Briefing: The Outlook for Financing for Australia's Galilee Basin Coal Proposals

Introductory Note

In light of interest in Australia's Galilee basin as the largest proposed greenfield coal mine in the world and in light of the purported interest in its commercial viability as an investment, the Institute of Energy Economics and Financial Analysis (IEEFA) has examined the major potential global financiers that might invest in the basin's development.

Reaching financial close is an increasingly difficult hurdle due to the rapid deterioration of coal project profitability globally following a halving of coal prices since 2011. The increased probability of a structural decline in thermal coal demand raises the financial risks involved.

In our view, the Galilee coal project proposals are highly unlikely to proceed without the support of the four Australian bank majors, plus some of the nine leading global investment banks. Export-Import banks like the Korean Export-Import Bank could be material players, given that their focus is more risk-tolerant towards greenfield projects, but even export-import banks will be involved only if there is a clear strategic national benefit.

Our research suggests financial close for coal-industry development of the Galilee Basin remains a long way off.

— Tom Sanzillo, Director of Finance, IEEFA
Oct. 22, 2014

Executive Summary

- The two most advanced projects in the Galilee Coal Basin are GVK Hancock's Alpha Coal project[i] and Adani Enterprises' Carmichael Coal project.[ii] Including the associated rail and port infrastructure requirements, these two greenfield developments alone have a capital construction cost of A$10bn and A$15bn respectively.
- The huge scale, greenfield nature and foreign ownership of these two projects brings an almost unprecedented level of financial complexity and risk.
- The global climate change implications of opening up one of the world's largest undeveloped coal resource adds to the risk profile, not the least being the risk of creating stranded assets, a potentially devastating business setback once the world gets serious about explicitly pricing in carbon emissions.
- Given the highly leveraged nature of each of these two Indian conglomerates, international financial institutions would have to play a major role in financing either of these two projects if they go forward.
- Given the global scale and Australian focus of Galilee Basin projects, the Big Four banks in Australia (**Commonwealth Bank, Westpac, ANZ Bank** and **National Australia Bank**) will be critically important to the financing of this multi-billion work. Although each of these four banks are in the world's top 22 banks by market capitalization, any one or two of them would alone would not be capable of taking on the financial risks associated with such globally significant greenfield coal projects. International loan syndication would also be crucial to success.
- In addition, greenfield mining projects of this scale need one or more global investment banks to be involved in structuring the project and the related infrastructure finance, and to potentially bring in an equity partner. In Australia, the top nine global investment banks (in alphabetical order) are **Bank of America, Merrill Lynch, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan Chase, Morgan Stanley**, and **UBS** (with Commonwealth Bank rounding out the "top 10 leagues table" in recent years). Several of these banks have ruled out funding resource projects that put the Great Barrier Reef at risk, consistent with their Equator Principles commitments, a stance that suggests they would be reluctant to invest in Galilee Basin greenfield coal development.
- With the Galilee projects largely stalled at this time, IEEFA sees financial close as at least a year away.

A Cyclical Downturn or a Structural Decline?

The price of thermal coal has declined by more than 50% over the last four years to its current US$65/ton (referencing the Newcastle 6,000kcal free-on-board benchmark). This reflects the combined impact of a significant global oversupply, weaker than expected demand growth and policy initiatives in China, the United States and, increasingly, India that promote energy efficiency and lower-emission alternatives.

China, the U.S. and India are the three largest thermal coal-consuming nations globally, with a combined thermal coal market share of 76% in 2013.

IEEFA views the thermal coal markets as having entered structural decline, with coal demand in China forecast to peak by 2016 and to decline gradually thereafter.[iii] This is a reflection of the move by China toward slower but more sustainable growth, increased energy efficiency initiatives, stronger policy initiatives to reduce air and water pollution, and a focus on lower-emission alternatives including wind, solar, nuclear and hydro-electricity.

The U.S. Environmental Protection Agency's Clean Energy Plan of June 2014 builds upon a number of earlier regulatory programs designed to lower air and water pollution from coal-fired power plants. The EPA's most recent push to meet this mandate is through its Mercury Air Toxics Standards.[iv] U.S. thermal coal demand peaked in 2007 and has since declined by 21%. IEEFA forecasts a further decline of 16% by 2020.

While India is regularly cited as the next growth market for imported coal, IEEFA forecasts Indian coal imports will grow at well below current market expectations. In addition to the inability of the Indian retail and agricultural consumer base to afford expensive imported coal-fired electricity, the government is talking increasingly of pursuing a rapid diversification of the Indian electricity sector away from its current fossil-fuel base. Prime Minister Narendra Modi's government has referenced plans to lift wind and solar installs by 400% to a potential near-term new install target of 16-18GW pa.[v]

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IEEFA, in views of the trends cited here, considers coal and associated rail and port infrastructure funding as an increasingly risky financial proposition. The risk associated with potentially stranded assets is rising, and could see a step change upwards on a more concerted global policy outcome. We view China's move to bring forward its national emissions trading system to 2016 as especially indicative of the rate of change internationally.[vi]

A Fuller Context for This Briefing, and a Word About Its Analysis Methodology

Despite the stalled nature of the Galilee Basin projects, several proponents continue to make public statements that the coal industry is actively pursuing the opening up of the Galilee thermal coal basin. These assertions have prompted us to examine the potential for major financiers to support greenfield Australian coal projects.

We believe reaching financial close is an increasingly difficult hurdle given that these projects are commercially unviable, that they require enormous capital investments, that they involve relatively low-quality thermal coal, that seaborne coal prices are depressed, and that there is none of the necessary infrastructure required to support the development. Working from Banktrack's November 2013 report[vii] and more recent filings, this briefing note offers some perspective by exploring who the major financiers of coal projects in Australia have been.

Building on a number of reports questioning the financial risks and lack of commercial viability of the proposed Galilee projects, IEEFA views are also informed by recent dialogue with numerous Australian and global banks and associated rating agencies. We note that, to date, Galilee proponents have yet to commence engagement with the banking sector.

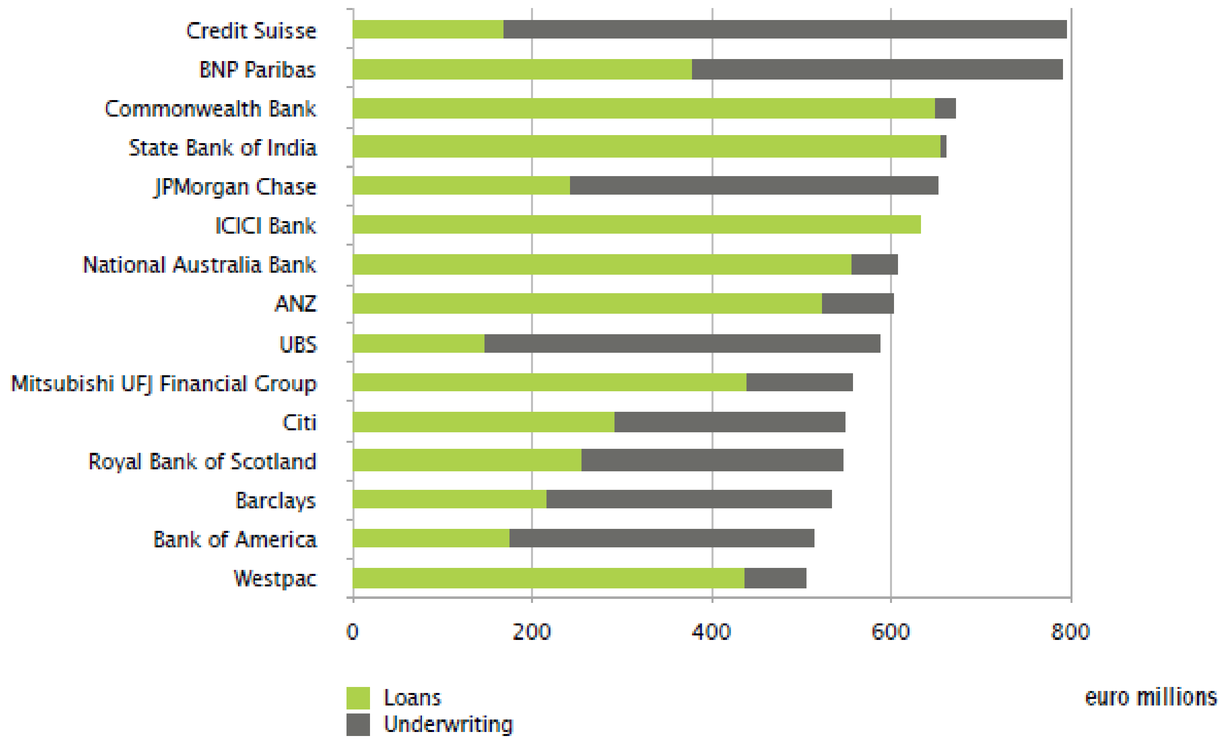
Given that any due diligence will take up to a year to complete, financial close remains some way off.

Historical Perspective: Past Coal-Production Coal Financing in Australia

This section examines past coal-production financing to give some perspective of which financiers might be involved in any new coal-production finance in the Galilee Basin.

Figure 1 Details the top 15 banks providing debt and equity underwriting facilities to Australian coal and infrastructure projects over 2011 to mid-2013. Banktrack notes the single largest equity raising was $400m for Whitehaven Coal undertaken by Credit Suisse in 2011.

Figure 1: Banking on Australia Coal (2011-mid 2013)



Source: Banking on Coal – Banktrack, Nov 2013

To date, six of the largest direct lenders to the Galilee coal and associated infrastructure proposals sector include two Indian banks (State Bank of India and ICICI Bank) and Standard Bank (UK), primarily in relation to moves by GVK and Adani in the Galilee, plus three Australian majors (ANZ Bank, National Australian Bank and Westpac).

Construction and Off-Take Agreement Risk

The key to a successful financing of a greenfield project is to reduce the myriad risks relating to the project enough that the banks will be willing to take on the construction-cost risks. The risks associated with a greenfield project are many compared to an existing operational asset, not the least being the absence of the cash flow that an existing project can access to make payments.

Equally important is the strength of the off-take agreements with respect to the length, diversity and credit worthiness of the customers. GVK's small market capitalization means it would require binding off-take agreements with key customers for the vast majority of its Galilee project in order to ensure project lenders security should the project fail. Adani Enterprises' larger market capitalization would provide banks greater comfort, but its excessive financial leverage means Adani Power (the end user of any coal) would not be a bankable counterparty for the off-take. If banks lend to Adani Enterprises as the project owner, they would want different firms to provide the off-take agreements in order to diversify counter-party risk.

Major Australian Banks

Australia has 4 of the top 22 banks in the world by market capitalization: **Commonwealth Bank**, **Westpac**, **ANZ Bank** and **National Australia Bank**. Each of the four has gross assets of A$600-700bn, giving each of them scope to lend A$100-500m per project. Being familiar with how business is done in Australia, and being an Australian-dollar-denominated lender, the Australian four majors would be most likely to lead on any major secured debt raising in Australia.

National Australia Bank (NAB) was the lead bank for the original A$1.14bn Adani Abbot Point Coal Terminal (AAPCT) T1 in 2012, but it was not the lead when the A$1.25bn Australian bank syndicate was refinanced in October 2013.[viii] That refinancing was reported to have been led by Commonwealth Bank, Westpac and Deutsche Bank.

The fifth-largest bank in Australia, Suncorp, has wound down its commercial lending book since the global financial crisis, and is no longer relevant.

Global Investment Banks

Greenfield mining of the scale proposed for the Galilee Basin would need several global investment banks to structure the mine- and related rail- and port-infrastructure finance, and would potentially also rely on them to bring in equity partners and facilitate the global equity capital raising for Adani Enterprises and GVK on the Bombay Stock Exchange. **JPMorgan Chase** (No. 4 globally), **Citigroup** (No. 7), **Bank of America Merrill Lynch** (No. 8), **Goldman Sachs** (No 24), **UBS** (No. 25), **Deutsche Bank** (No. 36), **Credit Suisse** (No. 38) and **Morgan Stanley** (No. 39), in addition to Australia's **Macquarie Group,** are the top global investments banks active in Australia.

Since the global financial crisis, these banks also all in the top 40 by market capitalization because the U.S. removed barriers that previously separated investment banking from retail banking. These groups make up 9 of the top 10 in investment banking equity trading in Australia (Commonwealth Bank of Australia is also in that group; see Figure 2).

Figure 2: Top 10 Australian Stock Brokers (CY2014 to-date)

Broker	Value ($b)	Market share (%)
• Deutsche	213.9	11.7
• UBS	171.9	9.4
• Citigroup	168.4	9.2
• Macquarie Insto	153.9	8.4
• Morgan Stanley	147.7	8.1
• Merrill Lynch	120.8	6.6
• Credit Suisse	110.7	6.1
• Goldman Sachs	97.9	5.4
• Commonwealth	85.6	4.7
• JPMorgan	76.7	4.2
• GETCO Aust	42.7	2.3
• ABN AMRO Clear	36.9	2.0
• Susquehanna	33.9	1.9
• Virtu Financial	29.6	1.6
• CIMB	25.8	1.4
• All brokers	**1823.1**	**100.0**

Source: The Australian Financial Review, IRESS[ix]

Morgan Stanley and Merrill Lynch each did equity transactions in India for Adani Enterprises in 2012. Their research is on the Adani Enterprises corporate website, suggesting these firms were the two "house brokers" (implying a corporate advisory relationship).[x]

GVK's initial acquisition of the Alpha Coal project for US$1.26bn in September 2011 did not use a global investment bank (Ernst & Young Private Ltd was the sole financial advisor to GVK).[xi] GVK's Australian corporate presentation in February 2012 implied that **Citi** was retained to locate an equity partner for the Alpha project; that **Macquarie Group** was leading on the identification and structuring of an equity partner for the project infrastructure (rail and/or ports); and that **ANZ Bank** was the lead bank for project financing.[xii] However, these mandates are understood to have now lapsed.

Indian Banks

India has no banks in the global top 50. This is a huge hurdle for GVK and Adani, because although the Indian banks are their key lenders for domestic Indian projects, they lack the loan-book presence in Australia to lead any new projects there. **HDFC Bank** (No. 52 globally), **State Bank of India** (No. 55), **ICICI Bank** (No. 60) and **Axis Bank** are understood to be key lenders to the GVK and Adani Groups in India. State Bank of India has a US$800m subordinated loan to Adani Abbot Point Coal Terminal T1 (AAPCT T1), and Axis Bank is understood to have provided GVK a US$1bn debt facility for its original acquisition of GVK Hancock Pty Ltd (via Axis Bank's Singapore subsidiary).

When State Bank of India provided bridge finance for Adani, it considered funding the entire facility. However, it lacked the scale to do so. State Bank of India's CEO was quoted at the as saying this:

> "*The restriction we face in moving into project finance lending is ratings pressure on SBI India's balance sheet, the level of Australian dollars we can access and the cost-effectiveness of any swap deals.*"[xiii]

Export-Import Banks (Ex-Im)

U.S., Korean and Japanese state-owned enterprises—export-import banks—have historically been material players in developing new greenfield projects globally, but have a mandate to promote exports of good and/or services from their home countries.

The **Export-Import Bank of the U.S**. is active alongside firms like Caterpillar and GE, for instance, where there are major rail and earth-moving equipment or construction orders to be won. Bechtel has brought the bank in for project-construction orders. Under President Obama, the bank may be less likely than it has been to engage in fossil-fuel lending.

Korea EximBank has a strong probability of being involved in the Galilee since the emergence of Pohang Iron and Steel Company Engineering & Construction (POSCO E&C) and Samsung as potential partners to GVK and Adani. In July 2014, POSCO E&C signaled that it would build the railway for transporting coal to Abbot Point for Adani.[xiv] In October 2012 Samsung C&T was selected by GVK to build the terminal at Abbot Point.[xv]

A possible constraint on Korean conglomerate funding of these projects, however, is the suggestion that global credit rating agencies have said that despite strong growth prospects, the Korean government should continue to reduce Korea's "public sector" foreign sector liabilities.[xvi] The rating agencies have referenced the Korean conglomerates as effectively extensions of the Korean government, so Korean state-owned enterprise have been under central directives to reduce corporate indebtedness. There is strong evidence from Korean corporates that this directive is being implemented. For example, Korea Gas Corporation has put its Curtis Island LNG and Canada LNG stakes on the market, despite these being strategic assets delivering Korea security of LNG supply.

In December 2013, Korean EximBank offered US$500m of loans and US$450m of loan guarantees to the Roy Hill iron ore mine where Korean POSCO is a 15% shareholder, evidence that Korean EximBank still has the ability to make such investments.

Global Commercial Banks

HSBC (No. 3 globally), **Wells Fargo** (No. 4), **Bank of Tokyo-Mitsubishi UFJ** (No. 12), **BNP Paribas** (No. 22), **Sumitomo Mitsui** (No. 26), **Standard Chartered** (No. 28), **Mizuho Financial Group** (No. 33) and **Societe Generale** are large global commercial banks that come into selective deals behind the Australian majors to help with syndication, which spreads the risk). The Japanese banks have a long history of resource lending and coal-equity financings in Australia (motivated by national energy-security strategy), so are very familiar and hence active in Australian lending, particularly when Japanese trading houses and/or power utilities are involved as equity partners and/or via commodity off-take agreements.

Standard Chartered Bank has provided an A$516m facility to Adani in India, which has been on-lent to Adani Mining Australia.

Chinese Banks

ICBC (No. 1), **China Construction Bank** (No. 2), **Ag Bank of China** (No. 6) and **Bank of China** (No. 9) are 4 of the top 10 banks in the world by market capitalization. Getting these banks involved would be a material boost to any proposal's chance of success, but Chinese banks have a national agenda, so would get involved probably only if there was an associated strategic agenda — that is, if the construction contracts and off-take-agreements were awarded to Chinese firms. By their very size, the Chinese banks are increasingly important for global syndication.

There has been press speculation that Adani has talked with several Chinese state-owned enterprises, including China Railway Corp.[xvii] We would consider these discussions have been made redundant with the emergence of POSCO E&C as lead engineering, procurement, and construction agent for the rail project.

Figure 3: Global Project Finance League Table (CY2013)

	Mandated Arrangers	Amount US$(mil)	Share	No. of Deals
1	Mitsubishi UFJ Financial Group	11,430	5.6%	108
2	State Bank of India	10,090	5.0%	20
3	China Development Bank	8,312	4.1%	6
4	SMBC	7,924	3.9%	80
5	Mizuho Financial	7,444	3.7%	60
	Overall	**204,027**	**100%**	**584**

Source: PFI

The Waratah Coal Galilee Coal Project (previously called China First Coal) originally had five of the largest Chinese state-owned enterprise providing finance, and engineering, procurement and construction for the mine, the rail, and the port, and off-take agreements for the coal, plus almost 100 percent project equity. In the wake of legal disagreements with CITIC Pacific,[xviii] however, we view this financing as unlikely to still be on offer for the project.

UK Banks

Lloyds Banking Group (No. 29 globally), Barclays Plc (No. 31) and Royal Bank of Scotland (No. 34) were decimated during the global financial crisis and have been largely nationalized. As part of their recapitalization, these banks have largely pulled out or sold out of Australian lending.

German Banks

According to the Banktrack 2012 report "Banking on Coal," Germany sits at eighth place in the league of countries financing coal. Internally, Germany has had a strong push away from coal and toward renewable energy. Over 30 percent of Germany's electricity is now sourced from renewables. The government-owned **KfW has** been one of the banks financing this transformation, and has been keen to publicize this. It is less keen to publicize how much they are still lending to the development of fossil fuels. Germany's major coal lenders are: **Deutsche Bank**, **Commerzbank**, **Landesbank Berlin**, **Bayern LB** and KfW.

Beyond the role of Deutsche Bank in Adani Abbot Point Coal Terminal refinancing, IEEFA sees little potential of participation by German banks in the Galilee project. The bank had been a likely participant until their annual general meeting in May 2014, when they saw pressure to step back due to the likely extended damage Galilee coal development would do to the Great Barrier Reef.

Canadian Banks

Royal Bank of Canada (No. 14 globally), Toronto-Dominion Bank (No. 18) and Bank of Montreal (No. 41) all are involved in resource lending in Australia because resource lending is a core business in Canada. However, their presence in recent Australian coal funding has been limited.

Infrastructure Managers

Some global infrastructure firms are very active in Australia and are in a position to finance the rail and/or port activity associated with Galilee coal proposals, but probably not until facilities are actually built. Global leaders include **Brookfield Infrastructure Partners** (Canada), **Industry Funds Management** and **Hastings Funds Management** (Australia), and **China Merchants Group**.

Brookfield acquired the 85Mtpa Dalrymple Bay Coal Terminal in 2009-10 as part of a multi-billion dollar takeover and recapitalization of a failed investment trust.[xix] Brookfield generally acquires stakes in strategic infrastructure only once fully operational and protected by very long term off-take agreements from highly bankable counter-parties.

Industry Funds Management (IFM) has $50 billion in assets under management and is owned by 30 pension funds with more than five million Australian members; its member funds include AustralianSuper, Cbus and HostPlus. IFM owns the **Pacific Hydro** renewable energy business.

China Merchants Group and Hastings Funds Management bought the Port of Newcastle in 2014 for A$1.7bn on an exceptionally high 27 times enterprise value to EBITDA multiple.[xx] The Port of Newcastle is the largest coal port in the world, renting land to three terminals owned by various global coal mining companies operating in the Hunter Valley of NSW. Hastings is a wholly-owned subsidiary of Westpac Banking Group and has over A$7bn of funds under management.

Macquarie Infrastructure and Real Assets, and its New York-listed sister company **Macquarie Infrastructure Company LLC** is one of the world's top infrastructure managers. The group had US$95 billion of direct investments under management at the end of 2013. To date. Macquarie has not directly invested in coal ports.

Global Boutique Investment Banks

Blackstone Group is the world's largest independent alternative asset manager with assets under management of over $211 billion. Blackstone doesn't normally work on resource projects. **Investec Bank** is a international specialist bank and asset manager operating in the U.K., South Africa and Europe, but over 2013-2014 has been dramatically downsizing its operations in Australia.[xxi] Lazard Ltd and Moelis & Co also operate in Australia.

Global Development Banks

While the **World Bank**'s International Finance Corporation, **Asian Development Bank**, the **European Bank for Reconstruction and Development** and Germany's KfW have historically been very active in coal financing in developing markets these institutions, apart from KfW, are not involved in any Australian projects. We note that the Asian Development Bank has a relatively active mandate in India, but this is not likely to be extended to providing greenfield coal project development finance in Australia.

Additional Perspective: Past Financing Involving Australian Coal Ports

This section examines past coal-port financing to give some perspective of who might be involved in any new funding arrangements at Abbot Point.

Adani Abbot Point Coal Terminal (AAPCT) T1 – May 2011

Adani Ports & SEZ Limited purchased a 99 year lease over AAPCT T1 for A$1.8bn in May 2011 using a US$2bn one year bridging finance facility lead by **State Bank of India** and **Standard Chartered Bank**.

State Bank of India ended up with a US$800m subordinated project finance loan due March 2019. **Standard Chartered Bank** also provided a smaller bridge US$150m loan facility. The residual finance was rolled over in March 2012 via a new A$1.25bn facility with State Bank of India Capital and Macquarie Capital as financial advisors.

Adani's AAPCT put in place a A$1.25bn senior, syndicated debt facility due in March 2016 that had been arranged by **National Australia Bank** (NAB)at a rate of BBSY +2.75% giving rise to an average funding cost in 2012/13 of 5.8%.[xxii] Seven banks were involved: NAB; Commonwealth Bank; Westpac; Bank of Tokyo-Mitsubishi UFJ; Mizuho; Standard Chartered; and OCBC of Singapore.[xxiii]

APPCT was partway through an expansion to double capacity to 50Mtpa by 2014. The bank syndicate's risk profile is low given port revenues are secured by long term take-or-pay contracts for 100% of the port's capacity.

Adani Abbot Point Coal Terminal (AAPCT) T1 – March 2013

Adani Ports & SEZ Limited sold the AAPCT T1 for A$2.1bn in March 2013 to the private Adani family as a way of deleveraging the listed company.[xxiv][xxv] The US$800m subordinated loan from **State Bank of India** remained in place. AAPCT had to refinance the A$1.25bn senior debt facility, and this was arranged by **Commonwealth Bank**, **Westpac** and **Deutsche Bank** in October 2013.[xxvi] The Bank of Tokyo-Mitsubishi UFJ, Ltd., Mizuho Corporate Bank, Ltd., National Australia Bank, Overseas-Chinese Banking Corporation Limited and Standard Chartered Bank were involved as secondary banks.[xxvii] The A$1.25bn loan facility has three components: Facility A of A$580m at BBSY+1.90% pa due Nov'2018; Facility B of A$170m at BBSY +2.20% pa due Nov'2020; and A$500m of 5.75% Nov'2018 fixed rate notes with BNY Trust Company of Australia as the Note Trustee.[xxviii]

APPCT was partway through an expansion to double capacity to 50Mtpa by 2014. The bank syndicate's risk profile is low given port revenues are 100% secured by long term ToP contracts. Pricing of the notes was offered at a premium to 200 basis points above the benchmark five-year interest rate swap, which is currently 3.785%.[xxix] The coupon is 5.75% and maturity Nov'2018.[xxx]

Moody's Investors Services gave this project finance an investment grade rating of (P)Baa3,[xxxi] while Standard & Poor's gave the debt an investment grade rating of BBB-. S&P said the deal to transfer ownership of the port to India's Adani family "provides adequate ring-fencing of the port's business and finance structure." Moody's stated: "Over the next 3-5 years, Moody's expects AAPT to maintain FFO/Interest of around 2.0x-2.5x, which positions it within the Baa3 rating, considering the strong business risk profile" and stressed the minimum 10 year ToP agreements of A$6/t."[xxxii]

Freehills provided legal advice[xxxiii] and independent corporate advisory boutique EAC Partners[xxxiv] provided financial advice to the Adani Group.

Adani Abbot Point Coal Terminal (AAPCT) T1 – May 2014

Adani Enterprises tried to take advantage of global investor appetite for Indian debt in an effort to rein in the cost of raising funds overseas. The first tranche under the fund-raising plan was to be raised in May 2014 via a Singapore $200m, five-year bond issue. The bonds were to be sold by the company's subsidiary Adani Abbot Point Terminal Pty Ltd, and the bond roadshow was seen as a precursor to a larger US$1.5bn issue later this year. **Standard Chartered Plc** and Singapore's **DBS Bank Ltd** were appointed the bankers to the Singapore dollar sale,[xxxv] but no debt raising was subsequently confirmed as completed.

Adani Abbot Point Coal Terminal (AAPCT) T1 – May 2014

AAPCT T1 used a small independent Australian financial firm called **FIIG Securities** to raise A$100m via Australia's first investment-grade corporate bond targeted at private investors. The bonds used AAPCT's existing rating of Baa3/BBB– for the six-year senior secured notes, which pay a 6.1% coupon, equivalent to swaps plus 250bp.[xxxvi] IEEFA views this as an opportunistic move in a very small, illiquid underdeveloped finance sector in Australia. There is little chance of raising significant debt in this sub-sector involving uninformed private investors.[xxxvii]

Adani Abbot Point Coal Terminal (AAPCT) T1 – Aug 2014

The promoters of Adani Group were said to be planning to sell the AAPCT T1 at close to the acquisition price of $2 billion. The press speculated that the change in the group's strategy reflected a slowing coal traffic and thermal coal prices falling to $65/t from $120/t three years ago. The press said Adani has asked bankers in Australia to come up with proposals for sale and other options, including private equity firms or infrastructure companies.[xxxviii] Nothing has materialized, however, and IEEFA would suggest this was speculation to test the water for valuations.

GVK's Alpha Coal, Rail and Port Proposal (2011)

When GVK commenced the financing process for it's A$10bn Alpha Coal, Rail and Port project proposal, Macquarie Group was advisor on the raising of infrastructure funding, Citigroup advised on the sale of a minority stake in the coal mine proposal, and ANZ was appointed to provide pit-to-port debt finance for the entire project.[xxxix]

WICET (2011-2015)

The Wiggins Island Coal Export Terminal (WICET) is due to be opened in 2015, having reached financial close in 2011. WICET is owned by a consortium of eight coal mining firms and was conceived and funded at the height of the coal boom. The construction costs are estimated to exceed A$3bn for the Stage I of 27Mtpa — giving a cost per tonne of export capacity of a record A$122. By comparison Adani acquired AAPCT T1 for A$43/tonne of capacity (see Figure 6.7). For more details, see "IEEFA Briefing Note – WICET" from May 2014.[xl]

A bizarre aspect of the WICET debt facility is the use of almost 100% bank debt and subordinated note finance — the ordinary equity was a mere A$0.01m. This was achieved through the backing of take-or-pay contracts with the eight mining companies at a rate of A$13/t (double the Australian industry average) for 10 years covering 100% of the port capacity. We understand all eight coal firms underwrote the ToP contracts collectively, so they are joint and severally liable[xli] and many of the ToP contracts are backed by bank or corporate guarantees.

For example, Cockatoo Coal has a guarantee from its two main corporate shareholders.

Bandanna Energy has a bank guarantee from **National Australia Bank** prior to its appointment of administrators in September 2014 due to the extensive WICET ToP liability and an inability to raise new equity.

WICET's senior debt facility of A$2.4bn is a non-recourse construction loan of three years at US$ LIBOR +300 basis points (bp). The major syndicate exposures at the time of funding were **Commonwealth Bank** (A$286m), **Korea Development Bank** (A$239m), DBS Bank (Singapore, A$191m), **National Australia Bank** (A$193m), **China Development Bank** (A$262m), **Bank of China** (A$191), **ANZ** ($193m) and **KfW IPEX Bank** of Germany (A$106m).

Glencore and the other minor coal companies took a total of A$275m of subordinated preference shares. In a key secondary-market transaction, in July 2013,Bandanna Energy sold its a$47m of preference shares to **Industry Funds Management** at a 20% premium to book value.[xlii]

Port Botany

In April 2013 IFM and co-investors AustralianSuper, the Abu Dhabi Investment Authority and QSuper paid $5.1 billion for Port Botany and Port Kembla, double market expectations.[xliii] The price paid was reported to be 25 times cash earnings (EBITDA). These ports are primarily container terminals, not coal, but the transaction set a key benchmark for Australian ports.

Newcastle Coal Port (2014)

The NSW government sold a 98-year lease on the Port of Newcastle for $1.75 billion in April 2014. Port of Newcastle was sold to a consortium comprising **Hastings Funds Management** (an infrastructure investor owned by Westpac) and **China Merchants Group**, a state-owned enterprise that already owns 22 ports in China. The winning bidder paid 27 times cash earnings (EBITDA) of A$69m in 2013/14.[xliv] [xlv] This was double market expectations and possibly sets an unrealistically high benchmark for coal ports in Australia. Newcastle Port leases the land to private coal mining consortia that own the three existing export terminals.

The loans captured by Market Forces account for the recent expansions in Newcastle's export capacity: **ANZ** $867m; **Commonwealth Bank** $279m; **Sumitomo Mitsui Banking Corp** $245m; **National Australia Bank** $189m; **KBC Bank** $169m; Overseas Chinese Banking Corp $135m; Bank of Tokyo-Mitsubishi $132m; Credit Agricole $109m; DBS Bank $109m; United Overseas Bank (Singapore) $109m; Export Development Canada $103m; DZ Banke $88m; Agricultural Bank of China $87m; Dexia $87m; **KfW IPEX Bank** $65m; and Westpac $50m.

Port Waratah Coal Services Limited

Port Waratha Coal Service (PWCS) is located in the Port of Newcastle, NSW, Australia, and operates the world's largest coal-handling facility. PWCS is owned by a consortium of coal mining companies.[xlvi] PWCS operates two coal terminals, Carrington and Kooragang. Carrington Coal Terminal has a shiploading capacity of 25Mtpa and Kooragang Coal Terminal has 120 Mtpa. These terminals receive, assemble and load Hunter Valley coal for export. PWCS is owned 30% by Rio, 37% by the "Newcastle Coal Shippers" consortium and 30% by Japanese coal customers.[xlvii]

PWCS has plans for a new coal terminal known as Terminal 4 at Newcastle. The Feasibility Study for the project was completed in 2013 and environmental approval is currently being sought. T4 was originally planned to add 120Mtpa of new capacity, but with the existing Newcastle terminals operating at a combined 150Mtpa in 2013/14 or 70% of the combined 211Mtpa capacity, the proponents reduced their plans from 120Mtpa to 70Mtpa in September 2013.[xlviii]

Figure 4: PWCS's two coal terminals in Newcastle, NSW

All planning and scheduling of coal exports from the Hunter Valley through PWCS is facilitated by the Hunter Valley Coal Chain Coordinator Limited ('HVCCC'). HVCCC's express objective is to plan and coordinate the cooperative operation and alignment of the coal chain in order to maximize the volume of coal transported through the coal chain, at minimum total logistics cost in accordance with the agreed collective needs and contractual obligations of Producers and Service Providers. HVCCC is a not-for profit business structure.

PWCS is financed through bank loans: A$348m of short term commitments and A$723m of longer term commitments expiring between 2014 and 2018[xlix]. These loans are underpinned by long term contracts with coal producers.[l]

Newcastle Coal Infrastructure Group (NCIG)

The smaller but newer of the consortiums is the Newcastle Coal Infrastructure Group (NCIG)[li] owned by a consortium of six coal producers; Banpu Public Company Limited, BHP Billiton, Peabody Energy, Whitehaven Coal and Yanzhou Coal Mining Co. Ltd. NCIG also have a terminal on Kooragang Island. The terminal now has three wharfs. Stage 1 opened in May 2010 with a 30Mtpa capacity, stage 2 (June 2012) increased this to 53Mtpa and stage 3 (June 2013) took this to 66Mtpa.

ANZ Bank is the lead bank for the financing. The major lenders were originally six banks, but this increased to 15 by stage 2, including ¾ of the Australian majors, 3 mainland Chinese banks and banks from Asia and Europe.

The financing is A$1.9bn of senior debt for 6.25 years, A$470m of subordinated notes and A$430m of preference shares. This lending is secured against take or pay contracts involving many of the constituents from the consortium of owners.[lii]

Dalrymple Bay Coal Terminal

Dalrymple Bay Coal Terminal (DBCT) exports thermal and metallurgical coal from Central Queensland's Bowen Basin mines to ports around the world. The terminal has a name plate capacity of 85 Mtpa.[liii] The 1.66 km wharf has four berths that can accommodate ships ranging from 20,000 to 220,000 dead weight tonne. DBCT handles 20% of global seaborne coking coal volumes.

DBCT is owned by Brookfield Infrastructure Partners L.P. (Brookfield), a listed company that operates high quality, long-life assets to generate stable cash flows, require relatively minimal maintenance capex and, by virtue of barriers to entry and other characteristics, tend to appreciate in value over time. Brookfield's current business owns utilities, transport and energy assets in North and South America, Australasia, and Europe. Units of Brookfield trade on the New York Stock Exchange and on the Toronto Stock Exchange and has a market capitalization of US$8.5bn. Brookfield has a credit rating from S&P of BBB+ and consolidated leverage of46% with average debt maturity of 10 years.

Brookfield has generated a CAGR of 35% in the last five years, double the global listed infrastructure sector average.[liv]

Lanco Infratech of India / Griffin Coal (2011)

Lanco Infratech, a listed Indian power conglomerate acquired the Griffin Coal mine in Western Australia in 2011 for A$750m. Funding was provided by a US$550m 3-5 year corporate facility at 410bps over LIBOR from **ICICI Bank of India**. **Bank of India** was sub-underwriter and committed US$140m, **Export-Import Bank of India** US$50m, Bank of Baroda US$50m and **Indian Overseas Bank** US$40m.[lv]

Griffin Coal is attempting to fund a A$1bn 15Mtpa coal export facility at the Port of Bunberry to facilitate the export of low grade thermal coal back to India. IEEFA is of the view that excessive leverage and weak coal prices will prevent this project being completed. This also illustrates the poor shape of the Indian banking sector's limited financial exposure to the Australian coal sector.

Coal India Ltd / GVK's Alpha Project (2013)

With difficulties in developing overseas mining assets persisting, GVK is reported to have approached Coal India Ltd late 2013, offering the world's biggest coal miner a stake in its coal assets in Queensland, Australia. Coal India, which has earmarked Rs.35,000 crore (US$6bn) for overseas asset purchases in the next five years, was reported to 'have spurned the proposal because of risks related to project implementation, the strengthening Australian dollar, weakening markets and the high cost of production.'[lvi]

Conclusions

Our research into the recent history of coal-production financing and coal-port financing in the Galilee Basin of Australia, along with our assessment of global trends affecting the coal industry, suggest little chance of quick financial close on proposed development of the basin's coal resources.

Risks that financiers run – and hurdles that development faces – include the following:

- The enormous scale, greenfield nature and foreign ownership of key projects.
- The risk of creating stranded assets due to shifting public policy on energy use.
- The likelihood that financing participation must including Australia's Big Four banks.
- The likelihood that at least one major global bank would be needed to ensure success.

In sum, IEEFA sees financial close on Galilee Bain coal development at least one year away.

Background on the Author

TOM SANZILLO

Tom Sanzillo joined the Institute for Energy Economics and Financial Analysis (IEEFA) as Director of Finance in 2012. In conjunction with Tim Buckley, Tom authored "*Stranded: A Financial Analysis of GVK's Proposed Alpha Coal Project in Australia's Galilee Basin"* and "*Adani – Remote Prospects: A financial analysis of Adani's coal gamble in Australia's Galilee Basin.*" He is also co-author with Ashish Fernandes of "*Coal India: Running on Empty*," an analysis of Coal India's coal reserve methodology.

Since 2007 Tom has run his own company, TR Rose Associates. The company served clients working to create alternatives to fossil fuel use in America. The work has consisted of research, reports, testimony and advice on construction costs of coal plants and alternatives, financial reviews (involving independently owned utilities, cooperatives, public authorities and hybrid organizational structures), credit analysis, coal market and price analyses, rate impact assessments, federal financing, federal coal leases, coal export markets and policy, load forecast reviews, energy contracts and a series of other topics related to electricity generation. He has served as a financial advisor to the innovative Green Jobs/Green New York large scale residential energy efficiency retrofit program in New York State. Tom has served on the Advisory Board on the future management of the Long Island Power Authority in New York State. His clients also have included business, labor and community organizations covering a host of public and private finance and policy issues.

From 1990 to 2007, Tom served in senior management positions to the publicly elected Chief Financial Officers of New York. From 2003 to 2007, he served as the First Deputy Comptroller for the State of New York. Tom was responsible for a US$150bn globally invested public pension fund; oversight of state and 1600 units of local government budgets and public debt offerings; audit programs for all state agencies, public authorities (including power generation authorities) and local governments, and review and approval of state contracts. One estimate places the level of public assets under the State Comptroller's watch at over $700bn. Due to an early resignation of the elected State Comptroller, Tom, as First Deputy Comptroller, served for a short period as the New York State Comptroller from 2006-07. His most recent publication on New York State government and finance is part of the 2012 Oxford Handbook of New York State Government and Finance.

Important Information

This report is for information and educational purposes only. It is for the sole use of its intended recipient. It is intended solely as a discussion piece focused on the topic of coal mining in the Galilee and related infrastructure proposals. Under no circumstance is it to be considered as a financial promotion. It is not an offer to sell or a solicitation to buy any investment referred to in this document; nor is it an offer to provide any form of investment service.

This report is not meant as a general guide to investing, or as a source of any specific investment recommendation. While the information contained in this report is from sources believed reliable, we do not represent that it is accurate or complete and it should not be relied upon as such. Unless attributed to others, any opinions expressed are our current opinions only.

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