat at that level for the remainder of the forecast period.

Figure 5 Assumed Gas Prices for QLD Generators (IES)



It is noted that, by comparison, the current spot price for export grade thermal coal is $3.30 per gigajoule (gross as received basis) loaded onto a vessel at port. Prices for domestic grade coal are generally cheaper than the export prices.

IES notes that it's modelling shows that "Generation from gas-fired power stations decreases as gas prices rise to export parity netback."

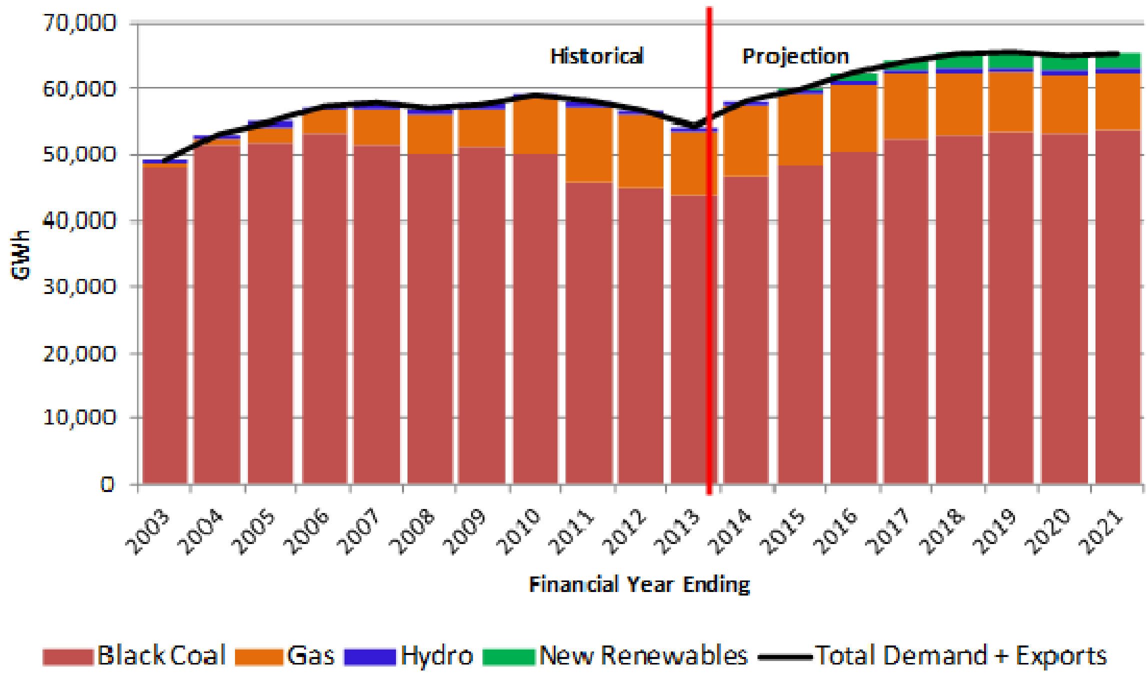
3.1.3 Coal-fired generation

Queensland's coal-fired power stations have operated at low capacity utilisation since early last decade, when substantial additional coal-fired generating capacity was commissioned. New coal-fired power stations constructed at that time included Callide C (900 MW), Millmerran (850 MW) and Kogan Creek (750 MW), which came on line in 2001, 2002 and 2007 respectively.

Coal-fired generation in Queensland peaked at 53.2 TWh in fiscal 2006, but has fallen nearly every year since, to reach a level of 44.8 TWH in fiscal 2012. In October 2012 Stanwell Corporation announced that it would take two units of its Tarong Power Station off-line for two years, or until market conditions improve.

Substantial recovery of coal-fired generation in is expected over the forecast period, due to the improved outlook for electricity demand and improved competitiveness of coal discussed in previous sections. Additionally, IES has assumed that the price on carbon emissions will fall sharply with the move to the flexible price period in 2016. The carbon price assumption falls from $24 per tonne in fiscal 2015 to $10 per tonne in fiscal 2016. IES acknowledges that there is also the possibility that there will be no price on carbon emissions going forward, as a change in government could lead to a repeal of the scheme. IES forecasts that coal-fired electricity generation will increase by 21% over the next five years; from 43.8 TWh in fiscal 2013 to 53.1 TWh in fiscal 2018.

Figure 6 Electricity generation by fuel, demand and exports in Queensland



Source: IES

Energy Economics does not expect there to be any major changes to the rank and quality of the coal delivered to Queensland's power stations over the forecast period. Coal-burn in Queensland power stations is therefore expected to recover in line with the increased generation levels, with the substantial spare capacity currently available at existing power stations being more fully utilised in future.

Most of the coal-fired power stations in Queensland are mine-mouth operations. Only the Gladstone and Stanwell power stations are currently supplied coal by rail. The Stanwell Power Station has been operating at low capacity utilisation over recent years – with its load factor being 67% in fiscal 2009 and 69% in fiscal 2010. The load factor fell to only 54% in fiscal 2011 as the Queensland floods reduced electricity demand, curtailed plant operations and cut coal supply. The rail line between Stanwell's coal source, Curragh Mine, and the power station was out of service from the 1st to the 19th of January 2011, during which time power generation was cut back to conserve coal inventories. After the rail line reopened, Stanwell Power Station received coal deliveries of varying quantity and quality due to pit flooding at the mine. The coal quality problems caused operational issues at the power station. During the floods essential employees were flown into Stanwell Power Station by helicopter. Coal consumption fell from 3.01 million tonnes in fiscal 2010 to 2.45 million tonnes in fiscal 2011. Coal railings recovered to 2.7 million tonnes in fiscal 2012 and the load factor is on track to recover to 64% in fiscal 2013. The Blackwater mine was also an important supplier of coal to the Stanwell Power Station up until fiscal 2011, but Curragh mine is expected to be the only significant coal supplier over the forecast period.

Table 4 Stanwell Power Station

FY to June	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Power Station Data												
Electricity Generated (GWh)	8,707	6,868	7,333	8,015	8,383	10,457	10,614	10,901	10,132	10,560	10,196	11,067
Capacity Factor	0.69	0.54	0.58	0.64	0.66	0.83	0.84	0.86	0.80	0.84	0.81	0.88
Coal Consumed (Mt)	3.0	2.5	2.6	2.8	3.0	3.7	3.8	3.9	3.6	3.7	3.6	3.9
Capacity GW	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
Mt/GW Capacity	2.1	1.7	1.8	2.0	2.1	2.6	2.6	2.7	2.5	2.6	2.5	2.7
Tonnes /GWh	346	357	353	355	355	355	355	355	355	355	355	355

[redacted]

Sources: Energy Economics, IES.

Load factors at the Gladstone Power Station followed a similar trend to those outlined above for Stanwell. Gladstone load factors fell from 49% in fiscal 2010 to only 43% in fiscal 2011. Gross electricity generation of 6,275 GWh in fiscal 2011 was in stark contrast to the peak level of 10,415 GWh in fiscal 2001. The falls in output in fiscal 2011 and again in fiscal 2013 were despite the Boyne Island aluminium smelter (Gladstone Power Station's major customer) maintaining constant aluminium production over recent years. Energy Economics expects Gladstone Power Station will continue to be predominantly supplied by the Rolleston and Callide/Boundary Hill mines. It is noted that the coal produced by the Callide/Boundary Hill mine is of sub-bituminous rank, which has lower energy content per tonne than Bowen Basin bituminous coals. Hence, more coal is consumed per unit of electricity produced at the Gladstone Power Station than is the case at the Stanwell Power Station.

Table 5 Gladstone power station

FY to June	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Power Station Data												
Electricity generated (GWh)	7,255	6,275	7,344	6,125	6,837	7,149	7,152	7,452	8,347	8,507	8,729	8,617
Power Sent Out (GWh)												
Capacity factor	0.49	0.43	0.50	0.42	0.46	0.49	0.49	0.51	0.57	0.58	0.59	0.59
Coal consumed (Mt)	3.5e	3.0e	3.5e	2.9	3.3	3.4	3.4	3.6	4.0	4.1	4.2	4.1
Capacity GW	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68
Mt/GW Capacity	2.1	1.8	2.1	1.7	2.0	2.0	2.0	2.1	2.4	2.4	2.5	2.5
Tonnes /GWh	480	480	480	480	480	480	480	480	480	480	480	480

[redacted]

Sources: Energy Economics, IES.

The 190 MW Collinsville coal-fired power station was decommissioned in 2012. Prior to its closure this power station was supplied some 0.2 Mtpy of coal by truck from the adjacent Collinsville mine. The closure of the power station will free up additional coal produced by Collinsville mine to be railed to the Abbot Point Coal Terminal or to other domestic customers.

3.2 Non-ferrous metals sector

There are three coal consumers in the non-ferrous metals sector.

Queensland Nickel Pty Ltd consumes about 300,000 tonnes of coal per year at its refinery located at Cobarra, near the township of Yabulu, northwest of Townsville. Queensland Nickel sources its coal from the Collinsville mine, with the coal being railed via the Newlands rail system and the North Coast line.

The other two consumers in this sector are both alumina refineries located at Gladstone, and both are controlled by Rio Tinto. *Queensland Alumina Limited* (QAL) operates the larger of the two refineries, which produced 3.68 million tonnes of alumina in fiscal 2012. For the past 43 years, QAL has sourced its coal for the purpose of power and steam generation from the Callide/Boundary Hill mine, with minor additional tonnages from various other mines, including Dawson. Both Callide and Dawson are controlled by Anglo American and the coal is transported on the Moura rail system. QAL's annual coal consumption was 1.3 million tonnes in fiscal 2012 but we expect it to fall to 1.1 million tonnes in fiscal 2013 as alumina production was impacted by Cyclone Oswald in the March 2013 quarter. The refinery resumed normal production by the end of that quarter and we forecast that fiscal 2014 coal consumption will recover to 1.3 million tonnes.

The other refinery, *Yarwun*, is operated by Rio Tinto Alcan and produced 1.41 million tonnes of alumina in fiscal 2012. Yarwun (previously known as Comalco Alumina Refinery) has only been in operation since the December 2004 quarter, but has already been expanded from 1.4 million tonnes to 3.4 million tonnes annual capacity. Until recently all of Yarwun's coal requirements were supplied by the Callide/Boundary Hill mine, but the Rolleston mine commenced supply in 2013.

Alumina production at the two plants has not been affected by chronic low prices for aluminium. The Queensland Alumina plant is world-scale and the Yarwun plant is new, so both refineries appear likely to continue normal operations through the forecast period despite the weak aluminium market.

The doubling of capacity at the Yarwun refinery in mid 2012 will not result in much of a boost for coal demand, as a gas cogeneration plant has been constructed to service the expansion. Although the schedule for the main Yarwun expansion project was pushed back into 2012, the co-generation plant was kept on original schedule and was commissioned in August 2010. Yarwun therefore had an excess of steam/electricity generation capacity between the commissioning of the cogeneration plant and the commissioning of the refinery expansion. Yarwun's annual coal consumption was about 300,000 tonnes prior to the commissioning of the cogeneration plant, but dropped to very low levels in fiscal years 2011 and 2012. Energy Economics forecasts future annual coal consumption will be fairly constant at 0.3 million tonnes.

3.3 Selected other Queensland coal demand

Cement Australia's Gladstone plant at Fisherman's Landing consumes some 200,000 tonnes of coal per year. Historically its coal has been sourced from the Blackwater mine, with some sporadic supplies also originating from the Cook, Ensham, Gregory and Kestrel mines.

The *Bowen Coke Works* is part of Xstrata Zinc and produces metallurgical coke, nut coke and breeze. Most of the metallurgical coke is consumed in Xstrata Zinc's Mt Isa lead smelter, which uses about 37,000 tonnes of coke per year, while the remainder is exported. The nut coke is used in aluminium smelting, while the breeze (fines) is used in fuel production. Bowen Coke's coal consumption was 61,000 tonnes in 2011. Historically all of the coal for the coke works has been supplied by rail from Xstrata's Collinsville mine. The Collinsville mine is understood to be transitioning away from producing coking coal (in favour of thermal coal production) and the completion of the rail connection with the Goonyella rail system has opened up the potential for new coal supply sources for the coke ovens. In November 2011, Bowen Coke Works began a project to upgrade 14 of its 54 beehive ovens with under-floor flues. The project was due for completion in late 2012 and aimed to increase production at Bowen Coke by 30% and reduce emissions. Coal consumption will also increase by 30%.

4 INTERNATIONAL COAL MARKETS

Coal prices in international markets have fallen considerably over the past two years. Thermal coal spot prices reached a peak of US$122 per tonne (loaded at the Port of Newcastle) in October 2011, but since then prices have fallen fairly continuously since then to a level of US$78 per tonne at the time of writing. The recent continuation of the price fall into the early part of the North Hemisphere summer is a sign of the degree of weakness in the market - this is usually the peak demand season for thermal coal. The weakness in thermal coal markets is the result of a surge in supply – in part a recovery following weather induced supply constraints in 2011 and in part construction of additional supply capacity at a rate that has proven to be in excess of demand. Thermal coal imports have actually grown very strongly, with imports of 844 million tonnes in 2011 forecast to increase to 965 million tonnes this year.

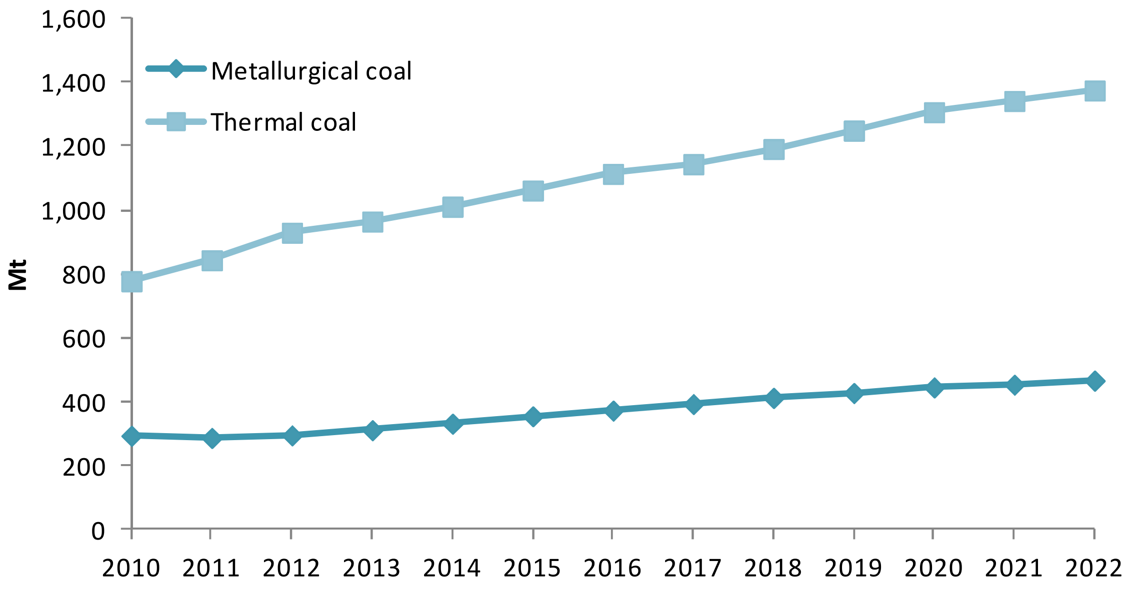
Metallurgical coal prices have fallen even more sharply than thermal coal prices. Contract prices for premium hard coking coal peaked at US$330 per tonne (loaded at Queensland ports) in the June 2011 quarter, but have fallen quite steadily since that time. The recently negotiated contract price for the September 2013 quarter is US$145 per tonne, which is down 16% from US$172 per tonne for the June 2013 quarter. For metallurgical coal, as for thermal coal the root cause of the price fall is excessive growth in supply capacity since 2011. Global metallurgical coal imports did fall by 2.3% in 2011, sparking the start of the price decline, however imports then grew by 3% in 2012.

Prices have now fallen to levels where many export thermal and metallurgical coal mines in Australia and around the world are unprofitable. This is prompting mine closures, production cuts involving major workforce retrenchments and deferral of new projects and capital expenditure. The recent 11% decline of the Australian dollar versus the United States dollar has buffered Queensland exporters from some of the effects of the price decline; however the price of hard coking coal has fallen even in Australian dollar terms over recent months.

The United States is Australia's biggest competitor in the international metallurgical coal trade, with 20% of the market versus Australia's 50%. United States exports are expected to fall from recent peaks due to the inability of many producers to be profitable at current international prices and exchange rates, combined with some diversion of lower grades of metallurgical coal back into the US domestic thermal coal market. The expected withdrawal of some United States metallurgical tonnage from export markets is expected to put a floor under metallurgical coal prices and enable significant growth in Australian export volumes through the forecast period.

Overcapacity is expected to continue to be the main theme in international coal markets over the next three to four years, with prices for Queensland's metallurgical and thermal coal exports expected to remain low over this timeframe. However, it is important to note that demand has continued to grow and is forecast to continue to do so. Energy Economics has engaged fellow coal consultancy MinAxis Pty Ltd to forecast international coal trade volumes. MinAxis estimates that demand for metallurgical coal imports will grow from 296 million tonnes in 2012 to 455 million tonnes in 2021 – an average of 18 million tonnes of growth per year over that period. Similarly, world thermal coal imports are forecast to grow from 930 million tonnes in 2012 to 1,342 million tonnes in 2021 – an average of 46 million tonnes per year.

Figure 1 Internationally traded coal demand



Source: Minaxis

Queensland's coal exports are comprised of 72% metallurgical coal and 28% thermal coal. Over recent years Queensland's thermal coal exports have been mainly sold within the Pacific Rim and Indian Ocean markets, which together take 99% of the state's thermal coal exports. Atlantic Basin and Mediterranean thermal coal markets, which take the other 1% of Queensland's thermal coal exports, are mainly supplied by Russia, Colombia, Venezuela and the United States. Over recent years there has been a glut of supply into Europe, to the degree that spot thermal coal prices delivered on the dock to the coal importing ports of Europe have been cheaper than prices for equivalent coal loaded onto vessels at the exporting ports of Australia. Further discouraging thermal coal exports from Australia to Atlantic markets is the cost of ocean freight to distant markets, which is relatively high compared to the modest per tonne value of thermal coal.

Queensland's metallurgical coal exports are more widely distributed, with the countries of the Pacific Rim and Indian Ocean taking 80% and the Atlantic Basin and Mediterranean markets accounting for 20% of volumes.

Table 6 Queensland's coal exports by type, Mt

	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	%
Metallurgical	112.414	110.243	124.734	116.304	118.054	72
Thermal	39.669	49.730	58.388	46.190	46.806	28
State total	152.083	159.973	183.122	162.495	164.861	100

Data Source: DNRM

Just five countries - Japan, India, South Korea, China and Taiwan - account for 80% of Queensland's total exports.

4.1 Thermal coal

International thermal coal markets have characterised over the past two years by strong growth in demand, but even stronger growth in supply capacity. The capacity overhang that has developed will be progressively eroded over the next two years by ongoing demand growth and to a lesser degree by closures of high-cost mines; however we do not expect supply-demand balance to be achieved until fiscal 2015. Energy Economics expects price recovery at that time to be quite sudden and substantial. Higher prices will be necessary to encourage development of the next generation of mines required to satisfy international demand, as these will generally have higher costs and/or lower rank (lower energy) than current mines. In other words, they will typically have higher production costs per unit of net energy contained.

The world's population grew from 6.1 billion in 2000 to 7.0 billion at the beginning of 2012. Continued growth at that rate would see global population increase by another billion people by 2022. Furthermore, electricity consumption per person is continuing to increase, even in economically mature economies. Some of the historical drivers for this intensity trend have been increased use of air-conditioning, larger average house sizes, growth in internet and computer usage and the switch to large-screen televisions.

In future, the impact of electric hybrid cars is expected to be considerable. The outlook for electricity demand is, therefore, extremely strong. The electricity sector accounts for over 90% of thermal coal consumption.

Gas and renewable energy will continue to rapidly grow their share of world energy markets, but substantial growth in coal consumption will also be required to meet global energy demand. Coal continues to be the lowest cost fuel for electricity generation in most regions of the world. Oil-fired electricity generation is in long-term decline due to its cost and limited reserves. In the atrophied nuclear sector long lead times are expected for new capacity. In Europe and most of Asia there is little remaining potential for large scale hydro-electric developments, while other renewable energy sources remain expensive.

A continued shift away from nuclear power following the reactor melt-down at the Fukushima-Daiichi nuclear power station in March 2011 will likely result in incremental demand increases for both coal and gas. Few countries near tectonic plate boundaries, where earthquakes and tsunamis are most common, are expected to risk building nuclear power stations in future. Plate boundaries extend the length of the west coasts of North America and South America, transect the Mediterranean region and pass through or near the island nations of eastern Asia (including Japan, Taiwan and the Philippines).

The safety concerns raised by the Fukushima-Daiichi accident will delay new nuclear power projects even in tectonically stable parts of the world. It appears likely that governments will demand more safeguards on nuclear facilities, pushing up their capital costs and making them less competitive with gas, coal and renewable energy generation. It is now unlikely any new-start construction of nuclear power stations will take place in Western Europe in time for commissioning within a ten year horizon.

European coal imports recovered strongly in 2011, after two years of declines, and remained strong in 2012 despite the regions economic problems. This was due to high gas prices, the shutdown of seven of Germany's oldest nuclear plants in response to the Fukushima disaster and reduced costs for carbon emission allocations. In future Europe's thermal coal demand is expected to grow relatively slowly due to static/declining population, low economic growth, carbon constraints and a decline in heavy industry as a proportion of GDP. Most incremental demand for imported thermal coal will be from China, India and Southeast Asia – areas which are increasingly the world's manufacturing hubs and which also contain most of the world's population.

China's thermal coal imports increased sharply in 2012, as domestic thermal coal production again failed to match growth in demand. China's thermal coal imports are expected to increase more slowly in fiscal 2014 as the economy slows, however at current prices imported coal remains very competitive into southeastern China, compared with domestic thermal coal transported from the north of the country.

Japanese thermal coal imports will continue to be supported by the shutdown of most of Japan's 54 commercial nuclear reactors in the aftermath of the Fukushima Daiichi disaster.

India's thermal coal imports increased by 25% in 2012; driven by the commissioning of new coal-fired power stations. Indian thermal coal imports are expected to continue to grow strongly over the long term, with the main drivers being the chronic deficit between electricity supply and demand, flat domestic thermal coal production, a rapidly growing population and increased electricity consumption per capita.

On the supply side of the equation, USA domestic gas prices are recovering – halting the inroads that gas made last year into coal's market share in the domestic electricity sector.

Over the past few years the USA has transitioned from being a large net importer of thermal coal to a net exporter. A surge in gas production resulted from improvements in horizontal drilling and rock fracturing techniques in shale deposits, which increased gas extraction rates and gas reserves. The price of gas at Henry Hub fell to a monthly average of US$1.95 per million British-thermal-units in April 2012, its lowest level since February 1999. In comparison the annual average price of gas peaked in 2008 at US$8.86 per million British-thermal-units. The very low gas prices in early 2012 pushed thermal coal out onto the export market. Some US thermal coal producers were prepared to export coal at prices that just covered their cash production costs, in order to keep their mines operating until domestic demand recovered.

US gas prices were, as expected, unsustainable at below US$4 per million British-thermal-units and drilling rig counts in the US gas sector crashed from 900 rigs in operation in late 2011 to 400 in early 2013. As a consequence of the reduced drilling activity, Henry Hub gas prices have recovered fairly steadily since April 2012 and reached US$4.17 in April 2013. The recovery of domestic gas prices, combined with the rise in the value of the United States dollar, is expected to constrain and perhaps reverse the growth of United States thermal coal exports within the short term.

4.2 Metallurgical coal

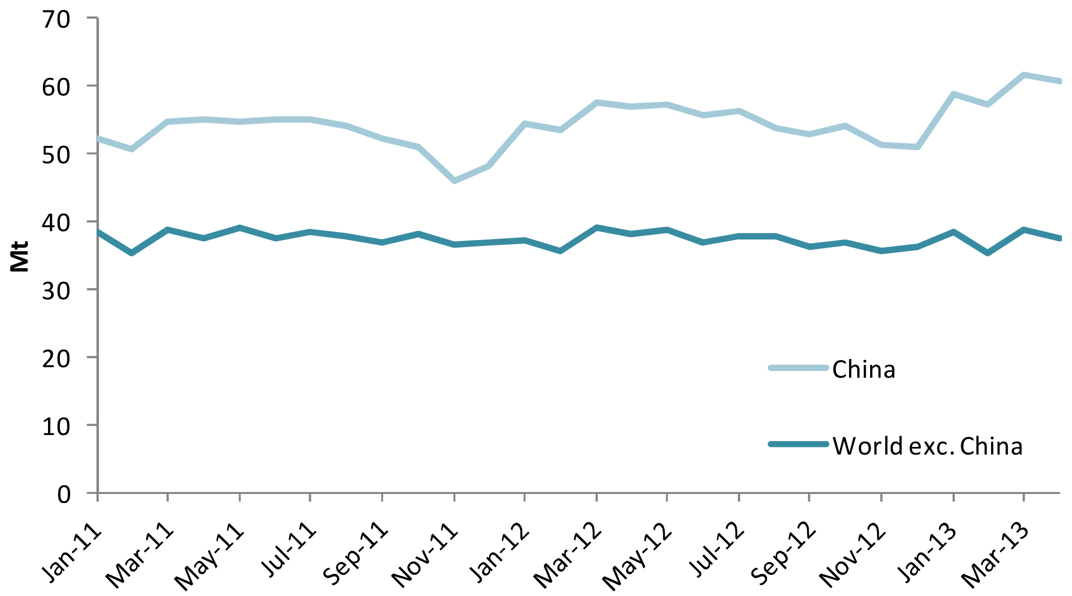
The World Steel Association released its short-term forecast of apparent steel use in April 2013. It forecasts growth in global finished steel consumption will increase from 1.2% in 2012 to 2.9% in 2013 then increase further to 3.2% in 2014. MinAxis expects growth in metallurgical coal imports to be higher (5.5% in 2013 and 6.5% in 2014) than the above steel consumption growth rates. This is primarily due to the impact of relatively slow growth of domestic metallurgical coal production in India and China, necessitating higher rates of coal imports.

Downside risks to the forecasts remain. Steel demand is concentrated in sectors susceptible to investment deferral, such as infrastructure, construction, shipbuilding and manufacturing of cars and other consumer goods. Metallurgical coal demand is, therefore, affected to a greater degree by any weakness in economic growth than is thermal coal.

China produces more iron than the rest of the world combined and growth in iron production in the rest of the world is very low. Global coking coal consumption therefore depends greatly on what happens in China. China is no longer a particularly low cost steel producer, investment in steel intensive infrastructure projects is waning, and the government is working to restrain a real estate bubble and rebalance the economy. Recent volatility in monthly Chinese pig iron production levels is depicted in the graphed below, with underlying growth being much lower than that which characterised the Chinese industry pre-2011.

However, lower international coking coal prices, relative to domestic coal pricing, are expected to sustain Chinese metallurgical coal import levels despite a slowdown in steel intensive sectors of the Chinese economy.

Figure 2 Pig Iron monthly production, China versus the rest of the world



Data source: World Steel Association

Indian imports are forecast by MinAxis to increase from 38 million tonnes in 2012 to 71 million tonnes in 2021. Indian pig iron production was up only 0.6% in 2011 due to a ban on iron ore mining in the southern state of Karnataka that was imposed by India's highest court in August 2011. The ban, imposed due to breaches in environmental conditions, was lifted in mid 2012, enabling a 3.4 million tonne increase in iron production for the year. Expansions of coke oven and blast furnace capacities are expected to support ongoing increases in Indian demand for coking coal imports. The growth potential of domestic coking coal production is limited by high costs, limited reserves and poor coal quality.

Japan's pig iron output was 81.4 million tonnes in 2012, practically unchanged from 81.0 Mt in 2011, and is tracking at very similar levels in 2013 to date. Some growth is expected in fiscal 2013 due to the impact of the lower value of the yen on steel demand and also due to steel consumption for post-earthquake reconstruction projects.

The ramping up of production from the new Hyundai integrated steel mill in Korea resulted in pig iron production growing by 20% in 2011. Similarly, production from the new Dragon Steel integrated steel mill in Taiwan saw pig iron production grow 38% in 2011. However weak steel prices saw production fall slightly in both countries in 2012 and the outlook for both countries is flat.

On the supply side, competition will remain intense, as Queensland producers continue to look to regain market share lost during 2011. Mozambique's new coking coal industry has ramped up exports to meaningful levels, but the next major step-up in exports awaits construction of the new Nacala port and rail corridor, which is not expected to be commissioned until early 2015. Much of Queensland's cost advantage over competitors in Canada and a resurgent United States has been whittled away by increasing costs across the board and the strong Australian dollar. In this regard the recent 11% fall in the value of the Australian dollar against the United States dollar is very significant, particularly set alongside the robust cost-cutting taking place across the Queensland coal sector.

The expected slowing in United States metallurgical coal exports, discussed on page 18, should leave Australia to supply the majority of the increase in global import demand. However, the current capacity overhang is sizeable and will be exacerbated by large amount of capacity currently under construction in Australia, Mozambique, and Indonesia. In Central Queensland alone the 5.6 Mtpy Daunia metallurgical coal mine has recently been commissioned and three further metallurgical coal mines are under construction: the 5.5 Mtpy capacity Caval Ridge project, the 5 Mtpy Grosvenor project and the 4.5 Mtpy Eagle Downs project. These four projects will add 20.6 Mtpy of new capacity in total, or enough to cover almost two years of total international demand growth. To this can be added relatively low cost capacity additions in the 4.5 million tonne second stage of Caval Ridge and the potential restart of the Norwich Park mine. Recovery of the international metallurgical market can therefore be expected to be a more drawn out process than that outlined above for the thermal coal market. Energy Economics sees little scope for the development of greenfield metallurgical coal mine projects in Central Queensland within the next four to five years.

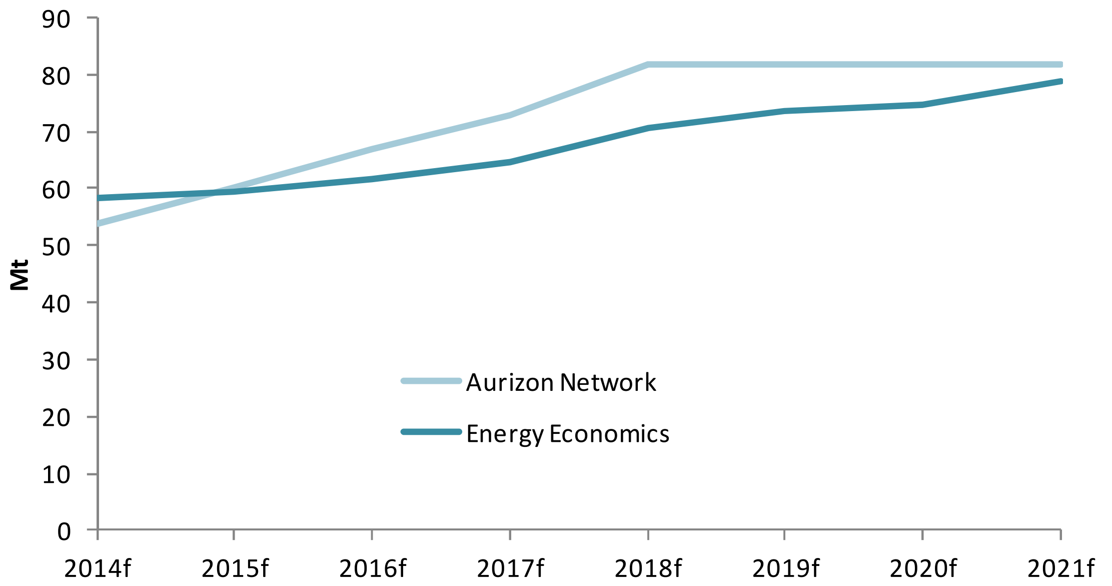
5 COAL RAILINGS

The tonnages of coal transported by rail in Central Queensland fell sharply in fiscal 2011 as a result of the extreme wet season and flooding that affected most of the state in late 2010 and early 2011. Since that time the recovery in coal production and transport has been muted.

Many opencast pits still contained excess water as they entered the 2011-12 wet season, however a relatively benign 2012 wet season (albeit with some high intensity events late in the season) and government provisions for additional mine water discharge, under the Transitional Environment Program, resulted in coal producers appearing to be in a better position to increase production as they approached the start of the fiscal 2013 year. However, expectations of much improved railings in fiscal 2013 are not being realised, with weaker than expected international markets leading to production cutbacks and Cyclone Oswald impacting rail and mine operations in the Moura and Blackwater areas in the March 2013 quarter.

As discussed in the sections above, demand for coal is expected to grow in both domestic and export markets over the next eight years. Energy Economics forecasts growth in Blackwater System coal railings from 58.4 million tonnes in fiscal 2014 to 78.8 million tonnes in fiscal 2021. As graphed and tabulated below, Energy Economics' forecast railings are some five million tonnes higher than Aurizon Network's forecast in fiscal 2014, but over the remainder of the eight year forecast period Energy Economics' forecast railings are lower than Aurizon Network's forecast volumes.

Figure 3 Blackwater System coal railing forecast comparison



Source: Energy Economics

Table 7 Blackwater System coal railing forecast comparison, Mt

Financial year to June	2014f	2015f	2016f	2017f	2018f	2019f	2020f	2021f	Total
Aurizon Network	53.7	60.3	66.8	72.8	81.7	81.7	81.7	81.7	580.5
Energy Economics	58.4	59.6	61.8	64.7	70.6	73.4	74.6	78.8	542.0
Difference	4.7	-0.7	-5.1	-8.1	-11.1	-8.3	-7.1	-2.9	-38.5
% Difference	8.7	-1.2	-7.6	-11.1	-13.6	-10.1	-8.7	-3.5	-6.6

Over the course of the eight year forecast period Energy Economics forecasts total Blackwater System railings of 542 million tonnes, which is 39 million tonnes (6.6%) lower than the Aurizon Network forecast of 581 million tonnes.

It is noted that for the above comparisons Energy Economics has allocated tonnages to the Blackwater System in a manner to make them consistent with the Aurizon Network forecasts. For railings from the Lake Vermont mine to the Port of Gladstone, [redacted] of the net tonnes have been allocated to the Blackwater System. Similarly [redacted] of railings from the Gregory mining complex to the Port of Hay Point have been allocated to the Blackwater System. For all other mines and projects that are located on the Goonyella System, but rail coal to Gladstone via the Blackwater System, we have allocated 100% of the estimated net tonnage railed via the Blackwater System to the Blackwater System. For example the proposed future railings from the currently idled Norwich Park mine and the under construction Eagle Downs project to the Port of Gladstone are allocated 100% to the Blackwater System.

The major differences between Energy Economics forecasts and Aurizon Networks forecasts are listed below. Energy Economics detailed forecasts by mine and destination have been provided to the QCA in a separate confidential report.

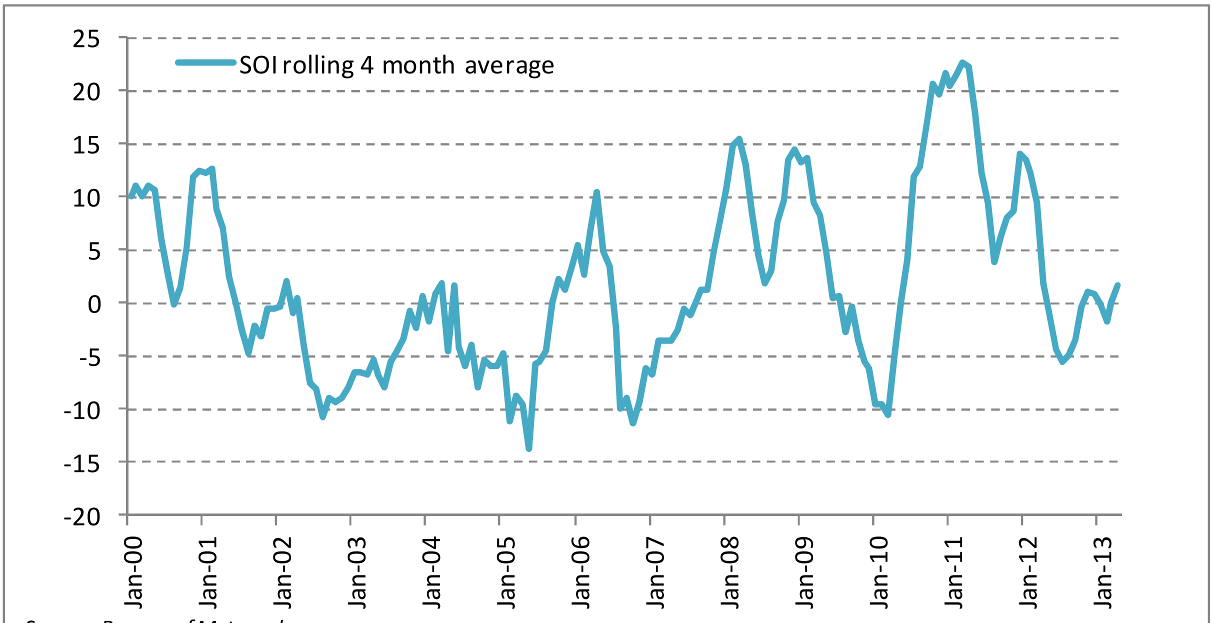
- Aurizon Network has assumed flat railings for the second half of the forecast period, whereas Energy Economics has used the same forecasting method throughout the entire forecast period.
- Energy Economics has assumed the Crinum longwall mine (part of the Gregory mining complex) will shut in fiscal 2019 due to reserve exhaustion, in line with BHP Billiton's latest coal reserves report.
- Energy Economics has assumed the Oaky No.1 longwall mine will close due to reserve exhaustion in 2016 and that this will not be counterbalanced by installation of a second longwall at the sister Oaky North mine.
- Energy Economics forecasts the Togara North project will commence production in the final year of the forecast period.
- Energy Economics has been less bullish than Aurizon Network in terms of the speed of development of mining projects destined to utilise the new Wiggins coal Export Terminal, and in some cases the ultimate production levels of these mines.
- Aurizon Network has included railings from the idled Norwich Park mine from fiscal 2014, whereas we have assumed a restart of mining in fiscal 2018.

5.1 Wet season assumptions

Our coal railings forecast have been formulated on the assumption a 'normal' wet seasons in Queensland. Railings may deviate considerably form forecast in abnormally wet or dry years; however we have included factors in our forecasts to represent the average impact of weather and other force majeure events on output.

The Southern Oscillation Index (graphed below) was around zero at the time of writing, indicating average rainfall levels for Queensland. Strongly positive Southern Oscillation Index levels are associated with La Niña weather patterns, as was the case in the disastrous 2011 wet season. On 21 May 2013 the Australian Government Bureau of Meteorology wrote "International climate models surveyed by the Bureau of Meteorology suggest the tropical Pacific will remain ENSO-neutral through the southern hemisphere winter."

Figure 4 Southern Oscillation Index



Source: Bureau of Meteorology

Although the predictive power of the Southern Oscillation Index is limited with regard to next summer, a large part of the problem that occurred in 2011 was that the preceding dry season was in fact quite wet and high antecedent moisture conditions exacerbated the impact of the wet season rainfall.

5.2 Transport Infrastructure

Three ports provide shiploading capacity for the central Queensland coal region – Abbot Point, Hay Point and Gladstone. Port capacity and throughput are tabulated below. In both fiscal 2011 and 2012 the average capacity utilisation of the coal terminals at these ports was 60%. For fiscal 2013 we have estimated average capacity utilisation of 64%, by annualising the eleven months of throughput data available for the year - spare capacity amounts to some 93 million tonnes.

There are two port expansion projects currently under construction. The annual capacity of the Hay Point Coal Terminal is being expanded by 11 million tonnes, with commissioning scheduled for 2014, and stage one of the new Wiggins Island Coal Export Terminal at Gladstone is designed to provide 27 million tonnes of annual capacity in 2015. Adding together the existing spare annual capacity of 93 million tonnes and the new capacity currently being constructed, the region will have 131 million tonnes of headroom for growth between fiscal 2013 and fiscal 2016. This is substantially above Energy Economics forecast of exports growth from the region, as well as being substantially above Aurizon Network's forecast of coal railing volumes from this region to the three ports.

Over the longer term, permit acquisition is underway for further coal terminal capacity expansions – the stage 2 development at Wiggins Island and the Dudgeon Point Coal Terminal project at the Port of Hay Point.

We have excluded from the table below the numerous proposed new coal terminals being planned for the Port of Abbot Point. The most advanced of these projects are designed to primarily service the opening up coal mining in the Galilee Basin, analysis of which is not included in the brief for this assignment. Insofar as these terminals would also be used to transport some coal from within the study area, the capacity calculation below represent a conservative case in terms of evaluating the adequacy of port capacity to cater for the forecast levels of coal railings.

There are comfortable margins between forecast railing and throughput capacity at all three ports through out the forecast period. Energy Economics forecast coal exports from the Port of Gladstone will be 85.8 million tonnes in fiscal 2021, including estimates of railings to the port from Moura system mines. The combined annual capacity of the RG Tanna Coal Terminal and stage one the Wiggins Island Coal Export Terminal will be 102 million tonnes, indicating spare capacity will be available even if there is no further expansion of Wiggins Island capacity over this timeframe.

Table 8 Port capacity, throughput and utilisation

Year to June	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capacity	**260**	**260**	**260**	**260**	**271**	**292**	**292**	**292**	**292**	**292**	**292**
Abbot Point *	50	50	50	50	50	50	50	50	50	50	50
Hay Point	129	129	129	129	140	140	140	140	140	140	140
- Dudgeon Point	-	-	-	-	-	-	-	-	-	-	-
- Dalrymple Bay	*85*	*85*	*85*	*85*	*85*	*85*	*85*	*85*	*85*	*85*	*85*
- Hay Point	*44*	*44*	*44*	*44*	*55*	*55*	*55*	*55*	*55*	*55*	*55*
Gladstone	81	81	81	81	81	102	102	102	102	102	102
- Wiggins Island	-	-	-	-	-	*27*	*27*	*27*	*27*	*27*	*27*
- RG Tanna	*75*	*75*	*75*	*75*	*75*	*75*	*75*	*75*	*75*	*75*	*75*
- Barney Point	*6*	*6*	*6*	*6*	*6*	-	-	-	-	-	-
Throughput	**156.1**	**156.2**	**166.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Abbot Point	15.1	13.6	17.5								
Hay Point	87.8	82.9	94.6								
Gladstone	53.2	59.8	54.3								
Capacity Utilisation %	**60**	**60**	**64**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Abbot Point	30	27	35								
Hay Point	68	64	73								
Gladstone	66	74	67								
Spare port capacity	**104**	**104**	**93**	**260**	**271**	**292**	**292**	**292**	**292**	**292**	**292**

*Source: Energy Economics. * Tabulated Abbot Point capacity is for the existing terminal only*

5.2.1 Abbot Point Coal Terminal

Annual throughput capacity at the existing terminal (Terminal 1) is 50 million tonnes[3]. There are plans for three new terminals to be built alongside the existing terminal. These are referred to as Terminal 0, Terminal 2 and Terminal 3. Terminal 0 and Terminal 3 are primarily designed to provide port capacity for the opening up of coal mining in the Galilee Basin, involving greenfield mine and railway projects as well as the new port terminals. Railings from the Galilee Basin are excluded from the scope of this report, however all three projects would provide some scope for handling Bowen Basin coal. Plans for the three new terminals are in the preliminary feasibility to feasibility stages. None of the three new terminal projects have entered the construction stage.

In addition to the abovementioned projects, Waratah Coal also has plans to develop a separate export terminal a few kilometres to the north of Abbot Point Coal Terminal to service its undeveloped coal projects in the Galilee Basin.

Terminal 1: On 1 June 2011, the Queensland Government finalised the 99 year lease of the existing terminal to Mundra Port Holding Trust, a subsidiary of Indian company Adani. The terminal is currently operated by Abbot Point Bulkcoal Pty Ltd which is a subsidiary of Xstrata.

Terminal 0: Adani is looking to develop another terminal (Terminal 0) alongside its existing leased terminal (Terminal 1). The Terminal 0 project would provide facilities for the annual export of 35 to 70 million tonnes of coal over two phases of construction. According to Adani, construction would take five to six years to complete and would be synchronised with development of its Carmichael

[3] North Queensland Bulk Port Corporation: http://www.nqbp.com.au/abbot-point/

Coal Project in the Galilee Basin[4]. Adani has proposed completion of the 35 Mtpy Phase one of the project in late 2015 or early 2016, to align with its planned first shipments from its Carmichael Coal Project. On 18 February 2013 Adani released a draft Environmental Impact Statement for comment. In May 2013 Adani also applied for environmental assessment from the Federal Government of a rail line from the Galilee Basin to the port. Given the relatively early stage the project is at with its environmental approvals, there is potential for significant delays to the development schedule.

Terminal 2: In June 2011 BHP Billiton released an Initial Advice Statement outlining plans to build its own 250 kilometre railway connecting the Goonyella mining complex to Abbot Point. The proposed railway and Terminal 2 at Abbot Point were to have had annual capacities of 60 million tonnes. In 2012 BHP Billiton indicated that the rail and port project had been suspended.

Terminal 3: The $10 billion Alpha Coal Project being proposed by Indian infrastructure conglomerate GVK and Hancock Prospecting Pty Ltd involves a 32 Mtpy opencast thermal coal mine in the Galilee Basin, a 495 km standard gauge railway line and the Terminal 3 facility at Abbot Point. Environmental and government approvals are in place for the project. A large test pit was developed at Alpha in 2010, from which 125,000 tonnes of coal were mined in 2011. GVK Hancock intends to start construction and overburden removal at the mine proper in 2014, with a view to commencing shipments in 2017[5]. The port and rail infrastructure is being designed to also cater for future development of the owners other mining projects in the Galilee Basin: Kevin's Corner and Alpha West. The Alpha and Alpha West projects are 79% owned by GVK and 21% by Hancock Prospecting. The Kevin's Corner project is wholly-owned by GVK. The railway will also be open to third party access, with GVK Hancock and QCoal having entered into a Memorandum of Understanding in 2012 for transportation services to be provided by GVK Hancock to QCoal for approximately 20 Mtpy of coal. The planned capacity of Terminal 3 is 60 Mtpy. The initial capacity of the new railway is also planned to be 60 Mtpy, although this would be expandable by adding additional passing loops.

5.2.2 Dudgeon Point Coal Terminal Proposal

In September 2011 an Initial Advice Statement was submitted to the Department of State Development, Infrastructure and Planning for two separate new coal export terminals at Dudgeon Point, with combined annual export capacity of up to 180 million tonnes of coal. The site is approximately 4 kilometres northwest of the two existing coal terminals at the Port of Hay Point.

The project proponents were identified as:

- North Queensland Bulk Ports Corporation Ltd
- Adani Mining Pty Ltd
- Dudgeon Point Project Management Pty Ltd

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[4] Adani Abbot Point Terminal Pty Ltd: Abbot Point Coal Terminal 0 Project, Draft Environmental Impact Statement, February 2013.

[5] http://gvkhancockcoal.com/index.php/current-projects

Dudgeon Point Project Management is a subsidiary of Brookfield, which also indirectly owns the lease on the nearby Dalrymple Bay Coal Terminal.

Terms of Reference for the Environmental Impact Statement were released in June 2012. The environmental consents process is listed as active on the Department of State Development, Infrastructure and Planning's web site, which notes the activity as "EIS being prepared by the proponent".

According to North Queensland Bulk Ports the proposed timeline, as of May 2013, was:

- Early 2014: Submission of Draft Environmental Impact Statement (EIS)
- Mid 2014: Anticipated gaining of State and Federal Government approvals
- Mid to late 2015: Begin construction of support facilities (rail, roads, buildings, dredging)
- Late 2015: Begin construction of one or both coal terminals
- 2018/9: Stage 1 of the development begins exporting coal.

However in June 2013, the proponents announced a one year delay in the development schedule in response to market conditions.

5.2.3 Dalrymple Bay Coal Terminal

The Dalrymple Bay Coal Terminal (DBCT) at the Port of Hay Point is owned by the Queensland Government and is leased to DBCT Management through a 50 year lease with a further 49 year option. DBCT Management is a subsidiary of Canadian multinational company Brookfield, through one of its listed entities, Brookfield Infrastructure Partners. DBCT is declared for third party access under the Queensland Competition Authority Act with terms and conditions of access regulated by a QCA approved access undertaking.

DBCT has a current nameplate annual capacity of 85 million tonnes. All of this capacity is currently contracted to coal producers located in the Bowen Basin coalfields. The highest throughput achieved in a fiscal year was 63.35 million tonnes, in fiscal 2010. Despite the relatively low utilisation of the existing capacity Brookfield noted recently there is "Potential demand for 30-40 mtpa expansion of Australian terminal operation"[6]. It is unclear if this statement referred to DBCT or to Dudgeon Point.

5.2.4 Hay Point Coal Terminal

The Hay Point Coal Terminal (HPCT) at the Port of Hay Point is owned by the BHP Billiton Mitsubishi Alliance. Its annual throughput capacity is currently being expanded from 44 million tonne to 55 million tonnes. The expansion project also incorporates works to reduce the vulnerability of the facility to storms. The project was 61% complete as at 30 April 2013. Commissioning is planned for 2014. The record fiscal year throughput achieved to date at this terminal was 36.33 million tonnes in fiscal 2010.

[6] May 2013, Brookfield Infrastructure Partners Investor Presentation.

5.2.5 Wiggins Island Coal Export Terminal

Wiggins Island is a new coal terminal being constructed at the Port of Gladstone; just west of the existing RG Tanna Coal Terminal. The Terminal is owned directly by its users, rather than third party investors. Terminal handling charges will therefore be on a cost recovery basis. The Gladstone Ports Corporation will be the operator of the facility.

Financial Close for the first stage was achieved in September 2011 and construction work commenced almost immediately. The first stage is now not scheduled to be commissioned until 2015 and will have an annual throughput capacity of 27 million tonnes.

A proposed second stage development is predicated on the opening up of the inland portions of the Surat Basin, with concurrent development of a rail link to Gladstone. Weak coal markets have pushed back the development of the second stage. Once completed, the Wiggins Island Coal Export Terminal will comprise four berths and is expected to provide more than 80 Mtpy of coal export capacity.

5.2.6 RG Tanna Coal Terminal

The RG Tanna Coal Terminal currently has four berths and three shiploaders, providing throughput capacity of 75 Mtpy. A fourth shiploader and a fifth berth could be constructed in future to take annual capacity to 90 – 100 million tonnes.

5.2.7 Barney Point Coal Terminal

The current annual capacity of the Barney Point Coal Terminal is approximately 6 million tonnes. With the commissioning of the Wiggins Island Coal Terminal in 2015 coal operations are planned to be transferred from Barney Point to RG Tanna Coal Terminal and Wiggins Island Coal Terminal. Barney Point will then be used for 'clean' dry bulk materials and general cargos[7].