ASEAN Capital Markets Forum

Innovations in Green Finance and Market Development: The Role of Sustainability-Linked Bonds

Regional Workshop – Issuance of Sovereign and Private Sector Green and Sustainability Bonds: Lessons from ASEAN

19 – 20 May 2025

Agenda

1. **Overview of the ASEAN Sustainability-Linked Bond Standards**
2. **Key Additional Features**
3. **The Five Core Components**
4. **Case Studies from ASEAN**
5. **How ASEAN's Sustainable Finance Tools Fit Together**

Overview of ASEAN's Suite of Bond Standards

Use of Proceeds

General Purpose

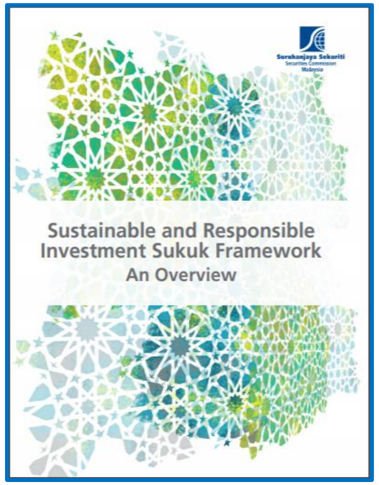
2017	2018	2018	2022
			
ASEAN GBS	**ASEAN SBS**	**ASEAN SUS**	**ASEAN SLBS**

- Aligned with International Capital Market Association (ICMA)'s Green Bond Principles (GBP), Social Bond Principles (SBP), Sustainability Bond Guidelines (SBG) and Sustainability-Linked Bond Principles (SLBP).
- Provide **more specific guidance** in relation to ASEAN markets

Malaysia Sustainable and Responsible Investment (SRI) Sukuk & SRI-Linked Sukuk Framework

Use of Proceeds

2014



SRI Sukuk Framework

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2017

ASEAN GBS

2018

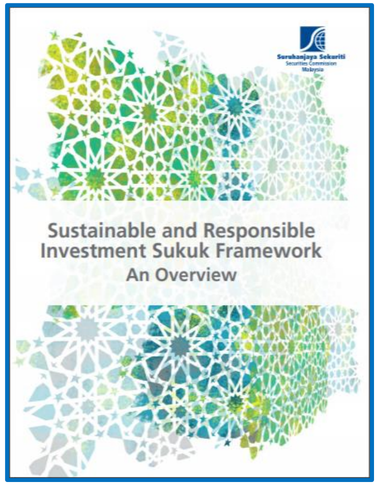
ASEAN SBS

2018

ASEAN SUS

General Purpose

2022



SRI-Linked Sukuk Framework

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2022

ASEAN SLBS

- Based on International Capital Market Association (ICMA)’s Green Bond Principles (GBP), Social Bond Principles (SBP), Sustainability Bond Guidelines (SBG) and Sustainability-Linked Bond Principles (SLBP).
- Provide **more specific guidance** in relation to ASEAN markets & Malaysian market
- **Key requirements** of both **SRI Sukuk Framework and ASEAN Standards are aligned and issuers may pursue dual-labelling**

Overview of ASEAN Sustainability-Linked Bond Standards

Sustainability-Linked Bonds (SLB)

Bond instrument for which the **financial and/or structural characteristics can vary** depending on whether the issuer achieves predefined **Sustainability/ ESG objectives** which are:

measured through predefined Key Performance Indicators (KPIs)

assessed against predefined Sustainability Performance Targets (SPTs)

Proceeds of SLBs are intended to be used for general purposes.

ASEAN Sustainability-Linked Bond Standards aligned with ICMA's Sustainability-Linked Bond Principles

- Developed **based on ICMA's SLBP**, as they are internationally accepted and widely used for the development of national Sustainability-Linked Bond guidelines or standards issued globally

More Specific Guidance

- Key additional features

Key Additional Features of ASEAN Sustainability-Linked Bond Standards

Eligible Issuers	To create a sustainable asset class for the ASEAN region, the Issuer or issuance of the bond must have a geographical or economic connection to the region.
Continuous accessibility to information	Issuers to disclose information on a publicly accessible website designated by the Issuer throughout the tenure of the bonds.
Encourage more frequent reporting	In addition to annual reporting, Issuers are encouraged to provide more frequent periodic reporting which would increase transparency and investor confidence.
Increased transparency on reporting timeline	Issuers are encouraged to indicate the timeline in which the reporting will be provided on an annual basis as well as following the target observation date.
Mandatory external review	Issuers must appoint an external review provider to review the Issuer's Sustainability-Linked framework. The external reviewers' credentials & scope of review conducted must be made publicly accessible from a website designated by the Issuer
Encourage Alignment of KPIs with Sustainable Development Goals	Issuers are encouraged to highlight how the selected KPIs align with the Sustainable Development Goals.

Five Core Components of ASEAN Sustainability-Linked Bond Standards

Selection of Key Performance Indicators

Select internal or external sustainability KPIs that measure the issuer's sustainability performance

Calibration of Sustainability Performance Targets

Calibrate one or more SPTs per KPI to express the level of ambition the issuer is ready to commit to

Bond Characteristics

ASEAN SLB must include a financial and/or structural impact involving trigger event(s)

Reporting

Publish, & keep readily available & accessible through a designated website throughout the tenure of the ASEAN SLB

Verification

Seek independent & external verification of performance level against each SPT for each KPI by a qualified external reviewer

+ Mandatory Pre-Issuance External Review such as a Second Party Opinion

Disclosure Checklist

Case Study of Sustainability-Linked Sukuk: **Johor Plantations Group Berhad (JPG)**

Johor Plantations Group Berhad (JPG) issued Malaysia's first SLS in the plantation sector (RM1.35bil in Sept 2024) (~USD315bil)

No.	1 KPI	Baseline	2 SPT	
			31 Dec 2025	**31 Dec 2030**
1	Reduction in carbon intensity (MT CO_2e/MT CPO + PK)	1.76 in 2012	0.88 (~50%)	N/A (Net Zero 2050)
2	Traceability of FFB suppliers	98.85% in 2023	100%	100% (maintained)
3	Mill water consumption (m^3/MT FFB)	1.2 in 2013	≤ 1.2	≤ 1.2 (maintained)

3 Bond Characteristic

Penalty – Coupon Step-up

- 31 Dec 2025: If 2+ SPTs missed → +10 bps
- 31 Dec 2030: If any SPT missed → +15 bps
- Maximum step-up = 25 bps (0.25%)
- The increase applies from the next payment date after the missed target.
- It continues for the remaining life of the sukuk – not a one-time penalty.

4 Reporting

- Annual reporting to be done on publicly accessible website.
- Annual progress disclosed in **JPG Sustainability Report 2024**

5 Verification

Limited assurance performed by an independent party in line with JPG's Sustainable Finance Framework

Scope

The scope of engagement agreed upon with JPG includes the following:

The assurance covers the information of the following indicators in the JPG Sustainability Report for the year of 2024.

- GHG Emission
- Traceability to Supplier Plantation (Smallholders)
- Water Management

The selected information is reported in accordance with JPG's Sustainable Finance Framework dated in August 2024

The details of indicators within the scope are described in Appendix A in this independent assurance opinion statement.

Opinion Statement

We have conducted a limited assurance engagement on the sustainability information described in the "Scope" above.

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the accompanying sustainability information is not prepared, in all material respects, in accordance with JPG's Sustainable Finance Framework.

Appendix A: Data of indicators within the scope of assurance

Key Performance Indicators ("KPIs")	Baseline	Sustainability Performance Targets	Progress as of 2024
GHG Emission	1.76 MT CO_2e per MT CPO and PK in 2012	• 50% carbon intensity reduction (Scope 1 and Scope 2) by 2025	0.89 MT CO_2e per MT CPO and PK
Traceability to Supplier Plantation (Smallholders)	98.85% in 2023	• Achieve 100% Traceability to FFB Suppliers by 2025	99.6% Supplier Plantation (Smallholders)
Water Management	1.2 m^3/MT FFB in 2013	• Maintain mill water consumption of 1.2 m^3 /MT FFB and below	1.09 m^3/MT FFB

Sources: JPG Sustainable Finance Framework (Aug 2024), Second Party Opinion by MARC Ratings (2024), JPG Pricing Supplement (Series 1 Sukuk Wakalah), JPG Sustainability Report 2024

Case Study of Sustainability-Linked Bond: **Precious Shipping Public Company Limited (PSL)**

Issued Asia's first SLB in the shipping sector (THB 1.36 billion issued in Oct 2024 in two tranches, guaranteed by Credit Guarantee and Investment Facility (CGIF)) **(~USD40bil)**

No.	1 KPI	Baseline	2 SPT 31 Dec 2034
1	Annual Efficiency Ratio (AER) *measures carbon intensity per transport work (in grams CO2 emitted per tonne-nautical mile)*	AER of 7.55 g CO2/t nm – 2019	AER of 4.64 g CO2/t nm (38.54% reduction)

Year	2019[a]	2020[a]	2021[a]	2022[a]	2023[a]	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Average CII (AER) (g CO2/t nm)	7.55 (Base Year)	7.19	7.42	7.14	6.80	6.66	6.51	6.37	6.23	6.09	5.94	5.8	5.51	5.22	4.93	4.64
% reduction with respect to base year	-	4.77	1.72	5.43	9.93	11.79	13.77	15.63	17.48	19.34	21.32	23.18	27.02	30.86	34.70	38.54

The values from 2024 to 2034 represents the SPT trajectory.

3 Bond Characteristic

Penalty – Purchase of Carbon Credits

- PSL must purchase carbon credits (or Energy Attribute Certificates) equivalent to the emissions shortfall.
- No direct profit rate increase – instead, a carbon offset purchase obligation is triggered.

4 Reporting & 5 Verification

GHG Emission Reduction Targets and Performances in Alignment with the SLB Framework

In 2024, the Company became the first Asian Shipping Company to successfully issue a Sustainability-Linked Bond (SLB). Lloyd's Register Pte Ltd, Singapore, reviewed our Sustainability-Linked Financing Framework and issued a Second Party Opinion. This sustainability-linked bond and its underlying targets highlight our strong commitment to sustainability. By leveraging the unique KPIs of our SLB, we ensure alignment between our performance, long-term sustainability objectives, and industry-specific targets.

Our KPI is to achieve a minimum 38.54% reduction in CO2 emissions per transport work by 2034, using 2019 as the baseline. This ambitious target positions PSL as a leading force in sustainability within the maritime industry. Moreover, this target aligns with the IMO's interim target prescribed reduction in carbon intensity targets for international shipping by 2030.

Description	2019 (base year)	2020	2021	2022	2023	2024
KPI Target: Average CII (AER) CO2 Emissions/Transport Work (gCO2/ tonne-nautical mile)	7.55	-	-	-	-	6.66
Actual Results: Average CII (AER) CO2 Emissions/Transport Work (gCO2/tonne-nautical mile)	7.55	7.19	7.42	7.14	6.80	6.03
% reduction with respect to base year	-	4.77	1.72	5.43	9.93	20.13

Source: PSL Sustainable Finance Framework & SPO (Lloyd's Register), ThaiBMA Prospectus PSL34OA, PSL Sustainability Report 2024, CGIF Press Release

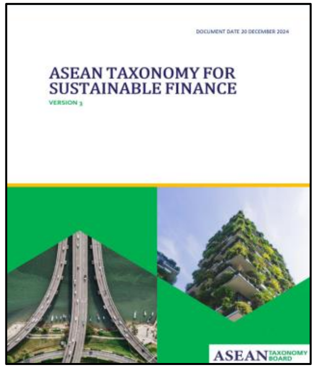
How ASEAN’s Sustainable Finance Tools Fit Together

What?

Taxonomy tells us **what** is green or transitional

ASEAN Taxonomy

- Defines which activities are green or transitional in ASEAN, based on science and environmental objectives.



How?

Bond Standards tell us **how** to structure credible instruments

ASEAN Bond Standards

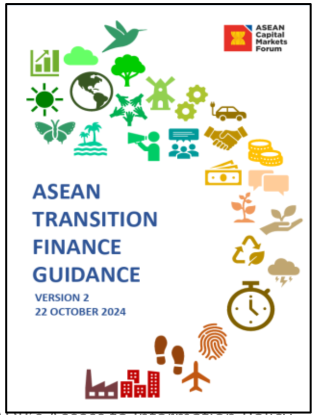
- Provides guidance for issuing credible green, social, sustainability or sustainability-linked bonds.
- Ensures transparency, clear use-of-proceeds or performance targets and alignment with global best practices.

How much?

Transition Guidance helps assess **how ambitious and credible** a company’s plan is

ASEAN Transition Finance Guidance

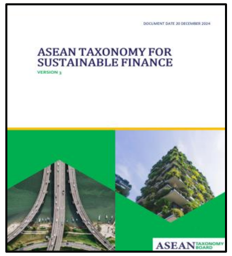
- Provides a tiered framework to assess the credibility of transition plans.
- Helps determine if targets are science-aligned & ambitious (e.g. 1.5°C or 2°C aligned pathway).



Illustrative Example – ASEAN EnergyCo Utilising all 3 ASEAN Tools

- ASEAN EnergyCo currently operates a fleet of natural gas-fired power plants (fossil gas electricity production)
- It aims to reduce its carbon footprint while funding both near-term and long-term transition efforts
- To do this, it issues two instruments:
  - ➢ A Green Bond to fund a solar farm
  - ➢ A Sustainability-Linked Bond (SLB) to commit to shorter-term emissions reduction targets

ASEAN Taxonomy



- EnergyCo operates **gas-fired plants** currently classified as **Amber Tier 3** under the ASEAN Taxonomy
- At the same time, it is phasing out older gas turbines and upgrading to more efficient units, **with the aim of progressing to a higher Amber tier classification over time**
- It plans to finance a **solar farm**, which qualifies as a **Green Activity**

ASEAN Bond Standards

- It issues a **Green Bond** to finance the solar farm

- EnergyCo also issues a **Sustainability-Linked Bond** to fund general purposes
- **KPI:** lifecycle CO_2e per kWh of electricity.
- **SPT**: 20% reduction by 2028 (from baseline of 510g CO_2e/kWh → below 425g)
- **Penalty:** +25 bps coupon step-up if target missed.

ASEAN Transition Finance Guidance

- ASEAN EnergyCo has a long-term transition plan to reduce overall GHG by x% by 2040
- Their transition plan is benchmarked against the ASEAN Transition Finance Guidance
- Strategy aligned to “Progressing” or “Well-Below 2°C Aligned” tiers under ASEAN Transition Finance Guidance

⚠️ *This illustrative example simplifies real-world application across all three ASEAN tools. In practice, full alignment involves, among others, lifecycle GHG assessment, Do No Significant Harm (DNSH) safeguards, compliance with social criteria (Taxonomy), credible KPI/SPT verification (SLB Standards), and a science-based transition plan with milestones, governance, financing, and independent verification (ATFG).*

THANK YOU

APPENDIX

Selection of Key Performance Indicators

Selection of KPI

Issuer **must select external or internal sustainability KPI(s)** that measure the Issuer's sustainability performance

KPIs must be

(i) **Material** to the Issuer's core sustainability and business strategy;

(ii) **Addressing relevant ESG challenges** of the industry sector; and

(iii) Under **management's control.**

KPIs should be

(i) **Relevant, core and material** to the Issuer's overall business, and of high strategic significance to the Issuer's current and/or future operations;

(ii) **Measurable or quantifiable** on a consistent methodological basis;

(iii) **Externally verifiable**; and

(iv) Able to be **benchmarked**

Encouraged, where possible, to

(i) **Select KPIs that they have already included** in their previous annual reports, sustainability reports or other non-financial reporting disclosures to allow investors to evaluate historical performance of the KPIs selected; or

(ii) **Provide historical externally verified KPI values** covering at least the previous 3 years, in situations where the KPIs have not been previously disclosed.

Alignment with SDGs

Issuers are **encouraged to align the selected KPI(s) with the SDGs** and highlight this in the documentation of the ASEAN Sustainability-Linked Bonds.

+ Disclosure requirements on designated website

Calibration of Sustainability Performance Targets

Calibration of SPT

Issuer **must calibrate one or more SPTs per KPI** to express the level of ambition the Issuer is ready to commit to, and thus considers realistic.

Disclose Strategic Information

Issuer should **disclose strategic information** that may decisively impact the achievement of the SPTs.

SPTs must be ambitious

(i) **represent a material improvement** in the respective KPIs and be **beyond a "Business as Usual"** trajectory;

(ii) be **compared to a benchmark** or an external reference, where possible;

(iii) be consistent with the **issuer's overall strategic sustainability/ESG strategy**; and

(iv) be determined on a **predefined timeline**, set before (or concurrently with) the issuance of the bond.

Target setting exercise

i. **Issuer's own performance**, which can include:

a) measurement track record on the selected KPI(s) for a minimum of 3 years, where feasible; and

b) forward-looking guidance on the KPI, when possible.

ii. **Issuer's peers' performance**, which can incl SPT's relative positioning vs:

a) its peers where available (average performance, best-in-class performance) and comparable; or

b) current industry or sector standards;

iii. **Reference to the science**, which can include systematic reference to:

a) science-based scenarios; or

b) absolute levels (e.g. carbon budgets); or

c) official country/regional/international targets; or

d) recognised Best-Available-Technologies; or

e) other proxies to determine relevant targets across environmental and social themes.

+ Disclosure requirements on designated website

Bond Characteristics

Variation in financial/ structural characteristics

ASEAN Sustainability-Linked Bond **must include a financial and/or structural impact** involving trigger event(s).

Commensurate & Meaningful

Variation of the bond financial and/or structural characteristics should be **commensurate and meaningful relative to the Issuer's original bond financial and/or structural characteristics**.

Language in Bond Documentation

Issuer should consider including, where needed, **language in the bond documentation to take into consideration potential exceptional events** (such as significant change in perimeters through material M&A activities) or extreme events, including drastic changes in the regulatory environment that could substantially impact the calculation of the KPI, the restatement of the SPT, and/or proforma adjustments of baselines or KPI scope.

Post-issuance material changes

i. **Clearly communicate the rationale** and/or restatement optionality, or set out a restatement policy as part of the Issuer's documentation of the ASEAN Sustainability-Linked Bond, through a website designated by the Issuer; and

ii. **Appoint an external review provider** to assess any of these changes and publish the external review report, through a publicly available website designated by the Issuer throughout the tenure of the ASEAN Sustainability-Linked Bonds.

KPI(s) and SPT(s) will be fixed in the legal terms & conditions of an ASEAN SLB at the point of issuance. Therefore, any material changes to the KPI(s) & SPT(s) will be subject to these legal terms & conditions, as well as any relevant laws & regulations.

Guidance on what external reviewer should confirm (e.g. changes would result in the SPTs being no less ambitious than those originally set)

+ Disclosure requirements on designated website

Reporting

Mandatory reporting

(i) up-to-date information on the **performance of the selected KPI(s),** including baselines where relevant;

(ii) a verification assurance report assessing the Issuer's SPT performance; and

(iii) any information enabling investors to monitor the level of ambition of the SPTs

Encouraged reporting

(i) A qualitative or quantitative explanation of the **contribution of the main factors, including M&A activities, behind the evolution of the performance**/KPI; and

(ii) An **illustration of the positive sustainability impacts** of the performance improvement.

Annual Reporting

The reporting on the ASEAN Sustainability-Linked Bonds must be **published regularly, at least annually**, and in any case for **any date/period relevant for assessing the SPT** performance leading to a potential adjustment of the ASEAN Sustainability Linked Bond's financial and/or structural characteristics.

More frequent periodic reporting

Issuers are also **encouraged to provide more frequent periodic reporting** which would increase transparency and investor confidence in the ASEAN Sustainability-Linked Bonds.

Timeline of reporting

Issuers are encouraged to indicate the **timeline in which the reporting on the ASEAN Sustainability-Linked Bonds will be made available**

Verification

Mandatory verification

Must seek independent and external verification (for example limited or reasonable assurance) of their performance level against each SPT for each KPI by a qualified external review provider with relevant expertise, such as an auditor or an environmental consultant.

Annually & at trigger events

Must be **carried out at least once a year**, and in any case for any **date/period relevant for assessing the SPT** performance leading to a potential adjustment of the ASEAN Sustainability-Linked Bond's financial and/or structural characteristics, until after the last SPT trigger event of the bond has been reached.

Disclosure of credentials

External review provider must also disclose their relevant credentials and expertise, and scope of the verification conducted in the verification assurance report.

Report to be made publicly available

Verification assurance report must be made publicly available, through a website designated by the Issuer throughout the tenure of the ASEAN Sustainability-Linked Bonds.

Timeline of reporting

Issuers are encouraged to **indicate the timeline** in which the verification assurance report on the ASEAN Sustainability-Linked Bonds will be made available

External Review

Mandatory appointment of external reviewer

Must appoint an external review provider to confirm the alignment of the ASEAN Sustainability-Linked Bond with the five core components of the ASEAN SLBS (such as a Second Party Opinion) prior to the issuance of the ASEAN Sustainability-Linked Bond.

Areas for assessment

In the pre-issuance external review, external review providers should assess:

i. Relevance, robustness & reliability of selected **KPIs**,

ii. Rationale and **level of ambition of the proposed SPTs**,

iii. Relevance and reliability of selected benchmarks and baselines, and

iv. Credibility of the strategy outlined to achieve the SPTs, based on scenario analysis, where relevant.

Expertise & Experience

External review provider must have the relevant expertise and experience in the components of the ASEAN Sustainability Linked Bonds which they are reviewing.

Disclosure of credentials

External review provider must also disclose their relevant credentials and expertise, and scope of the review conducted in the external review report.

Report to be made publicly available

External review report must be made publicly available, through a website designated by the Issuer throughout the tenure of the ASEAN Sustainability-Linked Bonds.

Examples of KPIs & Sustainability Performance Target

Environmental KPIs

- GHG emission/ intensity
- CO2 emission/ intensity
- Average Efficiency Ratio of CO2
- % of renewable energy
- % of recycled material used
- % food waste reduction measured
- % of waste diverted from landfills
- Water consumption intensity/ reuse
- Rewilding

Social KPIs

- Gender diversity from hiring
- No. of underprivileged people trained in energy management
- Strategic Innovative Therapies Patient Reach
- Flagship Programs Patient Reach

Example of Sustainability Performance Target (SPT)

Berlin Hyp AG
Reduce loan portfolio's carbon intensity by 40% in 2030

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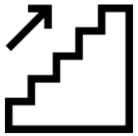
Examples of Bond Structural Features



Step-up

- One-off coupon step-up at maturity
- Increased coupon step-up applicable following target observation date
- Where SLB allows >2 observation & step-up dates, step-ups could be cumulative

Purchase of Carbon Offsets

- Purchase of carbon offsets equivalent to a 0.25% increase in the coupon

Repayment at Maturity or Specified Date

- Failure to meet SPTs result in % repayment of Nominal Amount

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Example: Enel SDG/Sustainability-Linked Bond (KPI #2: Renewable Installed Capacity)

Sustainability Performance Target	**31 December 2021** : Equal to or exceeding 55%	**31 December 2022** : Equal to or exceeding 60%
Interest Step Up Option	0.25% increase in the interest rate applicable to interest periods following reference date upon the non-satisfaction of the Target Condition	

Statement of the Renewable Installed Capacity Percentage as of June 30, 2020

Description		Amount in MW
Renewable Energy Installed Capacity	(a)	42,892
Total Installed Capacity	(b)	82,711
Renewable Installed Capacity Percentage	(a) / (b)	51.9%

Statements of the Renewable Installed Capacity Percentage as of June 30, 2021 for the purposes of the USD Terms and Conditions, Euro Terms and Conditions and GBP Terms and Conditions (as defined hereinafter)

Description		Amount in MW
Renewable Energy Installed Capacity	(a)	46.580
Total Installed Capacity	(b)	85.535
Renewable Installed Capacity Percentage	(a) / (b)	54,5%

31 December 2022

	Calculation
Renewable Energy Installed Capacity	(a) 53,030 MW
Total Installed Capacity	(b) 84,047 MW
Renewable Installed Capacity Percentage	(a) / (b) 63,1 %

Further details on the applicable definitions and preparation criteria used for the purpose of the above calculation are set out below.

As a consequence of the calculation above, Enel informs that it has satisfied the Sustainability Performance Targets (SPTs) under all the instruments linked to a Renewable Installed Capacity Percentage equal or higher to 60% as of 31 December 2022.

Limited Independent Assurance Report (KPMG)

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