

SECOND-PARTY OPINION REPORT

PENGURUSAN ASET AIR BERHAD

External Review Parameters

Scope of review	❖ Pengurusan Aset Air Berhad’s Sustainable Islamic Finance Framework
Instrument types	❖ Green, Blue, Social or Sustainability Bond/Sukuk ❖ Green, Blue, Social, or Sustainability Loan/Islamic Financing
Relevant guidelines	<p>Securities Commission Malaysia (SC)</p> <ul style="list-style-type: none"> ❖ Sustainable and Responsible Investment (SRI) Sukuk Framework <p>ASEAN Capital Markets Forum (ACMF)</p> <ul style="list-style-type: none"> ❖ ASEAN Green Bond Standards (GBS) ❖ ASEAN Social Bond Standards (SBS) ❖ ASEAN Sustainability Bond Standards (SUS) <p>International Capital Market Association (ICMA)</p> <ul style="list-style-type: none"> ❖ Green Bond Principles (GBP) ❖ Social Bond Principles (SBP) ❖ Sustainability Bond Guidelines (SBG) <p>Loan Market Association (LMA)</p> <ul style="list-style-type: none"> ❖ Green Loan Principles (GLP) ❖ Social Loan Principles (SLP)
Relevant thematic guidance	<p>ICMA</p> <ul style="list-style-type: none"> ❖ Bonds to Finance the Sustainable Blue Economy – A Practitioner’s Guide <p>International Finance Corporation (IFC)</p> <ul style="list-style-type: none"> ❖ Guidelines for Blue Finance Version 2.0
Validity	Valid as long as the cited framework and relevant guidelines remain unchanged from the publication of this report

Sustainable Finance Rating



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EXECUTIVE SUMMARY

RAM Sustainability has assigned a **Platinum** Sustainable Finance Rating (SFR) to the Sustainable Islamic Finance Framework (the Framework) prepared by Pengurusan Aset Air Berhad (PAAB or the Issuer). The Framework comprehensively describes the four core components which lay down guidelines for all green, social and sustainability bonds/sukuk/loans/Islamic financing (herein referred to as Sustainable Finance Transactions or SFTs) to be issued/drawn by PAAB. These four core components are Use of Proceeds, Project Evaluation & Selection, Management of Proceeds, and Reporting. The Framework also includes blue projects, which are thematic green projects that focus on supporting a sustainable blue economy and ocean health. The blue project categories are found to be aligned to relevant thematic guidance by ICMA and IFC.

The *Platinum* SFR is underpinned by the expected significant contribution of its eligible projects to environmental and social benefits. PAAB's eligible project categories include Sustainable Water and Wastewater Management, Terrestrial/Aquatic Biodiversity Conservation, Climate Change Adaptation, Renewable Energy, Green Building and Affordable Basic Infrastructure. These projects are aligned with PAAB's sustainability strategies as well as national agenda, primarily the Water Sector Transformation 2040 (WST 2040) which is to strengthen domestic water security and sustainability.

In the immediate term, PAAB will issue Islamic commercial papers under an existing Islamic commercial papers programme of up to RM2.0 bil in nominal value (the Sukuk Programme) to finance its ongoing and future water-related projects. For issuances under the Sustainable Water and Wastewater Management, Terrestrial/Aquatic Biodiversity Conservation and Climate Change Adaptation project categories, these will also be considered blue financing – a first in Malaysia.

The rating is further supported by the strong alignment of the Framework with the transparency and disclosure requirements of the relevant guidelines indicated. The Issuer's overall sustainability governance and management is viewed to be robust. PAAB's sustainability governance is overseen by its Board of Directors. Its sustainability strategy is aligned with the 2030 Agenda for Sustainable Development and Paris Agreement. PAAB's Sustainability Policy guides its sustainability practices, supported by various environmental, social and governance (ESG) policies. PAAB also holds *ISO 9001:2015 - Quality Management System* and *ISO 37001:2016 - Anti-Bribery Management System* certification.

PAAB is a national water asset company whose mandate is to finance and develop water assets/infrastructure in Peninsular Malaysia and Labuan. In 2022, under a special purpose vehicle, Pengurusan Air SPV Berhad (PASB), a Sustainability Sukuk Framework was established for the issuance of Islamic commercial papers under the Sukuk Programme. The Framework is an update to and supersedes PASB's Sustainability Sukuk Framework.

PAAB plays a core enabling role of the WST 2040, with its current pipeline of projects totalling RM7.62 bil being related to WST 2040. The Issuer is also a key driver of the National Non-Revenue Water (NRW) Programme by the Ministry of Energy Transition and Water Transformation (or PETRA), a programme set up with the goal to reduce NRW to 28.8% by 2030¹ (2024: 34.3%²). PAAB estimates capital expenditure of RM1.4 bil for this programme between 2026 and 2030.

¹ [Malaysia's 31 Pct NRW Target Stalls Amid Financial Strain, COVID-19 Pandemic - Fadillah \(BERNAMA, 24 February 2026\)](#)

² [Water and Sewerage Fact Book 2024 \(SPAN\)](#)

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RAM Sustainability is not aware of any conflict of interest relating to the opinion it provides in this report. RAM Sustainability will adequately disclose all relevant information in the report if there is any such instance.

METHODOLOGY

RAM Sustainability's Second-Party Opinion independently assesses an issuer/borrower's Framework for bond, sukuk, loan or other relevant financial instruments against market best practices in adherence to regulations and guidelines, namely that of the SC, ACMF, ICMA and/or the LMA.

Our analytical process also examines the contribution of eligible projects to environmental and social benefits as well as climate change resilience and adaptation, and the issuer/borrower's sustainability governance. In most situations, we would further consider technological advancements, relevant peer comparisons, evolving best practices and, ultimately, the environmental and/or social impact created. As sustainable finance continues to evolve, RAM Sustainability will stay updated with new considerations and adapt accordingly to ensure our approach stays current and consistent with prevailing best practices.

After considering the above, our opinion is consolidated into a Sustainable Finance Rating – **Bronze, Silver, Gold or Platinum**.

The Framework reviewed by RAM Sustainability may meet the market or regulatory requirements to label bond, sukuk, loan and other sustainability-related instruments as 'green', 'social', 'sustainability', 'sustainability-linked', 'blue' or climate' or meet United Nations Sustainable Development Goals (UNSDGs or SDGs).

RAM Sustainability's Second-Party Opinion Report will display opinion on the Framework's characteristics and the current/future impacts of eligible projects to the environment, social and/or SDG as follows:







Alignment to Relevant Guidelines

RAM Sustainability classifies the transparency and disclosure strength of green, social or sustainability bond/sukuk frameworks in comparison to applicable guidelines or best practices.

Level	Framework Characteristics
Weak	Not observable in the framework.
Aligned	Observable in the framework but is below best practice.
Strong	Observable in the framework and in line with best practice.
Advanced	Observable in the framework and is more stringent, comprehensive and establishes a new benchmark and new best practice.

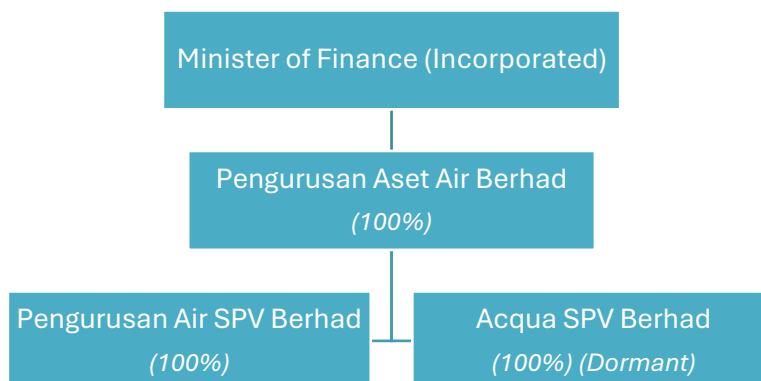
Environmental and Social Benefit Assessment

RAM Sustainability provides qualitative and quantitative assessments on the net impact – both green and social dimensions – of eligible projects, assets and/or categories and their contribution to a low-carbon future or social solutions, respectively. EB and Social Benefit (SB) tiers are assigned to individual eligible projects and/or categories, indicating the potential environmental and/or social impact.

Tiering	Definition
 Environmental Benefit Tier-1	Proceeds toward eligible project, asset or category has significant contribution towards climate and environmental benefit(s).
 Environmental Benefit Tier-2	Proceeds toward eligible project, asset or category has some contribution towards climate and environmental benefit(s).
 Environmental Benefit Tier-3	Proceeds toward eligible project, asset or category has small contribution towards climate and environmental benefit(s).
 Social Benefit Tier-1	Proceeds toward eligible project, asset or category provides significant social benefit(s) by contributing to measurable societal solutions on a significant scale, depth and duration.
 Social Benefit Tier-2	Proceeds toward eligible project, asset or category has considerable social benefit(s) by contributing to measurable societal solutions on a sizeable scale, depth and duration.
 Social Benefit Tier-3	Proceeds toward eligible project, asset or category has demonstrable social benefit(s) by contributing to measurable societal solutions on a minor scale, depth and duration.
Not Applicable	Unclear purpose of proceeds that may cause significant harm to the environment or directly cause social harm will not be assigned an EB or SB rating, respectively.

SECOND-PARTY OPINION ON THE FRAMEWORK

1. Corporate Profile



Source: The Framework

Figure 1: PAAB Corporate Structure

PAAB was incorporated on 5 May 2006, formed pursuant to the Water Services Industry Act 2006 to support Malaysia’s national water services industry restructuring. A wholly owned company of the Minister of Finance (Incorporated), PAAB serves as the national water asset custodian and financier, facilitating the consolidation of ownership and funding responsibility for water infrastructure assets across Peninsular Malaysia and Labuan. Under the restructured model, Water Operators (WOs) focus on operations and maintenance of the water assets.

PASB is a special purpose vehicle established by PAAB to undertake the issuance of Islamic medium-term notes and Islamic commercial papers in connection with PAAB’s mandate. ACQUA SPV Berhad is also wholly owned and is described as dormant since September 2019.

2. Alignment to Relevant Guidelines

Our review examines the four core components under the Framework in accordance with the relevant guidelines:

- (i) Use of Proceeds
- (ii) Project Evaluation and Selection Process
- (iii) Management of Proceeds
- (iv) Reporting Commitments

We find the Framework to have a *Strong* level of disclosure. Table 1 shows the assessment of each component's alignment to relevant guidelines. For a detailed review, see Appendix 1 for the SRI Sukuk Framework Checklist, Appendix 2 for the ASEAN SUS Checklist and Appendix 3 for the ICMA External Review Form.

Additionally, the Framework is also aligned to ICMA's Bonds to Finance the Sustainable Blue Economy – A Practitioner's Guide and IFC's Guidelines for Blue Finance Version 2.0 (collectively, Blue Finance Guidelines). Beyond compliance with the four core components, the Blue Finance Guidelines also establish an eligibility framework for blue financing activities.

Table 1: RAM Sustainability's Assessment of PAAB's Framework

Components	GBP/SBP	GLP/SLP	GBS/SBS	SRI Sukuk Framework
Use of Proceeds (By Asset/Project Category):	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>
i) Indicative Proceeds Allocation	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>
ii) Exclusion List:				
- Issue Transaction-level	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>
- Group-level	<i>PAAB finances and develops water infrastructure across Peninsular Malaysia and Labuan.</i>			
Project Evaluation & Selection Process	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>
Management of Proceeds	<i>Aligned</i>	<i>Aligned</i>	<i>Aligned</i>	<i>Aligned</i>
Reporting Commitments:				
i) Allocation reporting	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>
ii) Impact reporting	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>	<i>Strong</i>

2.1 Use of Proceeds

Broadly defined, green projects refer to innovative, climate-friendly solutions that help deliver clear environmental benefits. Social projects refer to solutions that are geared towards positive societal outcomes for a target population group. The eligible categories outlined in the Framework are eligible activities as per the relevant guidelines (see Section 3.1). Some projects are also blue projects which are green projects that emphasise sustainable use and protection of water resources and promote related sustainable economic activities. These projects are eligible blue projects as per the relevant thematic guidance.

Proceeds from PAAB's SFTs will be exclusively used to finance and/or refinance, in part or in full, new and/or existing eligible green and/or social projects, assets or activities including the value of fixed assets, investments and capital expenditures (capex), operating expenditure (opex) and/or research and development related to eligible projects. The refinancing of opex incurred will be subject to a maximum look-back period of up to 36 months from time of issuance.

Proceeds may also be applied towards working capital requirements, refinancing of existing debt, fees and expenses, and inter-company advances to PAAB and its subsidiaries, provided such uses relate to eligible projects. For sukuk issuances and Islamic financing transactions, PAAB will ensure that proceeds are utilised for Shariah-compliant purposes only.

We view this to be aligned with the requirements of the relevant guidelines as well as best market practices.

Ineligible Projects

The Framework incorporates a list of activities for which the use of SFT proceeds is prohibited, consistent with the relevant guidelines, which are as follows:

- i. Luxury sectors (precious metals/precious minerals/artworks and antiques, wholesale or brokerage);
- ii. Child labour or forced labour;
- iii. Gambling;
- iv. Adult entertainment;
- v. Weapons and military contracting;
- vi. Alcohol;
- vii. Tobacco;
- viii. Fossil fuel generation-related activities (including extraction, exploration, production, power generation or transport of fossil fuels); and
- ix. Production or trade in any product or activity deemed illegal under international conventions and agreements, or subject to international bans.

2.2 Project Evaluation and Selection Process

The Framework describes an evaluation and selection process where PAAB’s Sustainability Steering Committee (SSC), together with the Project Evaluation Committee (PEC) evaluates and selects eligible projects through a systematic process. Eligibility considerations include project adherence to the eligibility criteria, alignment with PAAB’s sustainability objectives and strategies, and environmental and social risk assessments.

As part of PAAB’s environmental and social risk management, Environmental Impact Assessments (EIAs) and Environmental Management Plans (EMPs) are conducted and developed, as required by local legal requirements. PAAB’s practices are guided by its zero-discharge policy, green procurement principles, Health, Safety, Security & Environment (HSSE) Policy and ISO 9001 Quality Policy. PAAB is committed to continuous compliance with the relevant ESG standards or recognised best practices relating to the eligible projects and may include IFC’s Environmental and Social risk management standards.

The Sustainability Committee (SC) will be updated on a quarterly basis, or as required on the implementation activities. Should a project no longer be eligible, or in case of divestment, the proceeds will be allocated to other eligible projects as soon as practicable. The SC will also be responsible for managing any future updates to the Framework and any changes will be published on PAAB’s website.

Table 2: PAAB’s SSC’s Composition and Responsibilities with respect to the Framework

Sustainability Steering Committee	
Composition	
Chaired by Chief Executive Officer	
Members include Chief Financial Officer and Chief Operations Officer and heads of division from business units such as:	
<ul style="list-style-type: none"> • Asset & Land Management • Technical & Engineering • Project Delivery • Special Projects 	<ul style="list-style-type: none"> • Commercial • Corporate Services • Finance • Human Resource & Administration
Responsibilities w.r.t the Framework	
Together with the SC, PEC and relevant teams:	
<ul style="list-style-type: none"> • Oversee the implementation of the Framework to ensure effective governance, compliance and alignment with PAAB’s sustainability objectives, which includes oversight of project selection, utilisation of proceeds, as well as allocation and impact reporting • Propose projects for SFT consideration, in accordance with the eligibility criteria • Review, select, validate and monitor the pool of eligible projects, based on the categories and criteria as specified in this Framework, which is in alignment with PAAB’s sustainability strategy • Review and approve any proposed updates to this Framework, to reflect any changes on PAAB’s sustainability strategies and initiatives and in the event that projects no longer meet the eligibility criteria • Review and validate the relevant reports, including annual Allocation and Impact Reports • Monitor the ongoing evolution related to the sustainable finance markets in terms of disclosure and reporting to be in line with market best practices, e.g., appointment of an independent auditor to provide an annual assurance report, to the extent where feasible • Monitoring ESG controversies based on the EIA and EMP conducted and developed for PAAB’s projects, or as they may arise. 	

Source: *The Framework*

In our view, the processes employed by PAAB are consistent with best practices observed for the evaluation of eligible green and social financing.

2.3 Management of Proceeds

PAAB has defined the internal processes linked to the management of proceeds. The SFT proceeds raised will be tracked internally by PAAB’s Treasury and Corporate Finance Department to be allocated to eligible projects. In case of asset divestment or the cancellation of a project, PAAB will aim to fully allocate the proceeds within 36 months.

Any unallocated proceeds will be earmarked and held in accordance with PAAB’s Treasury and Corporate Finance Department standard operating procedure/manual, such as in the form of temporary sustainable cash or cash equivalent investment instruments.

In our view, the processes employed by PAAB are in line with the requirements of the relevant guidelines for the management of proceeds.

2.4 Reporting Commitments

Issuers are required to establish a formal process to communicate the allocation of proceeds and the positive impact created. PAAB is committed to publishing allocation and impact reporting on an annual basis, at least until full allocation or in case of material changes. The report may include the following information:

Table 3: PAAB’s Reporting Commitments

Allocation Reporting	<ul style="list-style-type: none"> ▪ The amount issued and outstanding for the SFTs ▪ The total value of eligible projects financed/refinanced ▪ Description of the portfolio of eligible projects including a breakdown of the allocated amounts by eligible project categories where appropriate ▪ The amount and/or percentage of new and existing projects (share of financing and refinancing) ▪ Any further information on how unallocated proceeds have been held
Impact Reporting	<p>PAAB may provide the following performance indicators for eligible projects, including respective calculation methodologies where relevant and feasible:</p> <ol style="list-style-type: none"> a. Sustainable Water and Wastewater Management <ul style="list-style-type: none"> ▪ Reduction in NRW percentage (%) ▪ Avoided water leakage (m³) ▪ Volume of wastewater treated for reuse (m³)/reclaimed water ▪ Area covered by sustainable land and water resources management practices ▪ Annual water savings in m³/a and/or in % b. Terrestrial/Aquatic Biodiversity Conservation <ul style="list-style-type: none"> ▪ Number of water bodies with improvement linked to effluent changes ▪ Land assessed and managed for biodiversity (ha) ▪ Number of biodiversity projects undertaken ▪ Reforested and recovered area (ha) c. Climate Change Adaptation <ul style="list-style-type: none"> ▪ Number of projects undertaken for water resilience improvement ▪ Number of sensors, monitoring tools installed for improved forecasting d. Renewable Energy

	<ul style="list-style-type: none"> ▪ Number of renewable energy projects constructed ▪ GHG emissions reduced/avoided in metric tonnes of CO₂e ▪ Annual renewable energy generation in MWh per year ▪ Installed capacity of renewable energy in MW <p>e. Green Building</p> <ul style="list-style-type: none"> ▪ Number of green buildings constructed ▪ Type of green buildings constructed by certification type ▪ Estimated annual energy consumption in kWh/m² or savings in MWh ▪ Estimated annual GHG emissions reduced and/or avoided in tCO₂e <p>f. Affordable Basic Infrastructure</p> <ul style="list-style-type: none"> ▪ Number of water infrastructure projects built/upgraded (e.g. rooftop tanks and pumping systems) ▪ Number of water treatment plants (WTPs) built or upgraded ▪ Percentage/size of populations provided access to clean water and/or sanitation ▪ Number of new household water connections
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Source: The Framework

The allocation and impact reporting, along with this Second Party Opinion Report, will be made publicly available on PAAB’s corporate website (<https://www.paab.my/>). The Second Party Opinion Report will also be available on RAM Sustainability’s website (<https://www.ram.com.my/sustainability>). Should the Issuer pursue post-issuance verification of the allocation of proceeds, impact reporting and its management of proceeds, the report will be included in the annual progress report.

In our view, the disclosure requirements prescribed in the Framework are clearly defined and in line with market practice.

3. Sustainability Impact

3.1 Environmental Benefit & Social Benefit Assessment


RAM Sustainability is of the view that the green and social projects defined in the Framework are eligible project categories. Projects described in the Sustainable Water and Wastewater Management, Terrestrial/Aquatic Biodiversity Conservation and Climate Change Adaptation project categories are also aligned to the requirements of relevant thematic guidance for blue bonds, which reflects their substantial contribution to SDG 6 and SDG 14. We have assigned EB and SB rankings to PAAB’s eligible project categories.

Table 4: RAM Sustainability’s EB and SB Assessment of PAAB’s Eligible Project Categories

No.	Eligible Project Category under guidelines	PAAB’s Eligible Projects	RAM Sustainability EB and SB Ranking
1	Sustainable Water and Wastewater Management	Sustainable Water and Wastewater Management	 Environmental Benefit Tier-1
<p>Rationale:</p> <p>The SFT proceeds will be utilised for the construction, development, operation, maintenance, renovation and upgrade of water supply infrastructure within 100 km of the coast. Sustainable water and wastewater management projects not only increase water supply but also improve water quality, elevate water supply and distribution efficiency, reduce energy use and protect water resources. This eligible project category is aligned with the goals of a low-carbon future and has demonstrable environmental benefits. The eligible projects outlined in this category are also eligible blue projects aligned to Section 3A: Sustainable Water and Wastewater Management of IFC’s Guidelines for Blue Finance Version 2.0.</p> <p>Eligible projects include water production and supply, water supply efficiency and NRW reduction measures, water treatment residue management, water reclamation and desalination plants. The eligibility criteria for water production and supply, and desalination plants are clear. These are:</p> <ul style="list-style-type: none"> • WTPs with net average energy consumption for abstraction and treatment ≤ 0.5 kWh/m³ produced water supply, or Infrastructure Leakage Index (ILI) • Desalination projects with energy consumption ≤ 3.5 kWh/m³ saline water abstracted complete with sustainable/circular brine disposal management such as brine mining. <p>The ILI is an internationally recognised performance indicator, developed by the International Water Association, that measures real (physical) water loss management performance, where an ILI ≤ 1.5 is considered Excellent and indicates low leakage levels in water distribution systems. IFC’s Guidelines for Blue Finance Version 2.0 specifies that sustainable water supply systems (including distribution systems, i.e., pipeline and network) must demonstrate a minimum of 10% increase in water efficiency. While the Issuer’s eligibility criteria for WTPs do not specify a minimum 10% improvement, the ILI ≤ 1.5 criterion reflects significant contribution to SDG 6 and SDG 14, making it consistent with the principles of the Blue Finance Guidelines.</p> <p>The WTP energy consumption criterion is in line with the Tier 1 (Green) Environmental Objective 1: Climate Change Mitigation Technical Screening Criteria for construction, extension and operation of water collection, treatment and supply systems under the ASEAN Taxonomy for Sustainable Finance version 4. This indicates alignment to decarbonisation pathways and the goals of a low-carbon future.</p> <p>The Industrial applications of seawater desalination commonly use either distillation (thermal-based method) or reverse osmosis (membrane-based method), both of which are highly energy-intensive.</p>			

Reverse osmosis has an energy consumption of 3-5.5 kWh per m³ of abstracted water³, which is relatively lower than that for thermal-based technologies. According to the Issuer, it is committed to achieve the lowest energy consumption levels over the long term through advanced and best available technologies, where feasible, to ensure no carbon lock-in because of desalination projects. The Issuer also clarified that energy efficiency efforts such as renewable energy integration is required to meet the threshold set. That said, PAAB has indicated that it does not have any immediate desalination projects to be financed at this juncture.

According to PAAB, it intends to finance its pipeline of projects for the WST 2040 under the Framework. These include WTPs in Selangor, Kedah, Penang, Johor and Kelantan, with an estimated cost of RM7.62 bil, and pipe replacement projects in Pahang and Kelantan to reduce NRW.


2	Terrestrial/Aquatic Biodiversity Conservation	Terrestrial and Aquatic Biodiversity Conservation	
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Rationale:
 PAAB may utilise the SFT proceeds to finance/refinance the protection, conservation and restoration of terrestrial and aquatic ecosystems, within the marine environment or within 100 km of the coast. Investments in biodiversity and nature conservation projects provide a suite of environmental benefits such as reducing air and water pollution; preserving wildlife habitats, endangered species and biodiversity; managing and protecting watersheds and wetlands; and helping to sequester greenhouse gases.

Eligible projects include:

- Careful management of resources and conservation areas and Reforestation Projects and recovery of water basins
- Conservation of the environment and water basin systems
- Restoration of rivers and other wetland environments
- River water quality improvements
- Preservation of watercourses in good ecological and chemical condition, accommodating abstractions, effluent and land run-off

The eligible projects outlined in this category are also eligible blue projects aligned to Section 3E: Habitat Restoration and Protection of Coastal, Marine, and Watershed Environments of IFC’s Guidelines for Blue Finance Version 2.0.

3	Climate Change Adaptation	Climate Change Adaptation	
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Rationale:
 PAAB may utilise SFT proceeds for climate adaptation projects beyond business-as-usual renovations and retrofits, including water infrastructure and ecosystem resilience, within 50 km of the coast or within the marine environment and exclude grey infrastructure in ecologically sensitive areas. Eligible projects are based on climate change impacts identified in vulnerability assessments. Given the potential effects of climate change, it is critical to mitigate these climate risks to prevent large environmental and financial impacts.

PAAB has conducted a Climate Change Assessment to identify material climate-related risks and inform its mitigation and adaptation approach. The assessment involved mapping PAAB’s assets


³ [Energy Requirements of Desalination Processes](#) (Encyclopedia of Desalination and Water Resources)

against historical and projection-based climate data and hydrological modelling provided by National Water Research Institute of Malaysia (NAHRIM), combined with PAAB’s existing Geographic Information System (GIS) asset data. Key findings include the identification of 79 flood-exposed assets requiring prioritisation for adaptation measures and the need for emergency response planning for approximately 33% of assets located in high drought-risk zones during periods of rainfall deficit.

Eligible projects under this category include:

- Water Resources Modelling system based on meteorological forecast and historical data for better forecasting capabilities and management of water resources in view of the increase in extreme weather events, inclusive of the use of Artificial Intelligence (AI) applications where possible
- Sensors and Supervisory Control and Data Acquisition (SCADA) systems for water resource real-time flow, levels, water quality monitoring and modelling for more accurate forecasting
- Redundancy for emergencies measures whereby the supply for WTPs across various regions rerouted or redistributed in case of plant failures or climate-related disruptions, which contributes to national water resilience

The eligible projects outlined in this category are also eligible blue projects aligned to Section 3A: Sustainable Water and Wastewater Management of IFC’s Guidelines for Blue Finance Version 2.0.

4	Renewable Energy	Renewable Energy	
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Rationale:

SFT proceeds may be utilised to finance or refinance the construction, development, acquisition, maintenance and/or operation of solar photovoltaic and hydropower facilities, systems and equipment. The eligibility criteria for hydropower projects are clear and in line with best practices for climate change mitigation. The deployment of renewable energy solutions displaces the use of fossil fuel and decarbonises the energy system, demonstrating a clear climate mitigation benefit and alignment to the goals of a low-carbon future.

According to the Issuer, it is looking into the feasibility of implementing in-pipe hydro projects in its assets which may be financed under the Framework.

5	Green Buildings	Green Buildings	
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Rationale:

Eligible projects are green buildings that are/to be certified with, at minimum;


- Green Building Index (GBI) Gold;
- Leadership in Energy and Environmental Design (LEED) Gold;
- GreenRE Gold;
- Building Research Establishment Environmental Assessment Method (BREEAM) Excellent;
- Malaysian Carbon Reduction and Environmental Sustainability Tool (MyCREST) 4 Stars;
- Sustainable Infrastructure Rating Tool (Sustainable INFRASTAR) 4 Stars; and
- Any green building certifications equivalent to similar standards.

This is applicable to all new and existing buildings/complexes, offices, and administrative buildings at WTPs. These are ambitious certification levels to ascertain a building’s environmental performance against a baseline. Higher certification levels are typically associated with better environmental performance, particularly in energy performance and indoor environmental quality. We note the Framework does not address the building’s energy use intensity. According to the International Energy

Agency (IEA), building operations consumed 30% of global final energy and contributed to 26% of global energy-related emissions in 2022⁴. According to the Issuer, any recertification will be pursued as and when required.

For the refurbishment/retrofit of buildings, in addition to the green building certification, an additional criterion of minimum 30% improvement in energy efficiency or primary energy demand over initial performance must be met. A building’s operational phase accounts for 80%-90% of its total lifecycle emissions due to required energy use⁵. This demonstrates clear climate mitigation benefit and is aligned to a low-carbon future.

Four of PAAB’s water infrastructure projects have received Sustainable INFRASTAR certification. These include the Conveyor System for Water Treatment Residuals at the Langat 2 Water Treatment Plant (WTP) in Selangor, PAAB’s largest water treatment facility, which achieved a 5-Star rating under the design and construction category, as well as the Air Jernih Water Treatment Plant in Alor Gajah, Melaka, which received two 4-Star ratings for the design of its treatment plant with a capacity of 90 million litres per day (MLD) and for the design of a balancing water tank with a total capacity of 10 million litres. The same project also obtained a 3-Star rating for the design assessment of its terminal water tank, which has a capacity of 10 million litres.

6	Affordable Basic Infrastructure	Affordable Basic Infrastructure	
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Rationale:

Proceeds from PAAB’s SFTs may be utilised to develop, construct, install and maintain systems and/or programmes that ensure distribution of affordable clean water for the general public and in particular the underserved and unserved communities that lack quality access to potable water which is an essential basic need. The scale, depth and duration of PAAB’s potential social benefit resulting from its social projects underpins the Tier-1 SB ranking. This reflects the importance of reliable water services and their influence on the nation’s community’s food security, water security, and health and safety, among others.

Eligible projects may include:

- Installation of affordable water treatment facilities and sanitation systems
- Installation of water efficient fittings at high water consumption public facilities such as mosques and places of worship and schools and institutions of higher learning
- Development of water pumping systems and distribution networks

As the custodian of water infrastructure assets in Peninsular Malaysia and Labuan, PAAB supports water supply services that benefit approximately 28 million people, representing about 80-82% of Malaysia’s population. While PAAB does not directly set water tariffs, it supports affordability through lowering the financing and asset-ownership burden that would otherwise be borne by WOs. Water assets transferred to PAAB are leased back to WOs with long tenors which allows WOs to focus on operations.

⁴ [Buildings Tracking Report – July 2023](#) (IEA, 2023)

⁵ [Common Carbon Metric for Measuring Energy Use & Reporting Greenhouse Gas Emissions from Building Operations](#) (UNEP SBCI)




3.2 National-Level Drivers and High-Level Mapping to UNSDGs




RAM Sustainability is also of the view that PAAB’s SFTs will support the following national-level objectives, plans and relevant UNSDGs⁶ related to areas defined in the eligible asset/project category.

Table 5: National- and State-Level Drivers and PAAB’s Green and Social Project Category Mapping to UNSDGs based on ICMA’s *Green, Social and Sustainability Bonds: A High-Level Mapping to SDGs*

<p>Sustainable Water and Wastewater Management</p>	
<p><u>Supporting efficient water resource management</u></p> <p>The National Water Resources Policy 2012 introduced by the Government of Malaysia (GoM) aims to guide sustainable water management through the adoption of Integrated Water Resources Management (IWRM) across all sectors. Further to that, accelerating the adoption of IWRM remains a key strategy in the Thirteenth Malaysia Plan (13MP). The IWRM aims to address water security challenges and maximise socioeconomic benefits while conserving the freshwater ecosystem. Efficient water resource management is in line with Malaysia’s goals of reaching rural clean water access coverage of 98% and keeping the NRW level at a 25% threshold.</p> <p>WST 2040 is Malaysia’s long-term agenda to turn water management into an economic growth driver by 2040. Under the second phase of this transformation plan, efforts will focus on accelerating IWRM adoption, developing indigenous technologies to meet international standards, achieving economies of scale, and establishing Malaysia as a regional hub for the water industry.</p> <p>PAAB intends to finance projects for the WST 2040 under the Framework which shows direct contribution to national-level agenda. These projects include construction of WTPs and pipe replacements across Peninsular Malaysia.</p>	
<p>Terrestrial and Aquatic Biodiversity Conservation</p>	
<p><u>Strengthening biodiversity protection</u></p> <p>The National Policy on Biological Diversity 2022-2030 aims to conserve and restore ecosystems, including protected areas, ecosystem restoration and ecological corridors across terrestrial, freshwater and marine realms. By 2030, the GoM targets at least 20% of terrestrial areas and inland waters, and 10% of coastal and marine areas to be conserved. The policy also targets the securing of important ecological corridors and enhance ecosystem resilience across terrestrial, freshwater and marine realms by 2030.</p> <p>The SFT proceeds will be utilised to finance projects that protect, conserve or restore terrestrial and aquatic ecosystems, within the marine environment or within 100 km of the coast, in line and contributing to national-level agenda.</p>	

⁶ [Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals](#) (ICMA, 2023)

Climate Change Adaptation	
<p>Developing resilient cities</p> <p>The Malaysia Smart City Framework (MSCF) is a national-level guide for local authorities, state governments and other stakeholders to develop smart cities throughout Malaysia. The MSCF highlights technological solutions to address urban challenges, improve quality of life, promote economic growth and create a sustainable and secure environment. The recently announced National Adaptation Plan (NAP) highlights measures to bolster adaptive capacities in priority areas and strengthen a climate-resilient society. According to the Minister of Natural Resources, Environment and Climate Change, the NAP would guide city design and planning to mitigate challenges resulting from climate change.</p> <p>The SFT proceeds may be utilised to finance climate change adaptation projects that ensure water resource resilience and availability, which is supportive of the national agenda to develop resilient cities.</p>	
Renewable Energy	
<p>Increasing renewable energy generation</p> <p>Under the 13MP, the GoM targets achieving a 35% renewable energy share of total energy installed capacity by 2030. It outlined strategies to increase access to green electricity supply such as through the Corporate Renewable Energy Supply Scheme, and implementation of the Community Renewable Energy.</p> <p>Under the National Energy Transition Roadmap (NETR), the GoM commits to reaching a 70% RE installed capacity share by 2050, with a solar PV installation target of 59 GW of installed capacity.</p> <p>PAAB's renewable energy investments will focus on solar photovoltaic and run-of river, low-storage or non-run-of-river hydropower projects. This is viewed to be in line with and contributing to the national-level agenda.</p>	
Green Building	
<p>Emphasis on green buildings</p> <p>Under the National Energy Policy 2022-2040 (DTN), green buildings are included in the emphasis on low-carbon activities as part of Key Economic Growth Activities (KEGA) 12: Green Economy. The National Energy Efficiency Action Plan 2015 further identifies Energy Audits in Buildings and Industries and Energy-Efficient Building Design as key initiatives in the government's target to achieve an 8% reduction in energy demand from the baseline. The Energy Efficiency and Conservation Act (EECA) will require the energy intensity performance of office buildings exceeding 8,000 sqm to comply with energy efficiency ratings prescribed by the Energy Commission, the failure of which would necessitate an energy audit and energy improvement plan.</p> <p>The Issuer may utilise the SFT proceeds to finance the construction of green-certified buildings/complexes and offices, including administrative buildings at WTPs.</p>	

<p>Affordable Basic Infrastructure</p>	<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>6 CLEAN WATER AND SANITATION</p> 	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> 
<p>Ensuring sustainable and affordable water supply</p> <p>The GoM has set the following national KPIs – water supply coverage of 99% and sewerage service coverage of 80% – to be achieved by 2030. It also aims to reduce water consumption to 160 litres per person per day by 2030. The water tariff rates in Malaysia are currently determined by Suruhanjaya Perkhidmatan Air Negara (SPAN) using its tariff setting mechanism whereby a water tariff review is conducted every three years. This is to ensure fair tariff adjustments for both water supply operators and consumers for long-term sustainability.</p> <p>The National NRW Programme by PETRA aims to reduce NRW to 28.8% by 2030. The programme adopts two approaches: (i) critical pipe replacement and holistic NRW solutions in Pahang, Kelantan, Perlis, Sabah, Sarawak and Labuan; and (ii) a prorated reimbursement mechanism to encourage participation by water operators in other states.</p> <p>The SFT proceeds will fund affordable basic infrastructure projects that provide affordable clean water for the general public, in particular, underserved and unserved communities. PAAB’s projects are also part of the National NRW Programme.</p>			

4. Sustainability Assessment

4.1 Group-Level Assessment

Sustainability Governance

PAAB's board of directors oversees PAAB's sustainability matters, supported by the SC and SSC.



Source: *The Framework*

Figure 2: PAAB's Sustainability Governance Structure

Sustainability Strategies

PAAB's sustainability strategy is aligned to the 2030 Agenda for Sustainable Development and the Paris Agreement and is intended to embed responsible practices into its operations.



Source: [PAAB Sustainability Statement 2024](#)

Figure 3: PAAB's Sustainability Framework

According to management representation, PAAB started tracking and measuring sustainability targets related to its headquarters in 2024. Moving forward, the Issuer plans to add operational data related to its projects/assets. PAAB also intends to conduct baselining of its emissions, before establishing a carbon emissions target.

State	Projects	Estimated Cost	Project Commencement
Selangor	Langat 2 WTP Phase 2 (760 MLD)	RM3.6 bil	3Q 2026
Kedah	Sidam Kiri WTP Phase 1 (200 MLD) Sg. Karangan WTP Phase 1 (150 MLD)	RM1.1 bil	3Q 2026
Penang	Sg. Muda WTP (114 MLD) Sg. Perai WTP (136 MLD)	RM1.1 bil	3Q 2026
Pahang	Pipe replacement	n/a	Ongoing
Johor	Layang 2 WTP Phase 2 (160 MLD)	RM114.0 mil	Ongoing
	Semangar WTP Phase 3 (200 MLD)	RM734.1 mil	4Q 2027
	Kayu Arang Pasong WTP (30 MLD)	RM278.6 mil	2Q 2027
Kelantan	Machang WTP* (120 MLD)	RM500 mil	3Q 2026
	Chicha WTP Phase 2 (40 MLD)	RM55.3 mil	Ongoing
	Bukit Chupak WTP (10 MLD)	RM55.7 mil	Ongoing
	Tanjung Mas WTP (22 MLD)	RM79.2 mil	Ongoing
	Pipe replacement	n/a	Ongoing
Total		RM 7.62 bil	

*Not included in the utilisation of proceeds under the Framework
Source: PASB Credit Rating Rationale (RAM Ratings, December 2025)

Table 6: PAAB's Ongoing and Future Key Projects

In our view, the eligible projects outlined in the Framework are aligned with PAAB's strategies and initiatives.

Sustainability Management

PAAB is guided by its Sustainability Policy, which is built upon its four Sustainability Pillars. Further supporting the implementation of sustainability practices, PAAB has various internal ESG policies such as:

- HSSE Policy
- ISO 9001 Quality Policy
- Energy Management Policy
- Green Procurement Principles
- Anti-Bribery and Corruption Policy
- Whistleblowing Policy

PAAB has ISO 9001:2015 – Quality Management System and ISO 37001:2016 - Anti-Bribery Management System certifications and are currently in the process of pursuing ISO 14001:2015 - Environmental Management System and ISO 45001:2018 - Occupational Health and Safety Management System certifications. According to the Issuer, it embeds sustainable practices in the design process, including in the Terms of Reference for vendors, to ensure vendor compliance with the eligibility criteria set out in the Framework.

Controversy Scan

Based on publicly available information on PAAB, PASB and Acqua SPV Berhad up to 18 March 2026, there were no controversies pertaining to the entities' ESG practices.

APPENDIX 1: SRI SUKUK FRAMEWORK CHECKLIST

Reference:

Guidelines on Unlisted Capital Market Products Under the SC's Lodge and Launch Framework

Part 3: Corporate Bonds and Sukuk

Chapter 7: SRI Sukuk

No.	Item	Requirement	Alignment	Comment
7.07 & 7.08	Eligible SRI Projects	<p>An Eligible SRI project refers to a project that seeks to achieve any one or a combination of the following objectives:</p> <ul style="list-style-type: none"> (a) Preserving and protecting the environment and natural resources. (b) Conserving the use of energy. (c) Promoting the use of RE. (d) Reducing greenhouse gas emissions. (e) Addressing or mitigating a specific social issue or seeking to achieve positive social outcomes, especially but not exclusively for a target population. (f) Improving society's quality of life. <p>Eligible SRI projects may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> (a) Green projects that relate to: <ul style="list-style-type: none"> (i) Renewable energy. (ii) Energy efficiency. (iii) Pollution prevention and control. (iv) Environmentally sustainable management of living natural resources and land use. (v) Terrestrial and aquatic biodiversity conservation. (vi) Clean transportation. (vii) Sustainable water and wastewater management. (viii) Climate change adaptation. (ix) Eco-efficient and/or circular economy-adapted products, production 	Yes	<p>Proceeds from PAAB's SFTs under the Framework may be allocated to partially or fully finance/re-finance new and/or existing eligible projects under the following categories:</p> <ul style="list-style-type: none"> i. Sustainable Water and Wastewater Management ii. Terrestrial/Aquatic Biodiversity Conservation iii. Climate Change Adaptation iv. Renewable Energy v. Green Building vi. Affordable Basic Infrastructure

No.	Item	Requirement	Alignment	Comment
		<p>technologies and processes.</p> <p>(x) Green buildings which meet regional, national or internationally recognised standards or certifications.</p> <p>(b) Social projects that relate to:</p> <p>(i) Affordable basic infrastructure.</p> <p>(ii) Access to essential services.</p> <p>(iii) Affordable housing.</p> <p>(iv) Employment generation, including the potential effects of SME financing and microfinancing.</p> <p>(v) Food security.</p> <p>(vi) Socioeconomic advancement and empowerment.</p> <p>(c) Projects which are the combination of green and social projects, as described in (a) and (b) above.</p> <p>(d) Waqf projects that relate to the development of waqf properties or assets.</p>		
7.10 & 7.11	Utilisation of Proceeds	An issuer must ensure that the proceeds raised from the issuance of the SRI sukuk are utilised only for the purpose of funding any activities or transactions relating to the Eligible SRI projects, as described in paragraph 7.08 above.	Yes	As in 7.07 & 7.08 above.
		In relation to the activities or transactions that involve the acquisition of a company undertaking Eligible SRI projects, an issuer must ensure that the company to be acquired does not carry on any other business or projects except the Eligible SRI projects.	Yes	The utilisation of proceeds may include the acquisition of or investment in a company undertaking eligible projects so long as it meets the applicable eligibility criteria set out within the Framework.

No.	Item	Requirement	Alignment	Comment
7.12	Process for Project Evaluation and Selection	An issuer must establish internal processes for the evaluation and selection of the Eligible SRI projects, as identified in paragraph 7.08 above.	Yes	The Framework outlines the Issuer's evaluation and selection process for eligible projects, ensuring that chosen activities meet eligibility criteria. The SSC of PAAB will evaluate and select eligible projects through a systematic process. For more details, see section 2.2.
7.13	Management of Proceeds	An issuer must ensure that the proceeds allocated to the Eligible SRI projects are deposited into a designated account or otherwise tracked in an appropriate manner.	Yes	The Issuer has defined the internal processes linked to the management of proceeds. Proceeds from the SFTs allocated to Eligible Projects will be tracked internally by PAAB's Treasury and Corporate Finance Department. Any unallocated proceeds will be held in sustainable cash or cash equivalent investment instruments in line with PAAB's Treasury and Corporate Finance Department standard operating procedure/manual. (see Section 2.3 Management of Proceeds).
7.14	Reporting	An issuer must provide the following information to the sukukholders, annually through a designated website: (a) The original amount allocated to the Eligible SRI projects. (b) The amount utilised for the Eligible SRI projects. (c) The unutilised amount and where such unutilised amount is placed or invested pending utilisation. (d) The list of Eligible SRI projects to which the SRI sukuk proceeds have been allocated, and a brief description of the said Eligible SRI projects and their impact or expected impact, including the key underlying methodology or assumptions used to determine the impact or expected impact.	Yes	The Issuer is committed to publishing allocation and impact reporting, on an annual basis, or in a timely manner in the case of material developments, and until full allocation of net proceeds. The allocation and impact reports will be made publicly available on PAAB's corporate website (https://www.paab.my/).
7.05 & 7.16	Disclosure Requirements	The information relating to the issuer and the details of the issuer's SRI Sukuk Framework must be made publicly accessible via a designated website to be disclosed by the issuer. Such information on	Yes	The allocation and impact reports, along with this Second Party Opinion Report, will be made publicly available on PAAB's corporate website (https://www.paab.my/). The Second Party Opinion Report will also be available on

No.	Item	Requirement	Alignment	Comment
		the designated website must be made available at the point of issuance and throughout the tenure of the SRI sukuk.		RAM Sustainability's website (https://www.ram.com.my/sustainability).
		<p>For the purpose of disclosure of the details of the issuer and the SRI Sukuk Framework under paragraph 7.05 above, the following information must be included:</p> <p>(a) The overall SRI objectives that the issuer intends to achieve.</p> <p>(b) The utilisation of proceeds from the issuance of the SRI sukuk. Where all or part of the proceeds are used for refinancing, an issuer must provide the amount of proceeds allocated to refinancing and which Eligible SRI projects will be refinanced.</p> <p>(c) The Eligible SRI projects to which the proceeds will be allocated.</p> <p>(d) The details of the Eligible SRI projects and, to the extent possible, the impact objectives of the Eligible SRI projects.</p> <p>(e) The processes used by the issuer to evaluate and select the Eligible SRI projects.</p> <p>(f) The criteria used by the issuer to identify and manage material environmental or social risks associated with the Eligible SRI projects.</p> <p>(g) The processes used by the issuer to manage the proceeds from the issuance of the SRI sukuk.</p> <p>(h) A statement that the issuer has complied with the relevant environmental, social and governance standards or recognised best practices relating to the Eligible SRI projects.</p>	Yes	<p>The Issuer has committed to publishing its Framework, which contains items (a) to (h), on its corporate website (https://www.paab.my/).</p> <p>For more detailed information on disclosure requirements, see Section 2.4 Reporting Commitments.</p>
7.17	External Review	If an external reviewer is appointed to assess and provide a report on the Eligible	Yes	RAM Sustainability has been appointed as an independent expert to provide a second opinion on the Framework. RAM

No.	Item	Requirement	Alignment	Comment
		<p>SRI projects or the issuer's compliance with the requirements under these guidelines, such external reviewer's report must be made available on the designated website.</p>		<p>Sustainability's analysis covers an assessment of the Framework against the disclosure requirements of the relevant guidelines and the Issuer's sustainability responsibilities.</p> <p>RAM Sustainability's Second Party Opinion Report shall be publicly available on PAAB's corporate website and RAM Sustainability's website.</p> <p>The Issuer may also appoint independent third parties to verify its allocation & impact reporting and management of proceeds post-issuance, the review of which will be included in the annual progress report.</p>

APPENDIX 2: ASEAN SUS CHECKLIST

Reference:

ASEAN Capital Markets Forum – ASEAN SUS

Item	No.	Requirement	Alignment	Comment
Eligible Issuers and Issuance	GBS 3.1 SBS 3.1	(i) Must be an ASEAN Issuer; or (ii) In the case of a Non-ASEAN Issuer, the eligible Green and Social Projects must be located in any of the ASEAN countries.	Yes	PAAB is an entity incorporated in Malaysia and is therefore an ASEAN Issuer.
	GBS 3.2 SBS 3.2	ASEAN Green and Social Bonds issuances must be originated from any of the ASEAN member countries.	Yes	The SFTs will be issued in Malaysia which is an ASEAN member country.
Eligible Green Projects	GBS 4.1.5 SBS 4.1.6	There are several broad categories of eligibility for Green Projects which contribute to environmental objectives such as climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation, and pollution prevention and control. Social Projects directly aim to help address or mitigate a specific social issue and/or seek to achieve positive social outcomes especially, but not exclusively, for a target population(s).	Yes	Proceeds from PAAB's SFTs under the Framework may be allocated to partially or fully finance/re-finance new and/or existing eligible projects under the following categories: <ul style="list-style-type: none"> i. Sustainable Water and Wastewater Management ii. Terrestrial/Aquatic Biodiversity Conservation iii. Climate Change Adaptation iv. Renewable Energy v. Green Building vi. Affordable Basic Infrastructure
Ineligible Projects	GBS 4.1.6 SBS 4.1.7	For clarification purposes, fossil fuel power generation projects are excluded from the ASEAN GBS. Projects which involve activities that pose a negative social impact related to alcohol, gambling, tobacco and weaponry are excluded from the ASEAN SBS.	Yes	SFT proceeds, according to the Framework, will not be utilised to fund projects related to fossil fuel power generation, alcohol, gambling, tobacco and weaponry, among others. See section 2.1 for full exclusion criteria.

Item	No.	Requirement	Alignment	Comment
Continuous Accessibility to Information and Reporting	GBS 4.2.1 SBS 4.2.1	The Issuer of ASEAN Green and Social Bonds must clearly communicate to investors – (i) The environmental sustainability and social objectives; (ii) The process by which the Issuer determines how the projects fit within the eligible Green and Social Projects categories identified above; and (iii) The related eligibility criteria, including, if applicable, exclusion criteria or any other process applied to identify and manage potentially material environmental and social risks associated with the Green and Social Projects.	Yes	Eligibility criteria for the use of proceeds and the process of evaluation and selection of eligible projects have been described in the Framework.
	GBS 4.2.5 SBS 4.2.5	The Issuer must make the following publicly available on a website designated by the Issuer at the time of the issuance and throughout the tenure of ASEAN Green and Social Bonds: (i) The process for project evaluation; (ii) The use of proceeds; and (iii) External review report on the process (if any).	Yes	The Issuer has committed to disclosing the necessary information on its corporate website. The Issuer will report on the allocation of proceeds and impacts of its eligible projects annually. For more details, see section 2.4.
	GBS 4.3.1 SBS 4.3.1	Prior to the issuance of the ASEAN Green and Social Bonds, the Issuer must disclose to investors in the documentation for the issuance of the ASEAN Green and Social Bonds the process for managing the net proceeds from the ASEAN Green and Social Bonds.	Yes	The Issuer has disclosed the required information in the Framework which will be published on its corporate website.

Item	No.	Requirement	Alignment	Comment
	GBS 4.3.4 SBS 4.3.4	The Issuer must also disclose to investors in the documentation for the issuance of the ASEAN Green and Social Bonds the intended types of temporary placement for the balance of unallocated proceeds.	Yes	Any unallocated proceeds will be held in sustainable cash or cash equivalent investment instruments in line with PAAB's Treasury and Corporate Finance Department standard operating procedure/manual (see Section 2.3 Management of Proceeds). The process for managing net proceeds is described in the Framework.
	GBS 4.4.5 SBS 4.4.5	The Issuer must provide to investors the annual reporting and the external review on the annual reporting, if any, through a website designated by the Issuer and/or annual reports throughout the tenure of the ASEAN Green and Social Bonds.	Yes	The allocation and impact reports will be made publicly available on PAAB's corporate website (https://www.paab.my/).
Encourage More Frequent Reporting	GBS 4.4.1 SBS 4.4.1	Issuers must report to investors at least on an annual basis and encouraged to make more frequent reporting on the use of proceeds until full allocation, and as necessary thereafter in the event of material developments. This should include a list of the projects to which the ASEAN Green and Social Bonds proceeds have been allocated, as well as a brief description of the projects and the amounts allocated and their expected impact.	Yes	The Issuer is committed to publishing allocation and impact reporting, on an annual basis, or in a timely manner in the case of material developments, and until full allocation of net proceeds.
External Review	GBS 5.1 SBS 5.1	Issuers are recommended to appoint external review providers for their ASEAN Green and Social Bonds issuances.	Yes	The Issuer has appointed RAM Sustainability as the independent external reviewer for its Framework.
	GBS 4.2.4 SBS 4.2.4	It is recommended that the Issuer's process for project evaluation and selection be supported by an external review.	Yes	The Second Party Opinion Report by RAM Sustainability covers project evaluation and selection.
	GBS 4.3.5 SBS 4.3.5	It is recommended that the Issuer's management of proceeds be supplemented by the use of an auditor, or other	Yes	The Issuer may appoint independent third parties to verify its allocation reporting and management of proceeds.

Item	No.	Requirement	Alignment	Comment
		third party to verify the internal tracking method and the allocation of funds from the ASEAN Green and Social Bonds proceeds.		
	GBS 4.3.6 SBS 4.3.6	Where the Issuer appoints an auditor or other third party to verify the Issuer's management of proceeds, the Issuer must make the report produced by the auditor or other third party publicly available on a website designated by the Issuer at the time of issuance of the ASEAN Green and Social Bonds.	Yes	The Issuer has committed to including post-issuance reviews, if any, which will be publicly available on PAAB's corporate website.
	GBS 4.4.4 SBS 4.4.4	It is recommended that the Issuer's annual reporting on the use of proceeds be supplemented by a confirmation of such use of proceeds by an external reviewer along with any relevant updates of the external review.	Yes	The Issuer may appoint an auditor or other third party to verify annual reporting on the use of SFT proceeds.

APPENDIX 3: ICMA EXTERNAL REVIEW FORM



Green, Social and Sustainability Bonds

External Review Form

This form complements the Bond Information Template that should have been filled in by the issuer. It provides additional information on the role of the External Reviewer when assessing the issuer's sustainability framework. This form may be used or adapted, where appropriate, to summarise the scope of the review.

Section 1. Basic Information

Issuer name: Pengurusan Aset Air Berhad

Bond ISIN⁷: Not available

Independent External Review provider's name: RAM Sustainability

Completion date of this form: 18 March 2026

Date of the review: 18 March 2026

Section 2. Overview

SCOPE OF REVIEW

The review:

- assessed the 4 core components of the Principles (**complete review**) and confirmed the alignment with the GBP, SBP and SBG.
- assessed only some of them (**partial review**) and confirmed the alignment with the GBP/SBP/SBG (*delete where appropriate*); please indicate which ones:
 - Use of Proceeds
 - Management of Proceeds
 - Process for Project Evaluation and Selection
 - Reporting
- assessed the alignment with other regulations or standards (CBI, EU GBS, ASEAN Green Bond Standard, ISO 14030, etc.); please indicate which ones: **SC SRI Sukuk Framework, ASEAN GBS, ASEAN SBS, ASEAN SUS, LMA GLP, LMA SLP**

⁷ The ISIN code is mandatory for publishing the form in the Sustainable Bond Issuers Database.

ROLE(S) OF INDEPENDENT REVIEW PROVIDER

- | | |
|---|--|
| <input checked="" type="checkbox"/> Second Party Opinion | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input checked="" type="checkbox"/> Scoring/Rating |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Does the review include a sustainability quality score⁸?

- | | |
|--|---|
| <input type="checkbox"/> Of the issuer | <input checked="" type="checkbox"/> Of the project |
| <input checked="" type="checkbox"/> Of the framework | <input type="checkbox"/> Other (<i>please specify</i>): |
| <input type="checkbox"/> No scoring | |

ASSESSMENT OF THE PROJECT(S)

Does the review include:

- The environmental and/or social features of the type of project(s) intended for the Use of Proceeds?
- The environmental and/or social benefits and impact targeted by the eligible Green and/or Social Project(s) financed by the Green, Social or Sustainability Bond?
- The potentially material environmental and/or social risks associated with the project(s) (where relevant)?

ISSUER'S OVERARCHING OBJECTIVES

Does the review include:

- An assessment of the issuer's overarching sustainability objectives and strategy, and the policies and/or processes towards their delivery?
- An identification and assessment of environmental, social and governance related risks of adverse impact through the Issuer's [actions] and explanations on how they are managed and mitigated by the issuer?
- A reference to the issuer's relevant regulations, standards, or frameworks for sustainability-related disclosure and reporting?

⁸ The external review may indicate the provider's opinion of the overall sustainability quality of a bond or bond framework and assess whether it has a meaningful impact on advancing contribution to long-term sustainable development.

CLIMATE TRANSITION STRATEGY⁹

Does the review assess:

- The issuer's climate transition strategy & governance?
- The alignment of both the long-term and short/medium-term targets with the relevant regional, sector, or international climate scenario?
- The credibility of the issuer's climate transition strategy to reach its targets?
- The level/type of independent governance and oversight of the issuer's climate transition strategy (e.g. by independent members of the board, dedicated board sub-committees with relevant expertise, or via the submission of an issuer's climate transition strategy to shareholders' approval).
- If appropriate, the materiality of the planned transition trajectory in the context of the issuers overall business (including the relevant historical datapoints)?
- The alignment of the issuer's proposed strategy and targets with appropriate science-based targets and transition pathways ¹⁰ that are deemed necessary to limit climate change to targeted levels?
- The comprehensiveness of the issuer's disclosure to help investors assess its performance holistically¹¹?

Overall comment on this section:

Section 3. Detailed Review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Does the review assess:

- the environmental/social benefits of the project(s)?
- whether those benefits are quantifiable and meaningful?
- for social projects, whether the target population is properly identified?

Does the review assess if the issuer provides clear information on:

- the estimated proceeds allocation per project category (in case of multiple projects)?
- the estimated share of financing vs. re-financing (and the related lookback period)?

⁹ Where issuers wish to finance projects towards implementing a net zero emissions strategy aligned with the goals of the Paris Agreement, guidance on issuer level disclosures and climate transition strategies may be sought from the [Climate Transition Finance Handbook](#).

¹⁰ GHG emissions reduction targets that are in line with the scale of reductions required to keep the average global temperature increase to ideally 1.5°C, or at the very least to well below 2°C above pre-industrial temperatures. Science Based Targets Initiative (SBTi) is a branded verification body for science-based targets and SBTi verification is one way for issuers to validate the alignment of their emission reduction trajectories with science-based reference trajectories. In addition, ICMA has published a [Methodologies Registry](#) which includes a list of tools to specifically help issuers, investors, or financial intermediaries validate their emission reduction trajectories..

¹¹ Including information such as the respective contribution (e.g. %) of the different measures to the overall reduction, the total expenses associated with the plan, or the issuer's climate policy engagement.

Overall comment on this section:

Proceeds from PAAB's SFTs under the Framework may be allocated to partially or fully finance/refinance new and/or existing eligible projects under the following categories:

- i. Sustainable Water and Wastewater Management
- ii. Terrestrial/Aquatic Biodiversity Conservation
- iii. Climate Change Adaptation
- iv. Renewable Energy
- v. Green Building
- vi. Affordable Basic Infrastructure

In the immediate term, PAAB will issue Islamic commercial papers under an existing Islamic commercial papers programme of up to RM2.0 bil in nominal value (the Sukuk Programme) to finance its ongoing and future water-related projects. Proceeds from PAAB's SFTs will be exclusively used to finance and/or refinance, in part or in full, new and/or existing eligible green and/or social projects, assets or activities including the value of fixed assets, investments and capex, opex and/or research and development related to eligible projects. The refinancing of opex incurred will be subject to a maximum look-back period of up to 36 months from time of issuance.

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Does the review assess:

- whether the eligibility of the project(s) is aligned with official or market-based taxonomies or recognised international standards? Please specify which ones.¹²
- whether the eligible projects are aligned with the overall sustainability strategy of the issuer and/or if the eligible projects are aligned with material ESG-related objectives in the issuer's industry?
- the process and governance to set the eligibility criteria including, if applicable, exclusion criteria?
- the processes by which the issuer identifies and manages perceived social and environmental risks associated with the relevant project(s)?
- any process in place to identify mitigants to known material risks of negative social and/or environmental impacts from the relevant project(s)?

Overall comment on this section:

The Framework outlines the Issuer's evaluation and selection process for eligible projects, ensuring that chosen activities meet eligibility criteria. The SSC and PEC of PAAB will evaluate and select the eligible projects through a systematic process.

¹² The EU Taxonomy, CBI Taxonomy, UK Taxonomy, China catalogue, etc.

3. MANAGEMENT OF PROCEEDS

Does the review assess:

- the issuer's policy for segregating or tracking the proceeds in an appropriate manner?
- the intended types of temporary investment instruments for unallocated proceeds?
- Whether an external auditor will verify the internal tracking of the proceeds and the allocation of the funds?

Overall comment on this section:

The SFT proceeds raised will be tracked internally by PAAB's Treasury and Corporate Finance Department to be allocated to eligible projects. In case of asset divestment or the cancellation of a project, PAAB will aim to fully allocate the proceeds within 36 months.

Any unallocated proceeds will be earmarked and held in accordance with PAAB's Treasury and Corporate Finance Department standard operating procedure/manual, such as in the form of temporary sustainable cash or cash equivalent investment instruments.

4. REPORTING

Does the review assess:

- the expected type of allocation and impact reporting (bond-by-bond or on a portfolio basis)?
- the frequency and the means of disclosure?
- the disclosure of the methodology of the expected or achieved impact of the financed project(s)?

Overall comment on this section:

The Issuer is committed to publishing allocation and impact reporting, on an annual basis, or in a timely manner in the case of material developments, and until full allocation of net proceeds. The allocation and impact reports will be made publicly available on PAAB's corporate website (<https://www.paab.my/>).

Section 4. Additional Information

Useful links (e.g. to the external review provider's methodology or credentials, to the full review, to issuer's documentation, etc.)

The allocation and impact reports, along with any modifications to the Framework and Second Party Opinion Report, will be made publicly available on PAAB's corporate website (<https://www.paab.my/>).

Analysis of the contribution of the project(s) to UN Sustainable Development Goals:

Additional assessment in relation to the issuer/bond framework/eligible project(s):

ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP

- 1) **Second Party Opinion:** An institution with environmental expertise, that is independent from the issuer may issue a Second Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- 2) **Verification:** An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- 3) **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- 4) **Green Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

ABOUT RAM SUSTAINABILITY

RAM Sustainability is a provider of sustainability services and ESG analytics. Incorporated on 31 May 2000, RAM Sustainability is a wholly owned subsidiary of RAM Holdings Berhad (RAM Group). RAM Sustainability is the first ASEAN-based provider of ESG ratings and second opinions and has the distinction of being the first Registered Observer of ICMA's Green Bond Principles, Social Bond Principles, Sustainability Bond Guidelines and Sustainability-Linked Bond Principles in ASEAN. For further details, please refer to <https://www.ram.com.my/sustainability>.

About RAM Group

RAM Holdings Berhad (RAM Group), formerly known as Rating Agency Malaysia Berhad, is a leading provider of independent credit ratings, research, training, risk analysis and bond pricing. Established in November 1990 as Malaysia's first credit rating agency, RAM Group transferred its rating operations to RAM Rating Services Berhad (RAM Ratings) on 1 July 2007. RAM Ratings is a wholly owned subsidiary of the Group.

RAM Ratings, plays a pivotal role in the Malaysian bond market. As the country's leading credit rating agency, it provides independent assessments of the creditworthiness of issuers and their debt securities. RAM Ratings has assessed over USD 480 billion in bonds from more than 750 entities. Its diverse portfolio includes corporates, sovereign nations, financial institutions, insurance companies, project finance and structured finance obligations. Renowned for rating Islamic securities (sukuk), RAM Ratings has won numerous awards in this arena, including the GIFA Championship Award (Islamic Finance Rating) at the Global Islamic Finance Awards (GIFA) in 2024 & 2025, and The Best Islamic Rating Agency (Malaysia) award at The Asset Triple A Islamic Finance Awards 2022. It recently received FocusEconomics Analyst Forecast Awards 2025 for runner-up in Forecaster - Malaysia GDP.

On 26 May 2016, RAM Ratings joined the United Nations-supported Principles for Responsible Investment's Statement on ESG in Credit Ratings, committing to a systematic incorporation of ESG into credit ratings. RAM Group became a member of the United Nations Global Compact on 9 April 2024, reinforcing its dedication to sustainability and corporate responsibility.

Bond Pricing Agency Malaysia Sdn Bhd (BPAM) became a wholly owned subsidiary of RAM Group on 30 June 2021. BPAM is the sole provider of bond pricing and valuation data for the Malaysian bond market and is regulated by the Securities Commission Malaysia. In accordance with the Guidelines on Registration of Bond Pricing Agencies, BPAM maintains segregation of management and operational resources from RAM Ratings to ensure full independence in its operations.

Bursa Malaysia RAM Capital Sdn Bhd (BR Capital), incorporated on 27 December 2022 as a joint venture between Bursa Malaysia Berhad (51%) and RAM Group (49%), is a recognised market operator registered with the Securities Commission Malaysia. BR Capital operates a digital platform that allows eligible issuers to raise debt financing through the issuance of investment notes.

For further details, go to <https://www.ram.com.my>.



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