Institute for Energy Economics and Financial Analysis
IEEFA.org

River's Edge
3430 Rocky River Drive
Cleveland, OH 44111
216-688-3433
staff@ieefa.org

May 2015

Galilee Coal Basin: Carmichael – A Stranded Asset?

In November 2013 IEEFA released a major review of the Adani Group's proposed coal mine and associated rail and port infrastructure project in Central Queensland, Australia. The report, titled "The Adani Group: Remote Prospects: A financial analysis of Adani's coal gamble in Australia's Galilee Basin"[i] is still largely current. Many of the key financial and operational risks identified in the report remain. We highlighted the high probability of further delays as the financial markets become increasingly concerned about the lack of commercial viability, particularly relating to a move by the seaborne thermal coal market into structural decline. A year and a half on, the Carmichael project remains far from financial close and first commercial coal by 2018 at the earliest.

This note updates a few of the key aspects of the report to incorporate new developments.

Seaborne Thermal Coal has Entered Structural Decline

In conjunction with Carbon Tracker, IEEFA published a major global thermal coal study in September 2014.[ii] The key conclusion of this study was that the Chinese domestic demand for thermal coal would peak by 2016, plateau and then steadily decline thereafter. Given China is 50% of global thermal coal consumption, this in turn lead to the second key conclusion, that world seaborne thermal coal demand would peak concurrently with China in 2016.

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, Merrill Lynch, Deutsche Bank, Morgan Stanley and Goldman Sachs have likewise massively downgraded their demand and price expectations for coal.

Since that time, the China-US Climate Change Agreement of November 2014 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. China's imports of coal declined a record 42% year-on-year in the first two months of 2015.[iii]

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. [iv] This is a part of a well-conceived and ambitious development of the Indian electricity sector. Minister Goyal's comments do however raise significant questions over any strategic rationale of the plan by Adani to export 2/3 of the Carmichael coal back to India. 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.[v]

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 coal mining and nuclear power in India will all facilitate this transition.[vi] India is renewing efforts to assist economic development of neighbouring countries by helping provide financial and engineering support for imported hydro electricity.[vii]

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 Galilee Basin flies in the face of this logic.[viii]

Thermal Coal Price decline

The seaborne thermal coal market has entered structural decline. Having peaked in 2009, the seaborne price has fallen over 60%. The Australian export benchmark is the Newcastle 6,000kcal net as received (NAR) free on board (FOB) index. In March 2015 this coal index price is US$58/t, and the Newcastle coal futures factor in coal prices remaining below US$60/t through to October 2021.

The thermal coal price has fallen more than 25% since the "*Remote Prospects*" report was published in November 2013, underlining the increased market acceptance for the proposition that seaborne thermal coal has entered structural decline.

Global Listed Coal Companies Wealth Destruction

IEEFA also notes the average 80-90% decline in average global coal listed company share prices in the last four years. Coal India Ltd is one of the few exceptions to this trend, protected by its entirely domestic orientation and exceptional balance sheet strength.

For example, Peabody Energy, the largest pure-play western coal producer has seen US$15.5bn shareholder wealth destruction over the last four years. Peabody stock is down

90% in this period, whilst the US Equity market index is up 40%. Investing in coal companies is increasingly accepted by the financial markets as a wealth hazard.

The Increasing Call for Coal Subsidies

In direct contradiction of the conclusions of the G20 Economic Summit held in Brisbane Australia in November 2014, the ex-Queensland Premier Newman continued promote the Adani project with offers of taxpayer subsidies, free water, royalty holidays and through the "purchase" of dredge spoil to offset growing investor concerns over the commercial viability of the project.

In November 2014 ex-Premier Newman offered taxpayer finance up to possibly $455m[ix] to support the development of the dedicated rail line for Adani's Carmichael Coal project proposal. A key argument is that this will be an open-access rail facility for all coal mine proposals in the Galilee. Post election Adani Mining claimed that loss of this subsidy would not impact the project's commercial viability, raising the obvious question - Why they were offered the subsidy in the first place?

In December 2014 a former Queensland State Treasurer was involved in the proposed Northern Water Infrastructure System, a water diversion program from the Campaspe and Cape Rivers through 63km of new channels and a new 123km pipeline aimed to divert up to 35,000 megalitres per day for use in the Galilee coal mines.[xxi] This follows changes to the Queensland State laws relating to free water in November 2014[xii] and the government's stated desire to develop infrastructure for the Galilee.[xiii] However, given the proponent needs more water than is available, the new Queensland government is unlikely to proceed with this proposal.

Australian government's propensity to deliver subsidies for a commercially unviable project is called into question by the Australian Treasury's forecast that thermal coal prices are forecast to stay at US$63/t for at least the medium term through 2016.[xiv]

Adding 10,000 Queensland Jobs – False Advertising?

The Adani Group has been advertising in Queensland TV that they will create 10,000 Queensland jobs. Their own SEIS states that construction jobs will average 2-3,000 over the first three years. Mr Adani's defense of his project proposal in November 2014 only quotes 5,000 new jobs.[xv] To-date Adani have appointed POSCO of Korea and Parsons Brinckerhoff of the US – two foreign firms. EDI Downer as contractor for the mine itself is the main Australian firm proposed.[xvi] The then Deputy Premier of Queensland Jeff Seeney went even further and claimed spending up to $455m of Queensland taxpayer money to subsidise a billionaire's foreign private firm through his "Infrastructure Enabling Agreement" would bring 28,000 jobs to Queensland.[xvii]

Lots of Non-binding Deals Announced

In a flurry of announcements, Adani announced POSCO E&C would build and help fund the proposed railway line, that SBI would take a lead in funding the overall project, that the Newman government would fund $455m of subsidies for the rail project, that POSCO E&C would build and help fund the Abbot Point coal port,[xviii] that Downer EDI would take on the $2bn mine development contract.

While the wording of these announcements suggested legally binding transactions and deadlines are in place, the reality is that most of these announcements are non-legally binding proposals:

1. In November 2014 POSCO distanced themselves from the project. Both POSCO E&C and potential funding partner South Korea's Export-Import Bank said any agreements were at early stages. "It is hard to predict when a contract will be signed".[xix]
2. In December 2014 SBI clarified their additional loan proposal was still due diligence and was in fact only for a proposed loan top-up of a net US$200m,[xx] [xxi] with the subsequent claim in March 2015 that they are not evaluating any loan proposal (refer below).
3. In December 2014 Downer EDI reported "Adani Mining advising of its intention to enter into contracts for the provision of mining services". [xxii] "Both Letters of Award are subject to the parties executing binding contracts which would be followed by pre-production and planning in early 2015 with mine infrastructure construction commencing in the fourth quarter of 2015," Downer said.[xxiii]

Project Delays Continue

At the time of acquiring the Carmichael Coal project proposal in 2011, Adani expected to have first coal by 2014. Adani said 12 Nov'2014 that financial close is not due till end 2015. Four years on, first coal is now not commercially feasible until 2018 at the earliest.

On 23 December 2014 the Federal Environment Department delaying a final approval or rejection of the alternative dumping proposal for the Caley Valley wetlands, demanding more detail from North Queensland Bulk Ports on the potential impacts of the Abbot Point dredging project on the Great Barrier Reef.[xxiv] The project was earlier fast-tracked by Environment Minister Greg Hunt, allowing it to proceed to a decision without a full environmental impact assessment under federal law.

In January 2015 the Alliance to Save Port Hinchinbrook sought an injunction against Environment Minister Greg Hunt's assessment of Deputy Premier Jeff Seeney's application for onshore dumping in the Caley Valley Wetlands.[xxv] On 26th February 2015 Greg Hunt announced a two-month timeframe extension till 30th April 2015.[xxvi]

In March 2015 the Labor government announced it would allow capital dredging with onshore dumping on the site of the former T2 Abbot Point port proposal,[xxvii] but at the same time ruled out any tax-payer subsidies for this proposal.[xxviii] New State Development Minister Dr Lynham referred his dredging decision to the Federal government in mid April 2015. Lynham said "mine proponents - not taxpayers - would meet dredging and approvals costs …. Unlike the Newman government, we won't be expecting taxpayers to pay for the environmental assessment".[xxix]

As a reference to cost, the Cairns dredging and dumping in the Reef was costed at $100m to move 4.4 million cubic metres, vs $365m for onshore dumping.[xxx]

Carmichael Proposal Fully Approved … *Almost*

Adani in December 2014 stated: "We reject in its entirety the suggestion that any aspect of Adani's project is not fully approved,".[xxxi] This claim downplays the fact that there is a Land Court challenge being heard in April 2015 questioning the draft approvals given, and seems to overlook the fact that the project doesn't actually have a final mining lease approval or environmental authority, nor is dredging being done in the short four month window to June 2015 before the cyclone season starts.

Adani's Australian Investment … *Almost Entirely Debt Funded*

Adani has almost no equity invested in Australia. The company's claim of A$3bn of assets need to be expanded to also read that Adani also has A$3bn of debts in Australia.

- Adani Mining Pty Ltd has net debts of over A$1bn as at 31 March 2014 and negative shareholders funds of $44.9m, and has been loss-making for the last two years.
- The A$2.4bn Abbott Point Coal Terminal (AAPCT T1)has A$1.25bn of senior debt lead by Westpac and CommBank, plus a US$800m subordinated loan from the State Bank of India. Adani Abbot Point Terminal Pty Ltd likewise has been loss-making in each of the last two years due to excessive financial leverage.

Total Project Costs of A$17bn

Having borrowed over A$3bn to fund the initial investment of some A$3.4bn, Adani will need to raise equity and debt financing for the remaining A$14bn that IEEFA estimates is still required to get this 40Mtpa 60 year life coal mine, rail and port project operational.

'Jeyakumar Janakaraj, CEO and Australia country head, Adani Mining, said the project would have a debt-equity ratio of 60:40. "The initial capex is $7.5bn. Initial funding has been tied up. The total financial closure will be achieved by end of next year,"'[xxxii] Adani is now proposing a two stage development of the Carmichael proposal, a further downscaling of the capital cost, having halved the scope of the project in the SEIS in November 2013 (reducing it from a 90 to 60 year project life, and from a 60Mtpa average product coal to a 60Mtpa peak product coal (40Mtpa average)), it has now halved the life again to 30 years and average output of product coal to 34Mtpa.

We question the accuracy of this capex claim, given it seems to ignore the full project costs, particularly that relating to the new 70Mtpa export facility at Terminal 0 at Abbot Point. This figure probably also excludes the cost of greenfield water infrastructure, roads and airports, power generation and / or electricity transmission lines. The Queensland government has now clarified it will not be providing subsidies for all of these associated project requirements.[xxxiii]

Adani now proposes building Abbot Point T0 in two stages, the first at 40Mtpa and the second to take it to 70Mtpa. Adani announced a A$1bn port construction contract award to POSCO E&C,[xxxiv] but we would note that even a 40Mtpa coal facility would cost multiples of the A$1bn figure.

The Adani Group has Substantial Gearing

The Adani group already has consolidated net debts estimated at US$12.7 billion in the listed Adani Enterprises Ltd plus another US$2bn debt associated with AAPCT T1 which it is somehow not consolidating. Like many Indian power infrastructure firms, Adani Power Ltd has massive financial leverage with net debts post recent acquisition actions approaching US$8bn.[xxxv]

Consequently the Project requires substantial new external investments of both debt and equity.

11 Major Global Banks Have Ruled out Financing

Eleven major global banks key to most global coal mining investments have moved away from providing finance for the Galilee project proposals, particularly as it relates to building a new coal export facility adjacent to the Great Barrier Reef (GBR). Concerns also relate to the dredging in the Great Barrier Reef World Heritage Area and dredge spoil dumping. The 11 banks include: Deutsche Bank; HSBC; Royal Bank of Scotland; Barclays; Morgan Stanley; Citigroup; Goldman Sachs; JP Morgan Chase and most recently Societe Generale, BNP Paribas and Credit Agricole.[xxxvi] [xxxvii] In May 2015 Bank of America announced it would move to exit coal lending entirely. BankTrack has published a list of the world's biggest financiers to the coal industry. The bank statements are located here.

State Bank of India Finance "Commitment"

The Adani Group has made significant claims of financial support for the project. However, the reality is somewhat less substantial. Adani released a press release on behalf of the State Bank of India (SBI) in November 2014, claiming a US$1bn loan commitment. SBI Chairwoman Arundhati Bhattacharya has since clarified times that SBI has already extended a US$800m loan to Adani Abbot Point Coal Terminal T1 (AAPCT T1) in 2010. SBI is offering a total exposure of US$1bn, so this new offer is for a US$200m increase.[xxxviii] SBI contradicted Adani's press release by confirming that given full due diligence has yet to be undertaken, this loan proposal was not legally binding.[xxxix] The SBI has also been attacked in the Indian parliament for partaking in "crony capitalism".[xl] In March 2015 it was reported that the credit team had denied the Adani Mining loan, a report immediately denied by the Chairwoman,[xli] who subsequently said no loan application had even been made.[xlii]

Standard Chartered … Advisor but not a financier?

Standard Chartered's Chairman has said the bank will review its involvement and that it would go "no further" with the Carmichael mine until it had looked at the project's environmental credentials. Standard Chartered also rejected Adani's claims it had provided any finance for Carmichael.

Carmichael Coal is Low Quality … Expect a 30% Price Discount to Benchmark

The Carmichael coal is low quality when compared to the Newcastle 6,000kcal, 12-14% ash export benchmark index and as a result will be valued at a significant discount. The energy content of ~5,200-5,300kcal Gross as Received is ~17% lower and the raw 25-30% ash content double than this index. IEEFA estimates the Carmichael coal is likely to be valued at a 30% discount to the Newcastle benchmark 6,000kcal NAR.

Commercial Viability is Questioned

Mainstream financial analysts in Australia have said this project is not commercially viable:

> *"On a standalone basis, the economics just don't stack up - I'm talking about costs and return on capital. You'd need a price of about $100-$110 a tonne for it to stack up,"*
>
> Daniel Morgan, global commodities analyst at UBS[xliii] on 12 Nov'2014.

> *"Right now with thermal coal at $60/t and the Galilee coal 500km from port, funding these projects doesn't seem viable. What is unknown is whether the Indian companies are prepared to take a long-term view and put a lot more of their own equity into these projects."*
>
> Mark Pervan, ANZ Bank commodities analyst[xliv]

Commercially Unviable

IEEFA estimates the gross cash cost of coal production from the proposed Carmichael mine is greater than the current price that this thermal coal would trade at. The fully costed transportation to the main target market of India is prohibitively high, being in the order of $15-20/t for the rail, $5-6/t for the port and $10-15/t for the seaborne shipping.[xlv] This is significantly higher than average existing Australian export thermal coal export costs of transportation. Given a 30% discount to the current benchmark price of US$62/t, Carmichael coal would need to be delivered to Abbot Point FOB at a cost of less than US$43/t just to be gross cash breakeven, and even then this leaves no capacity to fund the likely significant interest costs.

Adani appears to have told SBI a gross cash cost of production of US$42/t. Is this pre-royalty? Does this fully cost rail and port charges or are these charges part of the capital cost of the project?

Adding New Supply to An Oversupplied Seaborne Coal Market

If Adani is successful in developing open access rail, water, transmission, power, air and road infrastructure for the Galilee, this will ironically further undermine the project's commercial viability. There are nine Galilee Basin thermal coal projects being promoted. The combined output is up to 282Mtpa of new thermal coal. This would in effect flood the seaborne traded market with ever more supply at a time when prices have already collapsed. Adding 282Mtpa is a 30% increase in global seaborne supply. This will serve to drive seaborne coal prices down further for longer. The average Australian and global coal mine is barely operating at a cash breakeven position before funding.

Questions Raised about Corporate Governance

The Fairfax press has raised a number of allegations about potential corporate governance breaches, plus disclosure and transparency issues relating the Adani Group and associated directors and related party transactions. Nearly two years after Adani Ports & SEZ Ltd deconsolidated the Abbot Point Terminal 1 Port, Adani reports that the ownership of T1 remains incomplete.[xlvi]

Australian Senator Larissa Walters in March 2015 raised this issue in the Senate, and again in a letter to the Chairman of ASIC on 10 March 2015.[xlvii] Any due diligence into Carmichael and the associated T0 port proposal would in IEEFA's view require resolution of these allegations and the appropriateness of the proposed new owner.

In an unrelated incident, Korea's National Assembly in February 2015 raised an inquiry into POSCO E&C for operating multi-million dollar overseas slush funds.

Indigenous Landowners, the Wangan and Jagalingou (W&J) People, Reject Adani

In March 2015 indigenous landowners rejected Adani's mine, rail and port projects. The Wangan and Jagalingou (W&J) people rejected the indigenous land use agreement with Adani to build a coal mine in the area. Adani has now sought for the Queensland government to overrule the W&J, compulsorily acquire the land and issue a lease for the Carmichael mine. The Adani Group has also sought to ignore and misrepresent the position of the W&J people.

Tim Buckley, tbuckley@ieefa.org, Director Energy Finance Studies, Australasia

Institute of Energy Economics and Financial Analysis

[i] http://www.ieefa.org/adani_coal_report/
[ii] http://www.carbontracker.org/wp-content/uploads/2014/09/Coal-Demand-IEEFA.pdf
[iii] http://www.hellenicshippingnews.com/chinas-feb-coal-imports-fall-from-jan-customs/
[iv] http://in.reuters.com/article/2014/11/12/india-coal-imports-idINL3N0T234F20141112
[v] http://www.frontline.in/economy/there-is-no-intention-to-denationalise-coal-india/article6847880.ece?homepage=true
[vi] http://reneweconomy.com.au/2014/indias-plan-stop-importing-coal-deals-another-blow-australia-68894
[vii] http://in.reuters.com/article/2014/11/25/nepal-energy-idINKCN0J908520141125?feedType=nl&feedName=inmoney
[viii] http://www.theguardian.com/environment/2015/jan/08/australia-accelerates-coal-projects-study-buried
[ix] http://www.livemint.com/Opinion/dp2yqrO0iSHMWgXFzcKu7J/1-billion-Adani-loan-Commercial-decision-or-politics-at-pl.html
[x] http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=referral_detail&proposal_id=7410
[xi] http://www.qmeb.com.au/news/new-water-plan-fast-track-galilee-basin-coal-mines/
[xii] http://theconversation.com/queensland-risks-running-the-well-dry-by-gifting-water-to-coal-34752
[xiii] http://statements.qld.gov.au/Statement/2014/11/17/historic-agreements-bring-jobs-to-queensland
[xiv] http://holdfastcommunications.com.au/press-releases/big-coals-ballooning-budget-woes-confirmed-by-treasury/
[xv] http://economictimes.indiatimes.com/opinion/interviews/our-business-model-is-aligned-with-the-national-interest-gautam-adani/articleshow/45265416.cms?prtpage=1
[xvi] http://firstbiz.firstpost.com/corporate/adani-group-awards-2-bn-mining-contract-australian-co-downer-113999.html
[xvii] http://statements.qld.gov.au/Statement/2014/11/17/historic-agreements-bring-jobs-to-queensland
[xviii] http://theindependent.sg/blog/2014/12/24/posco-ec-is-appointed-as-the-preferred-epc-contractor-for-1-billion-aud-terminal-port-project-in-australia/
[xix] http://in.reuters.com/article/2014/11/12/adani-australia-coal-idINKCN0IW2I620141112
[xx] http://www.business-standard.com/article/companies/sbi-chief-says-adani-carmichael-project-viable-114112001114_1.html
[xxi] http://www.deccanherald.com/content/442746/sbi-defends-loan-adani-says.html
[xxii] http://firstbiz.firstpost.com/corporate/adani-group-awards-2-bn-mining-contract-australian-co-downer-113999.html
[xxiii] http://www.downergroup.com/Investors/ASX-Announcements/2014/Downer-receives-letter-of-award-for-Carmichael-Coal-Mine-contracts.aspx
[xxiv] http://www.gladstoneobserver.com.au/news/Government-demands-environment-data-on-Abbot-Point/2497406/
[xxv] http://www.couriermail.com.au/news/queensland/legal-action-against-commonwealth-over-abbot-point-dredge-spoil-plan/story-fnn8dlfs-1227178458749?nk=9ec19f2ff375b163c0dfe85a5888e2d3
[xxvi] http://www.abc.net.au/news/2015-02-26/abbot-point-dumping-decision-delayed/6266802
[xxvii] http://www.firstpost.com/business/major-relief-for-adani-and-gvk-australia-okays-new-dumping-site-for-abbot-point-dredge-2147311.html
[xxviii] http://statements.qld.gov.au/Statement/2015/3/11/palaszczuk-govt-charts-new-course-for-abbot-point
[xxix] http://statements.qld.gov.au/Statement/2015/4/18/galilee-basin-coal-jobs-come-one-step-closer
[xxx] http://statements.qld.gov.au/Statement/2015/4/18/draft-dredging-report-exposes-lnps-great-barrier-reef-shame-pitt
[xxxi] http://mobile.abc.net.au/news/2014-12-16/adani-coal-rail-deal-gets-extension-of-time-deputy-premier-says/5971610
[xxxii] http://www.financialexpress.com/article/industry/companies/all-clear-from-australia-for-7-5-bn-project-adani/
[xxxiii] http://www.afr.com/p/national/onshore_dumping_for_abbot_point_IW5HLosSK5ETpD6ZxBeH3I
[xxxiv] http://theindependent.sg/blog/2014/12/24/posco-ec-is-appointed-as-the-preferred-epc-contractor-for-1-billion-aud-terminal-port-project-in-australia/
[xxxv] http://www.financialexpress.com/article/economy/borrowed-glory/17844/
[xxxvi] http://www.theguardian.com/environment/2014/nov/25/big-four-banks-under-pressure-to-rule-out-funding-queensland-coal-projects
[xxxvii] https://twitter.com/SocieteGenerale/status/540889297373892609
[xxxviii] http://www.business-standard.com/article/companies/sbi-chief-says-adani-carmichael-project-viable-114112001114_1.html
[xxxix] http://www.business-standard.com/article/companies/sbi-chief-says-adani-carmichael-project-viable-114112001114_1.html
[xl] http://www.livemint.com/Opinion/dp2yqrO0iSHMWgXFzcKu7J/1-billion-Adani-loan-Commercial-decision-or-politics-at-pl.html
[xli] http://www.livemint.com/Companies/zYoac0827W9VrOh338XVLM/Any-denial-of-loan-unlikely-to-affect-business-Adani-Enterp.html
[xlii] http://www.livemint.com/Companies/zYoac0827W9VrOh338XVLM/Any-denial-of-loan-unlikely-to-affect-business-Adani-Enterp.html
[xliii] http://in.reuters.com/article/2014/11/12/adani-australia-coal-idINKCN0IW2I620141112
[xliv] http://www.ft.com/cms/s/0/ec88baae-c7af-11e4-9226-00144feab7de.html#ixzz3U9A8k7MS
[xlv] http://economictimes.indiatimes.com/opinion/interviews/our-business-model-is-aligned-with-the-national-interest-gautam-adani/articleshow/45265416.cms?prtpage=1
[xlvi] http://www.queenslandcountrylife.com.au/news/metro/national/general/asic-called-on-to-investigate-adani/2726237.aspx?storypage=0
[xlvii] http://www.smh.com.au/business/mining-and-resources/government-labor-block-calls-for-investigation-into-adani-coal-development-20150302-13t0gx.html#ixzz3THBSX92M