

**Planning Assessment
Commission Submission
Anglo American's Drayton South Coal Mine
A likely Stranded Asset**



**Institute for Energy Economics
and Financial Analysis**
IEEFA.org

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Anglo American's Drayton South Coal Mine – A Stranded Asset?

Executive Summary

Thank you for the opportunity to make a submission to the Planning Assessment Commission relating to the Drayton South coal proposal and public hearing. We oppose the project and believe it should not be given development consent.

The Institute of Energy Economics and Financial Analysis (IEEFA) believes the externalised costs to the community will exceed the questionable benefits of the greenfield Drayton South coal mine proposal in the Hunter Valley for its foreign parent, Anglo American Plc.

IEEFA's mine model analysis suggests the net present value of this coal proposal is actually negative at current thermal export coal prices and currency rates, once rehabilitation costs are incorporated. For the project to make a viable rate of return requires the assumption that thermal seaborne coal prices will experience a sustained and significant uplift after the more than 60% decline that has been experienced in the last five years.

IEEFA's analysis of the global seaborne thermal coal market, and the end electricity markets where the coal will be used, shows that a major turning point was reached in 2013/14, and that this market has most likely moved into permanent structural decline.

Coal companies hoped that the totally unexpected 11% decline in China's coal imports in 2014 was an aberration. But far from a cyclical anomaly, the deterioration has accelerated in 2015. China's coal imports have declined a further 31% January to August 2015. China is the world's largest import market for coal, so is the best barometer of the sector's future.

India is the world's second largest importer of coal. The Energy Minister of India announced in November 2014 a target to cease India's thermal coal imports within 2-3 years. Minister Goyal targets to treble India's domestic coal production by 2020 to 1,500 million tonnes per annum (Mtpa). With domestic Indian coal selling at US\$24/t, the ability of imported coal (even at record low export prices of US\$58/t in mid 2015) to compete is limited at best.

The coal mining sector has seen share prices decimated. Global listed coal mining companies are down an average 70% in the last five years. Anglo American's share price is down 50% in just the last year alone. Anglo American management are under increasing shareholder pressure to review all decisions with the aim of significantly cutting operating costs from existing business units, ceasing dividends and curtailing all but the most compelling new greenfield projects. Drayton South does not fall into this category.

IEEFA concludes this 3-4Mtpa Drayton South thermal export coal project proposal is likely to remain a stranded asset and should not be approved for development. The first two Planning Assessment Commission decisions were correct and should stand. Further, any review needs to encompass the cumulative impact assessment of all new mine proposals.

Seaborne Thermal Coal has Entered Structural Decline

In conjunction with Carbon Tracker, IEEFA published a major global thermal coal study in September 2014.¹ The key conclusion of this study was that the Chinese domestic demand for thermal coal was likely to peak by 2016, plateau and then steadily decline thereafter. Given China is half global thermal coal consumption, this lead to the second conclusion, that world seaborne thermal coal demand would peak concurrently with China in 2016.

The International Energy Agency (IEA) has historically proven far more optimistic about the outlook for coal markets. The IEA's World Energy Outlook 2014 forecast a peaking then plateau in thermal coal demand in China by 2020-2025. A key weakness in this analysis is the reliance on data only up to 2013, ignoring the key turning point evident in 2014 that has accelerated into 2015. However, the IEA's June 2015 "*Energy and Climate Change*" publication² models a dramatically different scenario with China's coal-fired power generation peaking at 4,110TWh in 2013 and declining -0.2% pa over the 2013-2030 period. This has staggering implications for the outlook for seaborne thermal coal imports into China, and with China the #1 importer globally in 2014, global implications for demand and hence pricing.

Major global investment banks have increasingly come to a similar conclusion. Bernstein Research in June 2013 called for a peak in China's coal consumption by 2016 in their seminal Blackbook: "*China: The beginning of the end of Coal*". Morningstar in April 2014 published "*Burned Out: China's Rebalancing Heralds the End of Coal's Growth Story*." UBS, Citigroup ("*Energy Darwinism*"), Merrill Lynch, Deutsche Bank, HSBC, Morgan Stanley and Goldman Sachs ("*Thermal coal reaches Retirement Age*") have likewise massively downgraded their demand and price expectations for coal and now assume no material price recovery in the longer term. Professor Ross Garnaut has likewise repeated argued that Chinese energy demand is at a cross roads³. Lord Nicholas Stern and Fergus Green have published authoritative papers detailing the structural changes in China and the resulting conclusion of structural decline of seaborne coal.⁴

The historic November 2014 China-US Climate Change Agreement has created a wave of global regulatory and policy initiatives that strongly supports the IEEFA projection. This agreement commits to building upon a number of significant actions to move aggressively away from fossil fuels and transition towards a lower carbon energy mix. US domestic coal consumption is expected to decline 10% in 2015 alone, to be down 30% from its peak in 2008.

China's imports of coal declined a record 31% year-on-year in the first eight months of 2015,⁵ and coal consumption in 2015 year-to-date is **estimated** to be down over 7% yoy.

¹ <http://www.carbontracker.org/wp-content/uploads/2014/09/Coal-Demand-IEEFA.pdf>

² <http://www.iea.org/publications/freepublications/publication/weo-2015-special-report-energy-climate-change.html>

³ http://www.rossgarnaut.com.au/Documents/Garnaut_AFR_AustraliahasnotrecognisedchangeinChinesedemandforironoreandcoal060415%20.pdf

⁴ http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2015/06/Chinas_new_normal_green_stern_June_2015.pdf

⁵ <http://www.reuters.com/article/2015/09/08/china-economy-trade-coal-idUSL4N11E1P920150908>

Chinese electricity demand in 2015 is up just 1.0% year-on-year.⁶ The decoupling of electricity demand growth from the 7% annual economic growth over 2014 and 2015 is clearly continuing. This is contrary to the IEA forecasts for China's electricity demand to be highly correlated to economic growth for at least the next decade. China looks to have actually seen peak consumption as early as 2013.

India is the third largest domestic thermal coal market in the world. On 12 November 2014 India's Energy Minister Piyush Goyal said he plans for India to cease importing thermal coal in 2-3 years.⁷ This is a part of a well conceived and ambitious development of the Indian electricity sector. India's Minister is making it clear India can't afford to solve energy poverty using expensive imported coal, and will increasingly diversify the electricity sector away from coal. Imported coal fired power plants are not commercial.⁸ "Our aim is to have zero import of coal, and manage with the coal from Coal India sources or our own mines. You can say in the next five years." NTPC MD Arup Roy Choudhury [said](#) April 2015 (for relevance, NTPC is the largest coal-fired power generator in India with 44GW of capacity).

A greater reliance on energy efficiency and improved grid efficiency, plus a plan to install 175GW of run-of-river hydro, biomass, wind and solar in the next five years alone, combined with an acceleration in domestic Indian coal mining and nuclear power in India will all facilitate this transition.⁹

An examination of Japan as Australia's largest thermal coal export destination suggests this is an increasingly global phenomenon. In a September 2015 review,¹⁰ UBS shows two different scenarios for Japanese coal demand: one from the Japanese government via its Ministry of Economy Trade and Industry (METI) and another from Bloomberg New Energy Finance (BNEF). METI has electricity demand in Japan flat through to 2030, whereas BNEF has it declining by 0.8% CAGR (at IEEFA, we think energy efficiency is the No. 1 driver of declining demand and we see a decline of greater than 1 percent annually). Both the METI and BNEF forecasts factor in a nuclear restart. Gas and oil demand for electricity generation both decline, while solar and wind both rise five to tenfold in these forecasts. The conclusion from both scenarios is that Japanese coal demand peaked in 2013 and will decline 1 to 3 percent annually hereafter. Japan is Australia's No. 1 export market for coal.

Citigroup Research in May 2015 said that thermal coal was in *"structural decline as a result of increasing environmental pressures and improving competitiveness of alternative power sources, including renewables and natural gas."*

⁶ <http://www.reuters.com/article/2015/09/07/china-power-consumption-idUSB9N11103V20150907>

⁷ <http://in.reuters.com/article/2014/11/12/india-coal-imports-idINL3N0T234F20141112>

⁸ <http://www.frontline.in/economy/there-is-no-intention-to-denationalise-coal-india/article6847880.ece?homepage=true>

⁹ <http://reneweconomy.com.au/2014/indias-plan-stop-importing-coal-deals-another-blow-australia-68894>

¹⁰ <http://ieefa.org/wp-content/uploads/2015/09/UBS-report-Japan-et-al.pdf> slide 16.

Thermal Coal Price decline

The seaborne thermal coal market has entered structural decline. Having peaked in 2009, the seaborne price has fallen 60%. The Australian export benchmark is the Newcastle 6,000kcal net as received (NAR) free on board (FOB) index. In September 2015 this coal index price is US\$58/t, and the Newcastle coal [forwards](#) factor in coal prices remains below US\$55/t through to October 2021 (down 10% in just the last three months): refer Appendix A.

Figure 1 details the second Newcastle benchmark index of 5,500kcal NAR, down 20% to-date in 2015 alone.

Figure 1: Newcastle 5,500kcal thermal coal export price hit a decade low (US\$/t)



Source: Platts, [August 2015](#)

Adding New Supply to An Oversupplied Seaborne Coal Market

It makes no strategic sense for Australia to add new greenfield thermal coal export capacity. If Anglo American is successful in developing the Drayton South export mine, this will add additional supply into an already chronically oversupplied seaborne market where demand is now declining, having peaked globally in 2013 or 2014. This will drive the thermal coal price down further, and more existing Australian mines will close as a result – given many are operating at gross cash breakeven at best in the current weak pricing environment.

Australia might gain export volume market share as a result. But adding new capacity is merely profitless prosperity, at best for Australia. At worst, it is building yet another stranded asset, unable to get a commercial return on its investment, nor in all likelihood, fund its closure and environmental rehabilitation costs.

Rehabilitation Liabilities – Who Wears the Cost?

IEEFA would content that Anglo American is in a position now where a key decision driver behind this proposed new development is the aim to significantly defer the closure and rehabilitation costs for its existing Drayton coal mine. Deferring the closure and rehabilitation costs another 1-2 decades is a less worse outcome than having to now fund the clean-up of the mess their existing mining over the last three decades has created. For Anglo American, opening Drayton South is the least worst of two bad options.

For NSW, history would suggest there is a key risk that taxpayers could end up wearing the cost – both for the local community that fails to begin the transition towards new more sustainable growth industries of the future, and for all tax payers. Australia already suffers the legacy of 50,000 unrehabilitated and abandoned mine sites, most of which were mined by foreign firms who paid out their dividends progressively while the mines were profitable, and then closed down and left without undertaking their rehabilitation requirements.¹¹ History is the proof that the current system will internalize any benefits to foreign Anglo American shareholders, but **externalise** much of the clean-up costs to the Australian community.¹²

Anglo American – Balance Sheet and Cashflow Pressures Build

The Financial Times on 17 June 2015 detailed the growing pressure on the management of Anglo American to divest its Australian coal assets, cut new capital expenditure and undertake even further operational cost cutting measures. With the share price down 50% in just the last twelve months alone, and 75% over the last five years, Anglo American's commodity exposures all seeing price declines of 30-50%, returns on equity declining and net debt standing at US\$12 billion (financial leverage equal to 80% of the current equity capitalisation of the firm), the financial pressure continues to build. In this environment, one should question why Anglo American continues to progress with an application for a project that will struggle to gain funding.

Anglo-American has already announced plans to sell four of its Australian coal mines in December 2014.¹³ IEEFA would question if this application approval will only serve to then allow Anglo American to on-sell this project proposal to a third party, rather than to see Anglo-American actually undertake the development themselves. Any sale at any price would then remove from Anglo American's balance sheet the liability to fund the multi million dollar rehabilitation program the firm is currently liable for at the old Drayton Mine.

¹¹ https://www.thesaturdaypaper.com.au/news/politics/2014/05/24/minings-multi-billion-dollar-black-hole/1400853601#.VYOPrNlw_Z4

¹² <https://independentaustralia.net/business/business-display/who-will-pay-the-178-billion-mining-rehabilitation-bill,7772>

¹³ <http://www.businessweek.com/news/2014-12-09/anglo-seeks-to-sell-stakes-or-exit-domestic-thermal-coal-assets>

The claim by Anglo American this is a mine extension is a loose interpretation of what constitutes an extension vs a new mine. This new mine proposal will utilise existing facilities from the Drayton mine, but none-the-less, it is a separate greenfield mine with its own Mining Authorisation boundaries, as detailed in Anglo American's EIS report.

Following the US\$2.5bn equity raising by Glencore Plc in September 2015, the press is increasingly speculating that Anglo American will need to rapidly divest assets, curtail all new capital expenditure plans and potentially even cease dividend payments to preserve free cashflow.¹⁴

Global Listed Coal Companies Wealth Destruction

IEEFA [notes](#) the average 70% decline in global coal company share prices in just five years.

For example, Peabody Energy, the largest pure-play western coal producer has seen US\$17bn shareholder wealth destruction over the last five years. Peabody stock is down 95% in this period, whilst the US Equity market index is up more than 80%. Investing in coal companies is increasingly accepted by the financial markets as a wealth hazard.

Anglo-American is no exception to this trend, as Figure 2 details. Like Glencore (red line), Anglo American shares are down 79% in the last four years (blue) and have massively underperformed BHP (green). By comparison, the UK stockmarket has been flat overall (the FTSE index - brown).

Figure 2: Anglo American Share price (2011-2015, indexed vs peers)



Source: Yahoo Finance, 9 September 2015

¹⁴ <http://www.bloomberg.com/news/articles/2015-09-08/all-eyes-on-anglo-american-as-glasenberg-cedes-to-shareholders>

Commercially Unviable

IEEFA estimates the full cost of coal production from the proposed Drayton South mine is greater than the current price that this thermal coal would be sold for. While the A\$/US\$ has weakened considerably, the thermal coal price has fallen further. While the following figures are our in-house estimates, we have referenced the Economic Assessment prepared by Gillespie Economics (April 2015) for comparative purposes.

We also note that the reduced scale of mining now proposed will have material, adverse implications for mine costs relating to reduced economies of scale. Anglo American's own PAC submission of 2014 makes this point absolutely clear.

The Drayton South mine proposal starts with the major cost disadvantage of a the 50-60% higher than Hunter Valley sector average strip ratio of 7.5 bank cubic metres per tonne of coal over the 15 year life of mine. Put in plain English, this is almost 20 tonnes of overburden per tonne of coal produced. I

EEFA very conservatively estimates the mining cost for run-of-mine coal at A\$30/t, plus the coal handling and preparation costs at A\$10/t and stay in business capex costs of A\$1/t. With a yield of an estimated 73%, the product (or saleable) coal cost is therefore likely to be around A\$56/t.

Transportation is another major layer of costs, being \$5-10/t for the rail and \$4-5/t for the port, leaving aside the say \$5-10/t for seaborne shipping (this later item is excluded from the calculation of free on board revenue). Add in coal royalties of A\$5-6/t gives a gross cash operating cost of A\$74-76/t.

With the current thermal export coal price at US\$58/t and the A\$/US\$ at 1.00:0.71, this equates to A\$77/t of revenue. As such, current coal prices would see the mine as likely to operate at just over a gross cash breakeven. Once rehabilitation costs of around A\$3/t and interest financing costs are taken into account, this project on IEEFA estimates will be net present value negative at current coal prices.

Anglo American Chief Executive Officer Mr Mark Cutifani has made it clear he targets an average 15% return on equity for all business units. The Drayton South project is highly unlikely to achieve this without a substantial and sustained recovery in thermal coal prices. With the collapse in Chinese imports and the current peaking of India's thermal coal imports and the forecast ongoing decline in European and Japanese coal imports, this does not look likely any time soon.

Claimed Royalties of \$30m annually

The Environmental Impact Statement (page 4) claims the Drayton South mine will pay \$30m pa of coal royalties. With run of mine coal production of 5Mtpa, and a yield of 75%, product coal will be an average around 3.7Mtpa. With a NSW opencut coal royalty of 8.2%¹⁵ and using current thermal coal prices of US\$58/t or A\$77/t, this translates to A\$6.35 per tonne (before allowable deductions are made). This translates to A\$23m of annual royalties payable. The A\$30m claim relies on coal prices rising some 40% in US\$ terms (noting any US\$ coal price recovery will most likely see an offsetting A\$/US\$ appreciation given the highly correlated movement history). IEEFA considers this something open to significant “forecasting error” given the forward market has nominal coal prices declining through to at least 2021.

Claimed Employment Benefits of A\$90m pa

The claim of employment for 500 full time equivalents (FTE) and an annual wages bill of \$90m pa¹⁶ would suggest staffing levels significantly higher than most similar sized mining operations, and average wages per employee of A\$180,000 annually (\$90m/500FTE) are likewise inflated to make the community benefits look higher than they will in fact be.

Further, Anglo American's claims of a \$25m payroll tax payment to the NSW government¹⁷ looks out by a fivefold factor given payroll in NSW is payable at 5.45% of wages, and on a wage bill of \$90m pa this would equate to only \$5m pa.

The encroaching proximity of this mine proposal puts at risk the well established horse breeding industry and as such threatens far more jobs that are in an industry with a far more positive long term outlook.

Global Carbon Budget

The University College of London published a report in January 2015 saying that 95% of Australian coal reserves need to stay in the ground for the world to have a 50% chance of staying within 2 degrees C. Developing the Drayton South coal mine flies in the face of this compelling scientific logic.¹⁸

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¹⁵ <http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/enforcement/royalties/royalty-rates>

¹⁶ <http://www.theherald.com.au/story/3323804/miner-miner-makes-the-case-for-south-drayton/>

¹⁷ <http://www.theherald.com.au/story/3323804/miner-miner-makes-the-case-for-south-drayton/>

¹⁸ <http://www.theguardian.com/environment/2015/jan/08/australia-accelerates-coal-projects-study-buried>

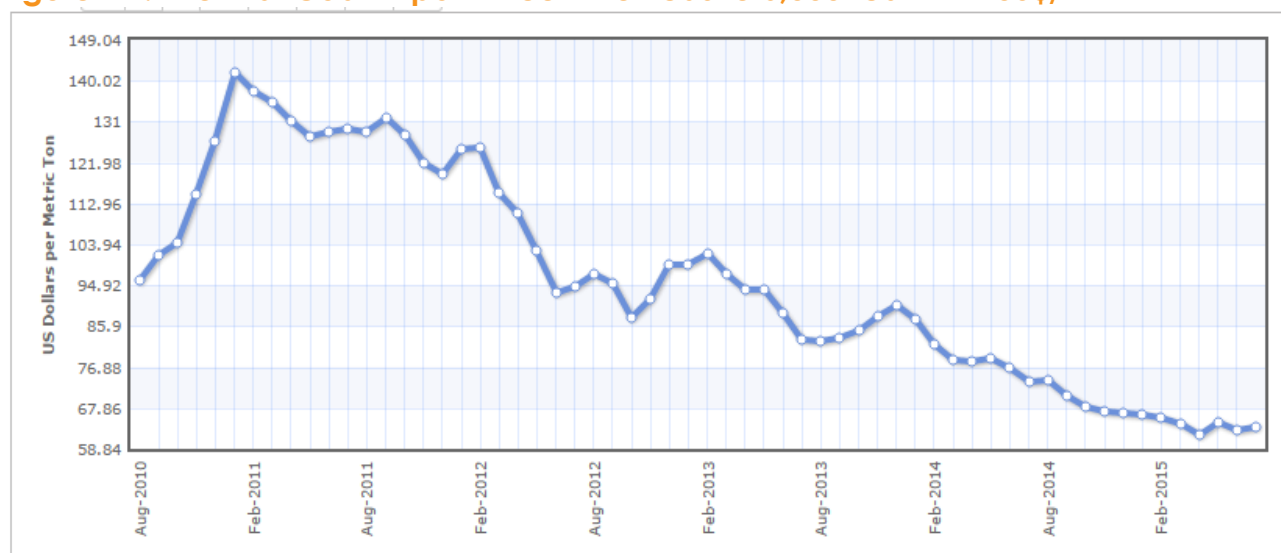
Appendix A - Structural Decline of Seaborne Thermal Coal

IEEFA views the thermal seaborne coal market as having entered structural decline. This reflects IEEFA's forecast that seaborne thermal coal demand will decline from its 2013 peak of almost 1,000Mt to below a 800Mtpa level by 2020. Figure A1 details the near 60% decline in coal prices since 2011.

The key driver of this forecast demand decline is the central role of China, who represents 50% of world coal consumption. In 2014 China's coal consumption declined by 2.9%.¹⁹ China rapidly moved to protect its domestic coal mining operations, resulting in an 11% decline to 290Mt in coal imports in 2014 (of which 240Mt was thermal). The decline in China's seaborne coal imports has **accelerated** to-date in 2015. The first eight months of 2015 saw electricity generation up 1% year-on-year (yoy) and coal consumption was down over 7% yoy in China, with coal imports down a staggering 31.3% yoy. Declining coal consumption reflects economic transition towards less electricity intensive sectors, greater energy efficiency and a rapid diversification of electricity generation. Considerably more hydro, gas, nuclear, wind and solar capacity has been installed than coal-fired power plants in the last three years, and this trend is accelerating. A structural transition is in progress.

India imported close to 200Mt of coal in 2014/15 (this includes coking and thermal coal imports), up 18% yoy. While many commodity forecasters have assumed Indian imports will continue to grow, rising to upwards of 400Mt in the next decade, IEEFA forecasts a peak in Indian thermal coal imports in 2015/16, with a rapid 20-25% pa decline thereafter. This is directionally consistent, but more conservative, than Energy Minister Goyal's aim for zero thermal coal imports by around 2017.

Figure A1: Thermal Coal Export Price - Newcastle 6,000kcal NAR US\$/t



Source: Index Mundi, Australian thermal coal Monthly Price - US Dollars per Metric Tonne

¹⁹ China Shenhua Energy Company, 2014 Annual Report, page 65.

Appendix B – Falling Import Demand for Thermal Coal

IEEFA forecasts that global import demand for thermal coal peaked in 2013 at 1,072Mt, and is set for a 40% decline by 2021 to 710Mtpa. This forecast is predicated on the view that Western Europe, Japan and China have already passed peak demand. Should Energy Minister Goyal be successful, seaborne thermal imports will be the first casualty, with a globally material impact. Figure B1 assumes Goyal will be successful, but over 5-7 years rather than his hope for cessation of thermal coal imports within 2-3 years.

Western Europe is forecast to decline materially over this decade due to European Union policy initiatives for renewables, energy efficiency and the Large Combustion Plant Directive 2001/80/EC.

Japan is forecast to decline due to the combination of four factors: ongoing economic growth headwinds; continued energy efficiency gains; the addition of 8-10GW pa of new solar installations; any sustained nuclear facility restart (Japan needs to resolve 42GW of idle nuclear capacity one way or another) and the likely step-up in wind farm development.

IEEFA forecasts that thermal coal imports peaked into China in 2013, far earlier than most commodity forecasters have anticipated. Thermal coal imports to China declined 9% in 2014, and year-to-August 2015, coal imports have declined a further 31% year-on-year. This is driven by significant ongoing improvements in energy intensity of growth, a gradual slowing of economic growth and continued efforts to diversify away from an excessive reliance on thermal coal.

Figure B1: Thermal Coal Import Demand (1990 to 2021)

Calendar Year	Actuals				Estimate	Forecasts						
	1990	2000	2010	2013		2015	2016	2017	2018	2019	2020	2021
COUNTRY												
China	11	8	126	264	240	163	131	105	84	63	44	29
India	0	10	81	142	152	192	167	139	108	72	36	0
Japan	42	93	128	142	145	142	136	131	125	120	115	111
Korea	12	45	90	96	98	100	103	106	109	112	115	117
Taiwan	14	40	58	61	63	63	65	66	67	69	70	71
South East Asia (1)	4	14	53	60	63	67	71	75	79	84	89	95
Western Europe (2)	48	80	98	128	114	102	99	95	91	87	83	79
Rest of world	191	150	172	179	181	184	188	192	196	199	203	208
Total World	322	441	806	1,072	1,055	1,014	958	907	859	806	756	710
United States	2	10	16	7	7	9	9	10	10	10	10	10
Russia	53	25	24	23	23	21	19	19	19	19	19	19
Net World Imports	267	406	766	1,042	1,025	984	930	878	830	777	727	681
(1) This includes only Thailand, Philippines, Malaysia, Pakistan and Vietnam												
(2) This includes only United Kingdom, France, Germany, Spain and Italy												
(3) Note - This is global traded thermal coal including lignite, and <u>inclusive</u> of non-seaborne trade.												

Source: IEA database, IEEFA forecasts

Institute for Energy Economics and Financial Analysis

The Institute for Energy Economics and Financial Analysis (IEEFA) conducts research and analyses on financial and economic issues related to energy and the environment. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy and to reduce dependence on coal and other non-renewable energy resources.

More can be found at www.ieefa.org.

About the Author

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Tim Buckley has 25 years of financial market experience covering the Australian, Asian and global equity markets from both a buy and sell side perspective. Tim was a top rated Equity Research Analyst and has covered most sectors of the Australian economy. Tim was a Managing Director, Head of Equity Research at Citigroup for many years, as well as co-Managing Director of Arkx Investment Management P/L, a global listed clean energy investment company that was jointly owned by management and Westpac Banking Group. Tim has worked at IEEFA since 2013.

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