A House of Cards in Australia:

Adani's Abbot Point Coal Terminal Faces Escalating Financial Risk

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Executive Summary

In August 2017, Adani Enterprises Ltd said it would "start early works" on its Carmichael coal mine project, in October 2017, using A$400m of its own funds despite having yet to secure funding for this A$5bn greenfield project.

Investors should be aware that this high-risk gamble is linked to the imminent refinancing needs of Adani's existing Abbot Point Coal Terminal (AAPCT), which runs the risk of becoming a stranded asset if the controversial Carmichael mine does not proceed.

Currently operating at just over 50% capacity, AAPCT needs the Carmichael mine to fill the gap created as its current Take-or-Pay (ToP) contracts progressively expire.

AAPCT faces a A$1.48bn refinancing by November 2018 and a cumulative debt refinancing of $2.11bn by 2020. The first payment of $A85m was due to be paid to the State Bank of India in September 2017. This refinancing is made even more difficult by the fact that the Wiggins Island Coal Export Terminal (WICET) faces a stressed US$2.8bn refinancing around the same time. For the purposes of refinancing Abbot Point, Adani needs to demonstrate that Carmichael will progress in order to convince financiers that AAPCT will be fully utilized into the future.

With a major refinancing imminent, the financial viability of Adani's Abbot Point port is increasingly at risk due to a combination of factors:

- A consistently low utilization rate of 50-55% that suggests an asset that is structurally challenged, with previously long-dated Take-or-Pay (ToP) contracts for port volume usage set to reduce significantly from 2019 onwards;
- The progressive expiry of ToP contracts, lending AAPCT a rising dependence on the yet-to-be committed and high-financial-risk proposed Carmichael mine as the foundation customer of the port going forward;
- The owner of the Carmichael mine proposal, Adani Mining Pty Ltd, having shareholder's funds of negative $230m and net debt of $1.48bn, making it a high-risk proposed user of up to 50% of the total volume of the Abbot Point port;
- The fact that AAPCT has estimated net debt of $2.04bn (including through a series of complex intercompany loans) now roughly matching the original investment price, plus subsequent capex. With combined shareholders' funds estimated at negative $228m, it appears that the AAPCT is entirely debt funded;
- Financial institutions becoming increasingly wary of financing coal infrastructure after the debacle of the billion dollar losses being incurred on the $4.3bn Wiggins Island Coal Export Terminal (WICET); and
- Increased market risk as Abbot Point volumes shift to majority thermal coal, in the context of the structurally-challenged seaborne thermal coal market.

While AAPCT's complex and opaque ownership structure appears well-suited to minimizing tax—and while it is impossible to be certain—it appears that the ultimate owner of the port is a British Virgin Islands-based entity, ARFT Holding Ltd.

Among the issues this raises:

- Despite cumulative revenue of $1.2bn over the past five years, Adani's main Australian port subsidiaries, Adani Abbot Point Terminal Pty Ltd (AAPT) and Mundra Port Pty Ltd, have reported **a cumulative tax expense of zero in Australia over that period**;

- Loans between entities within the complex structure mean that AAPCT entities have advanced $52m to the Adani Family's T0 proposal and $182m to the Adani Family's Carmichael Rail proposal;

- The sole Singapore parent entity director is Vinod Adani, who has been the subject of investigations for money laundering by the Indian Director of Revenue Intelligence (DRI).

With the financial viability of AAPCT increasingly tied to the future prospects of the high risk Carmichael coal project (for which Adani is yet to secure final clearances), any potential investors in Abbot Point are exposed to the following Carmichael project risks (these are in addition to the risk that arises from the stressed financial position of Carmichael proponent Adani Mining Pty Ltd):

- The fact that the Indigenous Land Use Agreement (ILUA) with Indigenous Traditional Owners of the mine site is not registered and is being contested in court;

- The fact that low-grade Carmichael thermal coal (which has very high ash relative to its key competitors in Indonesia and Australia's Hunter Valley);

- The fact that thermal seaborne coal is in structural decline due to the Indian Government's policy of reducing coal imports to zero and China's progressive electricity-sector transformation (India's thermal coal imports have continued the downward trend of the last two years and are down 13% year-to-date in 2017 compared to the prior year;

- The fact that Adani's major proposed offtake coal customer, Adani Power Ltd's 4.6GW import coal-fired power plant at Mundra in Gujarat, is financially distressed and for sale for Rs1;

- The fac that analysts see no demand for more seaborne thermal coal supply ("We're generally of the view that the global coal market doesn't need new supply"—CLSA)".

Introduction

In August 2017, Adani Enterprises said it would "start early works" on its Carmichael coal mine project in October 2017.[1] On the face of it this seems to be a major financial gamble, considering that the company has yet to secure the funding for this A$5bn greenfield project. However, it is also entirely possible that a "construction" start is mean to create the appearance that real progress is being made to potential investors, including investors in Adani Abbot Point Coal Terminal (AAPCT).

Whilst Adani continues to search for overseas project funding, events have transpired that make the Carmichael project an even greater financial risk than ever:

- Adani's proposed offtake coal customer, Adani Power Ltd's 4.6GW import coal power plant at Mundra in Gujarat, is financially distressed and for sale for Rs1 (see Annexure II).

- India's thermal coal imports have continued the downward trend of the last two years and are down 13% year-to-date in 2017 compared to the prior year.[2]

- Analysts see no demand for more seaborne thermal coal supply; "We're generally of the view that the global coal market doesn't need new supply"- CLSA.[3]

- Adani's total financial requirements include another $5bn for Carmichael on top of the $2bn refinancing requires of AAPCT.

Despite the building headwinds, Adani seems determined to proceed with the Carmichael mine. An answer as to why may lie at the other end of the proposed Carmichael rail project: AAPCT.

Currently operating at just over 50% capacity, AAPCT needs the Carmichael mine to fill the gap as the current Take-or-Pay (ToP) contracts progressively expire.

AAPCT faces a refinancing of A$1.48bn by November 2018 and a cumulative debt refinancing of $2.11bn by 2020. As part of this, a loan from the State Bank of India needs to be paid off in seven quarterly instalments of $A85m, with the first payment due in September 2017. For the purposes of refinancing Abbot Point, it is key that Adani demonstrates Carmichael proposal progress in order to convince investors that Abbot Point will be fully utilized into the future.

As a result, any current and potential investors in AAPCT are now exposed to the significant financial risks of the Carmichael proposal.

In analysing the profile of the pending A$1.48bn debt refinancing by end 2018 at the Adani Family's privately owned AAPCT, it becomes clear that the financial viability of the terminal is under increasing pressure. With a total net external debt estimated at A$2.04bn, AAPCT

[1] http://www.livemint.com/Companies/qZXuvewKmBmtsgOBHCd6yO/Work-on-Carmichael-project-to-begin-in-October-Gautam-Adani.html
[2] https://www.reuters.com/article/column-russell-coal-adani-ent-idUSL4N1LF27R
[3] http://timesofindia.indiatimes.com/business/india-business/adani-says-to-start-australian-coal-mine-with-own-funds/articleshow/60256906.cms

appears to be 100% debt financed relative to its estimated historic cost of investment to Adani Ports of just A$2.08bn and ongoing losses resulting in negative shareholders' funds.

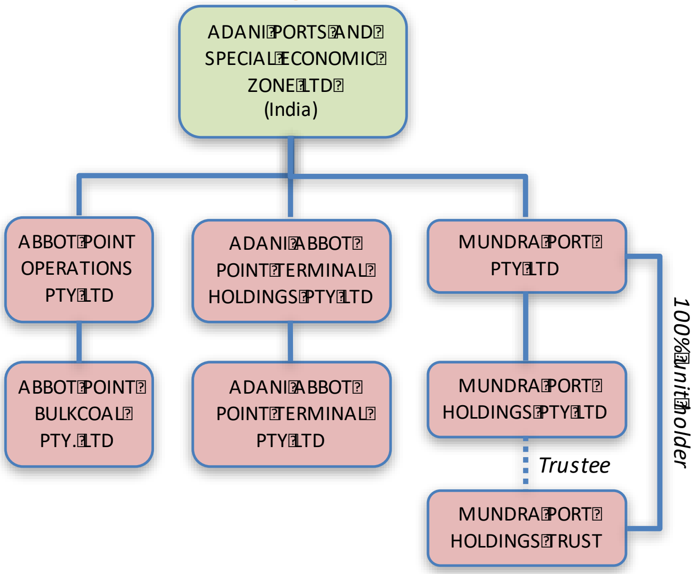
The value of the 100% leveraged AAPCT has been put at financial risk. Like the $4.3bn WICET port to the south, is AAPCT a stranded asset risk?

AAPCT Ownership Structure

On 1 June 2011, Adani's Bombay Stock Exchange listed company Adani Ports & SEZ Ltd (Adani Ports) acquired a 99-year lease of the existing coal terminal at Abbot Point (Terminal 1) from North Queensland Bulk Ports Corporation for $1.83bn.[4]

Figure A details the current ownership structure of the Australian T1 port related subsidiaries as detailed in the records of Australian Securities & Investment Commission (ASIC).

Figure A: Ownership Structure of the Existing Adani Abbot Point Coal Terminal (T1)



Source: Australian Securities & Investment Commission records, Energy & Resource Insights analysis

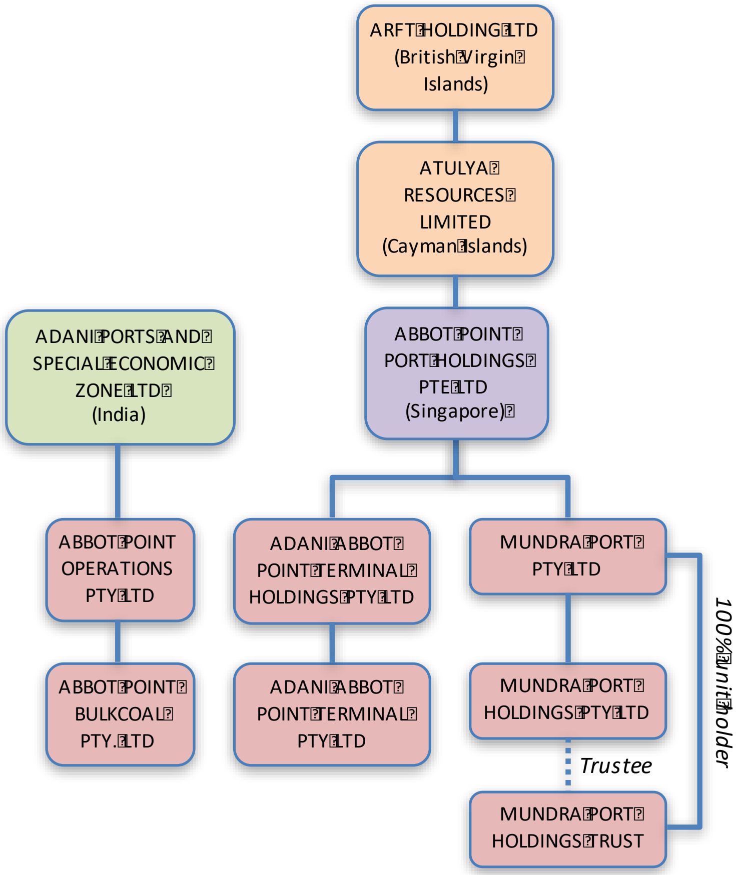
Under pressure from shareholders at the time over excessive financial leverage, on 31st March 2013 Adani Ports announced the sale of the collective entities that make up the Adani Abbot Point Coal Terminal (AAPCT) to the private Adani Family, effective immediately for A$235m, and deconsolidated the Australian port, and its associated A$2bn of net debt. However, a footnote to the annual report in 2013, and each subsequent year including the

[4] North Queensland Bulk Ports Corporation (2015) http://www.nqbp.com.au/abbot-point/

recently released 2017 annual report, notes that the sale has not reached a financial conclusion. Adani Ports & SEZ Ltd annual reports for the last four years have not included AAPCT in its list of subsidiaries. In contrast, ASIC records have consistently shown that Adani Ports & SEZ Ltd is still registered as the legal owner of AAPCT.[5] When queried, ASIC has responded that this issue is outside its jurisdiction.

Figure B details our understanding of the ownership structure of the T1 port related activities of the Adani Group should the above mentioned sale process be completed.

Figure B: Ownership Structure of the Adani Abbot Point Coal Terminal Post Sale Completion



Source: Australian Securities & Investment Commission and Singapore Accounting and Corporate Regulatory Authority records, Energy & Resource Insights analysis

The Adani Abbot Point Coal Terminal 1 (AAPCT or T1) is associated with six Australian propriety companies and one trust. We collectively reference the first five entities, listed below, as AAPCT, which would be owned by private Adani family group of companies once the SBI loan is repaid and the sale by Adani Ports & SEZ Ltd is completed.

[5] https://www.theguardian.com/business/2016/jul/27/abbot-point-coal-terminal-ownership-still-missing-from-adani-ports-annual-report

Lease holder

- Mundra Port Pty Ltd is the 100%-unit holder of the Mundra Port Holdings Trust.
- Mundra Port Holdings Trust holds the 99-year lease of the lands and fixtures of the coal terminal acquired from the State owned North Queensland Bulk Ports (NQBP). Under the Port's lease, the State retains ownership of the Port land and fixed infrastructure such as the jetty and the wharf.
- Mundra Port Holdings Pty Ltd is the trustee company of the holding trust.

Terminal manager

- Adani Abbot Point Terminal Pty Ltd (AAPT) sub-leases the terminal from the Mundra Port Holding Trust and manages it.
- Adani Abbot Point Terminal Holdings Pty Ltd is a holding company that owns Adani Abbot Point Terminal Pty Ltd.

Terminal Operator

- Abbot Point Bulkcoal Pty Ltd has operated the terminal since at least 2000 through a operation and maintenance contract. The company was a subsidiary of Glencore until September 2016 when its sale to Adani was announced, ending a multi-year legal battle between the two mining conglomerates.
- Abbot Point Operations Pty Ltd was formed by Adani in 2015. It now owns Abbot Point Bulkcoal Pty Ltd.

AAPCT is Adani's only revenue generating business in Australia, generating external operating revenues of $250m per annum. The company pays lease rent to the Mundra Port Holdings Trust to the order of $200m per annum (refer Figure 1.3).

Other Key Adani Group Australian Subsidiaries

Beyond AAPCT, the Adani Group operates a number of subsidiaries in Australia that cover a proposed but now deferred new 70Mtpa coal terminal (T0) at Abbot Point, the 25Mtpa (initial capacity) Carmichael coal mine proposal, the associated rail link from Carmichael to Abbot Point and entities likely to be used for Adani's solar project proposals in Australia. Annexure I provides an outline of the Adani Group's Australian Corporate Structure.

We detail the key subsidiaries here:

- Adani Australia Coal Terminal Pty Ltd together with Adani Australia Holding Trust are the "proponent for the expansion of Abbot Point Coal Terminal (T0 Terminal)."[6] These are ultimately owned by the Adani family in the British Virgin Islands.

- Adani Mining Pty Ltd is the proponent of the Carmichael mine and is ultimately 100% owned by the Indian listed company Adani Enterprises Ltd (AEL).

[6] Adani Australia Coal Terminal Pty Ltd (2016) Special Purpose Financial Report. For the Year ended on 31 March 2016.

- Carmichael Rail Pty Ltd together with Carmichael Rail Network Pty Ltd as trustee of the Carmichael Rail Network Trust are the "proponents of the Carmichael Rail Project."[7] These are ultimately owned by the Adani family in the British Virgin Islands.

- Adani Renewable Asset Holdings Pty Ltd and five other associated Australian entities are likely to be the collective vehicles used for the Adani Group's grand proposal to build 1,500 MW of solar projects across Australia. Work is yet to commence.

Sounding Out Market to Offload AAPCT?

IEEFA understands that the Adani family has more than once sounded out the financial markets and infrastructure firms over the last 3-4 years with a view to exploring options relating to either a sale of the entire AAPCT or a 49% equity stake,[8] particularly after the exceptionally high price paid for the Newcastle Coal Port in 2014 by Hastings Funds Management and China Merchants.[9] Adani is understood to have suggested such a sale could be used to part-fund the development of the Carmichael coal and rail proposal.

However, to the best of IEEFA's knowledge no offers emerged, and we view the probability of such as sale emerging as diminishing with the increasing recognition of structural headwinds facing the seaborne thermal coal market – Indian coal imports are reported to be down 13% year-on-year in the first eight months of 2017.[10] The multibillion dollar writedowns pending and three corporate insolvencies that have arisen in Queensland in relation to the onerous, decade long take-or-pay contracts of the failed $4.3bn Wiggins Island Coal Export Terminal (WICET) have all made financial institutions extremely wary of stranded asset risks associated with coal infrastructure assets (for more detail refer Annexure IV).

[7] Carmichael Rail P/L (2015) Special Purpose Financial Report. Period ended 31 March 2015. And 2016 annual report.
[8] http://www.theaustralian.com.au/business/dataroom/adani-group-may-sell-down-abbot-point-coal-port/news-story/46005607243ea9244dc48957dbe6fad9
[9] http://www.abc.net.au/news/2014-04-30/nsw-government-sells-port-of-newcastle-for-1.75-billion/5421800
[10] https://www.reuters.com/article/us-goldman-sachs-investors-idUSKCN1B92WA

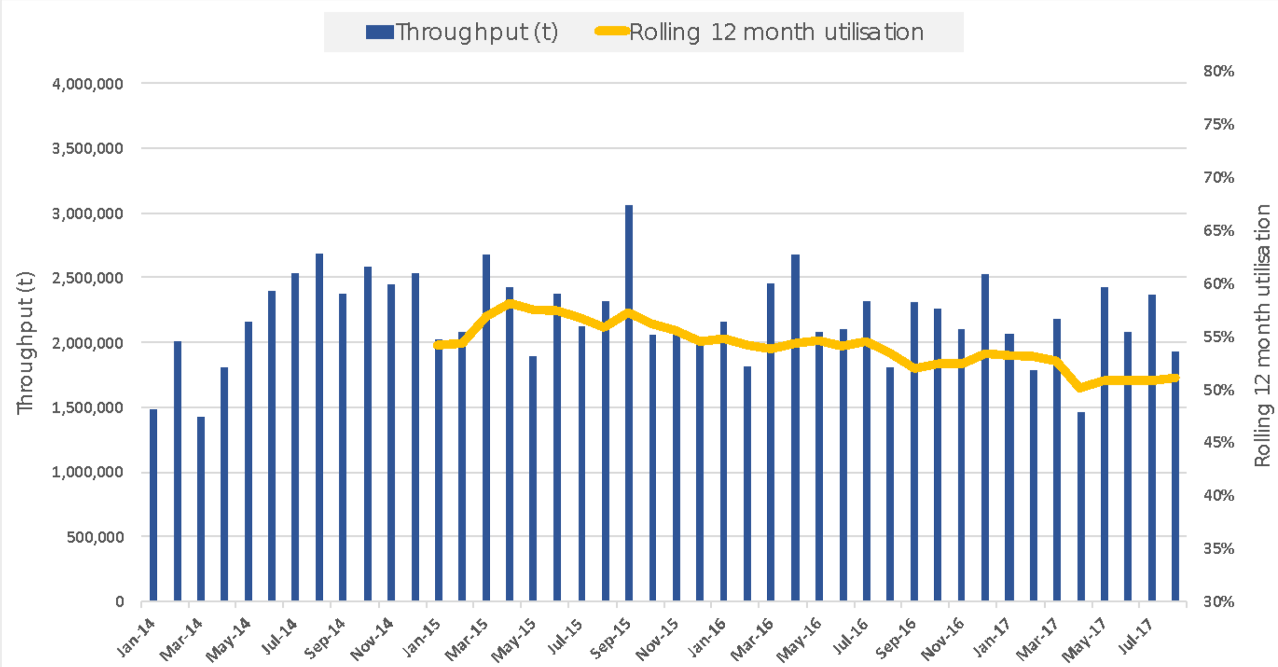
1. Abbot Point Coal Terminal Utilisation

When Adani Ports & SEZ Ltd acquired Adani Abbot Point Coal Terminal (AAPCT (sometimes referenced as T1)) in May 2011, the Adani press release understandably emphasised the fact that the yet to be fully commissioned port was 100% covered by long term take-or-pay (ToP) contracts. Despite the fact that many contracted customers have not been able to deliver on their coal mine development plans, AAPT's 2015/16 results detail ToP charges of A$100m as a key part of the total port operating revenues of A$281m.

IEEFA also notes that 2015/16's $281m is very likely to represent peak real revenues for this port given the massive underutilisation and contract runoff. Take-or-Pay penalty charges have totalled A$408m or an unsustainable 34% of all AAPCT revenues over the last five years.

Reflecting these very significant ToP penalty charges in lieu of actual export use, the actual utilisation of Adani Abbot Point Coal Terminal has been gradually dropping since the start of 2015 and now averages just over 50% - refer Figure 1.1. With a capacity of 50 million tonnes per annum (Mtpa), this leaves unused capacity of around 25Mtpa, consistent with Adani's plans to export coal from the Carmichael project at a stage I rate of 25Mtpa.

Figure 1.1: Adani Abbot Point Coal Terminal Utilisation Rate (Capacity 50Mtpa)



Source: North Queensland Bulk Ports Corporation

Figure 1.2 details the 40.7Mtpa of ToP contracts at T1 IEEFA estimates were in place over 2016/17. This profile remains consistent with those contracts in place prior to 2015, except for the sale and transfer of the 1.5Mtpa Clermont coal contract from Rio Tinto to the Glencore Joint Venture plus Rio Tinto's payment of A$117m on termination of Rio's 9.3Mtpa ToP through to contract expiry in 2028, with this volume transferred to Adani Mining Pty Ltd from July 2022 to 2028.

Figure 1.2: Adani Abbot Point Coal Terminal Contracted Capacity FY2017

Contracted User	Contracted User mines	Coal type	Contracted Capacity Mtpa	Inferred contracted capacity 2016/17	Contract end date
Glencore/Sumitomo/Itochu	Xstrata Coal Qld	Thermal	13.1	26.2%	30/06/2020
Glencore	Clermont	Thermal	1.5	3.0%	30/06/2028
Jellinbah Group (70%)/Marubeni/AMCI/Sojitz	Lake Vermont	Coking	6.1	12.2%	30/06/2028
Qcoal	Byerwen	Coking/Thermal	5.0	10.0%	30/06/2029
Qcoal	Qcoal	Thermal/Coking	4.0	8.0%	30/06/2027
Qcoal / JFE Steel / JS Sonoma	Sonoma JV	Thermal/Coking	4.0	8.0%	30/11/2024
BHP Billiton	BHP Mitsui	Coking	4.0	8.0%	31/12/2026
Yancoal/Peabody	Middlemount	PCI	3.0	6.0%	30/06/2027
Adani Mining Pty Ltd *	Carmichael	Thermal			30/06/2028
Total T1 Contracted Capacity (Mt)			**40.7**	**81.4%**	

*Adani Mining Pty Ltd took on RIO Tinto's ToP obligations for FY2023-FY2028.
Source: Adani Presentation 2014, FIIG Securities June 2015[11] and July 2017, IEEFA Estimates

The FIIG Securities July 2017 report highlights that Glencore has extended its 13Mtpa contract for two years to June 2022 but at a lower 10Mtpa rate. Against this positive development for AAPCT, the Sonoma mine is reported to have reduced its contracted volumes from July 2019 through to 2024 from 4.0Mtpa to just 0.5Mtpa.

IEEFA also notes the comment in the FIIG Securities note on AAPT of 31 July 2017 references that four customers are currently in arbitration proceedings with AAPT with respect to tariffs. We note this financial risk but also note that AAPCT is a critical enabling infrastructure, with the general regulatory process intending to facilitate an acceptable return in normal circumstances.

An analysis of the AAPT accounts for the last five years highlights that on revenues of a cumulative A$1,211m, and despite a gross profit margin of 83% (defined as gross operating profits before depreciation, amortisation, finance and rental charges, or EBITDA&R), AAPT has funded $719m of lease rentals to an associated entity (Mundra Port Holding Trust), plus $233m of net interest expenses.

In IEEFA's view, excessive financial leverage and a legal ownership involving various onshore and offshore tax haven-based trust structures facilitating within-group intercompany rental streams of A$125m annually (refer Annexure I) has seen AAPT report a cumulative pre-tax

[11] https://www.fiig.com.au/docs/default-source/research-attachments/adani-abbot-point-terminal-research-report---9-june-2015-%28r%29.pdf?sfvrsn=2

profit of just $42m over five years on this $2.08 billion investment (A$1.83bn on acquisition,[12] plus an estimated A$250m of cumulative capex over FY2012-FY2017). This represents an after tax return on gross assets of just 0.4% per annum[13], and zero tax expense over the five years.

Figure 1.3: Adani Abbot Point Terminal Pty Ltd – Net Profit & Loss (FY2013 - FY2017)

Year to 31 March (A$m)	2012/13	2013/14	2014/15	2015/16	2016/17	Five Years
Coal Port Operation	118.7	152.9	174.8	181.1	175.0	**803**
Take-or-Pay Charges	67.8	78.8	85.9	100.2	75.5	**408**
Total Revenue (A$m)	186.5	231.7	260.7	281.4	250.5	**1,211**
Other income	0.0	0.0	0.0	0.1	121.3	
Operating expenses	-50.9	-52.2	-55.6	-60.6	-56.7	**-276**
Admin expenses	-8.2	-15.4	-8.6	-8.3	-10.2	**-51**
EBITDA&R	127.4	164.1	196.5	212.6	304.9	**1,005**
Deprecition & Amort.	-14.7	-14.6	-15.4	-16.6	-22.5	**-84**
Lease rental	-92.3	-108.0	-147.1	-168.3	-203.7	**-719**
Net finance costs incl. forex	-82.2	-75.8	-21.2	-25.7	-28.1	**-233**
Profit before tax	30.6	-52.2	12.9	1.9	48.7	**42**
Tax expense (credit)	2.4	16.0	-3.9	-0.6	-12.5	**1**
Net profit after tax	**32.9**	**-36.2**	**9.0**	**1.3**	**36.2**	**43**
Gross profit margin	68.3%	70.8%	75.4%	75.5%	121.7%	**83%**

Source: Adani Abbot Point Terminal Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

Despite strong gross operating cashflow AAPT has reported a tax credit of a cumulative $1m over this five-year period, a less than zero percentage tax rate. Despite record high revenues for five years, the financial and corporate structures allow AAPT a net negative tax expense.

With total revenues peaking at $281m in 2015/16, this represented a port charge of A$6/t.

Figure 1.4: Mundra Port Pty Ltd – Net Profit & Loss (FY2013 - FY2017)

Year to 31 March (A$m)	2012/13	2013/14	2014/15	2015/16	2016/17	Five Years
Trust distribution				11.0	140.0	**151**
General & Admin expenses	-0.9	-0.4	-1.0	0.0	0.0	**-2**
Net finance costs incl. forex	-42.3	-147.1	-185.7	-52.5	-55.2	**-483**
Profit before tax	-43.2	-147.4	-186.6	-41.6	84.7	**-334**
Tax expense (credit)	0.0	0.0	0.0	0.0	0.0	**0**
Net profit after tax	**-43.2**	**-147.4**	**-186.6**	**-41.6**	**84.7**	**-334**

Source: Mundra Port Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

[12] https://www.ft.com/content/a02bb018-7573-11e0-8492-00144feabdc0

[13] This is not strictly correct calculation (comparing net profit with total assets), given one would normally divide net profit after tax by the shareholders' equity, but given the consolidated accounts of the AAPCT group are not available, we have estimated invested assets as being the sum of the original purchase price plus estimated capex to make the point that the Australian AAPCT capital structure is entirely unsustainable if not for the Adani Ports & SEZ guarantee.

Figure 1.4 details a similar picture for AAPCT's other main Australian entity, that of Mundra Port Pty Ltd, which has delivered a cumulative net loss of A$334m over the last five years on the back of $483m of net financing expenses. The trust distribution is from Mundra Port Holdings Trust which holds the lease on the port.

IEEFA notes that the annual related party rental payments from AAPT to Mundra Port Holdings Trust have increased by $95m (up 90%) over the last three years, and this has had the effect of lowering profits in AAPT and moved Mundra Port Holding Trust into a net profit position and hence in a position to pay distributions in the last year or so.

The trust distributions to Mundra Port Pty Ltd have allowed the latter to report a net profit in 2016/17 for the first time in five years, but with cumulative losses of $419m as at the start of 2016/17, this subsidiary is well positioned to book profits tax free for some years to come. It is also worth noting that Mundra Port Pty Ltd has reinvested almost all of the distributions received back into the Mundra Port Holdings Trust.

We estimate the consolidated shareholders' funds of Adani's Australian T1 port, AAPCT, as being negative A$228m as of 31 March 2017. When viewed in the context of Adani Mining Pty Ltd having negative $230m shareholders funds, and Carmichael Rail Pty Ltd (which appears to be the main vehicle for the 392km greenfield railway line) and Adani Australia Company Pty Ltd (the vehicle for the proposed T0) the picture is consistent – Adani has entirely debt funded its Australian foray to-date.

In addition to looking at the $3.5bn total investment in Australia to-date, it is worth considering that, as per Figure 1.5, Adani's Australian businesses appear to have a collective $3.5bn net debt and collective shareholders' funds of something around negative A$458m, reflective of the cumulative losses relating to interest expense and currency devaluation.[14]

Figure 1.5: Shareholders Funds for Various Adani Group Australian Subsidiaries (A$m)

As at 31 March 2017	A$m
Adani Abbot Point Terminal Holdings P/L	119.0
Mundra Port Pty Ltd	-347.2
Consolidated Shareholders Funds of AAPCT (T1)	-228.1
Adani Mining Pty Ltd	-230.2
Carmichael Rail Pty Ltd	-0.1
Adani Australia Company Pty Ltd (T0)	0.0
Mine, Rail & Port	**-458.4**

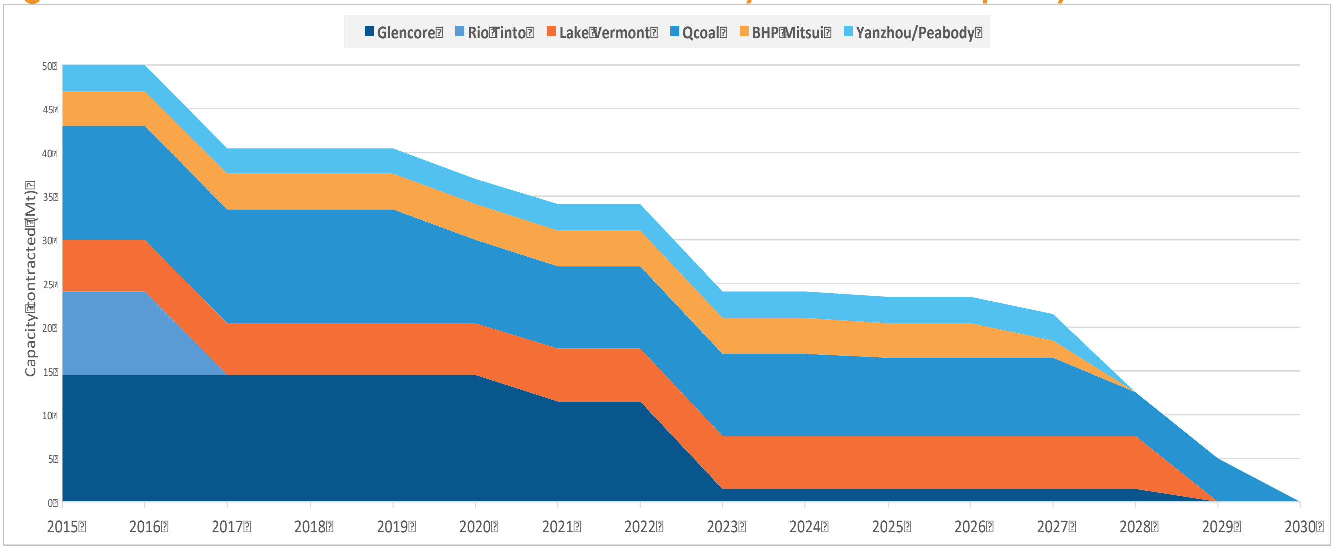
Source: ASIC registered accounts for 2016/17, IEEFA Estimates

[14] IEEFA has analysed all the available to the public entity accounts we can access from ASIC, but Trust entities' accounts are not available. We would be keen to update this analysis to include any material new information the Adani Group is willing to provide into the public domain. This analysis is done as public interest research to evaluate the merits of the Australian government's proposed $1bn NAIF subsidised loan offer.

Terminal 1 Faces a Progressive Contract Runoff

While the ToP contracted position of T1 looks relatively robust through to 2018/19, the throughput beyond 2018/19 is increasingly dependent on Adani Mining's Carmichael proposal coming on-stream. As a natural consequence of Rio Tinto's contract termination / transfer, and other contract's progressive expiry, T1's external revenue is set to progressively decline, possibly dropping by a third to an estimated $165m pa by 2022/23 from its $281m 2015/16 peak if revenue socialisation protections are time limited. Figure 1.6 details the non-associated company contracted position (absent the Carmichael mine coming on-line).

Figure 1.6: Adani Abbot Point Coal Terminal Externally Contracted Capacity 2018-2030



Note: this is T1 contracted volumes estimates exclude the 9.3Mtpa over 2022-28 acquired from Rio Tinto by Adani Group associate Adani Mining Pty Ltd, a 100% owned subsidiary of Adani Enterprises Ltd.
Source: IEEFA Estimates

This suggests a significant writedown could theoretically be needed if a. the Carmichael proposal continues to be deferred and b. AAPCT is unable to secure material new alternative coal mine export volumes, which is a risk given the closer general proximity of the Dalrymple Bay Coal Terminal (DBCT) and Hay Point Coal Terminal to the majority of the Bowen Basin mines.

Another alternative might be to try to push up per tonne charges, but with other east coast of Australia coal ports charging A$5-6/t (with the clear exception of the stranded asset of WICET – refer Annexure IV), IEEFA would suggest there is risk of per tonne revenue revisions, particularly if the structural decline of seaborne thermal coal markets evident over recent years accelerates. With WICET materially underutilised and DBCT retaining plans to expand from the current 85Mtpa to potentially 136Mtpa of capacity, this risk is further enhanced.

Figure 1.7 explores a scenario for the Profit & Loss of the AAPT should the Carmichael proposal fail to proceed and the Australian entity Adani Mining Pty Ltd goes into administration (not an impossible scenario given it already has shareholders' funds of negative $230m and net debt of $1.48bn – refer Annexure II).

Given AAPT's planning at this stage has made accommodation for 25Mtpa of Carmichael volumes, the port management are not in a position to secure alternative external coal contracts (and with surplus coal port capacity and major demand headwinds, our analysis of new mine demand for port capacity suggests there is limited optionality anyway).

Absent Carmichael and in the extreme example of AAPT being unable to procure alternative new demand, by 2022/23 AAPT's external revenues could decline to an estimated $165m (27.5Mtpa @ $6/t) – unless the Annual Revenue Requirement (ARR) socialisation of port usage costs is able to be extended to new contracts or can force a ramp up in revenues per tonne to existing users. Absent this, maintaining operating expenses in line with the current run rate of $57m, deducting $10m p.a. of admin charges and $23m of depreciation, plus lease rental charges of $204m and net finance costs of $28m, AAPCT could face a net loss before tax of $156m annually without any undisclosed, long dated ARR protection (IEEFA notes recent financial sector speculation that Glencore is looking to legally challenge ARR type structures at WICET and/or Newcastle Coal Port[15]).

Obviously in such a scenario there is scope for a serious cost reduction response, but ultimately the finance and rental charges would have to be at least halved for the port to achieve breakeven net operating result. This scenario analysis suggests material capital value risks for the T1 structure overall – AAPT's viability is now heavily tied to Carmichael proceeding.

Figure 1.7: Adani Abbot Point Coal Terminal – Net Profit & Loss (Forecast FY2023): Assuming Carmichael Does Not Proceed and No New Contracts or ARR Uplift can be Procured

Real 2016 $m	2022/23
Contracted volumes in 2022/23 - Mt	27.5
Estimated revenue per tonne (A$/t)	$6.00
External Revenues (A$m)	165
Operating expenses	-57
Admin expenses	-10
EBITDA&R	98
Deprecition & Amort.	-23
Lease rental	-204
Net finance costs incl. forex	-28
Pretax profit (Loss) A$m	-156

* EBITDA&R - gross operating cashflow before rentals, finance & tax

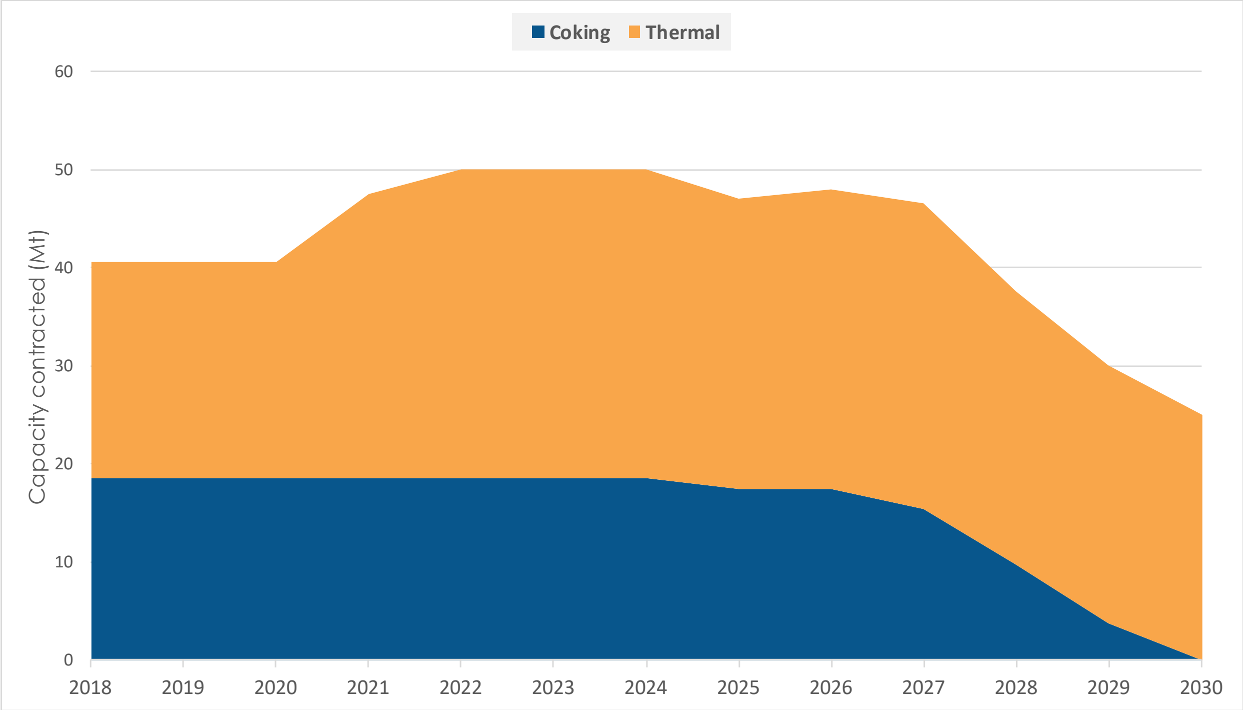
Source: Adani Abbot Point Terminal Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

[15] Project Finance International, 23 August 2017, "Attacking the Infra base"

A Mix Shift from Coking Towards Thermal Coal

One of the key strengths of coal infrastructure assets in Queensland is the predominant focus on coking coal exports (some 70-80% of total volumes in Queensland, vs just 20% of NSW exports). In contrast, AAPT has historically serviced a relatively balanced mix of both thermal and coking coal mines, but the opening up of capacity to service Adani Mining's Carmichael coal volumes progressively from 2020 and ramping up to 25Mtpa means that AAPT will shift to a dominant thermal coal focus – Figure 1.8. Given the technology driven structural headwinds facing the seaborne thermal coal sector, this materially increases the long term capital risk profile of AAPT, particularly as and when the Paris Climate Agreement's ratchet up clause takes effect.

Figure 1.8: Adani Abbot Point Coal Terminal Volumes – Thermal vs Coking Coal (Mtpa)



Source: Adani Presentation 2014, FIIG Securities June 2015 and July 2017. IEEFA Estimates

Carmichael coal mine project delays have been a reoccurring theme since Adani acquired the coal deposit in 2010. Despite Adani's latest guide to first coal by March 2020, only recently coal industry consultant Bede Boyle forecast first coal would not occur till late 2022.[16] IEEFA suggests the project is financially challenged and will struggle to reach financial close by March 2018, the latest date currently targeted by Adani.

[16] http://www.thecoalhub.com/custom/domain_3/extra_files/attach_366.pdf

2. AAPCT's $1.48bn 2018 Refinancing

IEEFA has undertaken an analysis of the net debt position of AAPCT by combining the positions of Mundra Port Pty Ltd and Adani Abbot Point Terminal Pty Ltd as presented in the annual accounts to 31 March 2017 as lodged with ASIC. Net of cash holdings, the combined indebtedness of the two entities is A$2,043m. We have excluded all of the intercompany loans between various related Adani Group entities (refer Section 4).

We note that the accounts of the Mundra Port Holdings Trust are not publicly disclosed, and that this Trust represents a key part of the consolidated position. However, our reconciliation of the inflows and outflows of the various AAPCT entities suggests adding net debt (cash) profile of Mundra Port Holdings Trust to the net position of the Australian consolidated net debt in AAPCT would not change the overall position materially.

Figure 2.1: Adani Abbot Point Coal Terminal – Debt Maturity Profile (A$m)

		Mar'2017	
Mundra Port Pty Ltd			
	State Bank of India - 2017/2018*	593	
	Syndicated Facility - 1/2020	225	
	Note Subscription Agreement - 11/2020	50	
	Less Cash	-13	868
Adani Abbot Point Terminal			
	Facility A - 11/2018	580	
	Facility B - 11/2020	170	
	Fixed rate Loans-2018	396	
	Fixed rate Loans-2020	100	
	Guaranteed Secured Loans - US$140m 2021	181	
	Guaranteed Secured Loans - US$10m 2024	13	
	Less Cash / restricted cash	-265	1,175
Estimated Net Debt of Adani Abbot Point Coal Terminal (A$m)			**2,043**

* SBI loan repayable in 7 equal quarterly instalments commencing 29 Sept 2017.

Source: Adani Abbot Point Terminal Pty Ltd & Mundra Port Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

Figure 2.2 details the combined debt maturity profile – showing AAPCT has to refinance $1.48bn over the next 14 months to November 2018, and a total of $2.11bn by 2020.

Figure 2.2: Adani Abbot Point Coal Terminal – Debt Maturity Profile (A$m)

Year to December	A$m
2017	169
2018	1,315
2019	85
2020	545
2021	181
By Nov 2018	1,484
By Nov 2020	2,114

Source: Adani Abbot Point Terminal Pty Ltd & Mundra Port Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

3. Intercompany Loans

Figures 3.1 and 3.2 details the accounts receivables and loans to related parties for each of Mundra Port Pty Ltd and Adani Abbot Point Terminal Pty Ltd respectively in the last two years. These are the two main company entities owning AAPCT.

As of March 2017 the AAPCT entities had made advances or had receivables due of a total of $353m, up from $278m as of March 2016 (excluding the intercompany loans to the other AAPCT related entities). Our reading of this complex picture is that AAPCT entities had advanced $52m to the Adani Family's T0 proposal and $182m to the Adani Family's Carmichael Rail proposal.

Figure 3.1: Mundra Port Pty Ltd – Intercompany Receivables / Loans

		2016	2017
Lending/Receivables			
Accounts receivable			
Carmichael Rail Pty Ltd	Adani Family - Rail	0.4	
Adani Abbot Point Company Pty Ltd	Adani Family - T0	0.0	
Adani Australia Company Pty Ltd	Adani Family - T0	0.0	
Dues from related parties	Adani Ports - T1		108.9
Interest accrued by not receivable		12.5	12.9
Total receivables from related parties		12.9	121.8
Loans to related parties			
Adani Mining Pty Ltd	AEL	22.2	
Carmichael Rail Network Trust	Adani Family - Rail	181.3	
Adani Australia Holding Trust	Adani Family - T0	8.2	
Adani Australia Coal Terminal Pty Ltd	Adani Family - T0	38.0	
Total loaned to related parties		249.7	223.4
Total related party loans and receivables		262.7	345.2

Source: Mundra Port Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

In comparison to the estimated total historic cost of Adani's investment in AAPCT of A$1.98bn being less than the net external borrowings of A$2.04bn, even once post acquisition capex is added in, the profile of AAPCT looks financially stressed, particularly when put in the context of potentially declining revenues from the progressive ToP contract roll-off from non-related parties. It is noteworthy that Adani significantly reduced the transparency of its reporting of intercompany loans in financial year 2017. IEEFA would question the financial prudence of A$353m of related party advances and receivables owed.[17]

[17] IEEFA would again note that these calculations and analysis is done to the best of our ability using the financial reports available to public scrutiny, hence we caution that the key associated trust of AAPCT (Mundra Port Holdings Trust) is not available for cross-checking. We would welcome greater disclosure from the Adani Group and commit to update and / or

Figure 3.2: Adani Abbot Point Terminal Pty Ltd – Intercompany Receivables / Loans

		2016	2017
Trade and other receivables			
Mundra Port Pty Ltd	Adani Ports - T1	2.3	16.5
Adani Abbot Point Terminal Holdings P/L	Adani Family - T1	9.3	
Adani Australia Coal Terminal Pty Ltd	Adani Family - T0	5.5	6.2
Adani Mining Pty Ltd	AEL	0.5	
Adani Port Operations Pty Ltd	Adani Ports & SEZ		1.7
Total receivables		**17.6**	**24.3**
Loans to related parties			
Mundra Port Holding Trust	Adani Ports - T1	1,080.4	1,054.0
Adani Abbot Point Terminal Holdings	Adani Ports - T1	315.6	334.9
Total loaned to related parties		**1,396.0**	**1,388.9**

Source: Adani Abbot Point Terminal Pty Ltd accounts as lodged with ASIC, IEEFA Estimates

correct and republish this analysis should more information become available that in any way suggests our conclusions are incorrect.

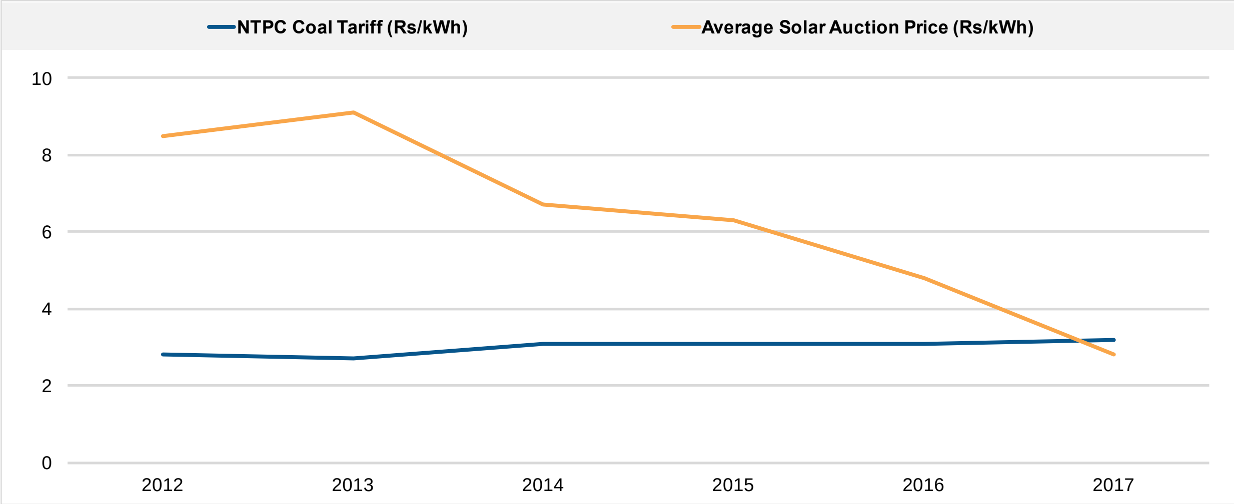
4. Stranded Asset Risk

IEEFA undertakes analysis of the dramatic transformation of the Chinese and Indian energy markets. It looks at the consequence for Australia in terms of stranded asset risks in both thermal coal mines and coal infrastructure, but also more importantly in terms of much higher investment costs on very long life, dedicated greenfield rail and port infrastructure assets.

The transformation of India's energy market has significantly accelerated in 2017 with three major events. Firstly, the then Indian Energy Minister Piyush Goyal announced a transformation target for 100% electric vehicle adoption by 2030, aimed at dramatically curtailing India's twin problems of escalating air pollution and current account deficit pressures. Secondly, in May 2017 India announced the successful completion of two renewable energy tenders, both delivering an unprecedented decline in electricity costs. For solar, the tender for 750MW of solar to be built at the Bhadla Solar Park in Rajasthan saw tariffs drop 30% year-on-year to an Indian record low of just Rs2.44/kWh (US$38/MWh).[18] Thirdly, May 2017 saw the completion of a 1GW wind reverse auction tender for wind infrastructure developments at a record low price of Rs3.46/kWh (US$51/MWh), down 20-30% on the previous norm of wind tariffs in India.[19]

This unprecedented renewable energy deflation has meant that new solar costs are below that of existing domestic coal fired power generation (Figure 4.1), and way below the breakeven for new imported coal fired power plants. This provides a clear economic validation of Coal Minister Piyush Goyal's target for India to largely cease thermal coal imports this decade, a serious headwind to the global seaborne thermal coal market and hence AAPCT.

Figure 4.1: Indian Solar Tariffs Vs NTPC's Coal-fired Power Tariff 2012-2017 (rs/kWh)



Source: NTPC, Bloomberg New Energy Finance, Livemint, Bloomberg Gadfly, IEEFA estimates

[18] https://www.pv-tech.org/news/seci-tenders-another-750mw-at-record-luring-bhadla-solar-park?cn=ZmF2b3JpdGU%3D
[19] http://energy.economictimes.indiatimes.com/news/renewable/wind-power-bidding-at-rs-3-46-per-unit-for-1000-mw-devansh-jain-director-inox-wind/57378004

Conclusions

Adani's Abbot Point faces a refinancing of A$1.48bn by November 2018 and a cumulative debt refinancing of $2.1bn by November 2020. A loan from the State Bank of India needs to be paid off in seven quarterly installments of around $A85, with the first payment due in September 2017. Given the financial debacle that is ongoing at the Wiggens Island Coal Export Terminal (WICET) to the south, a refinancing of Abbot Point will likely be a difficult process aimed at wary investors.

The situation is made more difficult by the fact that Abbot Point is operating at just over 50% capacity. Currently, 81% of the capacity of the port is covered by take-or-pay contracts, but this will soon change as the various contracts approach expiry date. As a result, Abbot Point is reliant on the Carmichael project ,which, with an expected production of 25Mtpa, would fill the unused capacity of the port going forward. Without Carmichael, the value of Abbot Point would be significantly impaired.

This reliance on Carmichael may be problematic for potential investors considering taking part in refinancing Abbot Point, as investors will be exposed to the significant risks faced by the Carmichael proposal. Adani has yet to secure finance for the mine and rail projects, and furthermore has not yet obtained approval from the Traditional Owners of the mine site. Ongoing investigations by India's Directorate of Revenue Intelligence into fraud allegations further increases the difficulty of securing finance.

The financial position of the Carmichael proponent will also be a concern to potential Abbot Point investors. Adani Mining Pty Ltd has shareholders' funds of negative $230m and net debt of $1.48bn, making it a high risk user of 50% of the port's capacity. Further, Abbot Point is directly financially linked to the Carmichael project through intercompany loans.

The main off-taker of coal from the Carmichael project would be Adani Power's Mundra coal-fired power plant, yet Adani has admitted that the plant is unviable based on imported coal and is seeking to sell it for a single rupee. With the thermal coal market in structural decline it is hard to see how Adani can replace Mundra's off-take if Mundra no longer requires Carmichael coal. The Indian government has repeatedly stated that it intends to end thermal coal imports. China's policy on coal imports is hard to predict; one of it's largest coal import hubs suddenly ceased coal imports in September 2017. South Korea will reportedly no longer approve new coal-fired power stations or life extensions of existing ones.

This structural decline makes it a bad time for Abbot Point to become increasingly reliant on thermal coal, while other Queensland coal ports depend on coking coal for most of their capacity.

Assessing the numerous risks faced by Abbot Point is made more difficult by the opaque nature of its corporate structure, a factor that is likely to prompt further questions from potential investors considering taking part in the refinancing. However, any potential investor that works through this obscure structure and completes detailed due diligence will identify a list of financial risks along the lines of those highlighted above. It would seem likely that these risks are more than enough to make investors think twice about being involved in financing Abbot Point.

Annexure I

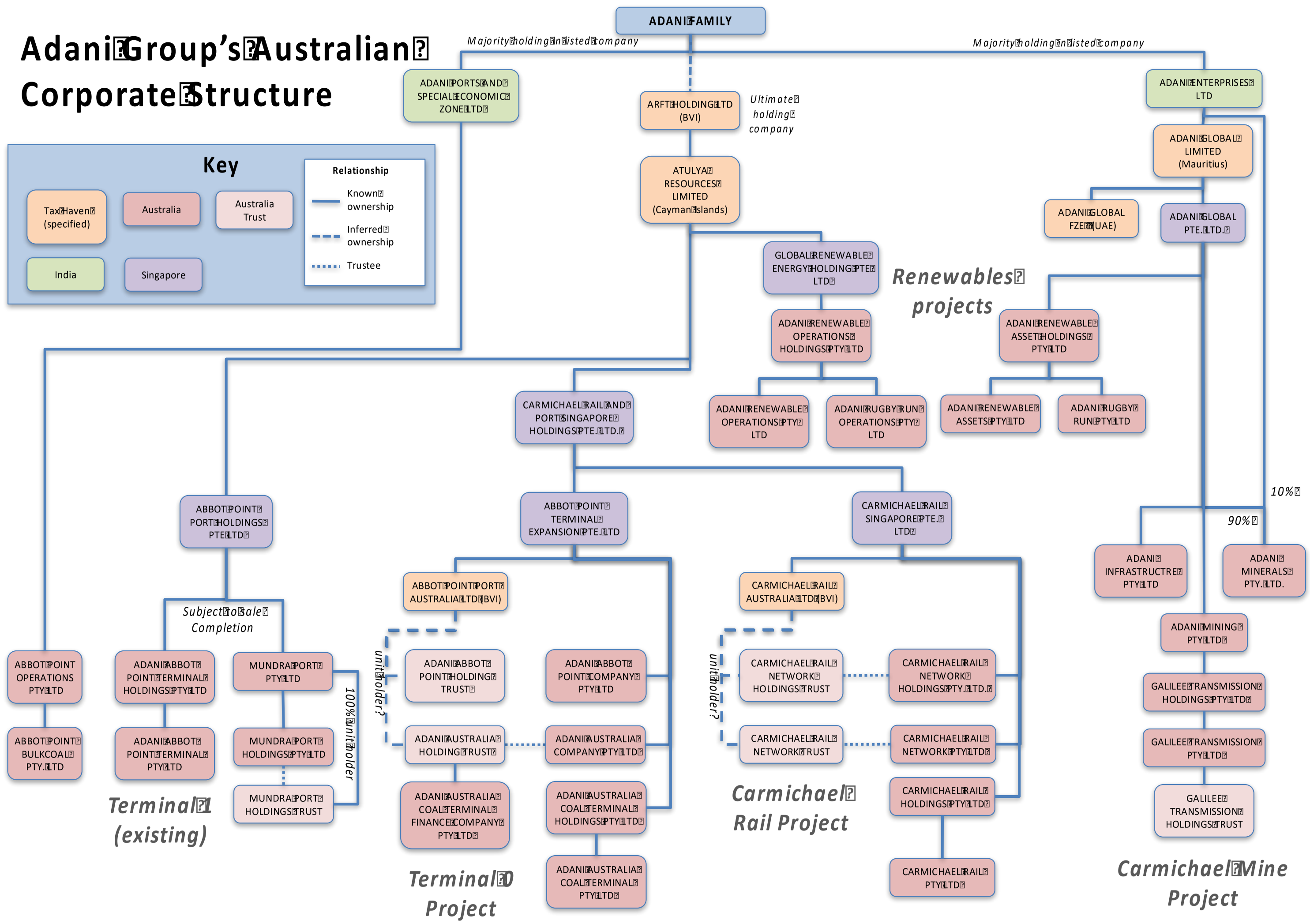
Adani Australia Corporate Structure

The Adani corporate structure as it pertains to its Australian businesses – existing and proposed, is complex. It involves multiple offshore companies and trust entities across a number of jurisdictions, including parent entities in tax havens including the Cayman Islands, the British Virgin Islands and Singapore. IEEFA notes that risk assessment and analysis of Abbot Point and the Carmichael proposals is not helped by the opaque nature of the structure.

For a group aiming to benefit from a number of Australian government subsidies, including a Queensland government royalty holiday and an unusually long-duration Northern Australia Infrastructure Facility (NAIF) loan at heavily concessional interest rates, the use of multiple tax haven based controlling entities is problematic. The Australian government claims an intent to crack down on multinational corporate tax minimisation effected through complex offshore corporate structures and financial engineering. IEEFA would question the obvious contradiction in government aims should it provide a $1bn loan subsidy to an undercapitalised subsidiary of a group controlled out of a tax haven. The Australian government's ability to adequately undertake financial due diligence is clearly far from optimal.

With a couple of multi-billion-dollar fraud and tax evasion allegations under ongoing investigation by the Indian Government's Directorate of Revenue Intelligence (DRI) (refer Annexure III), Australian taxpayers are exposed via government subsidies and loans to entities controlled by the very same parties under investigation, with these entities beyond ASIC's jurisdiction and oversight. The credit risks that result are clearly elevated by this complex structure.

Adani Group's Australian Corporate Structure



Note: *ASIC record Terminal 1 companies as all ultimately owned by Adani Ports And Special Economic Zone Ltd (APSEZ). APSEZ, however, "reports that it recorded the divestment of its entire equity holding in Adani Abbot Point Terminal Holdings Pty Limited (""AAPTHPL"") and entire Redeemable Preference Shares holding in Mundra Port Pty Ltd ("MPPL") representing Australia Abbot Point Port operations to Abbot Point Port Holdings Pte Ltd, Singapore during the year ended March 31, 2013". This divestment has never been recorded as completed.*

31/08/2017

Annexure II

In Walking Away from Carmichael, Adani Could Face Multiple Billion-Dollar Writedowns

The Adani Group is by and large a very successful and wealthy Indian powerhouse. However, the whole notionally vertically integrated "Pit-to-Plug" strategy is fraying at both ends.[20] The Adani Group faces massive headwinds in three related areas:

1. The Carmichael coal and rail proposal remains commercially challenged and its bankability is highly questionable, particularly if it is unable to secure its $1bn Northern Australia Infrastructure Facility (NAIF) subsidy. Adani Enterprises Limited (AEL)'s investment in Adani Mining Pty Ltd exceeds A$1.4bn. Should Adani's proposal prove unviable, IEEFA would suggest buyers would be scarce. Recovery of any material value on the A$1.4bn sunk cost to-date is unlikely.

2. Adani Abbot Point Coal Terminal (AAPCT, or Terminal 1) has estimated net debts of A$2.04bn and without the Carmichael coal proposal proceeding, its financial profile looks extremely challenged as take-or-pay contracts continue to wind down. With non-AEL contracted volumes suggesting a medium-term utilisation rate of below 60% the book valuation of assets in-excess of A$2.3bn looks increasingly hard to justify.

3. Adani Power Ltd (APL) has offered the equity in its 4.6GW US$5bn import coal fired power plant at Mundra for sale at a token 1 rupee (Tata Power has likewise offered its 4.0GW Mundra plant for sale at 1 rupee).[21] If completed at this price, it would seem likely that APL would face a US$1.0-1.5bn write-down and leave the APL Group in financial distress with materially negative shareholders' equity.

IEEFA would suggest the use of excessive financial leverage in all three entities compounds the collective problem. Adani Mining Pty Ltd has shareholders' funds of negative $230m against net debts of A$1.48bn (refer Figure II.1). Abbot Point has A$2.05bn net debt, approaching 100% of the original purchase price and subsequent capex on T1 undertaken during the 2011-2013 peak of the mining boom. Adani Power Ltd has net debts of US$7.6bn, 16 times the residual book value of equity of US$464m (calculated before any Mundra power plant write-downs) – refer Figure II.3.

In IEEFA's view, any decision to walk away from Carmichael would require a A$1.4bn write-off for AEL, a very unpalatable outcome for Adani Group bankers who are currently owed a collective US$15bn, particularly if the Abbot Point Coal Terminal were to be impaired as a result and APL were forced to also concurrently take a US$1-2bn write-down on its Mundra power plant, coming on the back of the large net loss just reported.

[20] http://ieefa.org/ieefa-australia-adanis-pit-plug-strategy-fraying-ends/

[21] http://www.thehindubusinessline.com/news/national/consumer-interest-paramount-gujarat-official-on-beleaguered-power-plants/article9822841.ece

Figure II.1: Adani Mining Pty Ltd's March 2017 Balance Sheet Shows Financial Distress

As at 31 March	2015	2016	2017
Long term Debt	0.0	0.0	0.0
Short Term Debt	1,345.4	1,423.5	1,478.6
Less Cash	-1.0	-2.7	-0.2
Net Debt (A$m)	**1,344.4**	**1,420.8**	**1,478.4**
US$ to A$	0.76	0.76	0.76
Net Debt (US$m)	1,021.7	1,079.8	1,123.6
Net tangible assets *	-1,257.2	-1,196.0	-1,214.5
Intercompany Loan to Carmichael Rail Network Trust	126.0	143.2	184.9
Shareholders Funds (A$m)	-239.0	-227.0	-230.2
Revenue A$m	15.3	1.1	1.1
Net Profit (Loss) A$m	-185.4	3.4	-3.2

* Net tangible assets are defined as net equity less exploration costs capitalised.

Source: Adani Mining Pty Ltd's 2016/17 annual report, IEEFA calculations

Adani Power: Mundra Imported Coal Plant Unviable

Adani has long argued that the Carmichael coal proposal in the Galilee is a key part of their "integrated pit-to-plug strategy"[22]. The logic they attest is that the traded seaborne thermal coal price is irrelevant to the commercial viability of Carmichael because the coal will be used within the Adani family group of companies, so the venture needs to be viewed in the context of the overall profitability of the pit-to-plug strategy backed by the group as a whole.

With the forward price of thermal coal back down at US$74/t[23], IEEFA estimates Carmichael is both unviable[24] and (absent the NAIF loan) unbankable, so this integrated strategy becomes even more important. However, Adani Power Ltd (APL) has reported that its core asset at Mundra is no long viable[25].

APL's 2016/17 net loss was US$954m, reflecting the implications of the Supreme Court ruling that the Mundra power plant's contracts to supply electricity were valid and did not leave any requirement for the Distribution, notwithstanding the entirely predictable rising cost of imported coal. APL's result briefing included the statement that APL would undertake negotiations with the government over allocation linkages that "will allow us (APL Mundra) to access domestic coal".

Also telling is that APL's average electricity tariff realisation in 2016/17 was Rs3.85/kWh, well above the cost of new solar which is down 30% year-on-year (yoy) to the recent record low of Rs2.44/kWh. Huge financial leverage adds to significant downward electricity tariff pressures.

Indian press has reported that a corporate restructuring is the prelude to the potential sale of a 51% stake in Adani Power (Mundra) Ltd to the Gujarat government[26]. It is hard to see a scenario where the Gujarat government would not then seek a domestic coal supply deal with Coal India Ltd to lower fuel costs and restore profitability. Adani Power (Mundra) has US$3.5bn debt attached to it. Costing almost US$5bn to build, APL reports the plant is just covering its financing costs, and as such IEEFA estimates a US$1.0-1.5bn write-down is pending, but this would be problematic as it would more than wipe out APL's US$464m book value of equity.[27]

India's Coal Minister Piyush Goyal has repeatedly re-iterated his target for India to cease thermal coal imports this decade. State-owned power generator NTPC Ltd reduced its coal imports from 16Mtpa in FY2015 to just 1Mtpa in FY2017. Goyal targets for Public Sector Undertakings or PSUs to cut imports to zero in FY2018[28]. And following the peak of coal imports

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[22] http://www.livemint.com/Companies/0v3GPxrwuJA6gebfOMy7iN/We-aspire-to-be-world-leaders-with-our-integrated-pittoplu.html
[23] https://www.barchart.com/futures/quotes/LQ*0/all-futures
[24] http://ieefa.org/ieefa-update-increasingly-cursed-australian-coal-project/
[25] http://energy.economictimes.indiatimes.com/news/power/gujarat-writes-to-centre-over-electricity-crisis-as-adani-says-mundra-project-becoming-unviable/58603194
[26] http://economictimes.indiatimes.com/industry/energy/power/adani-power-urges-gujarat-government-to-bail-out-mundra-power-plant/articleshow/59008598.cms
[27] https://www.bloombergquint.com/business/2017/09/04/adani-loses-entire-investment-in-mundra-indias-biggest-thermal-power-plant
[28] http://www.livemint.com/Industry/vwT7Kru9jsF0dUEDtLKOrL/Govt-plans-to-cut-coal-imports-for-power-PSUs-to-zero-in-FY1.html

at 212Mt in FY2015, a steady decline has continued. India's thermal coal imports for the first seven months of 2017 fell 13% year-on-year.[29]

The Indian government's clear policy drive to diversify the electricity grid into less emissions-intensive generation combines with the rapid renewable energy deflation to materially undermine the viability of coal-fired power generation. Reports highlight $15bn of coal power plants for sale with no buyers[30]. Thermal power sector financial distress in the Indian banking sector is a major obstacle to sustainable growth in India.

This pressure was clearly evident in the 95% year-on-year decline in State Bank of India (SBI)'s 2016/17 consolidated results due to a trebling of bad debt provisions. This further undermines the Adani group's ability to get SBI to stump up its 2013 announcement of a $1bn Adani Australia loan commitment.

Adani has continued to push out the timetable for its Carmichael mine, repeatedly giving various excuses to delay a decision. First coal was due 2014/15, but is now due at the earliest by 2020/21, if ever. It was only last December 2016 that Adani said a "Financial Investment Decision" (FID) was due March 2017.[31] Two months overdue on its latest timetable, in May 2017 Adani then announced it would delay its FID because the Queensland Government was refusing to grant a five-year royalty holiday, a taxpayer subsidy estimated at $370m.

In June 2017 AEL announced it had "green lighted" its FID, but in India AEL reported this decision just related to "*certain internal budget approvals for pre-construction activities relating to Carmichael ...*".[32]

AEL then said that with a funding shortfall, progress was now dependent on the $1bn NAIF subsidy and the timeline for the Financial Close had been pushed out to March 2018,[33] citing delays on the NAIF decision till the end of 2017, possibly arising due to the reputational risk issues that have emerged.[34] As recently as May 2017 Adani had talked about financing being in place by June 2017.

IEEFA suggests Financial Close will be very difficult to secure given the financial leverage-on-leverage nature of the Adani Family group, with margin loans on the promoter's shareholdings in each of the four listed entities, which in turn all have significant financial leverage. Additionally, the off-balance sheet Adani Abbot Point Coal Terminal has extensive borrowings. Financial Close is also likely to prove elusive while coal import invoice fraud allegations[35] by the Indian Government's Directorate of Revenue Intelligence remain outstanding. Billion dollar write-downs concurrently at both AEL and APL would also be problematic for Adani bankers.

[29] https://www.theguardian.com/environment/2017/aug/25/coal-in-decline-adani-in-question-and-australia-out-of-step
[30] https://qz.com/1000602/15-billion-worth-of-coal-power-plants-are-on-sale-in-india-but-nobody-wants-to-buy-them/
[31] http://www.livemint.com/Companies/0v3GPxrwuJA6gebfOMy7iN/We-aspire-to-be-world-leaders-with-our-integrated-pittoplu.html
[32] Adani Enterprises disclosure to BSE Stock Exchange, 24th May 2017
[33] https://www.bloomberg.com/news/articles/2017-06-06/india-s-adani-approves-controversial-coal-project-in-australia
[34] http://reneweconomy.com.au/reputation-clause-may-scupper-government-loan-deal-for-adani-77287/
[35] https://thewire.in/144999/modi-cbi-adani-ambani-ndtv/

Figure II.2: Adani Power's June 2017 Financial Results Shows Financial Distress

US$ Million	1QFY2017	1QFY2018	YOY Chg
Revenues	837.2	873.0	4%
Price of electicity (US$/MWh)	59.97	63.86	6%
EBITDA	271.3	250.1	-8%
D&A	-92.4	-102.9	11%
EBIT	178.8	147.1	-18%
Net interest	-224.3	-217.3	-3%
Net profit	-36.0	-70.0	94%
EBIT / Net interest	0.80	0.68	

Source: Adani Power Ltd 2017/18 First Quarter Report, IEEFA calculations

Figure II.3: Adani Power's March 2017 Balance Sheet Shows Financial Distress

Share price	30.65	Rs
Issued shares	3,857	m
Market capitalisation	118,214	Rp million
Market capitalisation	1,827	US$m
Promotor Shares	2,626	m
Promotor shareholding	68.1%	
Promotor shareholding	1,788	US$m
Net Debt	7,597	US$m
Net debt to mkt cap of equity	4.2	times
Shareholders equity	464	US$m
Net debt to book equity	16.4	times
Five year high - Feb 2012	82	Rs
Shar price decline	-63%	
Shareholders equity	30,000.0	Rs M

Source: Adani Power Ltd 2016/17 annual report, IEEFA calculations

Annexure III

On-going Fraud Investigations

The Indian Directorate of Revenue Intelligence (DRI) is probing at least 40 companies including six firms of the Adani Group, two companies of the Anil Dhirubhai Ambani Group and two Essar Group firms for alleged overvaluation of coal imports from Indonesia totalling a collective Rs 29,000 crore (US$4.5bn) between 2011 and 2015. If correct, this involves royalty/tax evasion and fraud against the people of both India and Indonesia.

In March 2016, the DRI issued a general alert to its field formations across India, outlining the modus operandi of over-invoicing of coal imports from Indonesia. The DRI alleged that money was being "siphoned" outside the country and the electricity-generating firms were availing themselves of "higher tariff compensation based on artificially inflated cost of the imported coal". The DRI further alleged that in certain cases, the import value of Indonesian coal was artificially inflated by about 50 to 100% by changing test reports which measure the calorific value of coal.

In August 2017, it was reported that Adani is seeking to obstruct a demand to provide documents to the DRI[36] and the cases seem to be slowly moving through the court process to determine if and how a case is to be heard.[37]

In an unrelated case, IEEFA notes that in August 2017 the adjudicating authority in the DRI absolved two Adani group companies, Adani Power Maharashtra Limited (APML) and Adani Power Rajasthan Limited (APRL), of charges laid out in a show-cause notice (SCN) issued by the DRI in May 2017. The dismissed allegations related to claims of over-invoicing of power equipment by foreign entities at various times related to Vinod Shantilal Adani, elder brother of Gautam Adani.[38]

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[36] http://indianexpress.com/article/business/companies/adani-firm-moves-singapore-court-in-attempt-to-block-information-to-dri-4813988/

[37] http://indianexpress.com/article/business/over-valuation-of-indonesian-coal-power-equipment-allegations-delhi-hc-to-hear-prashant-bhusans-plea-today-4841391/

[38] https://thewire.in/171604/dri-adjucating-authority-adani-group/

Annexure IV

WICET: Multi-Billion Write-Down Debacle

The Wiggins Island Coal Export Terminal (WICET) was conceived and built at the peak of the mining boom, when coal prices were at historic highs and construction prices massively inflated. The result is a financial and operational debacle that is likely to see $1-2bn of write-offs on this coal port.[39] With the foresight to build a port with just $10,000 of ordinary equity and 100% debt financing, WICET has been a festering mess that has been a major factor in three bankruptcies across the Queensland coal mining industry and caused extensive write-downs for all the financiers involved. One of the major issues is the socialisation of port costs should any one of the eight coal mining company shareholders fail to honour their long term take-or-pay contracts. With many of the proposed coal mines intended to feed the port stranded, volume throughput at the port was been a fraction of capacity, so port charges are running at three times the industry norm, limited only by the A$17-18/tonne cap.

WICET is notionally owned by the five remaining solvent coal mining firms, namely Glencore, Wesfarmers, New Hope Group, Aquila Resources and Yancoal. With Take or Pay (ToP) liabilities extending for a decade, a 4Mtpa ToP involved liabilities of $240-720m, such that when the coal price declined over 2013-2016, Directors' where unable to raise capital to both cover this massive liability as well as the capital required to develop their coal mine proposals. As a result, first Bandanna Energy, then Cockatoo Coal and most recently Chinese owned GRAM's Caledon Coal when bankrupt. As a result, 11Mt of the 27Mt of capacity has been defaulted on, and the financial liabilities of WICET are reported to have escalated to A$4.3bn as cost overruns and interest costs were capitalised, plus unhedged currency loans rose in AUD terms as the currency depreciated.[40]

With most of Australia's leading financial institutions owning the $4.3bn of liabilities, preference share and subordinated debt write-downs are likely to approach 100%, while the senior debt is reported to be trading at just 70-80% of face value. This debacle is a salutary lesson that long life coal export infrastructure investments are even more leveraged than coal firms when structural change impacts an industry that is blind to the approaching storm, particularly when excessive financial leverage is involved. The lessons for Australian banks with respect to Adani's Carmichael coal and rail proposal, and Abbot Point, are clear.

In August 2017 Glencore put its Queensland 13Mtpa Rolleston thermal coal mine up for sale. This proposal is problematic given that 10Mtpa of Rolleston coal is understood to be exported through WICET, making Rollerston the single largest customer of the coal port.[41]

November 2014 saw a new ban on EFIC funding for domestic onshore resource projects.[42] This come about after a 2012 Productivity Commission (PC) review into the agency's activities, in part inspired by EFIC's provision of a $100m subsidy for WICET in the form of a loan guarantee. The PC found that "there is no convincing evidence of systemic failures that impede access to finance for large firms or for resource-related projects in Australia. EFIC

[39] http://ieefa.org/wicet/
[40] http://www.thecoalhub.com/custom/domain_3/extra_files/attach_366.pdf
[41] http://www.afr.com/business/glencore-rolls-the-dice-on-queensland-coal-20170828-gy5tq3#ixzz4r5nMHko5
[42] https://www.efic.gov.au/media/1541/efic_soe_february_2015.pdf

should not continue to provide facilities to large corporate clients or for resource related projects in Australia, including suppliers to those projects, on the commercial account."[43] A warning that the NAIF board seems intent on ignoring. Following a meeting with Gautam Adani, this warning and EFIC ban was overturned in August 2017 by Trade Minister Steven Ciobo, opening up EFIC to potential financing and / or insurance of the Carmichael Mine proposal.[44]

The issue of WICET continues to fester, with August 2017 seeing reports that the Canadian Development Bank taking a loss of more than 20% on their senior debt position, which was originally estimated to be A$164m.[45] September 2017 saw press reports that Glencore had put forward a proposal that bank / bondholders on the US$2.8bn senior debt facility take up to a 30% capital loss as part of a proposed restructuring.[46] IEEFA would question why the Canadian government would be subsidising Australian coal export infrastructure that in part competes with Canadian coal exports.[47]

Figure IV.1: WICET Debt Syndicate

Bank	A$m
ANZ	$417
Commonwealth Bank	$164
National Australia Bank	$164
Westpac	$164
China Development Bank	$164
Korea Development Bank	$164
Bank of China	$164
DBS Bank	$164
Bank of Scotland	$164
Santander Group	$164
ING Bank	$164
Industrial & Commercial Bank of China	$164
KfW IPEX Bank	$164
Bank of Tokyo-Mitsubishi	$164
Mizuho Financial Groupe	$164
BNP Paribas	$164
Export Development Canada	$164
Sumitomo Mitsui Banking Corp	$20
Total	**$3,061**

Source: Market Forces estimates

43 http://www.pc.gov.au/inquiries/completed/export-credit/report
44 https://www.efic.gov.au/media/4112/efic-august-2017-statement-of-expectations.pdf
45 https://www.marketforces.org.au/banks/map/#wiggins-coal
46 http://www.afr.com/street-talk/glencore-back-at-the-table-with-fresh-wicet-proposal-20170913-gygaxa
47 http://www.afr.com/street-talk/wicet-debt-slice-trades-deutsche-bank-on-board-20170811-gxucaf

WICET's issues are likely to come to a head in the lead up to the attempted refinancing of the US$2.85bn senior loan due in September 2018,[48] something of a challenge given negative shareholders' funds are reported to have ballooned to a $1.06bn deficit as of June 2016. This WICET refinancing will be problematic given it comes at the same time at the Adani Abbot Point Coal Terminal refinancing.

To complicate matters, Aurizon constructed the $831m Wiggins Island Rail Project (WIRP)[49] for coal miners to gain rail access to WICET, and Glencore has been in dispute over the rail take-or-pay obligations that resulted.[50]

IEEFA concludes that the coal industry is very good at getting taxpayers to fund special purpose infrastructure for the exploitation of public resources for private gain but public loss.

[48] http://www.afr.com/street-talk/wicet-thoughts-turn-to-glencore-and-socialised-tonnes-20170814-gxw898

[49] https://www.fullyloaded.com.au/logistics-news/1510/aurizon-jolt-as-miners-make-wiggins-island-rail-claim

[50] http://www.afr.com/business/infrastructure/rail/glencore-stymied-by-qca-in-battle-with-aurizon-over-wicet-rail-fees-20161011-gs0ag6#ixzz4MuOKDhtP

Annexure V

Axis Bank Singapore: Hit For $1bn on GVK

The GVK Reddy family acquired the Alpha, Alpha West and Kevin's Corner coal mine proposals in the Galilee in 2011 from Hancock Prospecting for US$1.26bn (the last press reports suggest the third and final payment tranche of US$560m remains outstanding since falling due in September 2014). The Reddy family raised a loan understood to be in excess of US$1bn from the Singapore branch of the Axis Bank of India,[51] secured in large part by much of the assets of the financially distressed Indian listed power, road and airport conglomerate GVK Power & Infrastructure Ltd ("GVK Power").

GVK Power has consistently reported net losses each year subsequent to this acquisition, and the company has been in a state of financial distress and undertaking a forced asset disposal program. Absent any capital, the Galilee coal proposal has not advanced post acquisition. Even should the Adani Carmichael rail proposal proceed, the Alpha coal proposal would still need to build a rail spur to the South of some 80-100km at a cost of well over A$500m to connect to Adani's proposed east-west link.

GVK Power's June 2017 quarterly result contains the statement: 'GVK's management believes that a US$2,119 million shortfall in current liabilities over current assets in the off-balance sheet GVK Coal (Singapore) Pte Ltd investment won't have any material adverse impact on the company, and hence no adjustment to receivables, investments, guarantees and commitments is required.' The current asset deficit has doubled in the last two years, and with no revenue for seven years now, the situation only gets worse with every month as the interest accruals stack up. GVK's Auditors take a less optimistic scenario; given the GVK Group is already in financial distress, being in default on both interest and capital repayments, their note repeating an Audit qualification about going concern is clearly superfluous.

IEEFA references this given press reports that the Indian-listed IDFC Bank's recent appointment to advise on a proposed A$500m debt refinancing of AAPCT. In the context of Axis Bank's billion dollar loss from GVK's failed Australian coal move, plus the debacle[52] of Lanco Infratech's now bankrupt A$740m thermal coal mine acquisition of Griffin Coal from 2011,[53] plus Jindal Power & Steel's underwriting of ASX listed Wollongong Coal's distressed A$692m net debt on negative shareholders' funds, IEEFA's discussion with domestic Indian banks suggested little appetite nor capacity to invest in a greenfield Australian $5bn thermal coal proposal. While State Bank of India (SBI) retains a legacy exposure to AAPCT, consistent with regular press reports, executives confirmed to IEEFA in July 2017 that SBI has no involvement in the Adani Carmichael coal and rail proposal.[54]

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[51] http://www.smh.com.au/business/mining-and-resources/hancock-extends-deadline-for-gvk-on-galilee-basin-purchase-20140915-10h6mt.html

[52] http://reneweconomy.com.au/imminent-failure-lanco-infratechs-investment-griffin-coal-20014/

[53] http://www.watoday.com.au/wa-news/parent-company-of-collie-miner-griffin-coal-put-into-administration-20170505-gvz31b.html

[54] http://www.dnaindia.com/money/report-state-bank-of-india-denies-funding-adani-s-australian-coal-project-2153562

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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.

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Important Information