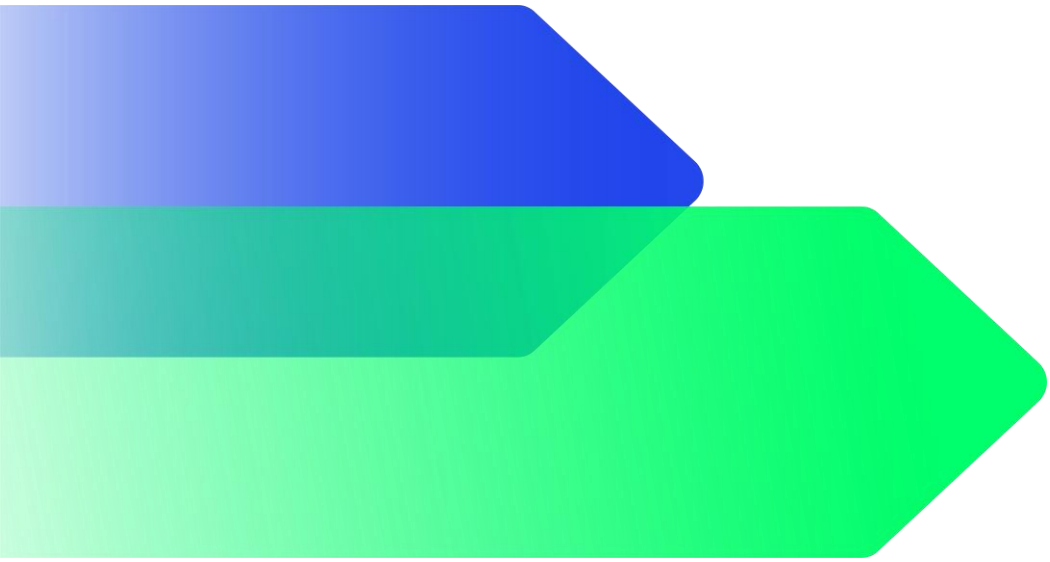
FINAL IMPACT ASSESSMENT DATED 25 MAY 2023

Bauhinia ILBS 1 Limited Pre-issuance Impact Report

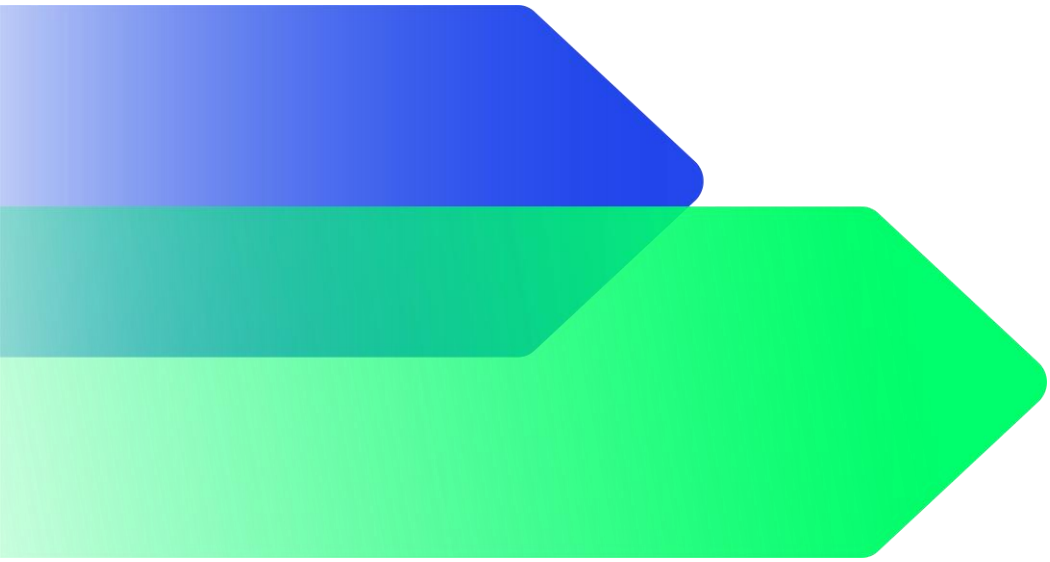
For the sustainable assets included in the Sustainability Tranche of the Bauhinia ILBS 1 Limited Note issuance

25 May 2023



Who we are

The Carbon Trust is a global climate consultancy driven by the mission to accelerate the move to a decarbonised future. Climate pioneers for over 20 years, it partners with businesses, governments and financial institutions to drive positive climate action. From strategic planning and target setting to implementation and communication, the Carbon Trust turns ambition into impact. To date, its 400 experts have helped set over 200 science-based targets and guided more than 3,000 organisations and cities across five continents on their route to Net Zero.



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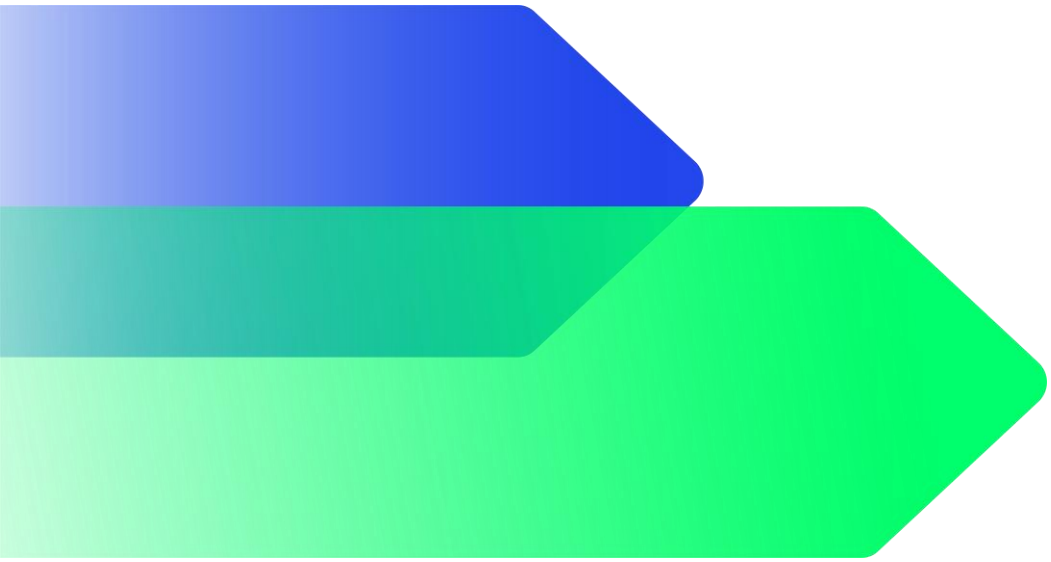

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Abbreviations

CO_2	Carbon Dioxide
EF	Emissions Factor
FCC	Federal Communications Commission
GEF	Grid Emission Factor
GHG	Greenhouse Gas
HKMC	The Hong Kong Mortgage Corporation Limited
ICMA	International Capital Market Association
ICT	Information and Communications Technology
IFI	International Financial Institution
LNG	Liquefied Natural Gas
OM	Operating Margin
PCAF	Partnership for Carbon Accounting Financials
PV	Photovoltaic
SPV/ Issuer	Bauhinia ILBS 1 Limited
UAE	United Arab Emirates

1. Introduction

Bauhinia ILBS 1 Limited ("Issuer" or "SPV") is a Hong Kong-incorporated SPV. The Issuer shall acquire a portfolio of loan transactions from The Hong Kong Mortgage Corporation ("HKMC") and expects to issue notes through a securitisation transaction where ING Bank N.V., Singapore Branch is mandated as the sustainable finance adviser.

As the sponsor of this transaction, HKMC sourced and constituted a loan portfolio comprising around 25 infrastructure transactions across geographies and sectors, including renewables, fossil-fuel (excluding coal) power generation, oil and gas, LNG shipping, telecommunications and social infrastructure, primarily denominated in USD. As part of the issuance, the SPV is expecting to create a sustainability tranche backed by seven sustainable assets, all operational and aligned to the sponsor's Social, Green and Sustainability Financing Framework (the "Framework")[1], as highlighted in Table 1 below:

Table 1 Overview of sustainable asset portfolio

Borrower	Asset (Sector)	Asset Type	Location	Framework Category
Al Maqsed Development Company PJSC	University (Education)	Social	UAE	Access to Essential Services
Manhal Development Co PJSC	University (Education)	Social	UAE	Access to Essential Services
PT Centratama Telekomunikasi Indonesia Tbk	Telecommunication Towers (ICT)	Social	Indonesia	Access to Affordable Basic Infrastructure and Services
Renewable A	Hydropower (Renewables)	Green	Indonesia	Renewable Energy
BIM Wind Power Joint Stock Company	Wind (Renewables)	Green	Vietnam	Renewable Energy
SB Energy Six Private Limited	Solar (Renewables)	Green	India	Renewable Energy
Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited	Solar/Wind Hybrid (Renewables)	Green	India	Renewable Energy

To provide information regarding the potential impact of the sustainable assets and enable investors to incorporate this impact data into their decision-making alongside other customary considerations, HKMC, as the sponsor of the transaction, has commissioned the Carbon Trust to assist with a pre-issuance impact report for the sustainability tranche. This will cover:

- **Impact metrics:** Selection and preparation of relevant impact metrics, establishing the baseline and methodology;

[1] HKMC (2022). The Social, Green and Sustainability Financing Framework

- **Standards**: Aligned with the market practices (as recommended by International Capital Market Association (ICMA) and/ or any other standards[2] widely adopted by sustainable bond investors);
- Provide **advice** on how to approach future loan agreements and **reporting requirements**; and,
- Provide **calculation methodologies** to the Issuer to compute the **environmental impact** of its green assets and the **social impact** of its social assets.

For green assets (e.g. wind, solar, etc.), avoided emissions calculations are used to measure the impact. For social assets, two to three relevant impact metrics are envisaged. An overview of the selected green and social impact metrics is provided in Table 2 below.

Table 2 Overview of selected impact indicators

Borrower	Asset (Sector)	Metric Type	Impact Metric	Indicators
Al Maqsed Development Company PJSC	University (Education)	Social	Diversity and Inclusion	• Number of female students enrolled • % of female students enrolled
Manhal Development Co PJSC	University (Education)			
PT Centratama Telekomunikasi Indonesia Tbk	Telecommunication Towers (ICT)		Access to ICT	• Tower density in underserved communities
Renewable A	Hydropower (Renewables)	Green	Avoided emissions	• Estimated annual avoided GHG emissions (tCO_2e/year) • Estimated annual avoided emissions attributed to the Issuer (tCO_2e/year)
BIM Wind Power Joint Stock Company	Wind (Renewables)			
SB Energy Six Private Limited	Solar (Renewables)			
Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited	Solar/ Wind Hybrid (Renewables)			

2. Methodology

This section details the methodology used to determine the impact of the Issuer's underlying green and social assets, in terms of avoided emissions and other social impact indicators. Formulae for the calculation of these impact indicators are also included.

[2] The reporting principles referenced can be found in Section 2.1

2.1. Reporting Principles

The following guidance was relied upon to calculate the impact indicators for the assets in the sustainability tranche of the Issuer:

- PCAF *The Global GHG Accounting and Reporting Standard for the Financial Industry (December 2022)*[3], Chapter 5.3 Project Finance;
- International Financial Institution (IFI) *GHG Accounting for Grid Connected Renewable Energy Projects (July 2019)*[4];
- ICMA *Harmonised Framework for Impact Reporting* (2022)[5]; and
- ICMA *Harmonised Framework for Impact Reporting* for Social Bonds (2022)[6]

2.2. Renewable Energy Assets

The renewable energy assets are broken down by project. Table 3 below details the main characteristics and information of the four renewable energy assets.

Table 3 Country location and operation status of each renewable energy asset

Borrower	Project Type	Country	Operation Status
Renewable A	Hydropower	Indonesia	Operational
Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited	Hybrid – Wind & Solar	India	Operational
SB Energy Six Private Limited	Solar	India	Operational
BIM Wind Power Joint Stock Company	Wind	Vietnam	Operational

2.2.1. Environmental Impact Metric: Avoided Emissions

Renewable energy generation is a low GHG emission energy source and has an environmental benefit in replacing energy generated from fossil fuel-based power generation. Energy generated from renewable sources, including solar, wind and hydropower, increases clean-source electricity supply, which will displace fossil fuel sources and reduce the emissions intensity of the electricity grid. Therefore, avoided GHG emissions (avoided emissions) are the most material environmental impact of renewable energy

[3] PCAF (2022). The Global GHG Accounting and Reporting Standard for the Financial Industry. Second edition.

[4] AHSA-001 - IFI Approach to GHG Accounting for Renewable Energy Projects

[5] ICMA (2022). Harmonised Framework for Impact Reporting

[6] ICMA (2022). Harmonised Framework for Impact Reporting for Social Bonds

projects. Avoided emissions in this analysis is defined as the difference in carbon emissions of the assets when comparing them against a baseline.

The Scope 1 & 2 emissions of the wind, solar photovoltaic (PV) and hydropower assets in the portfolio are very close to 0 tonnes of Carbon Dioxide equivalent (tCO_2e). Therefore, we estimate the annual avoided emissions by using the actual (or estimated) energy generation of the asset multiplied by a consolidated country-specific electricity emission factor (EF) for the relevant country grid electricity mix. In line with PCAF recommendations, the Operating Margin (OM) emission factor is used as the emission factor for the accounting of avoided emissions[7]. The OM represents the marginal generating capacity in the existing dispatch hierarchy that will most likely be displaced by the project. The full dataset for the OM emission factors is published by IFI AHG-001[8].

As the Issuer is not the sole lender in these assets, an attribution factor was also applied to the total avoided emissions to determine the Issuer's share of emissions. The attribution factor is measured in terms of the Issuer's percentage share of total debt financing. More details about the attribution factor can be found in Section 2.2.3.

2.2.2. Baseline of Avoided Emission Impact

To calculate avoided emissions, the emissions associated with the renewable energy assets are subtracted from the baseline emissions, or the emissions from power generation had the renewable energy project not taken place (i.e. the counterfactual).

For the Issuer's renewable energy assets, the baseline is the grid emission factor in the relevant geography. The emission factor is the carbon intensity of grid-connected electricity generation that is derived from a variety of sources, such as fossil fuels and renewables. The baseline status for the renewable energy locations, including Indonesia, India and Vietnam, is summarised below:

- In Indonesia, the fuel mix of the grid in 2021 was 81.81% fossil fuels: 61.46% coal; 18.20% natural gas; and 2.15% oil. Renewables accounted for the remaining 18.19% of total electricity generation: 7.99% hydropower; 4.85% bioenergy; 0.14% wind; 0.06% solar; and, 5.15% was classified as other renewables[9].
- In India, the fuel mix of the grid in 2021 was 78.05% fossil fuels:74.17% coal, 3.75% natural gas, and 0.13% oil. Renewables accounted for 19.39% of total electricity generation - 9.36% hydropower, 3.99% solar, 3.97% wind and 2.07% bioenergy. Nuclear accounted for the remaining 2.56%[10].
- In Vietnam, the fuel mix of the grid in 2021 was 57.42% fossil fuels – 46.62% coal, 10.71% natural gas, and 0.09% oil. Renewables accounted for the remaining 42.59% of total electricity generation – 31.01% hydropower, 10.53% solar, 0.98% wind and 0.07% bioenergy[11].

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[7] PCAF (2022). The Global GHG Accounting and Reporting Standard for the Financial Industry. Second edition.

[8] IFI TWG – List of harmonized GHG accounting standards/approaches and guidelines developed

[9] Our World in Data based on BP Statistical Review of World Energy & Ember OurWorldInData.org/energy • CC BY (2022). Share of electricity production by source, Indonesia, India & Vietnam. Accessible from https://ourworldindata.org/grapher/share-elec-by-source?country=~IDN.

[10] Ibid.

[11] Ibid. Figures do not add up to 100% due to rounding up.

There are very low operational emissions associated with solar, wind and hydropower energy assets. Hence, the baseline emissions are considered equivalent to the avoided emissions of these renewable energy assets.

2.2.3. Inputs to Calculate Avoided Emissions

The major data inputs needed to calculate the avoided emissions are summarised below, in Table 4. Further information and methodologies for each individual input are provided subsequently.

Table 4 Input factors for calculating avoided emissions for renewable energy assets

Input	Unit	Description	Source
Annual Production	MWh	Quantity of electricity generated by renewable energy assets.	Provided by HKMC
Grid Emission Factor	tCO_2e / MWh	CO_2e emission factor associated with each unit of electricity provided by an electricity system in each geographic region	The IFI Dataset of Default Grid Factors (v.3.2)
Attribution Factor	%	The Issuer's percentage share of total debt financing	Calculated based on the financial data provided by HKMC

Annual Production

The annual production is the electricity generated from each renewable asset per year. We use actual annual production data as prioritised data inputs. When the actual data is unavailable, estimated production data is used as an alternative. Where estimated generation data is used, we used P90 estimation to ensure the estimates are reasonable and relatively conservative (comparing with using P50 estimation)[12].

Among the four renewable energy assets in the portfolio, three of them have actual annual production data, while one has actual production data only for partial months of the sub-projects. To account for data availability challenges of annual production, we used the following approach:

- For Renewable A, BIM Wind Power Joint Stock Company and SB Energy Six Private Limited, the actual production data is used since the full year actual production data is available;
- The underlying assets in relation to Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited consists of 3 sub-projects (hybrid 1, 2 & 3). The available actual production data covers 10 months for hybrid 1 as well as 6 months for hybrid 2 and 3. The following steps were taken to calculate the Annual Electricity Production for this project:

Step 1: For each sub-project, calculate the annual production by adding the actual production data with the estimated ones for gap months:

$$EGp = Actual\ Production_{k,p} + \frac{\text{Estimated Annual Production (P90)}_p}{12\ \text{months}} \times (12 - \text{k})$$

Where:

[12] The "P" in P50 and P90 refers to probability of exceedance.

EG_p is the annual electricity generated by the renewable energy project **p** (MWh) $Actual\ Production_{k,p}$ is the k months of actual production for project **p** (MWh) $Estimated\ Annual\ Production\ (P90)_p$ is the P90 Estimated Annual Production for project **p** *k* is the number of months of actual production data
Step 2: Sum up the Annual Electricity Production of each sub-project.

The annual production data is summarised in Table 5 below.

Table 5 Renewable asset annual production data[13]

Borrower	Source Data[14]			Annual Electricity Production (MWh)
	Actual Production (MWh)	Coverage of Actual Production	Estimated Annual Production (MWh) (P90)	
Renewable A	1,313,315	12 months	N/A	**1,313,315**
Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited	Hybrid 1: 972,643	10 months	1,167,172	**5,597,756**
	Hybrid 2: 951,375	6 months	1,902,750	
	Hybrid 3: 1,263,917	6 months	2,527,834	
SB Energy Six Private Limited	776,129	12 months	N/A	**776,129**

Grid Emission Factor (Indonesia, India and Vietnam)

The grid emission factor (GEF) is the average CO_2e emissions emitted per unit of electricity generated. The latest GEF data for Indonesia, India and Vietnam refers to that from 2021 at the time of writing.

Table 6 IFI Methodology emission factors

Country	OM Emission Factor (tCO_2e/ MWh)[15]	Source
Indonesia	0.783	

[13] Table 5 excludes annual production data provided by the Issuer from BIM Wind Power Joint Stock Company under a Non-disclosure Agreement.

[14] The source production data is provided by the HKMC.

[15] The grid emission factors displayed in the table are round to 3 digits, while the real values from source have 15 digits.

India	0.951	The IFI Dataset of Default Grid Factors v.3.2
Vietnam	0.560	

Attribution Factor

As the Issuer is not the sole lender in these renewable energy assets, it is important to determine the Issuer's share of the avoided emissions achieved from the assets. This share is calculated by taking the amount outstanding on the transaction and dividing by the total debt financing of the project:

$$Attribution\ Factor = \frac{Outstanding\ amount\ of\ \ financing\ from\ the\ Issuer\ (USDm)}{Total\ debt\ financing\ of\ the\ project\ (USDm)}$$

Based on the financial data provided by HKMC, we used the share of outstanding debt financing from the Issuer as a percentage of the total debt financing for each project as of May 2023. This is used to attribute the portion of emissions avoided as a result of the Issuer's debt financing. According to the PCAF methodology, the total financing value including both equity and debt is recommended to be used as the denominator. However, as the Issuer provides debt financing to the projects and the current equity values of the projects are not available, we use the share of total debt financing of the project to calculate the attribution factor as an alternative. This is an acceptable alternative approach given that debt is the major financing source for these renewable assets. The attribution factor for the Issuer in relation to the renewable energy assets is summarised in Table 7 below:

Table 7 Attribution factor for renewable energy assets

Borrower	Total Debt Financing	The Issuer's Share of the Debt Financing	Attribution Factor
Renewable A	175.77	5.35	**3.04%**
Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited	1290.81	28.68	**2.22%**
SB Energy Six Private Limited	144.68	18.89	**13.06%**
BIM Wind Power Joint Stock Company	100.15	12.17	**12.15%**

2.2.4. Calculation

The equation for calculating the avoided emissions of the renewable energy assets (p) is summarised below:

$$FAEp = EGp \times GEFc \times AFp$$

Where,

- FAE_p is the financed avoided emissions by the Issuer for the renewable energy asset **p** (tCO_2e)
- EG_p is the annual electricity generated by the renewable energy asset **p** (MWh)
- GEF_c is the grid emission factor of country **c** where the renewable energy asset **p** is located (tCO_2e/ MWh)

- AF_p is the attribution factor for the renewable energy asset **p** (%)

Example Calculation: Solar PV Power Plant p in India

Please note that the figures (annual production, emissions, attribution factor) shown here are meant to be examples for illustration of the calculation only.

To calculate the annual avoided emissions of the solar PV power plant, **p**:

$$FAEp = EGp \times GEFc \times AFp$$
$$= 100{,}000(MWh) \times 0.951(tCO2e/MWh) \times 15\%$$
$$= 14{,}265\ tCO2e$$

2.3. Education Asset

2.3.1. Social Impact Indicators: Number and Percentage of Female Students Enrolled

Table 8 details the main characteristics of the UAE education assets.

Table 8 Country location and university type of each education asset

Borrower	Country (City)	Type of University
Al Maqsed Development Company PJSC	UAE (Abu Dhabi and Dubai)	Public
Manhal Development Co PJSC	UAE (Abu Dhabi)	Private

Diversity and inclusion is a key impact driver for education assets. Hence, the number and percentage of female students enrolled were selected as key social impact metrics as unequal access to higher education is recognised as leading to fewer resources and opportunities available to women. Higher education institutions are also seen as incubators where improved norms for gender equality can be practised, serving as an influential tool for society in accelerating the progress towards gender equality and women's empowerment[16]. This is significant in the UAE, where gaps related to women's economic mobility still remain.

Inputs to Calculate Number and Percentage of Female Students Enrolled

The inputs used to calculate these impact indicators is reflected in Table 9:

Table 9 Input factors to calculate number and percentage of female students enrolled

[16] British Council (2022). Gender equality in higher education: maximising impacts. Retrieved on 6 Feb 2022 from: https://www.britishcouncil.org/sites/default/files/gender_equality_in_higher_education_report.pdf

Borrower	Input	Description	Sources
Al Maqsed Development Company PJSC	Number of female students	Refers to the number of female students enrolled in academic year 2020 – 2021	University Fact Book 2021-2022
	Total number of students	Refers to the total number of students enrolled (male and female) in academic year 2020 – 2021	See above
Manhal Development Co PJSC	Number of female students	Refers to the number of female students enrolled in academic year 2020 – 2021	University Monthly Operational Monitoring Report
	Total number of students	Refers to the total number of students enrolled (male and female) in academic year 2020 – 2021	University Monthly Operational Monitoring Report

Calculation and Assumptions

The equation for calculating the percentage of female students enrolled for each of the education assets is summarised below:

$$\%\ of\ female\ students = \frac{number\ of\ female\ students}{total\ number\ of\ students}$$

2.4. ICT Asset

2.4.1. Social Impact Indicator: Tower Density in Underserved Communities

The sole ICT asset in the sustainability tranche is a loan transaction to a telecommunication tower owner and operator in Indonesia, PT Centratama Telekomunikasi Indonesia Tbk.

The demand for telecommunication towers in Indonesia is expected to grow rapidly. This is driven by the nature of Indonesian consumers being "mobile first" users with high consumption of mobile data, using smartphones as a main route to internet access. The current mobile phone penetration rate[17] is high at over 120% and is forecasted to reach 136% in 2023[18], owing to a growing middle class and thereby higher demand for access to mobile internet.

The impact of improving access to mobile internet is particularly significant in rural areas of Indonesia, where fixed line penetration is low. Improving network coverage through upgrading telecommunication

[17] Mobile phone penetration rate refers to the number of active mobile phone users per 100 people within a specific population. Given that users can have multiple mobile phone subscriptions, the rate can exceed 100% due to double counting. Taken from: https://ec.europa.eu/eurostat/cros/content/Glossary%3AMobile_phone_penetration_rate_en#:~:text=Mobile%20phone%20penetration%20rate%20is,100%25%20due%20to%20double%20counting.

[18] EdgePoint (2021). Indonesia Tower Market: Overview and Outlook

infrastructure is therefore critical to ensure that rural areas do not get left behind in Indonesia's rapid urbanisation and growth in digital connectivity.

Inputs to Calculate Tower Density in Underserved Communities

The inputs used to calculate this impact indicator is reflected in Table 10:

Table 10 Input factors for calculating tower density in underserved communities

Input	Description	Source(s)
Number of PT Centratama Telekomunikasi Indonesia Tbk towers in underserved communities	Refers to the number of towers operated by PT Centratama Telekomunikasi Indonesia Tbk (both owned and managed sites) in underserved communities in Indonesia across the seven main islands (Bali-Nusa, Java, Kalimantan, Maluku, Papua, Sulawesi, Sumatra).	• PT Centratama Telekomunikasi Indonesia Tbk Sustainability Report 2021
Total population in underserved communities in Indonesia	Refers to total population living in cities which do not meet the threshold of "a minimum of 25Mbps download speed or 3Mbps upload speed". This takes reference from the Federal Communications Commission's (FCC) minimum fixed broadband speed benchmark[19] and cities that do not meet this threshold are considered "underserved". This is aligned with the target population definition provided in the Framework[20].	• Congressional Research Service (2021) • Speedtest[21] • Badan Pusat Statistik (Statistics Indonesia)[22]

Calculation and Assumptions

The equation for calculating PT Centratama Telekomunikasi Indonesia Tbk's tower density in underserved communities is summarised below:

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[19] Congressional Research Service (2021). *Raising the Minimum Fixed Broadband Speed Benchmark: Background and Selected Issues.* Retrieved on 6 March 2023, from https://crsreports.congress.gov/product/pdf/IF/IF11875/2

[20] The Framework defines underserved communities as those in areas that do not have a quality Internet experience. To calculate this impact metric, we took reference from the FCC's minimum broadband benchmark to define "quality Internet experience".

[21] Speedtest is run by Ookla which conducts fixed broadband and mobile network testing applications, data and analysis. Using the test volume across the Speedtest platforms, Ookla gathers a database to do analysis on internet performance and accessibility globally. Data on the broadband speeds from regions and cities in Indonesia were retrieved from: https://www.speedtest.net/performance/indonesia

[22] Statistics Indonesia: https://www.bps.go.id/

$$Tower\ Density\ in\ Underserved\ Communities = \frac{RT}{TRP}$$

Where,

- *RT* = number of PT Centratama Telekomunikasi Indonesia Tbk towers operating in underserved areas
- *TRP* = total population in underserved areas in Indonesia

To calculate *TRP*, the underserved cities in Indonesia were first identified using the database on Speedtest and referencing the FCC's minimum broadband benchmark. These cities were mapped onto PT Centratama Telekomunikasi Indonesia Tbk's database to identify the underserved cities that PT Centratama Telekomunikasi Indonesia Tbk's towers were present in. The population sizes of these cities were then taken from Statistics Indonesia's databases for the respective cities[23]. Where the cities were not available on Speedtest's database, we took the broadband speeds of the region as a proxy, to determine if a city should be classified as underserved. It is also assumed that PT Centratama Telekomunikasi Indonesia Tbk's towers are evenly distributed amongst the underserved cities in Indonesia that they operate in.

3. Results and Discussion

This section presents the results for the respective impact indicators for each of the sustainable assets.

3.1. Renewable Energy Assets

3.1.1. Results on estimated annual avoided GHG emissions (tCO_2e/year) and estimated annual avoided emissions attributed to the Issuer (tCO_2e/year)

Based on the impact calculation in Section 2.2.3, the avoided emissions results from the renewable energy assets can be summarised in Figure 1 and Table 11 below:

[23] The population sizes were taken from the latest year available on the BSP database and at the city level. The years referenced for each city may not be the same across all underserved cities identified owing to limitations in data availability.

Figure 1 Estimated avoided emissions for renewable energy assets financed by the Issuer

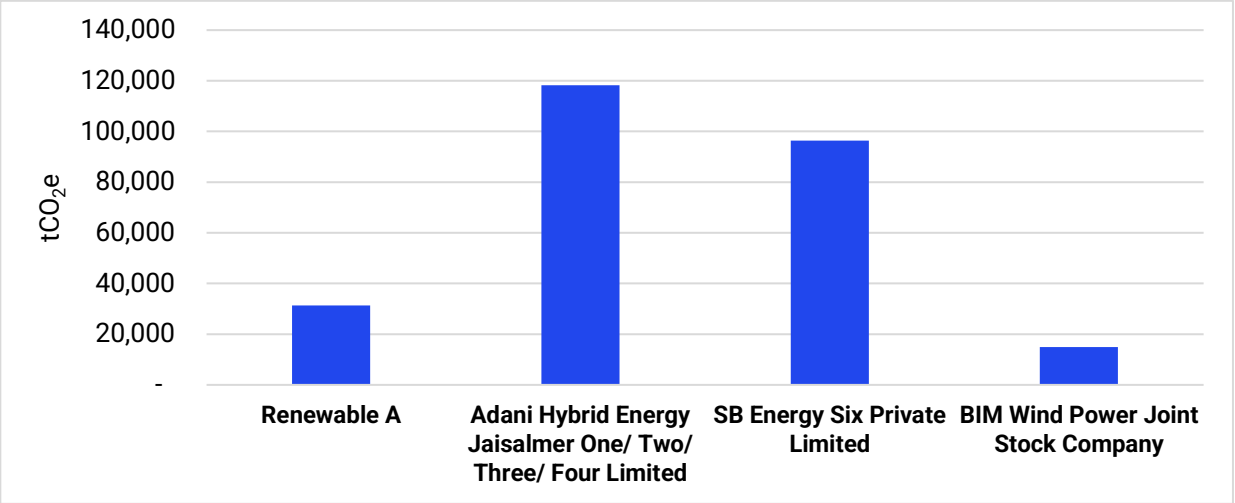

Table 11 Estimated avoided emissions from the renewable energy assets financed by the Issuer[24]

Borrower	Type	Country	Capacity (MWe)	Annual Production (MWh)	Grid Emissions Factor (tCO_2e/ MWh)[25]	Attribution Factor (%)	Est. Annual Avoided Emissions (tCO_2e / year)	Est. annual avoided emissions attributed to the Issuer (tCO_2e /year)
Renewable A	Hydropower	Indonesia	180	1,313,315	0.783	3.04	1,028,940	**31,318**
Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited	Hybrid	India	1690	5,597,756	0.951	2.22	5,323,027	**118,270[26]**
SB Energy Six Private Limited	Solar	India	300	776,129	0.951	13.06	738,038	**96,361[27]**
BIM Wind Power Joint Stock Company	Wind	Vietnam	88	Not disclosed here due to confidentiality	0.560	12.15	123,349	**14,989[28]**
						Total	**7,213,354**	**260,939**

[24] Table 11 excludes annual production data provided by the Issuer from BIM Wind Power Joint Stock Company under a Non-disclosure Agreement.

[25] The grid emission factors displayed in the table are rounded to 3 digits. For calculating the avoided emissions, we used the real value from source with 15 digits to have a higher granularity of assessment.

[26] Please note that the Borrower, for its own evaluation and/ or reporting purposes, is using grid emission factor data from the Government of India Ministry of Power Central Electricity Authority Dec 2022 instead of the International Financial Institutions (IFI) dataset of default grid factors used in the preparation of this report.

[27] Ibid.

[28] The estimated annual avoided emissions and the estimated annual avoided emissions attributed to the Issuer is calculated based on actual annual generation data provided by the Issuer from the borrower under a Non-disclosure Agreement.

The total annual avoided emissions of the four renewable energy projects that can be attributed to the Issuer's portfolio is 260,939 tCO_2e per year. Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited, consisting of three hybrid projects with solar and wind facilities, accounted for the largest avoided emissions at 5,323,027 tCO_2e in total with 118,270 tCO_2e attributed to the Issuer. This is due to the large capacity of Adani Hybrid Energy Jaisalmer One/ Two/ Three/ Four Limited and relatively high carbon intensive GEF of India, as compared to Indonesia and Vietnam. This is followed by SB Energy Six Private Limited. Although SB Energy Six Private Limited's total avoided emissions is lower than that of Renewable A, its avoided emissions that can be attributed to the Issuer is three times of Renewable A's, because the Issuer has a larger financing share in this solar project. BIM Wind Power Joint Stock Company's wind project has relatively lower avoided emissions due to a lower GEF in Vietnam and smaller total capacity.

Case Study 1: Renewable Asset

A Wind Power Project in Vietnam

BIM Wind Power Joint Stock Company develops a wind power project located at Thuan Nam district, Ninh Thuan province, in the South-East of Vietnam. It consists of 22 wind turbine generators, with a total installed capacity of 121MW and an export capacity of 88MW. This Project was developed and implemented under a 20-year power purchase agreement (PPA) with Vietnam Electricity (EVN). At the time of writing, this wind power project is in operation.

Electricity demand in Vietnam has grown more than tenfold over the past 20 years, to 226 TWh in 2020[29], and is expected to see further growth in the coming decades[30]. Meanwhile, around half of grid electricity in Vietnam is still coming from coal by 2021. The government of Vietnam has pledged to develop and implement strong GHG emission reduction measures to achieve Net Zero Emission by 2050[31].

BIM Wind Power Joint Stock Company helps to increase the domestic grid electricity supply and expand the share of renewable energy sources in the generation mix in Vietnam. As an alternative clean electricity source, it helps to replace energy generated from fossil fuel-based power generation. Based on the assessment, the estimated annual avoided emissions for **BIM Wind Power Joint Stock Company** is 123,349 tCO_2e in 2022.

[29] International Energy Agency (IEA). https://www.iea.org/countries/viet-nam

[30] Our World in Data. Share of electricity production by source, Vietnam. https://ourworldindata.org/grapher/share-elec-by-source?country=~IDN.

[31] Viet Nam, Nationally Determined Contributions (NDCs) (2022)

Key metrics on environmental impact:

- **Capacity:** 88 MWe
- **Estimated annual GHG emissions avoided by the project:** 123,349 tCO_2e/ year
- **Estimated annual avoided emissions attributed to the Issuer:** 14,989 tCO_2e/year

3.1.2. Recommendations for Future Data Collection and Calculation

The assessment in this report is based on the best available data that could be collected during the writing of the report, including financial and production data from HKMC and emission factor data from the latest version of IFI Dataset. The impact assessment can be improved in the future with increasing data availability in the market and from the borrowers. The recommendations for data quality improvement includes:

- Additional actual electricity generation data that spans the full year (12 months)
- All production data has the consistent timeframe among the assets (e.g. January to December 2022).
- When the availability of regional level grid emissions factors improves, the regional-specific grids emission factors which the generated electricity is supplied can be used to assess the avoided emissions more accurately.
- A mark-to-market of the project's valuation in order to derive the current equity value, so as to improve the accuracy of the financial attribution factor.

3.2. Education Assets

3.2.1. Results on Number and Percentage of Female Students Enrolled

Based on the impact calculation in Section 2.3.1, the results on the number and percentage of female students for each of the education assets can be summarised in Figure 2 and Table 12.

Figure 2 Number and percentage of female students enrolled in the education assets

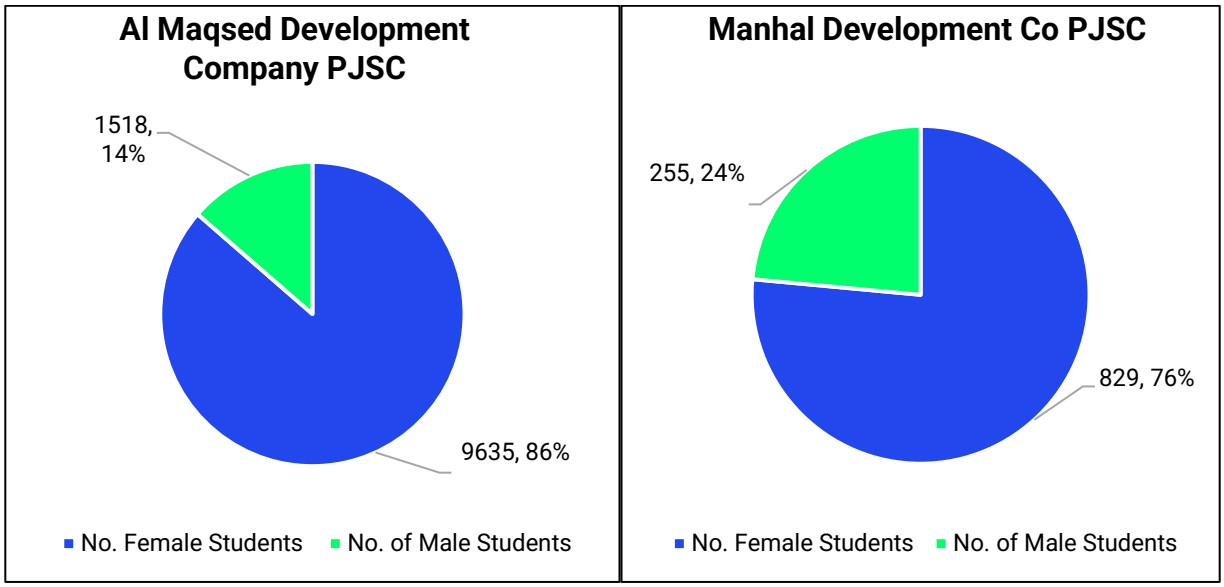

Table 12 Number and percentage of female students enrolled in the education assets

Borrower	Total No. of Students	No. of Female Students	No. of Male Students	% of Female Students
Al Maqsed Development Company PJSC	11,153	**9635**	1,518	**86.39%**
Manhal Development Co PJSC	1084	**829**	255	**76.48%**

Case Study 2: Education Asset

Case study: Al Maqsed Development Company PJSC

Al Maqsed Development Company PJSC developed the **Zayed University** which is a federal institution that was originally established as an all-female university in the UAE, with a campus in Abu Dhabi and Dubai each. The university offers multi-disciplinary programmes spanning areas such as technological innovation, humanities and social sciences, arts and creative enterprises, and business, for both undergraduates and graduates.

Zayed University has shown strong commitment to providing access to higher education to females in the UAE, as demonstrated by its high proportion of female enrolment and graduation. Apart from promoting gender equality in higher education, **Zayed University** is also committed to providing equal opportunities for higher education to students with disabilities and those from financially disadvantaged background, through providing monthly stipends and educational devices.

Key metrics on diversity and inclusion

- **Female enrolment**: 86.4% (across both undergraduate and graduate programmes)
- **Female graduates**: Total number of female graduates (2081) or 90% of total graduates
- **Students with disabilities**: 266
- **Students receiving financial aid**: 538

3.2.2. Recommendations for Future Data Collection

Other recommended data that both University assets could consider collecting for future reporting include, by academic year:

- Gender breakdown of graduates (Manhal Development Co PJSC)
- Number of students with disabilities (Manhal Development Co PJSC)
- Number of students from low-income families
- Number of students benefitting from partial/ full scholarships or any financial aid

For the avoidance of doubt, we note that both education assets have in place financial assistance schemes in the form of financial aid and partial/ full scholarships accessible to all income backgrounds and do not appear to take into account the socio-economic background of applicants.

3.3. ICT Asset

3.3.1. Results on Tower Density in Underserved Communities

Based on the impact calculation in Section 2.4.2, the results on the tower density of the ICT asset in underserved areas in Indonesia can be summarised in Table 13, broken down by the major islands in Indonesia as listed in PT Centratama Telekomunikasi Indonesia Tbk's Sustainability Report 2021.

Table 13 Estimate of PT Centratama Telekomunikasi Indonesia Tbk's tower density in underserved communities in Indonesia

Indonesian Region	Number of Towers in Underserved Cities (by PT Centratama Telekomunikasi Indonesia Tbk)	Total Population in Underserved Cities in Indonesia	PT Centratama Telekomunikasi Indonesia Tbk's Tower Density in Underserved Areas in Indonesia (towers/ 100,000 underserved inhabitants)
Balnus[32]	467	10,343,090	**4.52**
Java	5037	151,939,552	**3.31**
Kalimantan	721	7,518,254	**9.59**
Maluku	40	405,453	**9.87**
Papua	41	1,076,292	**3.81**

[32] Refers to the Bali and Nusa Tenggara islands.

Sulawesi	770	15,042,405	**5.12**
Sumatra	1827	46,367,414	**3.94**

3.3.2. Recommendations for Future Data Collection

The assessment in this report is based on the best available data that could be collected during the writing of the report. The impact assessment can be improved in the future with increased data availability for indicators that consider both outputs and outcomes that is relevant to the target population of the ICT asset.

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