

Review of Adani's SLB: Weak targets likely to be met, but significant coal exposure remains a concern

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Adani Group, an Indian conglomerate founded by Gautam Adani, is involved in several high-emitting and environmentally sensitive sectors, with more than 60% of revenue derived from coal-related businesses.[1]

A report in Jan 2023 from Hindenburg raised concerns on the Group's governance and financial management,[2] resulting in asset price crashes. Given recent positive regulatory newsflow and significant reported debt-raising plans for 2024,[3] it would be unsurprising to see the Adani Group engaging with international fixed income investors in the coming months. **This represents an opportunity for engagement for investors.**

Against this backdrop, this report provides an update on Adani's Sustainability-Linked Bond (SLB), issued by Adani Electricity Mumbai Limited (AEML), its Mumbai-based integrated utility. In doing so, we consider both performance against the bond's KPIs, but also the issuer and Group's broader green credentials.

We also highlight key questions that may be relevant for investors potentially considering providing funding to Adani during 2024.

The main takeaways are:

- Adani's SLB has weak KPIs; one references emission intensity standardised with EBITDA, the other procurement of renewable power. Both pose the risk of being influenced by poor governance in a complex corporate structure. Perhaps unsurprisingly both are on track to meet their targets, which gives limited option value to investors.
- The use of an SLB presents the chance to make high-level sustainability improvements. In this situation, given any emissions-reducing activities are limited to a single subsidiary, the SLB's function is more akin to a Use-of-Proceeds bond.
- While Adani is progressing with renewable development at certain Group entities, these need to be viewed alongside the broader Group's position as the world's largest privately owned coal developer. Given the close interconnectedness across the Group, funding one entity effectively provides funding support to other coal-developing efforts.

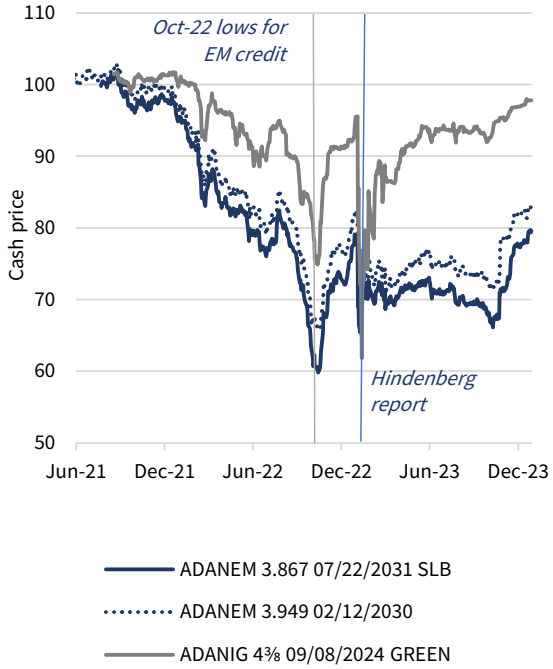
[1] "How political will often favours a coal billionaire and his dirty fossil fuel", Washington Post, 9 Dec 2022.
[2] "Adani Group", Hindenburg Research, 24 Jan 2023.
[3] "Adani's Green Unit Plans to Raise $2 Billion in Debt Next Year", Bloomberg, 22 Dec 2023.

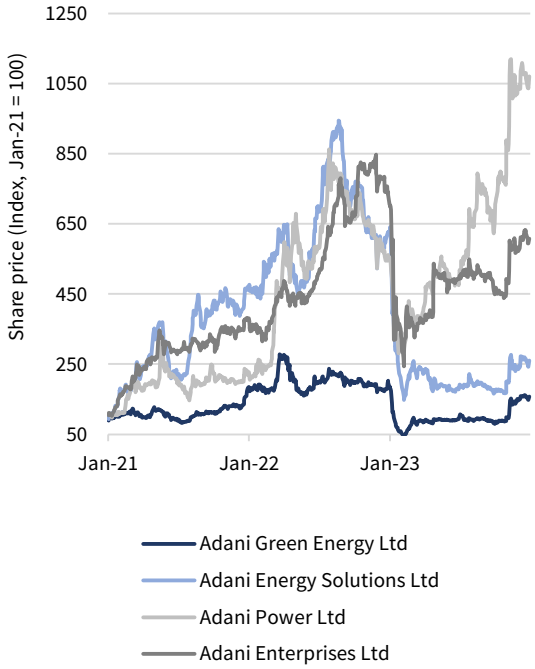
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Adani's rollercoaster year

2023 was an eventful year for the Adani Group. The release in January of a report from short-seller Hindenberg Research detailing alleged fraud, precipitated a collapse in market confidence and saw Adani's bonds drop 30+ points. Following the report, India's Supreme Court appointed the Securities and Exchange Board of India (SEBI) to investigate whether the Group had failed to disclose any illegal transactions between related parties.[4]

Figures 1 and 2. Adani's January-23 collapse and subsequent recovery (LHS: cash price of select bonds; RHS select Group share prices). Source: Bloomberg.





Initially planned for two months, the investigation extended through 2023. Debt market access for Adani was significantly curtailed, although it did not completely evaporate.[5] Adani Cement was able to refinance $3.5bn in acquisition funding in October,[6] and Bloomberg data indicates a number of smaller bond and loan deals occurred, raising an aggregate $920mm.[7]

Recent signs have been positive for Adani, with the Supreme Court announcing on 3 Jan 2024 that no additional regulatory investigation is required.[8] This follows November's news that SEBI's review had been completed across 22 of the 24 relevant transactions.[9] This has seen confidence in the Group recover; equity values are up significantly and many bonds are now trading near or above pre-Hindenberg prices (Figures 1 and 2). Adani Green, the Group's renewable energy arm, undertook an 'Equity Non-deal Road Show' in the UK and Europe in January,[10] and is reportedly in

[4] Refer AFII Q12023 research including: "Adani Group: Bonds underperforming equities", 25 Jan 2023; "Adani Group: Investment Grade to High Yield risks", 30 Jan 2023; "Adani Enterprises and passive ESG index investors", 10 Feb 2023; "Adani Green/Ports and Carmichael funding exposures", 14 Feb 2023.
[5] "EQT Infrastructure investors and off-shore capital raising for Adani Group", AFII, 5 Apr 2023.
[6] "Adani Cement Refinances USD 3.5 Billion From 10 International Banks", Adani, 20 Oct 2023.
[7] Cumulative total from March through November, across 32 Group entities. Source: Bloomberg.
[8] "India's Adani wins court relief on scrutiny after Hindenburg attack", Reuters, 3 Jan 2024.
[9] "SEBI Does Not Require Extension On Adani Probe: Centre To SC", Outlook India, 25 Nov 2023.
[10] "Intimation of interaction with Investors / Analysts", Adani, 10 Jan 2024.

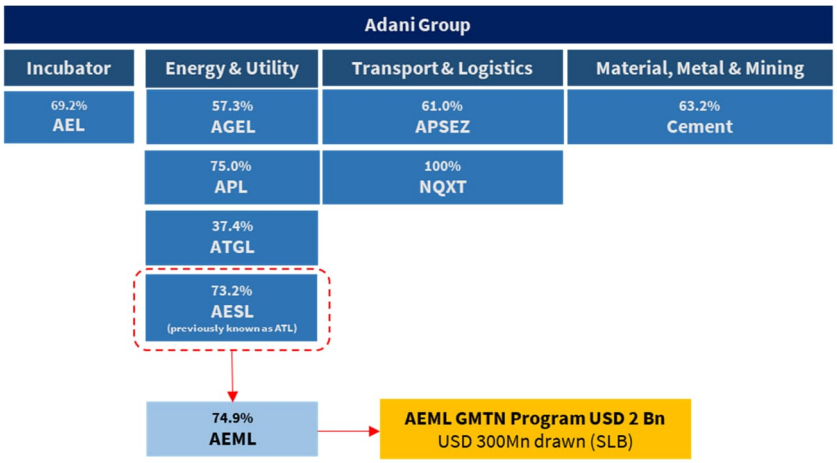
discussions with foreign banks about raising a $500mn bond.[11] Earlier reports indicate Adani Green was planning to raise $2bn in debt this year.[12] S&P's recent change in credit outlook back to stable from negative across several Group ratings including the BBB- rating of AEML may also encourage any such issuance, albeit S&P reportedly continues to highlight governance and related-party transaction concerns.[13]

As our earlier research highlights, the Adani Group is complex.[14] This report does not attempt to comprehensively assess the climate strategy across the plethora of Group-issuing entities. AFII hopes to return to that topic at a future date.

Overview of Adani Electricity Mumbai Limited

AEML is Mumbia's largest electricity distribution company and is 74.9% owned by Adani Energy Solutions Ltd (AESL; listed in India with $14.1bn of market capitalisation), and 25.1% by QIA (Qatar Investment Authority). It is an integrated utility that has operations in power generation,[15] transmission and retail electricity distribution. Adani purchased AEML from Reliance Infrastructure in 2018.

Figure 3. Adani Group structure: simplified version including AEML. Source: Adani, AFII.



AEL: Adani Enterprises Limited | **AGEL** : Adani Green Energy Limited | **APL**: Adani Power Limited | **ATGL**: Adani Total Gas Limited, JV with TotalEnergies | **AESL** : Adani Energy Solutions Limited previously known as ATL: Adani Transmission Limited | **APSEZ**: Adani Ports and Special Economic Zone Limited | **NQXT**: North Queensland Export Terminal | **Cement** business includes 63.15% stake in Ambuja Cements Limited which in turn owns 50.05% in ACC Limited.

This chart is simplified for the purpose of this report. It excludes AEL equity stakes in its subsidiaries and AESL's other business operations

AEML serves over 12 million consumers in Mumbai meeting close to 2,000MW of power demand with high reported reliability. Its revenue of $1.1bn (FY 2023) comprised 67% of AESL's, and 2.9% of revenue for the broader Adani Group.[16]

A refresher on Adani's Sustainability-Linked Bond

[11] "Adani Starts Talks for First Dollar Bond Since Hindenburg", Bloomberg, 6 Feb 2024.
[12] "Adani's Green Unit Plans to Raise $2 Billion in Debt Next Year", Bloomberg, 22 Dec 2023.
[13] "S&P Global Ratings upgrades Adani Ports, Adani Electricity on cash flow optimism", India Times, 22 Jan 2024.
[14] To see our earlier work on Adani across the past five years please see: "Adani research", AFII.
[15] 500MW thermal power plant at Dahanu – Adani Dahanu Thermal (coal) Power Station [ADTPS]
[16] The Adani 'Group' is not a legal or reporting entity, but is regularly cited in company communications.

In July 2021, AEML (ticker ADANEM) established a $2bn Global Medium-Term Note (GMTN) program from which the 10-year $300mn 3.867% SLB was issued (ISIN XS2367109803). Demand was strong with the book reportedly 9.2x covered, the 'largest order-book oversubscription ever for a 10-year ESG bond issuance in Asia (ex-Japan)'.[17] Orders were split roughly half in Asia, and a quarter in each of the US and Europe. MUFG acted as the sole SLB structuring adviser.[17] AEML's press release at the time describes the deal as embedding challenging, legally covenanted and COP-26 aligned targets for the company, thus 'showcasing our commitment towards net zero emissions'.[17] It was the first SLB among Indian utilities and followed AEML's maiden ten-year 3.949% $1bn bullet (ISIN XS2109438205) issued in 2020. Interestingly, in AESL's 2023 CDP report the company cites the SLB as a "climate-related opportunity with the potential to have a substantive financial or strategic [business] impact", and argues that issuing the bond saved 15% of face value in interest (USD45mn).[18] We find that figure remarkable, and view this as one of many examples of Adani using the SLB in its communications to inflate the Group's green credentials.

AFII wrote extensively about Adani's operations, governance, and coal development prior to the SLB's issuance.[19] While we were open to the concept of an appropriately-structured and ambitious SLB for the company, we had significant concerns with the process and outcome, given disclosure shortcomings and fungibility in funding operations across the various Adani Group entities. In particular, Adani failed to disclose its sponsorship[20] of the Carmichael coal mine in Australia - "the world's most insane energy project".[21]

AEML's SLB incorporates two sustainability performance targets (SPTs); first, the renewable mix in electricity procured; and second, emission intensity. Failure to achieve the targets triggers the step-up of 15bp per KPI for the remaining term after test dates of three and one year, respectively.

KPI I – Renewable procurement

The renewable procurement KPI is defined as:

'Procurement of electricity from the eligible renewable energy sources / total electricity procured (including through embedded captive generation as per power purchase arrangement)'

Table 1 shows AEML reported renewables data. The increase in AEML's renewable share from 3% to 30% from FY 2019 to FY 2023 was primarily driven by the signing of a 700MW wind-solar hybrid Power Purchase Agreement (PPA), with Adani Green Energy Limited (AGEL).[22,23]

Table 1. KPI I - 'percentage renewables in power purchase mix'. Source: AEML, AFII.

Particular	Financial year (ends 31 March)	Renewable mix - target	Renewable mix - achieved
Baseline	2019	3%	
Intermediate target	2023	30%	30.04% *38% at Sep-23*
Intermediate target	2025	50%	
SPT-1	2027	60%	
Longer-term target (set post-SLB issue)	2030	70%	

[17] "Adani Electricity Mumbai is First in India's Energy Sector to Issue Sustainability Linked Bonds", Adani Transmission, 23 Jul 2021.
[18] "Adani Transmission Ltd CDP Climate Change Questionnaire 2023", ATL (*renamed AESL*), 27 July 2023.
[19] For example: "Global investors and the Carmichael mega-mine", 1 Sep 2020. For a complete list of AFII's research on Adani see "Adani research", AFII.
[20] "Bookrunners failed to disclose controversial mine, campaigner claims", GlobalCapital, 21 Oct 2021.
[21] "The World's Most Insane Energy Project Moves Ahead", Rolling Stone Magazine, 14 Jun 2019.
[22] "Earning Presentation Q323", Adani Green Energy Limited, accessed 20 Jan 2024.
[23] "Investor Presentation", Adani Energy Solutions Limited , Jan 2024, slide 48.

This PPA appears to underpin a larger 1110MW project owned by Adani Green in Rajasthan that has recently become operational.[24]

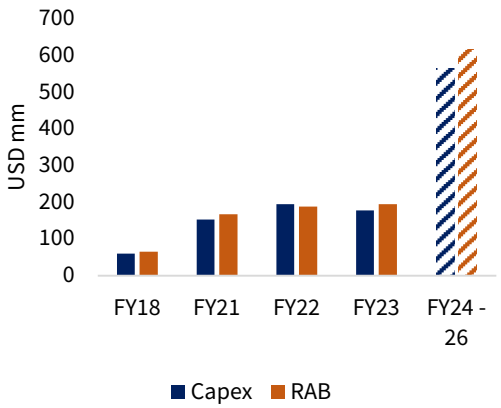
According to India Ratings and Research,[25] AEML's average power purchases in H1 FY 2023 include approximately 40% from short-term PPAs, around 20% from renewable sources, 7% from medium-term PPAs, and the remainder from its own coal-based imbedded power generation at Adani Dahanu Thermal Power Station (ADTPS; 500MW capacity). The company procures 20%-25% of its power from ADTPS, which has been operating for 25 years.

Going forward, AEML is reported to be planning to add 700MW of solar and wind to its energy mix in the next three to four years.[26] The details of this plan are unclear, but we interpret this as being in addition to the existing 700MW PPA with Adani Green. AEML also has an existing 30MW in rooftop installations.[27]

We support the ambition for an Indian integrated utility to achieve a renewable share of 60% by 2027. However, we also note that this SLB target can be achieved by merely switching procurement to a renewable provider – it is not the same as captive development of new renewable capacity. Further, the development by the broader Adani Group of new coal capacity provides important context. As we outline further below (see page 9), while AEML's procured renewable share is growing quickly, other Group entities are developing coal at pace.

A brief analysis of AEML's capex plans is also useful to assess alignment with the SLB's renewable target. As shown in Figure 4, AEML's regulated capex has pushed higher since its acquisition by Adani in 2018,[28,29] albeit it accounts for only a quarter of capex at AESL.[30] The intention of this regulated capex is 'asset hardening' – improving network reliability and growing the regulated asset base (RAB) in support of earnings.[31] In August 2023, AEML launched a $1bn capex program, planning to add two 2000MW transmission lines in Mumbai and Thane. The program, spanning three to four years, includes smart meters, rooftop solar panels, and electric vehicle charging stations. Press reports[32] have also linked this capex program to the 700MW in solar and wind development described above; however, our interpretation is that this development is

Figure 4. AEML's historic and projected capex and RAB (regulated asset base). Source: AEML, AFII.



[24] "Investor presentation", Adani Green Energy Limited, Jan 2024, slide 38.
[25] "India Ratings Rates Adani Electricity Mumbai's NCDs and Affirms Existing Debt at 'IND AA+'/Stable", India Ratings and Research, 31 Jan 2023.
[26] "Adani energy arm pursuing over $1 billion capital expenditure programme", Business Standard, 28 Aug 2023.
[27] "Adani Energy arm implementing over $1-billion capacity expansion", The Hindu Business Line, 28 Aug 2023.
[28] "AEML Plans Rs.16,000 Crore Capex From FY20 To FY30", T&D India. October 2020.
[29] "Investor presentation", Adani Electricity Mumbai Limited, October 2020.
[30] "Investor Presentation", Adani Energy Solutions Limited, Jan 2024.
[31] "Equity Presentation", Adani Energy Solutions Limited, Nov 2023.
[32] "Adani Energy arm implementing over $1-billion capacity expansion", The Hindu Business Line, 28 Aug 2023.

occurring at Adani Green Energy, with AEML as the off-taker. In summary, in assessing the wide variety of detailed disclosure across AEML and AESL,[33] we have been unable to decipher a complete picture of the green credentials of AEML's capex. Our strong impression is that AEML's capex plans are focussed on transmission and distribution development, rather than large-scale captive renewable generation. Thus, this analysis indicates that the proceeds from the SLB have, at best, a very indirect relationship with the Group's renewable generation development.

KPI II – Earnings intensity of emissions

AEML's SLB defines emission intensity as: *'tCO2e (scope 1+scope 2)/ EBITDA (in INR in Crore).*[34]

Table 2 outlines relevant targets and covers the most recent performance for this KPI. Note that further detail across the numerator and denominator is shown in Table 3.

Table 2. KPI II: 'Reduction in GHG Emission Intensity'. Source: AEML, AFII.

Measure	Financial year (ends 31 March)	GHG Emission Intensity Reduction - target	GHG Emission Intensity - achieved
Baseline	2019	3%	
Current	2023		-38% (12% cut in GHG and 43% rise in EBITDA)
Intermediate target	2025	40%	
Intermediate target	2027	50%	
SPT-2	2029	60%	

As many readers will be aware, EBITDA is a very unusual metric to use for the standardisation of emissions. It is not one of the commonly used metrics highlighted for emission intensity by the Partnership for Carbon Accounting Financials (PCAF) or the Task Force on Climate-Related Financial Disclosures (TCFD).[35] Revenue is more common and is used by Adani in other Group targets, and we generally regard physical intensity as the most appropriate (emissions per unit output, e.g., tCO2 e/MWh, tCO2 e/tonne product produced). We are unaware of any other SLBs using EBITDA in calculating emission intensity.

As noted in the SPO (Second Party Opinion), ICMA's suggested KPI for power sector emissions at the time of Adani's SLB issue was scope 1+2 'carbon intensity per MWh or absolute'. V.E, a sustainability consultancy owned by Moody's, published the SPO. It observed the misalignment in deploying EBITDA for intensity, but also defended it in citing the regulated tariffs faced by AEML.[36] We note that most recent illustrative KPIs from ICMA[37] (as of June 2023) no longer refer to emission intensity in the electricity sector, and only to absolute emission reductions. The SPO also notes that no other international 'standards or scenarios' standardise emissions with EBITDA, which meant that benchmarking the analysis versus Adani's peers was 'deactivated'.[38] Remarkably, V.E still considers that the target was 'coherent and in line with other industry players'. Thus, there were caveats offered in the SPO regarding the use of EBITDA for standardising emissions, however these were only minor. We believe this reflects poorly on the robustness of the SPO.

[33] See "Investor-Downloads", Adani Energy Solutions, accessed 31 Jan 2024.
[34] Crore = ten million.
[35] "Global GHG Standard", PCAF, 2022. Accessed 20 Jan 2024 and "Carbon Footprinting Metrics", TCFD, Accessed 20 Jan 2024.
[36] We interpret this to be emphasising relative stability in EBITDA, given the regulated tariff.
[37] "Illustrative KPIs Registry", ICMA, Jun 2023, accessed 27 Jan 2024.
[38] "AEML SLB SPO", Moody's, 21 Jul 2021.

In addition to being unusual (or potentially even unique), the use of EBITDA in an SLB emission intensity target is inappropriate due to two reasons. Firstly, the scope for EBITDA to be managed by issuers (especially those with complex corporate structures),[39] and secondly, its exposure to inflation, which in India is currently elevated. Below we expand on these two problems.

Potential problems with an EBITDA-based KPI

The first significant problem is that companies have a variety of tools that can facilitate earnings management, especially for net income, but also EBITDA. Simpler examples include delaying expenses to boost EBITDA (potentially in years that equity plans or indeed SPTs are tested), or 'kitchen sinking' to rebase earnings under new CEOs.[40] More complicated techniques exist relating to, for example, accruals and transfer pricing[41] (i.e., the pricing of transactions with other Group entities – which is clearly relevant for AEML's power procurement).[42]

In addition, EBITDA is a non-GAAP measure and also not a standard Indian accounting measure. AEML's definition of EBITDA for the SLB, which reflects that for the GMTN programme, is predictably complex. Among the 'Excluded Payments' captured in the SLB's EBITDA calculation is a carve out for certain capital transactions with 'any Adani Group Member'; in turn this appears to include transactions with the Group's Chair Gautam Adani, or anyone related 'by blood or marriage'.[43] AEML's GMTN documentation also makes the typical recommendations to investors to 'rely primarily' on 'financial statements prepared in accordance with Ind-AS', rather than EBITDA. It also notes that different definitions for EBITDA are used in the Offering Circular compared to the Common Terms Deed that link other creditor documentation.

Given these issues, we believe that Adani's choice of the EBITDA metric in its emission intensity target likely provided high confidence at the outset that the target could be achieved. Investors should also view this target alongside the wider governance concerns for the Group, which have been widely discussed, including recently by S&P.[44] For its part, AEML defends the use of EBITDA in its intensity calculation on the basis that it 'provide(s) a measure of how much economic value we create for every ton of greenhouse gas emitted', and that the regulated tariff set by MERC (Maharashtra Electricity Regulatory Commission) is an 'important factor' for EBITDA .[45]

The second problem is relatively simple: as a nominal measure EBITDA is exposed to inflation. In AEML's case, this problem is exacerbated by the longer-term nature of the SPT (the 2029 trigger is ten years after the baseline, and eight

Table 3. Future scenarios for AEML's EBITDA and implications for KPI-2, Emission Intensity. Source: AFII.

Scenario FY24-FY29 SPT test	Required change in scope 1+2 emissions per year
EBITDA rising in line with long-term average inflation (5.2%)	-2.2%[1]
EBITDA rising in line with its FY19- growth (9.4%)	1.8%

[39] "How EBITDA can mislead", Harvard Business Review, 19 Nov 2009.
[40] For example: "GE Investors Are Happy About the New CEO", Bloomberg, 2 Oct 2018.
[41] For example: "Transfer pricing and its effect on financial reporting", Journal of Accountancy, 1 Oct 2013.
[42] Note that high-level indicators do not suggest that AEML's historic growth in EBITDA is outsized or being manipulated for purposes of the intensity target. AEML's sales growth from 2020-23 (September years, as disclosed in compliance certificates) was 10.2%, compared to 8.6% for EBITDA. At AESL (AEML's parent), EBITDA has grown at an 18.3% CAGR through FY 2019-2023, compared to 9.4% for AEML.
[43] AEML GMTN Programme Offering Circular, 13 Jul 2021.
[44] S&P Global Ratings upgrades Adani Ports, Adani Electricity on cash flow optimism", India Times, 22 Jan 2024.
[45] AEML's Sustainability-Linked Bond Framework, as published within the SLB Pricing Supplement, 15 July 2021.

years after the bond was issued), and the high-inflation environment in India. This implies that, from the bond's outset - and assuming that Indian inflation is in line with the 10-year average of 5.2%[46] - just over half of the targeted declines in AEML's emission intensity for its SPT target would be achieved through inflation alone.[47] Similarly, looking forward, given the 9.4% CAGR in EBITDA from the baseline in FY 2019 through FY 2023, AEML can likely achieve its SPT targets with circa-2% annual declines in its scope 1+2 emissions (Table 3).

Emission intensity targets are common across the SLB market – we estimate that it is used in a third of SLB KPIs.[48] However, most such KPIs reference physical intensity measures such as output volumes. Those using sales (or any nominal measure) in the denominator are, of course, also exposed to inflation. The problem is exacerbated for medium-to-longer term targets in moderate or high inflation periods. Encouragingly, an initial screen of our SLB database identifies only a couple of such issuers; Brazilian credits MOVIBZ and SIMHBZ use revenue intensity (in BRL) in SLB KPIs, albeit that the targets are over a six-year timeframe rather than Adani's 10 years. Mexican auto supplier Metalsa (METLSA) has two SLBs targeting emission intensity but uses sales in US dollars.

In summary, depending on the calibration and ambition of the target, investors have the potential to be more exposed to inflation than to absolute emissions performance. Given this, physical measures are much more appropriate for standardising emissions. An example in India is steel producer JSW Steel that targets a 23% reduction in emissions per tonne of steel produced by 2030, relative to its 2020 baseline.

AEML's emissions performance

Table 4 outlines AEML's absolute emissions and emission intensity performance. Scope 1+2 emissions declined by 11.7% between the baseline year (financial year ended March-19) and FY 2023, or 3.1% annually. Alongside 9.4% annualised growth in EBITDA, this has seen emission intensity decline by 38%, leaving the company close to satisfying its FY 2025 intermediate target embedded in the SLB for a 40% decline (requiring an 8.2% annualised drop). Thus, around three-quarters of AEML's decline in emission intensity to-date has come from growth in EBITDA.

To calculate AEML's physical intensity, we construct an index using the five available operating measures disclosed. These relate to the distribution network and comprise the number of power transformers, distribution transformers, overall power

Table 4. Historic emissions intensity calculations for AEML: Contrasting the SLB KPI to physical emissions intensity. Source: AEML, AFII.

Measure	FY19 baseline	FY23	% change '19-'23	CAGR '19-'23
Scope 1+2 GHG tCO2e (000s)	3,750	3,310	-11.7%	-3.1%
EBITDA (INR in Crore)	1,664	2,381	43.1%	9.4%
Emissions intensity – SPT definition (tCO2e / EBITDA INR in Crore)	**2,254**	**1,390**	**-38.3%**	**-11.4%**
Operating measures in distribution (Index, FY19=100)*	100	111.6	11.6%	2.8%
Physical emissions intensity (tCO2e / indexed operating measures*)	n.m.	n.m.	**-20.9%**	**-5.7%**

**Index reflects averaged growth in five physical indicators; i) the number of power transformers; ii) number of distribution transformers; iii) power capacity; iv) distribution capacity; v), line length. FY19-23 CAGRs for these variables range from 1.4%-4.7%.*

[46] India Combined CPI, Dec 2013-Dec 2023. Source: Bloomberg, from Central Statistics Office India.
[47] 69% of the 2025 target, and 70% of the 2027 target.
[48] This includes both physical intensity, and sales intensity.

capacity, distribution capacity, and line length.[49] As shown in Table 4, these have grown at a 2.8% annual rate from FY 2019 through FY 2023. Using this index to calculate AEML's physical emission intensity, we observe a 5.7% annualised decline since FY 2019 – half of the rate of decline in the SLB's EBITDA-driven intensity KPI.

SLB option pricing

A bullet SLB step-up coupon can be priced as a binary option using the probability of the target being missed as an input into the model.[50]

In this example, Adani appears to be comfortably on track to meet both SPTs. Importantly, the company also appears to have relatively simple levers that can be utilised to ensure the targets will be achieved (switching renewable procurement, and earnings management; refer to page 7). This leads us to consider that there is a 90% probability of achieving the target.

AEML's step-up is only 15bp (per KPI) and would apply for a maximum of one year (KPI I) or three years (KPI II)[51]. The total nominal value at risk to the issuer on a non-discounted basis is 0.6%, which does not achieve 'greenback status'.[52]

Using the AFII option pricing framework we calculate the total value of the option to be 0.05% upfront or 0.8bp running. For a bond with a current market yield of 6.85% and z-spread of 317bp, this is insignificant and implies this SLB can be treated effectively as a bullet.[53]

Emissions performance and coal reliance across the Adani Group

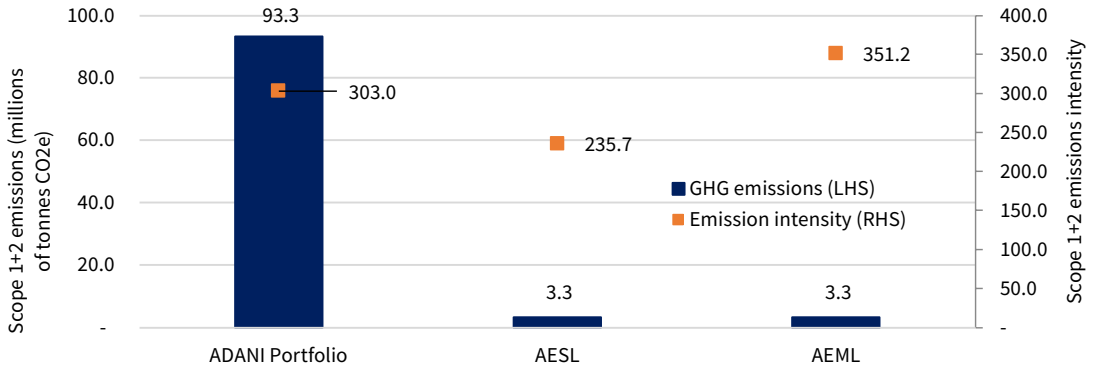
AFII's earlier research emphasised the interconnectedness across Group entities. Authorities have also deduced this; our 2020 report[54] included the excerpt below from the Queensland Supreme Court's 2020 ruling[55] (our highlighting and bracketing):

[184] "As the negotiations […] show, the officeholders of the applicant [ADAABB] do not necessarily make the decisions of the applicant. Significant decisions are made by other corporate entities in the Adani Group, or by the chairman Mr Gautam Adani. The owner of the terminal [ADAABB], its operator [ADSEZ], and AMPL [Adani Mining], a future user of the terminal, are likely to act in the best interests of the Adani Group, not their individual corporate entities."

[49] Power sold (in MwH) is also disclosed, and would potentially be a preferred indicator, however we have been unable to find disclosure at AEML for the baseline year.
[50] For full details of our pricing framework please see "An option pricing approach for Sustainability-Linked Bonds", AFII, 8 Nov 2022.
[51] We assume the bond is called in Jan-2031 prior to the Jul-2031 maturity, per common market practice.
[52] For full details please see "Greenback SLBs: an impact standardisation proposal", AFII, 10 May 2023.
[53] Note it is callable six months prior to maturity, as per common market practice.
[54] "Global investors and the Carmichael mega-mine", AFII, 1 Sep 2020.
[55] Adani Abbot Point Terminal Pty Ltd v Lake Vermont Resources Pty Ltd & Ors [2020] QSC 260.

Given this, we believe it is prudent for investors across the Adani capital structure to consider its emissions performance for the whole Group. Figure 5 below illustrates Adani's FY 2023 emissions (scope 1+2) across the Group. As shown, AEML and its parent AESL comprise a very minor share of Group emissions (3.5% in FY 2023; compared to 53% for Adani Power). Emission intensity, standardised with revenue, is highest at AEML.[56] For the Group, scope 1+2 emissions rose 9% in FY 2023, while revenue more than doubled reflecting both organic and inorganic growth across the various divisions. Thus, reported emission intensity for the Group was down 50% in FY 2023.

Figure 5. Emission comparison across Adani Group for FY23. Source: Adani, AFII.



The Adani Group boasts ambitious growth plans. Two years ago at COP26 in Glasgow it highlighted a target for $70bn green investment over a decade.[57] This target has now moved to $100bn,[58] and five portfolio companies have 2050 net zero targets, ahead of India's 2070 target. Its coal expansion plans are, of course, also significant. The Group has the sixth largest coal power development pipeline globally at over 10GW, compared to its current production rank of 21st.[59] The top five are all publicly owned, giving Adani the title of the world's largest private coal-fired electricity developer. As of 2022, over 60% of Group revenue was estimated to be derived from coal-related businesses.[60]

Adani's SLB as a Use-of-Proceeds bond

A Use-of-Proceeds (UoP) bond, such as a green bond, dictates specific projects on which funds raised must be spent. A well-structured UoP bond can therefore provide effective, albeit potentially narrow (in that it is limited to the project under consideration), support for an issuer's sustainability journey. In contrast, a well-structured SLB sets targets that apply across an issuer's operations. SLBs can be particularly suitable in cases where an issuer does not have a specific project suitable for financing via UoP bonds. Given these different use cases, we strongly believe that SLBs and green bonds play important complementary roles in the bond market.

[56] Note the Adani 'Group' is not a legal or reporting entity. Figures reflect Adani's disclosure here: "Adani Portfolio Result Snapshot – FY23", 5 June 2023.
[57] "COP 26: Adani Utility Portfolio: Investments Synchronised toTurbocharge Decarbonisation of India's Power Sector", Adani. Accessed 31 Jan 2024.
[58] "Adani Portfolio Leading The Way In ESG", Adani, 12 December 2023.
[59] See "Global Coal Exit List 2023", Urgewald, accessed 30 Jan 2024.
[60] "How political will often favors a coal billionaire and his dirty fossil fuel", Washington Post, 13 Dec 2022.

In this context, we believe that the Adani Group's broad conglomerate structure and related use of multiple financing vehicles in the bond market[61] significantly dampens the sustainability credentials of AEML's SLB. The SLB provides sustainability targets at AEML only, which accounts for less than 3% of Group revenue. AEML's SLB effectively is playing the role of a UoP bond, in supporting a specific but narrow aspect of Group operations. A broader SLB issuance program for Adani spread across other Group companies would offer a more credible sustainability-oriented financing plan.

Conclusions

The Adani Group has been much criticised for its opaque corporate structure and poor governance. Its Indian electricity provider AEML has issued an SLB, which has the potential to improve disclosure and accountability around sustainability targets. However, when considering its environmental record, the strategy of the full Group must be taken into account, in particular its significant reliance on coal that undermines its green credentials.

The structuring of the KPIs appears weak; KPI1, which is focused on renewables procurement has been improved by inter-Group PPAs, and KPI2, which is focused on emission intensity uses a measure that has the potential to be manipulated. Perhaps unsurprisingly, both KPIs appear on track to meet their respective targets, and therefore the option value of the SLB is minimal, providing a limited financial hedge to investors.

When considering the potential impact benefits of such a bond, any sustainable strategies within AEML do not seem comprehensively considered across the Group; ongoing coal activities seem particularly incongruous. The SLB structure, often praised for achieving high-level sustainability targets, in this situation seems to act as a UoP bond impacting energy policy only in one specific subsidiary of the full Group.

In any capital raising activities, we would encourage investors to ask the following questions:

- Will AEML strengthen its emission targets to ensure they are inflation-neutral? For example, a focus on actual emissions[62] or physical intensity.
- What assurance can be given that any renewables PPAs entered into by AEML do not indirectly support coal development at other Adani entities?
- How do AEML's sustainability targets compare to those of the broader Adani Group? For example, what share of Group electricity generation is expected to be renewable by 2027?
- Are sustainability commitments at each entity certified as being aligned to the same transition pathway?

[61] Bloomberg identifies 32 issuing entities across the Group.
[62] Of note AESL has targets to reduce scope 1+2, and scope 3, emissions by 72.7% and 27.5% respectively by FY 2031 relative to FY 2021 baseline.

Appendix: Bond valuation across the Adani complex

Figure 6 below shows indicative spreads across the Adani Group complex. This reflects a Bloomberg search of hard-currency bonds across 32 issuing entities. The chart shows US dollar bonds only, as none were found in EUR or GBP, and outstanding AUD issues are small (<100mm). Several issuers are shown; ADSEZ, ADTIN, ADANIG, ADGREG, as well as ADANEM (AEML, issuer of the 2031 SLB shown). Bonds issued by Adani Abbott Point (renamed North Queensland Export terminal and owned by the renamed Bravus) matured in 2021 and 2022. In total, over $7bn in USD bonds are currently outstanding with $1.6bn maturing in 2024.

The 3.867% 2031 SLB at AEML is currently indicated around z+317bp, while the 4.375% 2024 Green bond at Adani Green Energy is around z+257bp. Bloomberg lists significant holders of the SLB as Pacific Life Insurance, Massachusetts Mutual, Doubleline, and Ninety One.

As shown, the market currently prices the Adani complex in a relatively consistent manner, notwithstanding the differing credit profiles across the various issuers. Spreads are wide for the BBB- ratings assigned to most issues, which commentators have suggested reflects governance concerns for the Group.[63] All else being equal, the SLB appears to offer moderate value relative to other bonds in the Adani complex, however this does not seem to be driven by option value in the SLB.

Figure 6. Adani Group credit curve. Source: Bloomberg, accessed 6 Feb 2024.

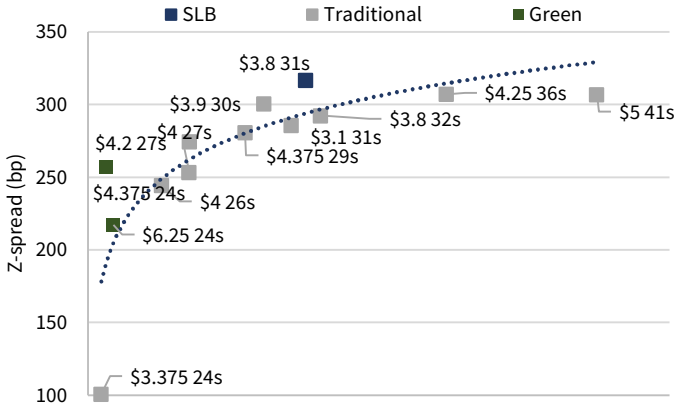


Table 5. Notable hard currency bonds outstanding across Adani Group companies, based on filter across 32 issuing entities, excluding bonds below $200mn equivalent. Source: Bloomberg, AFII; Pricing at 6 Feb 2024.

ISIN (144A)	Issuer	Ticker	Cpn	Ccy	Z-Spd (Mid)	Mid Price	Amt out USDmn	Maturity
US00654GAA13	Adani Electricity Mumbai Ltd	ADANEM	3.949	USD	301	85.8	880	12-Feb-30
US00653XAA54	Adani Green Energy Ltd	ADANIG	4.375	USD	257	98.1	750	08-Sep-24
US00652MAG78	Adani Ports & Special Economic Zone	ADSEZ	4.2	USD	274	92.2	750	04-Aug-27
US00652MAE21	Adani Ports & Special Economic Zone	ADSEZ	4.375	USD	281	89.7	750	03-Jul-29
US00652MAH51	Adani Ports & Special Economic Zone	ADSEZ	3.1	USD	286	80.3	500	02-Feb-31
US00654AAA43	Adani Green Energy / Prayatna	ADGREG	6.25	USD	217	99.2	500	10-Dec-24
US00652MAD48	Adani Ports & Special Economic Zone	ADSEZ	4	USD	253	92.2	500	30-Jul-27
US00652XAA63	Adani Transmission Step-One Ltd	ADTIN	4	USD	244	94.0	500	03-Aug-26
US00652MAJ18	Adani Ports & Special Economic Zone	ADSEZ	5	USD	307	80.8	450	02-Aug-41
US00652XAB47	Adani Transmission Step-One Ltd	ADTIN	4.25	USD	307	84.7	393	21-May-36
US00652MAF95	Adani Ports & Special Economic Zone	ADSEZ	3.375	USD	100	98.7	325	24-Jul-24
US00654CAA09	Adani Renewable Energy / Kodangal	ARENRJ	4.625	USD	340	81.8	318	15-Oct-39
US00652MAK80	Adani Ports & Special Economic Zone	ADSEZ	3.828	USD	292	82.3	300	02-Feb-32
US00654GAB95	Adani Electricity Mumbai Ltd	ADANEM	3.867	USD	317	82.1	300	22-Jul-31
US00654UAA07	Adani International Container Terminal	ADINCO	3	USD	286	85.1	266	16-Feb-31

[63] "Adani Firms' Stable Ratings Support Market Access: Credit React", Bloomberg Intelligence, 23 Jan 2024.

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