

Review of Coal Railings Forecast

Prepared For the Queensland Competition Authority

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Wood Mackenzie
coal consulting



Review of Coal Railings Forecast

Barlow Jonker (BJ), a Wood Mackenzie company, has been commissioned by QCA to undertake a review of a 5-year railings forecast submitted by Queensland Rail's as part of its Access Undertaking (UT3) obligations.

The review involved a comparison of Queensland Rail's forecast with the Wood Mackenzie International Coal Trade (ICT) model which balances global demand with supply (by mine) on the basis of lowest delivered cost.

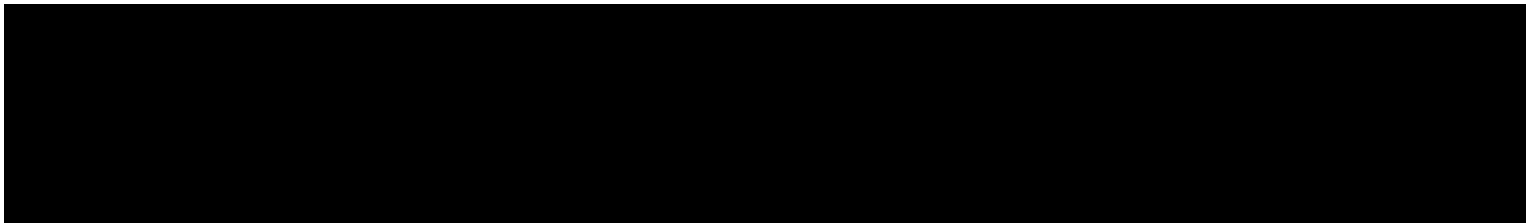
In this report the terms Wood Mackenzie and Woodmac are used interchangeably.

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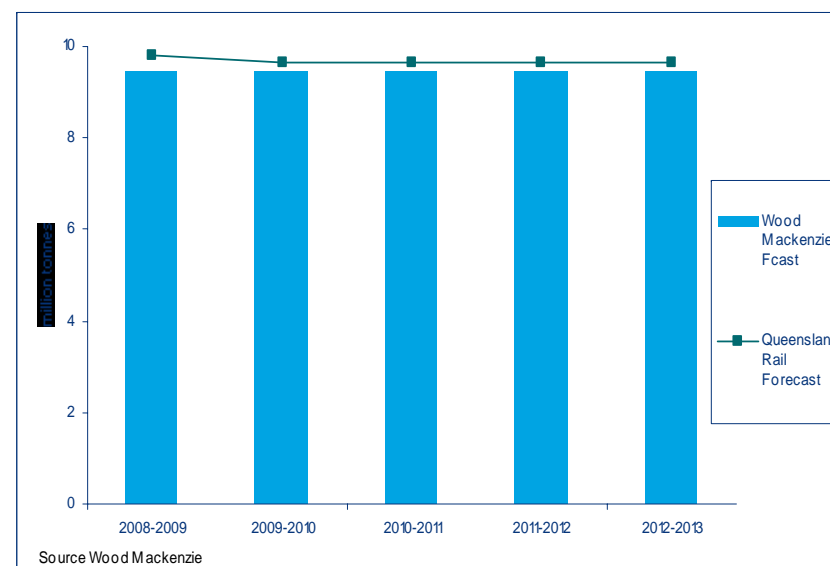
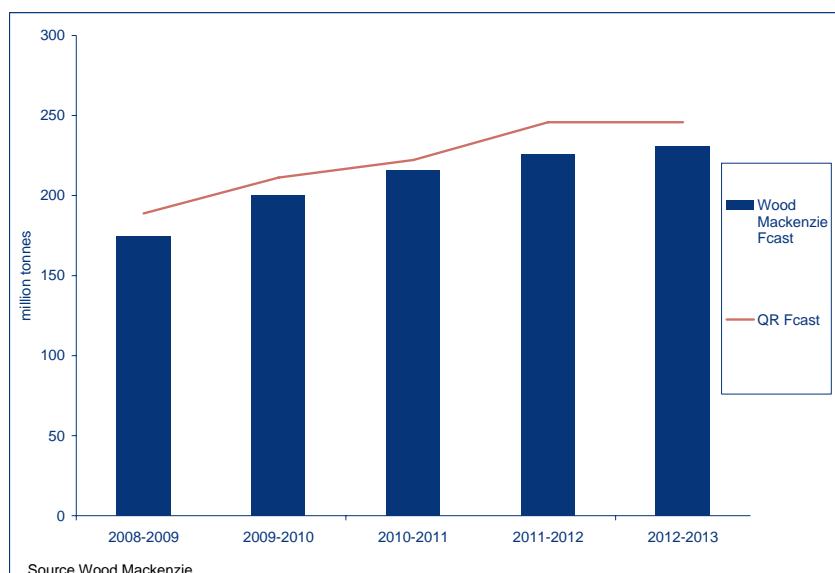
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Key Findings



- In Wood Mackenzie's view Queensland Rail's export railings forecast is considered to be a reasonable estimate of likely future demand for rail capacity during the period to 2012-13.
- Railings are in line with widely accepted forecasts of rail and port expansion programmes. The forecast relies on an assumption of expansion of Abbot Point to 50Mtpa. The completion of this rail and port infrastructure project represents the highest risk to the forecast.
- Queensland Rail's forecast for the Central Queensland Coal Region is higher than Wood Mackenzie's current view with the variance ranging from 6Mt to over 19Mt during the UT3 period.

Key Findings

- › The variance in forecasts is driven mainly by the following;
 - **Despite assessing global supply and demand trends, QR will have had to give significant deference to rail haulage contracts that have been signed with coal suppliers. QR's forecast will almost definitely include production that has been committed by suppliers, some in take or pay contracts.**
 - Suppliers, particularly those not signing take or pay contracts, are likely to overstate requirements to ensure capacity allocations are received.
 - In QR's forecast the requirement to fill available Abbot Point capacity as quickly as possible, and the existence of take or pay contracts for this capacity, has taken precedence over a view of global demand for the coal.
 - **Wood Mackenzie's outlook for Australian supply is impacted by an assumption that, during the forecast period, competition will occur from emerging markets such as Mozambique and Indonesia's Central Kalimantan coking coal region. Mozambique will compete directly into Indian markets with Indonesia competing to both North Asia and India.**
- › Queensland Rail's domestic railings forecast is considered to be a reasonable estimate of expected railings during the period to 2012-13.

1. Key Findings

2. Queensland Export Railings Forecast Review

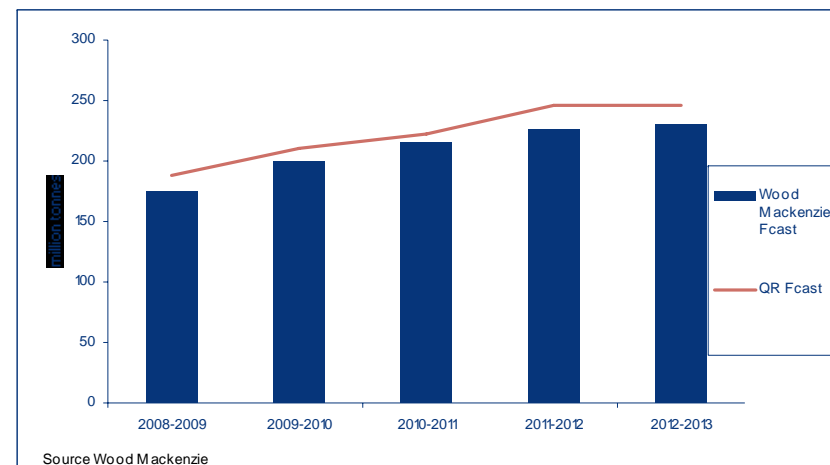
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Review of Export Railings Forecast

- › The Central Queensland Coal Region (CQCR) railings forecast submitted by Queensland Rail shows significantly greater volumes than Wood Mackenzie's current base case view. The differential varies from 14Mt in 2008-09 and between 6Mt and 19Mt during financial years 2009 to 2012. The variance ranges between 3% and 8%.
- › In general the approaches taken by Woodmac and Queensland Rail would be expected to yield differing results.
 - **Wood Mackenzie's forecast is ultimately constrained by the outlook for global demand and assumptions relating to the competitiveness of Queensland coals in the export market.**
 - **The assumptions behind Queensland Rail's forecasts have not been reviewed but it is assumed that the railings forecast has been driven by the existence of rail haulage contracts either signed or requested by Qld coal suppliers. Whilst a review of global demand would have been undertaken to assess reasonableness, requests for capacity are often overstated by suppliers to ensure that sufficient allocations are obtained.**

CQCR	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
QR Export	188.8	211.2	222.2	245.8	245.8
WoodMac Exports	174.8	200.2	216.0	226.1	230.9
Difference	13.9	11.0	6.3	19.7	14.9



Review of Export Railings Forecast

- › Differences between the forecasts for the 2008-09 financial year are driven by;
 - QR's more optimistic view of recovery in Bowen Basin production levels following the rain events of early 2008 [REDACTED]
 - Earlier expansion [REDACTED]
 - A modest growth in demand assumption for 2008-09 in Woodmac's forecasts
- › In the proceeding two financial years the forecasts converge exhibiting a difference of 6Mtpa in 2010-2011 (216Mt vs 222Mt).
- › The expansion of Abbot Point and Newlands system to 50Mtpa by the beginning of 2011-2012 results in a significant divergence in the forecasts. This is due to;
 - QR's assumption of the immediate use of all additional available capacity at Abbot Point.
 - QR is likely to have based this assumption on the existence of take or pay contracts signed by coal suppliers obligating them to use the capacity or pay for the option to do so.
- › The Woodmac forecast indicates that a portion of the additional 25Mt using Abbot Pt in 2011-12 will not be required to balance global demand. However, given the commitment of suppliers, QR are arguably justified in including this tonnage with reasonable confidence.

Wood Mackenzie Outlook - Metallurgical Coal Demand

- › Demand for metallurgical coal is of greatest significance when assessing future Queensland supply. Wood Mackenzie's view is one of relatively robust demand in the short and long term. World demand for metallurgical coal imports is forecast to grow at a CAGR of 3.9% to 2025.
 - Asian countries are the main demand drivers of import demand during the period to 2012-2013, making up 84% of total growth of over 57Mt. Brazil is forecast to require an additional 6Mt by this time, or just over 10%. China and India are key markets requiring an additional 20Mtpa and 17Mtpa respectively.
 - In contrast, US, European and Japanese demand is forecast to remain flat on expected low GDP growth, an aging population, mature steel industries, and increasingly regulated carbon emissions regulations.

- › Whilst Australia is well placed to benefit from Asian demand growth it will face competition from new sources of metallurgical coals. China's demand is to be largely met from new Mongolian mines, resulting in only a minor impact on the seaborne trade. Wood Mackenzie have assumed that Australia will also be competing in India and China with coals from Mozambique and Indonesia's Central Kalimantan province prior to 2012-2013.

- › This has the effect of constraining demand for Australian coals despite a robust view on regional demand growth.

Wood Mackenzie Outlook – Thermal Coal Demand

- › **Global thermal coal demand growth is a lesser driver of Queensland supply given the dominance of metallurgical coals. However railings on the Newlands and Blackwater systems are sensitive to this market.**
- › **Similarly to metallurgical coal Wood Mackenzie foresees robust growth in the short and long term. Wood Mackenzie analysis predicts an import demand CAGR of 2.5% to 2025, driven by the burgeoning power-sector**
 - Some 100Mt of additional annual import demand is expected between 2008 and 2013. Approximately 65Mt of this will occur in Asia. India is the single largest source of this demand growth at above 30Mt whilst south east Asian countries, Malaysia, Thailand, Philippines and Vietnam add a further 23Mt of growth.
 - Traditional demand centres such as Japan and Europe are expected to show only minor growth. Currently these markets account for 50% of import demand but these markets will represent only 33% of global trade in 2025.
- › **Whilst demand growth in Asia will be high Australia must again overcome competition from other suppliers. Indonesia is the largest threat with significant additional supply capacity available to meet demand in India and southern China. Indonesia specialises in low quality coal that is produced cheaply and sold at a significant discount to Australian bituminous coal (on an energy adjusted basis). Indian power generators and sponge iron producers will tend to try to secure a large portion of their import requirement from this low cost source, using Australian thermal coals to offer some supply security and increase the blend quality.**
- › **South African suppliers are also likely to compete into West Coast India although expansion is constrained by rail and port issues.**
- › **Queensland will also have to compete with expanding production from the Hunter Valley, Newcastle and Gunnedah coalfields.**

Infrastructure Capacities

Port	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Abbot Point	16.66	18.62	25.92	49.49	49.49
DBCT	62.82	76.94	80.75	80.75	80.75
Hay Point	42.31	43.84	43.80	43.80	43.80
RGTCT	60.50	65.12	65.12	65.12	65.12
Barney Point	6.49	6.65	6.65	6.65	6.65

- › Queensland Rail's forecast does not exceed current or planned rail and port capacities in the Central Queensland Coal Region. The Abbot Point expansion to 50Mtpa represents the highest risk given the preliminary nature of this project but some construction has already begun and the 2011-12 timeframe is considered achievable.
- › There is potential for DBCT and Hay Point to expand beyond the capacities shown (Hay Point to 55-57Mtpa and DBCT to 92Mtpa and later to 105Mtpa) but no commitments have been made by the owners of these facilities.
- › There is some risk that DBCT may not be able to sustain a throughput of 80.75Mtpa despite a nominal capacity of 85Mtpa. However this is hard to test prior to the expected completion of the expansion in April 2009.

1. Key Findings

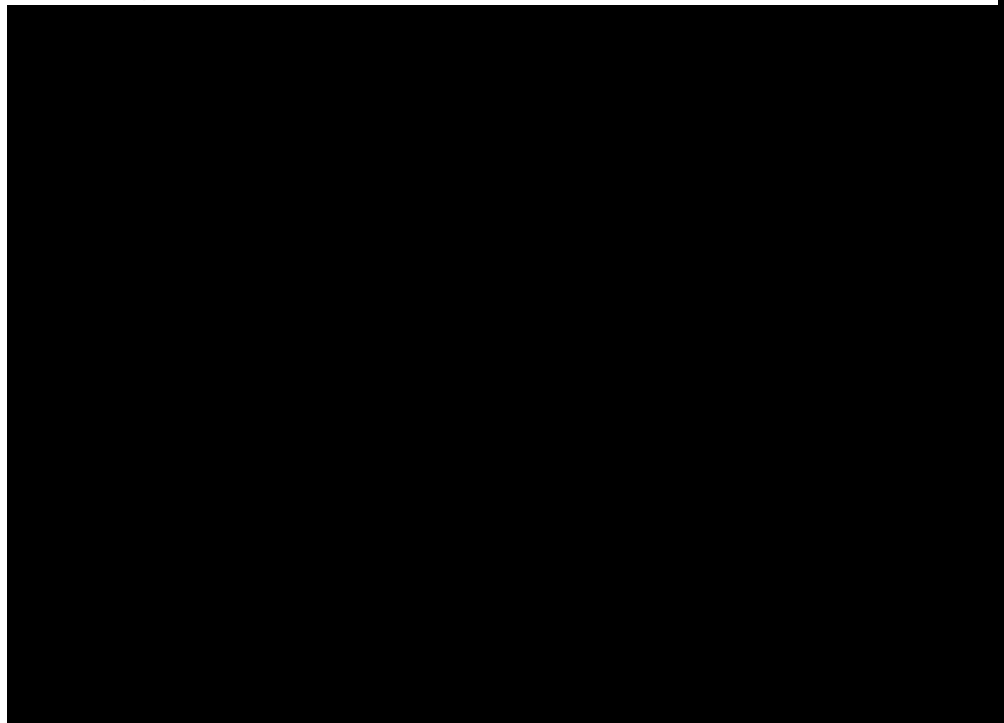
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Domestic Railings Outlook

- › The railings forecast submitted by Queensland Rail shows negligible difference to Wood Mackenzie's current view. Positive numbers in the table represent higher QR forecast railings.



Mine	2008-09	2009-10	2010-11	2011-12	2012-13
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Net Difference	0.35	0.20	0.20	0.20	0.20
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