

Coal: Not Dead Yet.

Who would be a coal miner these days? The industry is being buried under an avalanche of adverse reporting and research publications forecasting permanent declines in coal usage, beginning real soon now. Much reporting and analysis is now coming from organisations that are unashamedly anti coal and fossil fuels in general and are promoting the renewables agenda – think the Institute for Energy Economics and Financial Analysis, Bloomberg New Energy Finance and Market Forces, an affiliate of Friends of the Earth. These organisations present themselves as disruptive entrants to the research space deploying a financially sophisticated approach to activism. It is far more effective to browbeat investors and fund managers to adopt “ethical” investment strategies and to pressure bank credit and lending practices than relying on tree hugging. And all of this is reinforced by citing large increases in installed renewables capacity (note capacity, not output) around the world.

And, as is usual when ideology eclipses objective analysis, we are now seeing sniping at traditional and long established sources of information such as the International Energy Agency, UNCTAD and national forecasting outfits such as Australia’s ABARES, Natural Resources Canada and the US Energy Information Administration. These organisations are dismissed as being captives to the fossil fuel industry.

Never mind that the anti-coal renewables boosters are just as captive to the renewables lobby and can afford to distribute their findings for free, which tends to crowd out research from long established and respected private commercial forecasters who must charge for their research, not to mention the large number of bank and broker analysts whose reputations depend, at least to some extent, in getting things right.

Don’t Confuse Metallurgical and Thermal Coal

Unfortunately much of the commentary ignores the difference between metallurgical and thermal coal. The demand for metallurgical coal is directly linked to pig iron production and has nothing to do with energy usage and power generation. World metallurgical coal demand peaked at 849Mt in 2013 and declined by just on five percent to 807Mt in 2015. This is not the stuff of collapsing global metallurgical coal demand.

Who needs metallurgical coal?



Sure, Chinese metallurgical coal consumption fell by close to 9% during the same period, but this was offset by a 9% increase in India, an almost 2% increase in Europe and nearly 15% in Taiwan, South Korea and other Asian countries excepting Japan. Australia benefits because of its proximity to the main metallurgical coal consumers and the quality and availability of its metallurgical coal. Australia is by far the dominant world metallurgical coal exporter; in fact well over half the value of all Australian coal exports is metallurgical coal. Australian metallurgical coal exports increased by almost 13% over the same period, from 165Mt in 2013 to 186Mt in 2015. This was despite the big fall in Chinese metallurgical coal net imports from 75Mt to 48Mt in 2015, or by around 37%. But Chinese imports from Australia fell by just on 15%, so Australia’s net market share of Chinese metallurgical imports actually increased by a useful 5% over the same period. In fact, apart from Japan, all other significant metallurgical coal importers have increased their offtake from Australia since the top of the boom; India and South Korea increased Australian metallurgical imports by over 40%. Indian imports from Australia were actually higher than Chinese imports in 2014 and 2015.

Metallurgical Coal Mt	2013	2014	2015
Chinese Net Imports	74.3	61.6	46.7
of which from Australia	30.2	31.3	25.5
Australian share	40.6%	50.7%	54.8%
Indian Imports	36.0	41.0	46.3
of which from Australia	28.6	34.8	40.3
Australian share	79.4%	84.8%	86.9%
Japan-Korea-Taiwan Imports	110.2	111.0	109.5
of which from Australia	58.1	58.5	59.2
Australian share	52.7%	52.7%	54.0%
Metallurgical Coal Margins %	2013	2014	2015
Australian Industry cash margin	0.0%	0.0%	0.0%
BHP Billiton Qld Coal EBITDA margin	24.6%	20.4%	15.5%
Rio Tinto Australian Coal* EBITDA margin	23.6%	12.6%	18.0%
South 32 Illawarra Met EBITDA margin	-	28.7%	17.6%

So why the gloom? Well obviously prices have tanked. After spiking at US\$261/t in 2011, Platts average Australian Hard Coking Coal FOB prices slid from US\$133/t in 2013 to US\$87/t in 2015, a fall of 35%. But what matters is gross margin, which in fact declined by only 5% over the period, thanks to a 30% fall in Australian metallurgical coal cash costs from our estimated US\$106/t FOB in 2013 to US\$73/t FOB in 2015. And these estimates are entirely consistent with the results from Australia’s major metallurgical coal producer BHP Billiton whose reported EBITDA margins fell from 24.6% in the year to December 2013 and 20.4% in 2014 to 15.5% in the year to December 2015. So BHP Billiton’s metallurgical coal business margins have held up reasonably well over the period. Rio did just as well if not better. Rio’s Australian coal EBITDA margins were 23.6% in 2013 and 12.6% in 2014, recovering to 18.0% in the year to December 2015.

Thermal Coal May Struggle

The doomsayers are on firmer ground when it comes to thermal coal, mainly used in power generation. World seaborne thermal coal trade volumes were down a good 5% in 2015 and we expect another decline in 2016. But Australian thermal coal exports are holding up much better than the world’s biggest thermal coal exporter, Indonesia. Last year Australian thermal coal exports were slightly up at 202Mt, compared with a fall in Indonesian thermal exports from 333Mt to 295Mt. Australia’s share of Chinese thermal coal net imports increased from 40% in 2012 to 65% in 2015, compared with a fall in Indonesia’s share from 35% to 19%. So while Chinese total thermal coal imports fell by over 40% from the 2013

Thermal Coal Mt	2013	2014	2015
Chinese Net Imports	109.7	109.3	67.7
of which from Australia	51.4	59.7	43.5
Australian share	46.8%	54.6%	64.2%
Indian Imports	129.5	157.4	160.7
of which from Australia	4.4	8.6	8.2
Australian share	3.4%	5.5%	5.1%
Japan-Korea-Taiwan Imports	246.2	247.2	254.5
of which from Australia	135.1	139.8	150.2
Australian share	54.9%	56.6%	59.0%
Thermal Coal Margins %	2013	2014	2015
Australian Industry cash margin	0.0%	0.0%	0.0%
BHP Billiton Energy Coal EBITDA margin	27.5%	18.4%	21.4%
Rio Tinto Australian Coal* EBITDA margin	23.6%	12.6%	18.0%
South 32 South Africa Energy EBITDA margin	-	13.6%	21.4%

peak of 113Mt to 68Mt in 2015, imports of Australian thermal coal fell from 51Mt to 43Mt. Which is not too bad at all by comparison. Thermal coal imports into Japan, South Korea and Taiwan increased over the same period by 4% to a combined 254Mt, of which Australia's share was steady at 56% or 135Mt in 2015. Note that Australia's thermal coal exports to south-east Asia have consistently been two to three times higher than those to China in recent years. And south-east Asian consumption continues to grow. India is a different story. Australia's thermal coal exports to India were a modest 8Mt out of total Indian imports of 160Mt total in 2015, compared with 4Mt out of 129Mt in 2013. The biggest source of Indian thermal coal imports has always been Indonesia. Australia's thermal coal opportunities in India depend on the rate of construction of new High-Efficiency, Low Emissions coal fired power stations. Assuming the renewables lobby

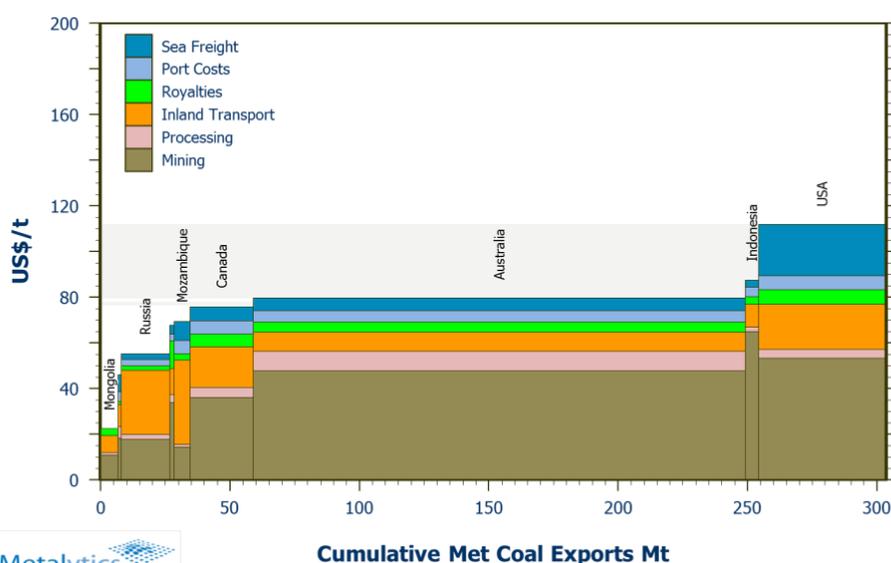
forecasters are right and the IEA, ABARES and all the private forecasters are hopelessly wrong, then Indian thermal coal imports from Australia will disappear. And if Chinese thermal coal imports disappear as well, Australian thermal exports over the next two years are set to fall by about 20%. This would chop Australia's thermal coal exports back to levels not seen since (gas!) 2010 and 2011. This is would be equivalent to one Adani mine, or maybe two or three Hunter Valley mines. The suspension of BHP Billiton's Mt Arthur mine which we estimate will make a cash loss in 2016, would alone take 20Mt of saleable coal out of the market.

In 2011 of course prices were much higher at US\$130/t for thermal coal FOB Newcastle, compared with US\$64/t in 2015. Prices have more than halved since the top of the boom, while Australian cash production costs have fallen by less than one third, from US\$70/t to just under US\$50/t. The corresponding fall in thermal export coal gross margin was from a very handy 46% to a still reasonable 24% in 2015. Again this reflected in BHP Billiton's thermal coal EBITDA margins which fell from 31.7% in calendar 2013 to 18.4% in 2014 and 21.4% in the year to December 2015. In fact BHP Billiton's thermal coal margin were higher than its metallurgical margin in 2015. Hardly a loss-making disaster as the renewables boosters would have us believe. Which is probably why their focus is on the US industry.

Why Australian (and Canadian) Metallurgical Coal is Competitive

Australian coal is being saved by its flexible exchange rate and proximity to major markets. Since the peak of the coal price boom, the Australian dollar has fallen 27% against the US dollar, and freight rates to Asian market have more than halved. Compare this to the United States which does not get the benefit of currency depreciation and has to pay around four times Australian freight rates to Asia, since virtually all US metallurgical coal is produced in Appalachia. US thermal coal also suffers from the switch to fracked natural gas by US power generators. No

2015 Metallurgical Coal Costs Delivered to Chinese Ports



wonder that many US coal producers are now in Chapter 11. Like Australia, Canada's metallurgical coal producers have the advantage of a depreciating loonie and lower freight rates out of Pacific ports which has kept them profitable.

This is clear from the change in US dollar costs for metallurgical coal CFR Chinese ports. In 2013 Australian CFR China costs were US\$116/t, compared with US\$79/t last year. Australian costs last year were a bit higher than Canada at US\$76/t but remain well below US\$112/t for the United States. And since Australian metallurgical coal exports are four times American exports and nearly eight times Canadian exports, the Australian metallurgical coal industry remains the world's dominant low cost producer.

The 2015 cost curve for the world's metallurgical coal exporters shows how Australian costs for coal delivered to China have maintained their cost and freight advantage over the other major exporters.

Furthermore, if we look at the demonstrated ability of Australia's big iron ore producers to slash production costs by up to 60% over the last two years, Australian coal will remain very competitive on world markets, even if thermal coal moves into secular decline. Admittedly times will be tough in 2016 as many mines go cash negative, however the Australian industry will emerge in better shape than the rest of the world.