

SCALING CREDIBLE TRANSITION FINANCE – **ASEAN** THE TRANSITION PLAN



Climate Bonds INITIATIVE

Prepared by Climate Bonds Initiative

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1. Introduction

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Key findings



The transition to net zero will be underpinned by the development of credible transition plans. These outline climate ambition and the business transformation necessary to reach that ambition. There is already good guidance available to guide the content and scope of transition plans.¹

1. Many companies are announcing net zero commitments and efforts are being made to develop transition plans (also called sustainability strategies, climate policies, climate action plans) with key performance indicators and performance targets.

2. There is scope for improvement as many plans are fragmented with information contained in multiple locations using different indicators, meaning that assessment of the ambition levels and impacts of these plans is difficult.

3. Targets are not yet consistently underpinned by the credible, comparable, and costed decarbonisation strategies and changes to business practices which are required.

Summary

To reach net-zero greenhouse gas (GHG) emissions by 2050, entities operating in most sectors must undergo a major transformation. The key tool that will enable this transformation is the development of a transition plan that is science-based, coherent, comprehensive, transparent and covers all material scopes of emissions and business activities. Transition plans identify and plan how an entity will align its business activities with net zero by 2050, outlining the costs and implementation action needed in the short and long term to transform operations.

This report presents the results of an examination of published sustainability and transition plans of several entities operating in the hard-to-abate sectors in ASEAN to assess the current state of transition planning and provide recommendations for next steps. Recent economic growth in ASEAN has been underpinned by fossil fuels which are plentiful and relatively cheap, meaning that for many entities, current business models are high emission. Many companies in the region also operate in the traditional hard-to-abate sectors, those which must make the most dramatic changes to their business models if they are to survive. Credible, transparent, and ambitious transition plans will be crucial to deliver on net-zero commitments.

Transition plans are voluntarily emerging from early movers in the private and public sector who are attempting to identify the necessary steps to align with a net-zero future. The content of these plans at present is extremely varied in both quality and scope. It is expected that transition plans will become mandatory for private sector actors in many jurisdictions as part of the global effort to meet Paris commitments and reach net-zero emissions.

To support stakeholders in this space Climate Bonds identified five hallmarks of a credibly transitioning company. These are the elements required to drive transformative change across a whole business and align with efforts to limit global warming to 1.5 degrees above pre-industrial levels, as per the Paris Agreement.² The main body of this report summarises the results of the analysis of the transition plans of nine ASEAN-based entities operating in the hard-to-abate sectors and suggests a transition plan for one more. Where possible, the chosen entities are active in the debt markets.

Climate Bonds Initiative (Climate Bonds) is an international organisation working to mobilise global capital for climate action. Climate Bonds seeks to develop mechanisms to better align the interests of investors, industry, and government to catalyse investments at a speed and scale sufficient to avoid dangerous climate change.



Cement: Siam Cement Group, Malayan Cement (YTL Cement), PT Semen Indonesia



Steel: Gunung Raja Paksi, NS Bluescope/Bluescope



Basic Chemicals: PTT Global Chemical, Petrochemical Corporation of Singapore (suggested)



Electric Utilities: PT Cikarang Listrindo TBK



Oil and Gas: PTT Public Company Limited



Agriculture: Olam Singapore

The analysis was based on publicly available information and assessed against Climate Bonds' five hallmarks of a credibly transitioning company. Best practice is highlighted, and areas of potential improvement are suggested for each entity.

Linked to credible transition plans, instruments such as sustainability-linked bonds (SLBs) can help issuers to raise relatively cheap finance to support their journey. It is crucial that these instruments are based on a clear strategic vision described in a transition plan, to allow the market to grow sustainably. This report includes guidance for designing credible, ambitious SLBs. *Page 16*

The report concludes with recommendations in the form of a checklist describing the necessary steps in developing a credible and ambitious transition strategy, so that more entities will gain the confidence to define robust plans for reaching net zero. *Page 17*

Overall, the sustainability and transition plans assessed fell short of meeting Climate Bonds' guidance; however, efforts are clearly being made to address climate change risks at entity level and converge towards net zero. Entities should work to define a pathway towards net-zero by 2050 based on the best currently available solutions, and clearly articulate how they expect to reach that objective following the guidance included in this paper.

Introduction

Entities are increasingly publishing net-zero commitments, in line with national pledges to halve GHG emissions by 2030 and limit global warming to 1.5 degrees. However, these net-zero targets are often set only for the long term, without a clear pathway or strategy outlining the business changes that will be needed or how the changes will be financed and overseen.³ To operationalise these commitments, it will be necessary to identify the sector decarbonisation pathway, quantify the costs associated with required business changes, establish senior level oversight to drive change, as well as put in place regular internal and external progress reporting.

As part of Climate Bonds' Transition Programme, these needs were recognised early on and the first iteration of *Transition Finance for Transforming Companies* was published in 2021.⁴ This guidance, updated in 2022, provides a comprehensive framework designed to support entities in developing credible and ambitious transition plans.⁵ This body of work is aligned with and complements guidance from other organisations including ICMA, GFANZ, TPI, ACT Initiative, and SBTi, among others.

Climate Bonds Standard and Certification Scheme

Climate Bonds has a market leading Standard scheme in place which offers guidance to issuers on elements of green bond issuance including frameworks, reporting, disclosure, and verification (Climate Bonds Standard V3.0). The Standard is complemented by individual Sector Criteria that set climate change benchmarks for each sector and are used to screen Use of Proceeds (UoP). This is being continually expanded,



and in 2022, Criteria were introduced to define acceptable UoP for Cement, Basic Chemicals, Steel, and Hydrogen Production. Issuers can follow this guidance to ensure they are meeting the highest levels of ambition, and Climate Bonds offers a Certification scheme through which issuers can verify that their UoP is in alignment.

In January 2023, Climate Bonds published its Standard V4.0 which added provisions to extend Climate Bonds Certification to entities and SLBs.

Climate Bonds' [Transition Finance for Transforming Companies](#) (referenced above) identifies **five hallmarks** of a credibly transitioning entity (Five Hallmarks), meaning an entity whose transition is rapid and robust enough to align with the global goal to nearly halve emissions by 2030 and reach net zero by 2050.

The Five Hallmarks address the requisite ambition of entity-level targets and determine the entity's willingness and ability to deliver on those forward-looking targets.

These Five Hallmarks also underpin the new Climate Bonds Standard V4.0 (launched in January 2023) which expands the Climate Bonds Certification scheme to entities and general-purpose finance, including SLBs.⁶ To obtain entity and SLB certification, an issuer will need to satisfy each Hallmark.

The expansion of the Standard has been driven in part by the rapidly growing SLB market. Climate Bonds has observed that the lack of guidance on credible sector-specific sustainability performance targets (SPTs) and key performance indicators (KPIs) has led to a relatively low level of ambition in many SLBs to date.⁷ Credible SLBs present opportunities for investors to allocate capital to meet their sustainable investment targets. They accommodate entities operating in a broad range of sectors and can help issuers to obtain cheaper financing.⁸ To grow the market credibly, SLBs should always have ambitious KPIs and SPTs calibrated in line with sector-specific pathways and captured within the entity's long-term public transition plan.

The Five Hallmarks are:



1. Paris-aligned targets



2. Robust plans



3. Implementation action



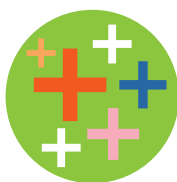
4. Internal monitoring



5. External reporting

2. Company-level transition plans

Climate Bonds analysed the transition plans of nine ASEAN-based entities operating in the hard-to-abate sectors of Cement, Electric Utilities, Oil and Gas, Steel, Chemicals, and Agriculture. Where possible, the selected entities were active in the debt markets. The analysis was based on publicly available information and assessed against the Climate Bonds Five Hallmarks (the assessment framework can be found in Appendix 1 on page 18). Best practice is highlighted and areas of potential improvement are suggested for each entity.



A strong, cross-cutting recommendation for every entity is the creation of a single, comprehensive, and named transition plan that is published prominently on its website, with links to regular progress reports and clear disclosures against the performance targets. The corporate strategies assessed were fragmented with information contained in many different documents, developed for different parts of the business at different times. The information was also contained within documents with various names including annual reports, climate action plans, sustainability strategies and supply chain policies. Climate Bonds has

classified any document or strategy aiming to support better environmental practices as part of a transition plan.

The table below provides a brief overview of the transition plan content and coverage as well as ease of access (whether the plan was clear, comprehensive, and published as a single document). This analysis is necessarily limited by language. Only English language plans were analysed and there may well be more complete information available in local languages.

Individual company level transition plans were evaluated against Climate Bonds' Checklist to achieve Five Hallmarks of a Credibly Transitioning Company (Appendix 1).

Hallmark scale

Weak: Little evidence could be found of data pertaining to the relevant hallmark

Medium: Some evidence could be found but did not meet all of the recommendations

Strong: Most or all of the required data was readily available






Ease of access scale

Weak: Data was scattered across multiple documents

Medium: Data was presented in several documents

Strong: Data was presented in a single document with information clearly labelled and benchmarks referenced.

Overview of transition plans

Company	 Hallmark 1 Paris-aligned targets	 Hallmark 2 Robust plans	 Hallmark 3 Implementation plans	 Hallmark 4 Internal reporting	 Hallmark 5 External reporting	Ease of access
Siam Cement Group	Strong	Medium	Medium	Strong	Strong	Medium
Malayan Cement (YTL Cement)	Weak	Strong	Medium	Medium	Medium	Medium
PT Semen Indonesia	Medium	Medium	Medium	Medium	Medium	Medium
Gunung Raja Paksi	Weak	Medium	Weak	Medium	Medium	Medium
NS Bluescope/Bluescope	Medium	Strong	Medium	Strong	Strong	Medium
PTT Global Chemical	Weak	Medium	Medium	Strong	Strong	Medium
Petrochemical Corporation of Singapore (suggested plan)	N/A	N/A	N/A	N/A	N/A	N/A
PT Cikarang Listrindo TBK	Weak	Weak	Weak	Medium	Medium	Medium
PTT Public Company Limited	Weak	Weak	Weak	Medium	Medium	Medium
Olam Singapore	Strong	Weak	Medium	Medium	Medium	Weak

Cement

Climate Bonds' Cement Criteria was published in October 2022.⁹ These Criteria cover assets and activities involved in the production of cement, and companies that operate such assets or activities.



Climate Bonds' 2022 *Cement Background Paper* states that it is not currently possible to achieve zero-carbon cement due to the limitations of today's technologies.¹⁰ However, the paper notes that considerable abatement is possible through the carbon intensity of binders, which, linked to improvement in concrete

technology and structural design, promises abatement of emissions of perhaps 95%, without requiring carbon capture and storage (CCS) or novel chemistries.

Siam Cement Group (SCG)

Sources: [Sustainability Report 2021](#); [Annual Report 2021](#); [SCG's Sustainability Portal](#)

SCG is the largest and oldest cement and building material company in Thailand and in South-East Asia, recording revenues of THB530bn (USD14.9bn) in 2021. In the same year, it totalled 33,000 KtCO₂e in scope 1 and 2 emissions, and 12,100 Kt scope 3 emissions.



This case study focuses on SCG's cement business (32% of entity revenue). SCG also has a chemicals segment (45%) and a packaging segment (23%). Its cement segment is responsible for 71% of its scope 1 and 2 emissions. SCG does not have a centralised transition plan; this analysis was based on the disclosures made in its annual report, sustainability report, and sustainability portal.

Overall SCG has made good progress in its transition plan, with strong targets and adequate internal and external reporting. However, evidence around Hallmark 2 (robust plans) and Hallmark 3 (implementation action) was incomplete as there was little information regarding finance needs and sources to implement the plans.

Recommendations:

- 1. Keep** actioning its plans to help it decarbonise 20% of direct emissions by 2030
- 2. Increase** GHG target ambition to include scope 3 emissions
- 3. Provide** further disclosure on the actions and plans it expects to help deliver on its targets

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector-specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions



Siam Cement Group (SCG) has initial, ambitious targets for net-zero by 2050, and full carbon neutrality by 2065. SCG has short-, mid-, and long-term targets from most of its emissions (scope 1 and 2 represents 65.5% of total emissions). Its decarbonisation pathway is close to, but not in line with, Climate Bonds' science-based pathway for the cement sector: SCG targets -20% by 2030 (2020 baseline), while Climate Bonds pathway requires -24.8% in the same period; SCG also targets full neutrality by 2065, while Climate Bonds advocates for 2050 at the latest.

While SCG has not yet included scope 3 emissions (% of emissions) in its GHG targets, it has completed its scope 3 accounting, disclosed its subcategories, and has announced plans to work with its upstream and downstream stakeholders to decarbonise and improve supplier practices.

Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



Transition plan: SCG decarbonisation plans focus on increasing the use of biomass and renewables, increasing the use of energy efficiency measures, reforestation measures, and setting and using internal carbon prices. Its 2021 Sustainability Report details smart factory plans, increasing efficiencies and reducing resource and energy consumption, and waste production. SCG has developed an optimisation model (called CAPCOM) for cement production efficiencies, which is one of the eligible UoP categories of the Climate Bonds' Cement Criteria.

SCG has not disclosed more detailed plans or what measures it will utilise to achieve its 2030 target. Options could include precalciners, heat recovery systems, electric kilns processes, or low-carbon hydrogen fuel sources.

Financing plan: SCG lacks disclosure of relevant financing plans for its transition. As it details and develops its transition action plans, associated liabilities could be financed via the debt markets: By November 2022, SCG had eight vanilla bonds outstanding worth THB140bn (USD4.3bn).¹¹ Green UoP bonds could be used to finance assets and activities including but not limited to its CAPCOM programme. SLBs could be used to obtain potentially cheaper financing for general corporate purposes, using scope 1 and 2 emission reduction targets, and scope 3 targets once set, as KPIs.

Governance: SCG has powerful governance structures to plan, action, and manage its transition through its environmental excellence and climate change and energy committees. It has also implemented an internal carbon price to help it transition.

Hallmark 3: Implementation action

Early action to demonstrate implementation



SCG has not disclosed what capital and operating expenditure will be dedicated to its decarbonisation and transition. This action and its disclosure will not only help drive capital to where it is needed most for transition but will also help centralise and accelerate its decarbonisation. Its interim performance targets for renewable energy use, water use, and recycling helps it track and record its progress as it works towards its 20% GHG reduction target.

SCG however has already made some progress in achieving its 2030 target: it achieved a 2.7% reduction in 2021 against 2020, in line with its target baseline.

Hallmark 4: Internal reporting,
Hallmark 5: External reporting



Transition KPIs need to be recorded, updated, and verified against the existing strategy



SCG already reports its emissions and relevant breakdowns for emission sources across business segments and activities. It has also verified its energy consumption, GHG scope 1 and 2 emissions, water withdrawal and discharge, and waste production. Scope 3 emissions are not reported.

Malayan Cement (YTL Cement)

Sources: [Sustainability Report 2022](#);
[Annual Report 2022](#);

Note: Malayan Cement acquired YTL Cement in May 2021. However, all online documentation available was either branded under YTL Cement, or co-branded under both names. For the sake of clarity and brevity, this case study will use Malayan Cement's name.



Malayan Cement (MC) is the largest cement producer in Malaysia with close to 40% of the market share, with its acquisition of YTL Cement potentially bringing this to 60%. In 2021, it reported MYR1.4bn (USD310m) of revenue, and in the same year totalled 161 Kt CO₂e in scope 1 emissions and 135 Kt in scope 2 emissions. The entity does not report its scope 3 emissions yet.

This case study focuses on MC's cement business, which represents 76% of the entity's revenues and about 60% of its total emissions.

Overall MC has developed detailed plans and is measuring key indicators, however the lack of short- and mid-term targets covering all emission scopes means that it is impossible to assess the level of ambition or track progress over time.

Recommendations:

- 1. Keep** actioning its detailed and ambitious plans to decarbonise
- 2. Increase** GHG target ambition to include short- and mid-term targets as well as full scopes, in line with a cement sector-specific 1.5°C pathway
- 3. Provide** further disclosure on its scope 3 emissions

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions



MC at present has a long-term target of carbon neutrality by 2050 but has not set any short- or mid-term targets to achieve this. MC does however disclose its emissions, emission sources, and actions to decarbonise and transition. The company appears to have committed to setting more detailed GHG emission targets and the delay appears to have been influenced by the recent acquisition of YTL Cement.

Hallmark 2: Robust plans



Plans need to be 1.5°C-aligned and include respective financing and governance plans.

Transition plan: While lacking in detailed targets, MC does have ambitious detailed plans to achieve carbon neutrality in the short-, mid-, and long-term. Short term plans include increasing production and resource efficiencies, clinker substitution, fuel substitution, alternative raw materials, and waste heat power/solar energy. Mid- and long-term plans include decarbonated limestone alternatives, kiln electrification and low-carbon hydrogen fuel, and CCUS technologies. All these plans are eligible for financing under Climate Bonds' Cement criteria.

Financing plan: MC reported about MYR67.5m (USD15m) of capital expenditure in FY2022 but lacks a dedicated CapEx plan for its transition. It has however a pipeline of CapEx projects for energy efficiency, and conducted scenario analysis for the CapEx levels required for its transition. MC has a history of tapping debt markets: it issued MYR105m (USD22m), including a MYR100m (USD20m) Sukuk in October 2022. It could issue UoP green bonds to finance specific activities and assets, or sustainability-linked Sukuk upon the setting of its short- and mid-term targets.

Governance: MC has powerful governance mechanisms in place to help track, report, and implement its transition: its Sustainability Committee is responsible for setting and tracking entity-level targets, while operational management will help to set related sub-targets and identify operational changes.

Hallmark 3: Implementation action



Early action to demonstrate implementation

While MC lacks GHG emission targets, it has already disclosed its current emissions. Its current emission intensity of 699kg CO₂/t cementitious product places it significantly above Climate Bonds' Cement Criteria pathway for this year of 597kg CO₂/t cementitious product. This underscores the urgent need for MC not only to set short- and mid-term targets, but also to implement the plans it has developed. MC currently also lacks disclosure on the proportion of capital and operating expenditures dedicated to its transition.

**Hallmark 4: Internal reporting,
Hallmark 5: External reporting**



Transition KPIs need to be recorded, updated, and verified against the existing strategy.



MC currently discloses its GHG emissions, clinker substitution rate, fuel substitution rate, amongst other important metrics. However, it lacks further detail on the sources of emissions and a breakdown by scope.

PT Semen Indonesia Tbk

Sources: [Sustainability Report 2021](#),
[Sustainability-Linked Financing Framework 2022](#)



PT Semen Indonesia Tbk (SIG), is an Indonesian majority state-owned cement company established in 1957. The company manufactures cement including Portland cement, oil well cement, and mixed cement. SIG has subsidiaries through which it develops and operates an industrial estate, mines limestone and clay, and packages and distributes cement. In 2021, SIG reported revenues of IDR34.9tn (USD2.2bn) and GHG emissions of 26,634 Kt CO₂, a decline on the previous year. This analysis focuses on the cement manufacturing business. SIG does not currently publish a document describing its transition plan. Climate Bonds obtained information from the Sustainability Report 2021 (SR 2021) and the Sustainability-Linked Financing Framework 2022 (SLFF 2022).

Overall SIG has designed a five-point plan to reduce scope 1 and 2 emissions, but there is no timeline describing a robust transition pathway to net-zero. Medium term scope 1 and 2 emission reduction targets are mentioned in the SR 2021 and SLFF 2022, but SIG has been unable to establish scope 3 emission reduction targets which Climate Bonds regards as a weak point in the strategy.

Recommendations:

- 1. Commit** to short-, mid-, and long- term scope 1, 2 and 3 targets
- 2. Articulate** renewable energy targets
- 3. Design** a timeline for a complete transition to net-zero

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions.



SIG references its objective to reduce greenhouse gas emissions in its SR 2021.¹² SIG's SLFF 2022 references a GHG emission reduction target of -21.5% of scope 1 emissions by 2032.

Scope 1 emissions comprise 70-90% of SIG's GHG emissions. For 2021, the calculation of GHG emissions included scope 1 from kiln combustion and calcination and scope 2 from external power usage. The total volume of GHG emissions in 2021 was 26,634 Kt CO₂, 3.6% lower than in 2020.

SIG has not calculated its scope 3 emissions, stating that the ability to measure emissions for transportation fuel outside the organisation remains limited. While SIG regularly screens its suppliers for controversies, engagement with the supply chain on emission reductions is not mentioned.

The SLFF 2022 outlines a target for scope 1 emission reduction of between 17.4% and 21.5% by 2032 from a 2019 baseline.¹³ This is aligned with the Below 2°C scenario prescribed by the Transition Pathway Initiatives' Cement Industry pathway.¹⁴ Climate Bonds encourages SIG to extend its ambition and to disclose explicit timelines with short-, mid- and long-term targets for scope 1, 2, and 3 emissions.

Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



An action plan is explained in the SR 2021, but details of financing could not be found. A Sustainability Committee is in place to supervise the implementation of the Sustainability Roadmap.

Transition plan: The SR 2021 outlines a five-point action plan for scope 1 and 2 emission reduction along with the year-on-year change:

1. Clinker factor reduction
2. Thermal energy efficiency
3. Electrical energy efficiency
4. Alternative fuel
5. Waste heat recovery power generation (WHRPG)

CCS also forms part of SIG's current strategy, with the SR 2021 describing it as necessary for the continued use of fossil fuels. Climate Bonds' Cement Criteria acknowledges that CCS can form part of a cement company transition strategy, but we encourage SIG to prioritise the allocation of capital to the above five-point plan, with CCS being an option for residual emissions.¹⁵

Since 2021, SIG has incorporated treated household waste (biomass) into the energy mix of all its cement plants, thus eliminating 40 tonnes of coal per day. This enables the substitution of coal for fuel at a rate of up to 3% Thermal Substitution Rate (TSR). In its SR 2021, SIG stated its commitment to increase the contribution of alternative fuels to the Group's energy mix, using solar, wind, and thermal power. Climate Bonds encourages the disclosure of renewable energy targets with interim milestones towards the proposed phase out of fossil fuels, as these are not yet disclosed.

Financing plan: At the end of November 2022, SIG had four IDR-denominated vanilla bonds outstanding with a combined volume of IDR4.4bn (USD299m). SIG could consider using UoP green bonds to finance part of its transition, particularly if borrowing to fund renewable energy. The company's SLFF 2022 includes scope 1 and 2 emission reduction targets as KPIs. Climate Bonds encourages SIG to issue SLBs against this framework, given that it represents its strongest publicly available transition plan.

Governance: The company has a Sustainability Committee in place, established by the Board of Directors in 2021. The objective of this Committee is to supervise and evaluate the implementation of the SIG Sustainability Roadmap. This document could not be found publicly.

Hallmark 3: Implementation action

Early action to demonstrate implementation



SIG is substituting coal for biomass and documents a decrease in fossil fuel consumption which Climate Bonds applauds.¹⁶ However, this information is not complemented by an easily accessible plan to phase out fossil fuel use.

The company has installed solar panels at three plants (Indarung, Tuban and Tonasa). In 2022, the solar panels are expected to meet the electricity consumption needs of the three sites with an installed capacity of 10 Kw each. This is a start but represents a small fraction of the total energy consumption of 108 million GJ.

An explanation of how the company will convert its energy supply by 2050 is not readily available. Climate Bonds encourages SIG to estimate and publish this together with a plan to finance its decarbonisation.

Hallmark 4: Internal reporting,
Hallmark 5: External reporting



Transition KPIs need to be recorded, updated, and verified against the existing strategy



The SR 2021 reports on year-on-year changes in energy consumption, emissions, and emission intensity changes overall, and for each point in its five-point action plan.

In its SLFF 2022 SIG committed to monitoring and reporting on its annual scope 1 emission reduction KPIs and obtaining external verification.

As of the end of 2021, SIG had not centralised the collection of information to report energy consumption outside of the entity (scope 3). Currently, SIG is developing its internal reporting. Third parties are assessed for their contribution to environmental damage but there was no reference to an assessment of emission reduction plans.

Steel

Climate Bonds' or The Climate Bonds Steel Criteria was published in November 2022.¹⁷ These Criteria include assets and activities involved in the production of steel and companies that operate such assets or activities. The scope boundaries



begin at the raw material preparation stage and end with the final steel product coming out of the rolling and coating stage. The document also includes Criteria for entity and SLB Certification.

Note: The original scope of this report was to focus on ASEAN companies' transition plans. However, Climate Bonds could not source English language

documentation on environmental or transition plans for the following ASEAN steel producers: Krakatau Steel, Hoa Phat Group, Hoa Sen Group. Climate Bonds encourages and calls on them to develop transition plans. This analysis focuses on foreign-headquartered ASEAN-operational steel companies.

Gunung Raja Paksi (GRP)

Sources: [Sustainability Report 2021](#); [ESG Strategy Handbook](#); [Annual Report 2021](#)

Note: GRP has only recently started developing its transition strategy, as part of the third pillar of its new ESG Strategy launched in October 2022.



GRP is the largest steel producer in Indonesia, reporting USD721.8m of revenue in 2021. In the same year, it reported 117 million tCO₂e of scope 1 emissions and 417 KtCO₂e of scope 2 emissions. GRP does not yet report its scope 3 emissions.

GRP has only two business segments: steel sheet and steel bar production (and derivatives). This case study thus focuses on its entire business and entity transition strategy.

Overall we expect GRP to make significant progress on its transition plans in the near future, as it appears to have been increasing its disclosure and commitments in this area over the course of 2022. Climate Bonds encourages GRP to set specific short-, mid- and long-term targets, with detailed action, financing, and governance plans to support their achievement.

Recommendations:

- 1. Keep** actioning its detailed and ambitious plans to help it decarbonise and achieve industry certification
- 2. Develop** GHG targets in line with a steel sector-specific 1.5°C pathway
- 3. Implement** governance mechanisms to help drive its transition forward

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions

GRP currently lacks specific short-, mid-, or long-term GHG reduction targets, but in October 2022 announced its commitment to achieve well-below 2°C and to increase efforts to limit the global temperature increase to 1.5°C. It has earmarked 2022-23 for the development and commitment to its sustainability roadmap and setting detailed targets. It does however already disclose its annual scope 1 and 2 GHG emissions in its annual Sustainability Report. Climate Bonds encourages GRP to develop these targets in line with a 1.5°C, sector-specific pathway.



Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



Transition plan: While GRP's transition plans are still in early stages, it has identified initial key steps to accelerate its decarbonisation: this includes a corporate-wide GHG data management system with site-specific tools, investing in electric-arc furnaces, increasing the utilisation of renewables, and working towards ResponsibleSteel certification at site and company levels within the next three to five years. GRP also announced plans in November 2022 to investigate the use of green hydrogen and ammonia as part of its transition plans. While these initial steps are promising, Climate Bonds encourages GRP to do so in line with a 1.5°C pathway and avoid the lock-in of fossil fuel assets.

Financing plan: GRP has yet to disclose any financial plans, however it reported USD41.2m of CapEx in 2021. Climate Bonds expects and encourages this to increase for GRP to meet its ambition in aligning with a below-2°C pathway by 2030. GRP did not have any public debt outstanding as of November 2022.

Governance: GRP currently lacks many commonly used governance mechanisms to drive forward its transition. Climate Bonds would encourage GRP to develop these mechanisms based on its own needs, but some common examples include a Climate/Sustainability/ESG committee that reports to the board, departmental climate/transition working groups, and climate performance-linked remuneration. It's also vitally important that the board has oversight and responsibility for the company's transition targets, plan, and reporting.

Hallmark 3: Implementation action

Early action to demonstrate implementation

GRP presently lacks relevant reporting regarding the alignment of its operating and capital expenditure for its decarbonisation versus its general corporate needs. Climate Bonds encourages GRP to provide this disclosure, as well as commit to realigning its transition targets and plan in line with any changes to corporate structure it might undertake in future.



Hallmark 4: Internal reporting,
Hallmark 5: External reporting

Transition KPIs need to be recorded, updated, and verified against the existing strategy

GRP currently reports its scope 1 and 2 GHG emissions alongside a variety of waste, water, and energy consumption figures. Climate Bonds encourages GRP to get these figures externally verified, and provide further disclosure in future, to demonstrate its commitment to its transition plans.



NS Bluescope/Bluescope

Sources: [Climate Action Report 2021](#); [FY2021 Results Presentation](#);



NS Bluescope (NSB) is a joint venture between the Australian steel producer Bluescope and Japanese steelmaker Nippon Steel, focusing on the ASEAN region.

Note: NSB has yet to produce its own transition plans. This case study is based on Bluescope's transition plans.

Bluescope is one of the largest steel producers in Australia, reporting USD12.9bn of revenue in 2021. In the same year, it reported scope 1 and 2 emissions of 10.5 million tCO₂e, and scope 3 emissions of 12.7 million tCO₂e.

Overall, Bluescope has targets and ambitious plans to help it achieve its transition. However, Climate Bonds encourages Bluescope not to rest on its laurels, but aim to overachieve on its targets and recalibrate them where possible, with the long-term goal of alignment with a 1.5°C pathway.

Overall

Key recommendations:

- 1. Keep** actioning its detailed and ambitious plans to help it decarbonise and achieve industry certification
- 2. Increase** its GHG targets ambition in line with a steel sector-specific 1.5°C pathway
- 3. Expand** its capital allocation programme for decarbonisation, to demonstrate and action its commitment to short- and mid-term targets

Hallmark 1: Paris-aligned targets



Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions

Bluescope has set mid- and long-term GHG emission targets for 2030 and Net Zero 2050, targeting a 12% reduction in Scope 1 and Scope 2 emissions by 2030 (against 2018 baseline), equalling a 1.8% average annual reduction. This means that Bluescope is looking to achieve an emission intensity of 1.43 t CO₂e/t of steel, just above TPI's 1.5°C steel sector pathway figure of 1.129. Alongside this target, the company also has a -30% GHG emission target by 2030 for its non-steelmaking business streams. Bluescope discloses and breaks down the specific site, business activity, and proportion of its Scope 1, 2 and 3 emissions.

Bluescope has yet to set a target for its scope 3 emissions reduction pathway, which currently represents about 54.6% of its total emissions. Most of these emissions stem from the upstream purchasing of steel and iron. However, Climate Bonds' Steel Criteria defines the boundary of emissions from the pellet plant/sinter plant/limekiln/coke oven up until and including the coating process. Climate Bonds encourages Bluescope to develop scope 3 targets inclusive of these material emission sources.

Hallmark 2: Robust plans



Plans need to be 1.5°C-aligned and include respective financing and governance plans.

Transition plan: Bluescope has ambitious and detailed plans and objectives to help reduce its emissions across its supply chain. These plans are divided into pre-2030 plans and emerging/breakthrough technologies. The former focuses on energy and process efficiency improvements, scrap melting technology, low carbon energy sources, and increasing scrap use. These processes however only represent a small part of the emission reduction plan Bluescope is counting on, which includes deploying technologies like electric arc furnaces (EAF), hydrogen direct reduced iron (DRI), electrolytic reduction, and CCUS. These planned actions are potentially aligned with Climate Bonds' Steel criteria, pending other mitigation criteria.

Financing plan: Bluescope outlines financing plans for its transition through its capital allocation framework, committing AUD150m (USD100m) until 2025, and a cumulative AUD300-400m (USD200-270m) up until its mid-term targets in 2030. This represents a portion of Bluescope's AUD1.5bn (USD1.0bn) capital expenditure planned up to 2027, mainly slated for expansion and maintenance.

Governance: Bluescope has a suite of governance mechanisms to prioritise and accelerate its transition: the board oversees the Climate Change Council, which is responsible for the development and implementation of the company's climate strategy. Bluescope also utilises climate performance-linked executive remuneration, a risk and sustainability committee, and is a vocal advocate through its industry association memberships.

Hallmark 3: Implementation action



Early action to demonstrate implementation

Some progress has been made against the 2030 target: a 1.8% reduction has been achieved since the base year of 2018. Climate Bonds applauds this progress but encourages Bluescope to accelerate its transition to meet its 2030 steelmaking intensity targets.

Hallmark 4: Internal reporting,
Hallmark 5: External reporting



Transition KPIs need to be recorded, updated, and verified against the existing strategy

Bluescope tracks a variety of performance targets alongside its GHG emissions: these include water, waste, energy consumption, amongst others. It also actively updates its emission reporting based on changing asset sale and purchases: most recently seen with its 'North Star Expansion'.



Basic Chemicals

Climate Bonds' Basic Chemicals Criteria was published in October 2022.¹⁸ The Basic Chemicals



Criteria apply to eligible assets and projects and companies relating to the production of multiple eligible organic and inorganic basic chemicals.

PTT Global Chemical (GC)

PTT Global Chemical (GC) is a subsidiary company of PTT Oil and Gas (addressed page 13). They each have their own financial and non-financial reporting, as well as separate sustainability strategies. GC was formed in 2011, when PTT Chemical merged with PTT Aromatics and Refining.

Sources: [Sustainability Report 2021](#); [Sustainability Performance Data 2021](#); [Sustainability Portal](#); [Annual Report 2021](#)



PTT Global Chemical (GC) is Thailand's largest integrated petrochemical and refining business, reporting THB469bn (USD13.1bn) of revenue in FY 2021. In the same year, it reported scope 1 emissions of 6.74m tCO₂e, scope 2 of 2.24m tCO₂e, and scope 3 of 36.9m tCO₂e.

GC's revenue split includes: 38% from refinery and shared activities, 9% from aromatics, 34% from olefins and derivatives, 4% from green chemicals, and 15% from performance materials and chemicals. Climate Bonds chemicals criteria covers GC's aromatics, olefins, and performance materials/chemicals divisions, amounting to 58% of GC's revenue streams.

Overall

Key recommendations:

- 1. Keep** actioning its detailed and ambitious plans to decarbonise
- 2. Increase** the ambition of its GHG targets in line with a basic-chemical sector-specific 1.5°C pathway, and set short- and mid-term targets for scope 3
- 3. Detail** financial plans and portfolio adjustments it expects to require to meet transition targets

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions



GC has mid- and long-term targets to reduce its scope 1 and 2 emissions 20% by 2030 (against a 2020 baseline) and completely by 2050, alongside a commitment to cut scope 3 emissions in half by 2050. While ambitious, GC's mid-term targets are not in line with Climate Bonds' Basic Chemicals criteria, which calls for a 44.7% reduction by 2030 (on average, for the chemicals in GC's scope). GC's decarbonisation pathway also commits to 2025 being a 'peak year' of absolute scope 1 and 2 emissions: reaching 9.7m tCO₂e, before falling rapidly to meet its 2030 target.

GC's scope 3 emissions account for 80.4% of its total annual emissions, with by far the largest portion coming from 'Category 11 – use of sold product', likely from its oil and gas refinery business.¹⁹ There are multiple levers which can be used to address Category 11 emissions, from product and design to investment in low carbon companies and projects; and the sooner GC gets started the better.

Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



Transition plan: GC has identified three pillars for its transition to net

zero: efficiency and breakthrough technologies, portfolio adjustments and circular economy, and carbon capture and offset. The first pillar assumes that the first 10% reduction will come from efficiency improvements, onsite-integration of renewable/low-carbon energy, and digitalisation. The second 10% reduction by 2030 is expected to come from further renewables/low-carbon power usage, increased use of biomass/biogas as a fuel, low-carbon processes like electric-arc furnaces, and upstream and downstream value-chain GHG reductions. While the first two pillars are expected to contribute about 20% of its GHG reductions each, GC is betting big on CCUS and expects it to eliminate over 50% of its emissions.

While almost all these activities meet Climate Bonds' Basic Chemicals criteria for decarbonisation measures, Climate Bonds encourages GC to increase the scale and speed of its transition: to keep help temperature rises to 1.5°C, GC needs to at least double its GHG reduction ambition for 2030.

Financing plan: GC has yet to disclose any financial plans for its transition, however it estimates USD608m of CapEx for the 2022-26 period and has estimated a total of USD5bn of investment to decarbonise by 2050. Climate Bonds expects and encourages this CapEx to increase for GC to meet its ambition in aligning with a below-2°C pathway by 2030.

GC could tap debt markets to support its transition. At the end of November 2022, GC had 19 vanilla bonds outstanding, with a cumulative value of THB89.2bn (USD5.2bn).²⁰ Green UoP instruments could be deployed to finance relevant assets and activities like GC's CAPCOM programme, amongst others. SLBs could be issued to support this, with KPIs referencing relevant targets such as its scope 1 and 2 emission targets, as well as its mid-term scope 3 targets once they're set.

Governance: GC has strong governance mechanisms in place to help it drive its transition plans: the Corporate Governance and Sustainability Board, reporting directly to the board of directors, oversees the transition plans, KPIs, and actions led by the Sustainability Development Committee. This committee in turn is led by three champions, one for each of GC's three pillars for transition.

Hallmark 3: Implementation action



Early action to demonstrate implementation

GC at present lacks relevant reporting regarding the alignment of its operating and capital expenditure for decarbonisation versus general corporate needs. Climate Bonds encourages GC to provide this disclosure, as well as commit to realigning its transition targets and plan in line with any changes to corporate structure it might undertake in future.

Both GC's absolute and intensity emission figures rose from 2020 to 2021: a further acceleration of its transition is needed if it is serious about meeting its 2030 targets.

Hallmark 4: Internal reporting, Hallmark 5: External reporting



Transition KPIs need to be recorded, updated, and verified against the existing strategy



GC currently reports and verifies its scope 1, 2, and 3 GHG emissions alongside a variety of waste, water, and energy consumption figures. It actively updates and recalculates its emissions baseline based on operational changes: most recently presented in its 2021 GHG report.

Suggested transition plans: Petrochemical Corporation of Singapore (PCS)

At present PCS has no publicly available transition plan. The following is a proposal for a credible transition strategy for PCS. PCS was chosen because of the high overlap of its product range with the eligible assets outlined in Climate Bonds' Basic Chemicals Criteria. These



overlapping assets include Ethylene, Propylene, Butadiene, Benzene, Toluene, and Xylene, which combined represent 92.8% of PCS's production capacity.

Sources: [Company website](#)

PCS is one of the Big Three chemicals companies in Singapore, alongside Shell and ExxonMobil. Its current ownership is evenly split between Japan-Singapore Petrochemicals Company Limited and QPI & Shell Petrochemicals (Singapore) Pte. Ltd. At present it does not report its annual revenues or emissions.

Climate Bonds' Basic Chemicals Criteria includes all these areas as eligible (pending further mitigation criteria), but other actions that can facilitate the transition required include using hydrogen, biomass, or CO₂ (from direct on-site emissions) as a feedstock, electrification of processes, heat exchange equipment, as well as alternative low-carbon energy sources.

Financing plan: PCS lacks relevant financing plans for its transition.

PCS had no public debt outstanding at the end of November 2022.²¹ As it details and develops its transition action plans, it could tap debt markets to attract financial support. Green UoP bonds could finance relevant assets and activities like its CAPCOM programme, amongst others. SLBs could be deployed to support this, with KPIs linked to scope 1, 2, and 3 emission targets. The Climate Bonds Standard v4.0 supports the Certification of both financial instruments, and as shown above, PCS's product portfolio could be Certified against Climate Bonds' Basic Chemicals criteria.

Governance: PCS has some governance mechanisms for its transition: it established a Sustainability Team in February 2022 to spearhead initiatives for decarbonisation.

Other common governance mechanisms to accelerate climate transition could include a climate committee that reports to the board of directors, departmental climate transition working groups, and climate performance-linked remuneration.

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions



PCS currently has no GHG targets or emission reporting. However, it is estimated that PCS represents 21% of Singapore's petrochemical industry emissions (which itself represents 46% of Singapore's emissions), producing between 3.15-4.2m tCO₂e.

Climate Bonds' Basic Chemicals Criteria calls for an emissions intensity reduction between 2022 and 2030 of 45.1% for high value chemicals (ethylene, propylene, and butadiene) as well as a 44.4% reduction for aromatics BTX (benzene, toluene, and xylene). Credible and ambitious targets for PCS would target an equivalent emission reduction by 2030, reaching an emissions intensity of 0.28 and 0.004 tCO₂e/t production for high value chemicals and aromatics BTX respectively.

Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



Transition plan: While PCS currently lacks a transition plan or equivalent, it does list four decarbonisation categories under its sustainability commitment, including energy efficiency improvements, CCUS technologies, circular economy-based production, and increasing its use of renewables.

Hallmark 3: Implementation action

Early action to demonstrate implementation



While PCS at present lacks the relevant reporting on its overall capital and operating expenditures (let alone for its climate transition), Climate Bonds encourages it to identify and estimate its decarbonisation-focused investment needs, as well as the relevant operational expenditures, to action its would-be transition plan.

**Hallmark 4: Internal reporting,
Hallmark 5: External reporting**



Transition KPIs need to be recorded, updated, and verified against the existing strategy



PCS currently does not report on any transition-related KPIs. Climate Bonds encourages it to calculate, track, and disclose its annual scope 1, 2, and 3 emissions and emissions intensity. Disclosure of relevant secondary performance indicators, such as water and energy consumption, and waste production, will also help it to track its climate transition progress.

Electric Utilities

Climate Bonds does not currently have Sector Criteria for Electric Utilities against which to Certify. However, individual projects such as energy efficiency measures or electric grids and storage could be Certified against the relevant criteria for green UoP bonds.



Indonesia's energy sector is key to the energy transition



As the largest contributor to the GHG emissions of the ASEAN power sector, Indonesia is key to the energy transition. The country has the highest energy consumption among ASEAN member states, and this is set to rise considerably in the period to 2050 because of its growing population and economy.²² While fossil fuels still dominate its energy mix, Indonesia has abundant untapped potential to develop a sustainable energy

system based on renewable energy sources including wind, solar, and hydropower.²³

As part of its nationally determined contributions (NDCs) under the Paris Agreement, Indonesia has committed to reduce its carbon emissions between 29% (unconditional) and 41% (conditional) by 2030, relative to a business as usual (BAU) baseline.²⁴ The country has also committed to reach net zero emissions by 2060, and as early as 2050 with international support. Indonesia's renewable energy potential plays a key role in meeting its decarbonisation targets and rising energy demand.

PT Cikarang Listrindo Tbk

Source [Sustainability Report 2021](#)

PT Cikarang Listrindo Tbk (Listrindo) is an Indonesia-based integrated electric utility company that owns and operates gas and coal-fired power plants, providing energy to industrial and residential customers. In 2021, it generated USD514.9m in revenue, and total emissions of 2,887 Kt GHGe.



Overall, Listrindo has made progress on a transition strategy including short- and mid-term scope 1 and 2 GHG emission reduction targets. Climate Bonds encourages Listrindo to maintain the momentum and add plans for scope 3 emissions reduction.

Recommendations:

- 1. Adopt** 1.5°C aligned targets for Scope 1, 2, 3 emissions and renewable energy targets
- 2. Focus** on developing capacity from solar and other renewable energies, and ensuring the sustainability of biomass
- 3. Enhance** corporate reporting by monitoring short-term transition-related KPIs

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions



Listrindo has committed to GHG emissions reduction targets in the short- and mid-term of 10% reduction by 2025 and 20% by 2030, in line with Indonesia's NDC for the energy sector.²⁵ While it is common practice among ASEAN companies to align their transition targets with NDCs, Climate Bonds cautions against the use of NDCs since they do not equate to a 2°C world. While Listrindo currently reports on its GHG emissions inventory, covering scope 1, 2 and 3 emissions, these are not clearly articulated as part of the company's short- and mid-term targets. More ambition is encouraged in the adoption of credible transition pathways, such as alignment with TPI's 1.5°C pathway for electric utilities, and the inclusion of scopes 1, 2, and 3 in the company's climate mitigation strategy.

Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



Transition plan: Listrindo has made a commitment to develop power generation sourced from renewable energy, but these renewable targets have not been publicly disclosed which undermines the credibility of its efforts. Listrindo is encouraged to increase the level of ambition, transparency, and materiality of its targets.

Financing plan: The level of detail on the financing plan in publicly available documentation is limited. The company invested in rooftop solar power, machinery and equipment, and assets under construction for a total of USD1.4m. The total capital investment in 2021 amounted to USD12.7m.

As of November 2022, Listrindo had one bond outstanding, a USD550m 10-year vanilla bond priced in 2016. Listrindo could issue green bonds to attract financing for green projects including renewable energy, which could be Climate Bonds Certified under the relevant Sector Criteria. It could also explore SLBs with KPIs linked to elements of its transition strategy.

Governance: There is evidence at board level of the company's environmental sustainability and corporate social responsibility ambition, each represented by its own team. The two teams report directly to the board of directors on aspects of energy, emissions, water, waste, and biodiversity in accordance with prevailing regulations and best practices. Listrindo could increase the board's accountability by tying executive remuneration to transition performance targets.

Hallmark 3: Implementation action

Early action to demonstrate implementation



Listrindo operates three conventional power plants, with a total installed capacity of 1,144 MW. Most of the energy sources used by the company to generate electricity come from fossil fuels, i.e., natural gas and coal which will need to be replaced for the company to reach net-zero. Listrindo's target is to reduce GHG emissions by replacing some portion of coal with biomass, though it must be noted that burning biomass does generate emissions as well as having impacts on biodiversity and ecosystem services, such that only under strict conditions can biomass be considered sustainable. In addition to conventional power generation, the company operates 3.2 MWp of rooftop solar power and 8.1 MWp is under construction. Listrindo should concentrate on developing capacity from solar and other sources of clean, renewable energy to give itself the best chance of reaching net-zero in a timely way.

Hallmark 4: Internal reporting and

Hallmark 5: External reporting



Transition KPIs need to be recorded, updated, and verified against the existing strategy



As part of its broader company disclosure, Listrindo has committed to reporting on its annual scope 1, 2 and 3 emissions, including breakdowns of the categories of emissions. GHG inventories for 2020 and 2021 comply with ISO 14064-1:2018 and have been verified and certified by an international certification body. The company also reports annually against risks and opportunities to its business due to climate change, and identified stakeholder pressures as a key driver of the company's transition to renewable energy sources. Listrindo could enhance its reporting by monitoring short-term transition-related KPIs in its annual corporate disclosure to determine whether the climate mitigation strategy is on track.

Oil and Gas

Climate Bonds does not currently have sector Criteria for Oil and Gas against which to certify. However, individual projects such as energy



efficiency measures or electric grids and storage could be Certified against the relevant Criteria for green UoP bonds.

PTT Public Company Limited (PTT)

PTT Public Company Limited (PTT) is the parent company of multiple other entities including PTT Global Chemical (GC) addressed above. PTT and GC each have their own financial and non-financial reporting, as well as separate sustainability strategies.

Sources: [Company website](#); [Annual Report 2021](#)

PTT Public Company Limited (PTT) is the leading oil and energy company in terms of market capitalisation on the Stock Exchange of Thailand. It is a state-owned enterprise, the Ministry of Finance holding direct majority shareholding. PTT's total revenue in 2021 was THB2.3tn (USD66.5bn). PTT generated 33.15 million tonnes of CO₂e in Scope 1 and 2 emissions, yet those from the combustion of fuels products sold (Scope 3) amounted to 113.48 million tonnes of CO₂e.



Overall PTT must act on its coal phase-out commitments and move away from fossil gas to enable decarbonisation. Climate Bonds encourages more ambition in the company's transition strategy, including plans for scope 3 emissions reduction, which represent the bulk of its emissions.

Recommendations:

- 1. Act** on plans to phase out and exit coal
- 2. Adopt** more ambitious GHG targets that are in line with 1.5°C pathways and set short- and mid-term targets for scope 3
- 3. Design** a plan to move away from fossil gas to enable decarbonisation by 2030

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions

PTT's climate mitigation strategy focuses on reducing the group's GHG emissions by 15% by 2030 compared to 2020 levels. These targets include scope 1 and 2 emissions covering domestic and international operations, but do not consider scope 3 emissions. The company's strategy is aligned with Thailand's NDC.

PTT intends to support its decarbonisation targets through carbon capture and storage projects (including natural solutions via forestry restoration and conservation – this is considered offsetting and not encouraged by Climate Bonds), carbon utilisation projects (CCUS), hydrogen energy projects, energy conservation projects, and carbon offsetting with carbon credits.



Climate Bonds encourages more ambition in the selection of credible targets. While the company's carbon budget structure is commendable, it is not sufficient as it ignores scope 3 emissions. PTT could adjust its targets to align with TPI's sector-specific pathways or SBTi's absolute contraction approach (non-sector-specific). Moreover, Climate Bonds cautions against offsetting, as it reduces transparency and diverts attention away from reducing inherent activity emissions.

Hallmark 2 (Robust plans) and Hallmark 3 (Implementation action)

Plans need to be 1.5°C-aligned and include respective financing and governance plans.

Transition Plan: PTT's transition plan relies on a pivot in the business model towards growth industries through investment in renewable energy, energy storage systems, and EVs. In addition, the petrochemical businesses will expand to high-value products with advanced technology (artificial intelligence, robotics) as well as logistics and infrastructure. The oil business will be transformed into a mobility and lifestyle model (retail, food, and logistics), while phasing out and exiting the coal business.

Financing plan: The company has committed to portfolio transformation. It intends to invest in and generate growth from future energy businesses, with 32% of PTT Group's 2021-2030 investment budget earmarked for this objective. The company's provisional capital expenditure for expansion into new businesses (including renewable energy, EVs and other) in the next five years amounts to THB238bn (USD6.9bn).

As of November 2022, PTT had USD6.4bn spread over 24 USD and THB denominated bonds. Among these was a THB2bn (USD69m) three-year green bond priced in 2020. The UoP were earmarked for reforestation and Certified against the Climate Bonds Forestry Criteria. As existing debt rolls off, PTT could issue more green bonds to finance or refinance assets or projects pertaining to its transition. It could also explore SLBs, with KPIs linked to GHG emission reduction targets of its scope 1, 2, and 3 emissions or other environmental ambitions.

Governance: Climate governance is integrated at PTT's board and management levels. Climate governance is overseen at the management level by the company's governance risk and compliance management committee, which reports directly to the board's corporate governance committee. Relevant climate strategy and performance are managed by various departmental sub-committees, including a dedicated net-zero taskforce.

Hallmark 4: Internal reporting, Hallmark 5: External reporting

Transition KPIs need to be recorded, updated, and verified against the existing strategy

The company is reporting annually on its GHG emissions inventory, including scope 1, 2 and 3. Information disclosure is reviewed by independent external agencies on an annual basis.



Agriculture

Climate Bonds has Agriculture Sector Criteria for livestock and crop production in addition to Forestry, Land Conservation, and Restoration Criteria, against which certain



assets could be Certified for inclusion in green UoP bonds.^{26,27} Climate Bonds is currently developing transition pathways for agriculture and supply chain Certification Criteria to support actors in identifying and aligning their activities and business models with a 1.5-degree future.

Scope 1, 2 and 3 emissions are reported to GRI, SASB index and CDP frameworks. Scope 3 supply chain emissions make up 97% of total GHG emissions.

Olam (Singapore)

Sources: [Annual Report 2021](#)

Olam Group (Olam) is an agribusiness supply company domiciled in Singapore, providing food, feed, and fibre worldwide. It operates as three entities: Olam food Ingredients, Olam Agri and Olam Group. With a group revenue of USD47bn, its supply chain spans 60 countries and includes farming, origination, processing, and distribution operations. The group operates across the supply chain in sourcing, processing, transporting, and distributing agricultural products including grains, edible oils, wheat, animal feed and protein, rice, and specialty grains, and operates the largest RSPO-certified plantation in Africa.



Olam justified a significant increase in scope 3 (from 72.3 to 87.5 MT CO₂e/MT) because of greater accuracy in reporting against grain emissions. The next step would be for Olam to reduce these through stringent third-party supply and downstream emissions tracking, and year-on-year reporting. Climate Bonds encourages Olam to provide more clarity on its sustainable agricultural practices including its stance on fertiliser use, precision agriculture, protected agriculture and agroecology as a measure of protecting biodiversity.

Overall Olam is a leader in the space with good strategies and policies in place for many commodities. For example, Olam provides detail on its palm oil policy, outlining key commitments to protection of High Conservation Value (HCV) lands, as well as reporting to CDP, Cocoa Forest Initiative, and the UN Global Compact. Olam is a signatory to the Business Ambition for 1.5°C, coordinated by the SBTi. The 2021 annual account provides a goal dashboard where commitments are given a clear timeframe. Olam is making positive and progressive steps to its climate action, with clear actions proving more than just pledges.

Recommendations:

- 1. Continue** the focus on supply chain transparency and enhancement
- 2. Set and review** consistent-, short-, mid-, and long-term performance targets with quantifiable reporting
- 3. Aim** to comply with the SBTi FLAG of zero deforestation no later than 2025

The policies referenced in this analysis pertain to Olam Group as a parent company. Any policies specifically relating to subsidiaries were not included. Olam would be encouraged to ensure all these policies are united under the Group's Annual Transition Reporting.

Hallmark 1: Paris-aligned targets



Targets should be aligned with a sector specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions

Olam is one of 12 global agricultural trading firms with a publicly accessible roadmap of enhanced supply chains in line with a 1.5°C pathway, as announced at COP26. Olam states its commitments to no deforestation of High Conservation Value/High Carbon Stock (HCV/HCS) and Peat lands within its palm sustainability report; however, it is unclear what the time frames are for this. The SBTi Forest, Land, and Agriculture (FLAG), specifies zero deforestation must be no later than 2025 and Climate Bonds encourages Olam to align with this ambition, making these timeframes clear in its documentation.

Olam has achieved the Roundtable on Sustainable Palm Oil (RSPO) certification with GHGs monitored using the RSPO Palm GHG calculator.²⁸ Olam could build on this to set broader performance targets (PTs) across all supply chains that indicate how it will align with a 1.5-degree sectoral transition pathway. To complete its transition plan, Olam could outline its plans for transitioning interim, and stranded activities. Olam states the timeframes for its goals within its Annual Reports, however, does not consistently clarify the timeframes in other documentation. To add rigor, we would encourage Olam to continue to quantify its commitments,.

Hallmark 2: Robust plans

Plans need to be 1.5°C-aligned and include respective financing and governance plans.



Transition plan: Climate Bonds encourages Olam to implement company-wide consistency in the use of short-, mid-, and long-term goals which are currently fragmented. Olam could also publish more robust plans on an activity level, including identifying which activities will be interim/stranded, and which other activities will be funded as part of its transition agenda.

In its Annual Report, Olam has set short- and mid-term goals (up to 2040). Climate Bonds applauds its commitment to achieving many of the short-term goals stated, including 95% of direct suppliers covered by the supplier code. However, we would encourage Olam to produce more mid- and long-term goals, to highlight its long-term ambition, and ensure that achievement of any goal is recorded in a consistent and easily identifiable manner. Whilst Olam does state its climate goals within its report, Climate Bonds would encourage Olam to see the value of combining this information into a single transition plan and including all its commodity specific targets.

Financing plan: Current sustainability and annual reporting does not indicate in detail the amount of funding that will be mobilised to ensure PTs are met. Climate Bonds encourages Olam to estimate and disclose this.

As of November 2022, Olam had USD1.0bn of debt outstanding spread over six instruments denominated in USD, SGD, and JPY, which included a pair of SLBs.²⁹ Olam's business model lends itself well to SLBs. Having borrowed in the sustainability-linked loan market, Olam priced its first SLB in 2020, a JPY7.0bn (USD67m) private placement with a step-down linked to SPTs supporting food systems, communities, and regenerating the living world (biodiversity and reforestation). A second JPY5.5bn (USD50.0m) deal was priced in 2021, with similar characteristics. Olam has yet to publicly disclose its SLB Framework. Climate Bonds calls on Olam to publish it to demonstrate its commitment to transition.

Climate Bonds also encourages the company to stretch the ambition of its KPIs, linking them to its supply chain or GHG targets, and to cement its PTs in the strategy by linking them to its finance mechanisms.

Governance: Olam was included in the FSTE4Good index, following a review of its governance activities. Olam sits on the board of the RSPO and the Biodiversity and High Conservation Value Working Group. Its dedicated Corporate Responsibility and Sustainability Board oversees the embedding of sustainability into the business, and many senior directors sit on this committee.

Hallmark 3: Implementation action

Early action to demonstrate implementation

Olam achieved a 26% reduction of its absolute scope 1 and 2 emissions through the use of renewable energy and biomass (up 3.7% from 2020), and improvements in scope 1 and 2 caused by processing efficiencies in cocoa, grains, and spices.³⁰

Working with consultancy South Pole on its Fast Track Climate Assessment, Olam has implemented its plans by reviewing 27 of its supply chains, with conclusive evidence to support on-farm GHG reductions are on average 31%. Climate Bonds encourages Olam to expand these efforts to cover 100% of its supply chain.

Hallmark 4: Internal reporting, Hallmark 5: External reporting

Transition KPIs need to be recorded, updated, and verified against the existing strategy

Olam has implemented a robust internal and external reporting practice, including using Traceability, a tool to monitor and report on palm oil purchases. Olam has partnered with Vivid Economics to model physical climate risk, acute weather events, and transition risks.



3. Guidance for sustainability-linked bonds as transition finance instruments

Note: Data used in this analysis references Climate Bond's Sustainability-Linked Bond Database (SLBDB) as of 09 November 2022. The Database and associated methodology will be released in 2023.

Entities operating in sectors with well-established transition pathways such as real estate, transportation, and utilities can easily identify projects, assets, and expenditures suitable for green UoP bond financing. For those operating in the hard-to-abate sectors including cement, steel, and basic chemicals, some of which have been examined above, the pathways are only beginning to be established and the journey to net-zero can still, at least partially, rely on untested technologies. For these entities, the SLB structure, (and occasionally transition UoP bonds) can be more suitable financing vehicles. The activity of issuing a sustainable debt instrument, be it a green bond or an SLB, signals to investors that the issuing entity is identifying and addressing climate-related business risks.



As of November 2022, Climate Bonds had recorded USD201.7bn of SLBs and transition bonds. However, issuers have been criticised for a lack of ambition and credibility, mainly because chosen targets are set against business baselines rather than science-based pathways and are difficult to benchmark and compare to peers and sectoral pathways.

In recognition of the need for market guidance, Climate Bonds published the white paper *Transition Finance for Transforming Companies* and expanded the Climate Bonds Certification programme to include entity-level and SLB certification.³¹ Climate Bonds is also building a Sustainability-Linked Bond Database, recording SLBs that demonstrate alignment and credibility with a sector-specific 1.5°C pathway, in line with its Five Hallmarks.

To reinforce the credibility of SLBs, Climate Bonds encourages issuers to follow the below guidance:

1. SLBs are only as powerful as the entity's underlying transition plans

The SLB market has seen strong growth in the past two years as it allows for general purpose finance to be raised and because entities can establish their own KPIs and performance targets. SLBs can be powerful, forward-looking financial instruments when they include KPIs with ambitious performance targets material to the main sources of emissions. The transition impact of the SLB is intrinsically linked to the credibility of the transition plan and ambition of associated performance targets. Climate Bonds assesses the ambition and credibility of entity transition plans against the framework of its Five Hallmarks which



examine the entity's targets, the feasibility and coverage of underlying plans, transparency, and reporting procedures. Climate Bonds encourages issuers to address all Five Hallmarks and their subpoints in their transition plans to emphasise commitment to net zero (Appendix 1).

2. SLB targets should include all material scopes of emissions

Hallmark One: Paris-aligned targets call for GHG targets in the short-, mid-, and long-term, to be inclusive of scope 1, 2, and 3, and to be aligned with a science-based sector specific pathway which will limit global warming to no more than 1.5°C.

However, by November 2022, SLBs with targets designed to address all three emission scopes represented just 14.4% of SLBs captured in the Climate Bonds SLBDB (USD29.1bn of the USD201.7bn).

Occasionally, scope 3 is not materially relevant, but this would be exceptional. In Climate Bonds' Cement Criteria (referenced above), for example, the boundary of scope is defined as up until the point of grinding/blending cement: this would be considered as scope 1 for some companies, but upstream scope 3 for others. To ensure consistency and materiality, Climate Bonds' Cement, Basic Chemicals, and Steel criteria define boundaries by activity, not simply by scope.

For the avoidance of doubt, any SLB from an agri-food company or oil and gas issuer must include scope 3 emissions. Scope 3 emissions can represent 85-100% of the emissions of such entities. However, just three out of 22 oil and gas SLB deals had included scope 3 targets by November 2022.

3. GHG economic intensity targets are less robust

The strongest SLBs utilise absolute GHG emission targets, science-based sector decarbonisation pathways, or GHG emission intensity targets with a unit of production as the denominator.

Economic intensity targets can be used but are considered less robust and ambitious than absolute or physical intensity methods. Credible economic intensity targets require a greater annual percentage reduction (7% per year, compounded) and should be calculated using the GHG emission per value added (GEVA) method.

SLBs with GHG economic intensity targets represent USD10.5bn of SLB debt, or about 5.2% of the total SLB volume to date. None of those currently use the GEVA method, but instead use revenue or units sold as denominators.

4. The strongest SLB structures boost investor confidence in issuers and their deals

The strongest SLBs are clear and consistent in their structure. Investors tend to prioritise stronger structures. Issuers should avoid setting call dates prior to KPI observation dates, step-ups that only kick in at the end of the bond's term, and performance target observation dates being set after the maturity of the bond. Yet, all these things have been observed in SLB structures.

Currently, 8.5% of SLB debt (USD17.2bn) has a first call date before the KPI observation date, with an average of 1.8 years between the first call date and KPI observation date. Thus far, Climate Bonds has witnessed one bond called before its KPI observation date. While callable bonds should be welcomed into the SLB market, Climate Bonds encourages issuers to place first call dates after the KPI observation date or include provisions in legal documentation that apply the coupon step-up if the bond is called before the KPI observation.

SLBs where the step-up may only apply to one or two coupon payments represent 15.1% of total SLB issuance. Encouragingly, step-up structures that apply to five or more payments represent 45.7% of SLB debt.

4. Recommendations

Climate change poses significant physical, financial, and regulatory risks to the global economy and unprepared entities. However, there are also major benefits for early mover entities in terms of identifying emerging processes, technologies and market opportunities that will drive transition to a 1.5 degree aligned future and embed resilient business practices. The development of a well-structured, credible, and ambitious transition plan underpins this opportunity. Currently the creation of transition plans is voluntary, however governments are working to set regulations that will lay out the requirements for mandatory transition plans.³²

In analysing available transition plans for inclusion in this report, Climate Bonds was encouraged to note that climate change was acknowledged as a business risk by every entity, and efforts had been made to describe at least some of the steps required to enable a transition towards net-zero. However, no single entity had published a holistic, robust, transition plan.

As such, following this brief analysis of transition plans in the ASEAN market, Climate Bonds' primary recommendation is for entities to develop a coherent, comprehensive, and credible transition plan that meets the Hallmarks outlined in this paper and is published prominently on their website.³³

Most entities will need to transition their activities towards net-zero and should start planning for this as soon as possible. Entities operating in some sectors may not yet have complete clarity on precisely what needs to be done further down the line but should nevertheless begin with what is currently practicable. Climate Bonds makes the following recommendations:

- 1.** A transition plan should be contained in a single, clearly labelled, easily accessible document (although some or all of it can also be included in other documents, such as annual reports)
- 2.** The plan should be dated and include an indication of how frequently it will be evaluated to incorporate ongoing developments
- 3.** Labelling and terminology should be applied consistently across the transition plan and related documents
- 4.** Transition plans should address all Five Hallmarks, and where there are gaps, these should be explained, and a clear plan set out to address these gaps (Appendix 1)
- 5.** Any organisation planning to issue an SLB should follow the guidance given in Section 4 of this document, to ensure maximum credibility and impact (page 16)

Appendix 1. Checklist to achieve Five Hallmarks of a Credibly Transitioning Company

Hallmark 1: Paris-aligned targets



1. Articulate GHG reduction targets for the short-, mid-, and long-term

Note: short-term means <2025, mid-term <2030, long term <2050

2. Targets should cover scopes 1, 2, and 3

- 2.1 If not, exclusions should be explained (i.e., they are not material, <10% of emissions)

Note: *There are circumstances in which certain emissions may not be material to a company, or downstream emissions may not be under its control. All scope 3 emissions are required from Oil and Gas companies.*

- 2.2 Specify whether emissions are intensity/ absolute reductions, and indicate reduction against baseline

3. Align above targets with a sector-specific, Paris-aligned (at least 1.5°C wherever available, otherwise below 2°C) pathway

Note: *These pathways could be provided by SBTi, TPI, RMI, IEA, ACT Initiative, UTS.*

Note: *Climate Bonds does not recommend benchmarking against National Plans or Nationally Determined Contributions (NDCs), which are often not aligned with a 1.5°C pathway.*

Note 2: *Some sectors may not have pathways available; in lieu of this, their plans should be aligned with SBTi's cross-sectoral approach (CSA) or best-in-class.*

Other considerations

1. If performance targets (PTs) are set, they should be in line with the 1.5°C, sector-specific pathway
2. GHG targets should not rely on Carbon Capture and Storage or Sequestration where alternatives are available (sector-specific).
3. GHG targets should not rely on carbon credits/offsets.
4. Plans should demonstrate ambition against recent emission trends

Hallmark 2: Robust Plans



1. Detailed strategy and plans should be provided for the transition

- 1.1 The plan should include all business areas
 - 1.2 Changes required to deliver on the targets should be identified– including but not limited to:

- 1.2.1 Diversifying activities

- 1.2.2 Decarbonising existing activities (efficiency/tech changes etc)

- 1.2.3 Engaging with suppliers and clients

- 1.3 Plans should demonstrate an ability to deliver against the GHG reduction targets

Other considerations

1. Plans should exclude the use of fossil fuels and lock-in of fossil fuel infrastructure.
2. Address technologies that release other, non-carbon dioxide GHGs. Clarify the application of any technologies.

2. Provide a financing plan for the entity's transition plans

- 2.1 The plan should cover the needs and commitments of any capital expenditures (CapEx), operating expenditures (OpEx), research and development (R&D), or mergers and acquisitions (M&A)

- 2.2 The plan should describe how this financing will be used based on business area

- 2.3 The plan should compare funding for 'transition-away' vs. 'transition-to' business activities

Other considerations

1. The plan should highlight any company history of accessing sustainable finance (GSS/SL bonds, loans, etc.).

3. The entity must develop and implement the relevant governance mechanisms to deliver the plan

- 3.1 The board should have clear oversight of climate risks and opportunities

- 3.2 The board should publicly commit to the transition plan/net-zero targets

- 3.3 The board should include an individual responsible for climate change-related issues

- 3.4 Executive committees should include individuals responsible for climate change-related issues

- 3.5 The board and/or executive committee should have oversight on the setting, performance, and reporting of the PTs

Note: *Governance mechanisms can vary between entities, but common examples can include but are not limited to: a Climate/Sustainability/ ESG committee that reports to the board, departmental climate/transition working groups, climate performance-linked remuneration*

Hallmark 3: Implementation Action



1. The entity should identify short- and mid-term CapEx required for its transition

- 1.1 The amount should be proportional to its total CapEx in the same period

- 1.2 The entity should commit to decarbonising this CapEx, in line with its GHG targets and PTs

Other considerations

1. CapEx should be proportional to the overall transition investment plan
2. The company should commit to divesting/decommissioning its non-aligned assets and activities (e.g. coal plants, fossil fuel-based activities)

2. The entity should identify short term OpEx required for its transition

- 2.1 The entity should commit to decarbonising this OpEx, in line with its GHG targets

3. The company should monitor and report performance against its PTs/overall transition

Hallmark 4: Internal Reporting



1. The transition plan should clearly outline a regular internal review of KPIs and PTs in order to recalibrate, or reevaluate its PTs in light of unexpected changes (new technology, going off track, etc.)

Note: *Selected Performance Targets should be regularly reviewed and recalibrated to reflect changing operating conditions and market developments such as new technologies coming online sooner than expected. Processes should be in place for such recalibration to tighten stringency where possible and overall to ensure continuous improvement.*

Hallmark 5: External Reporting



1. The entity should report annually, publicly and clearly on its GHG emissions and PTs

- 1.1 The entity should disclose its methodology for calculating its PTs

2. The entity should explain its performance against these PTs

3. The results of GHG targets and PTs should be externally verified

Appendix 2. State of play of transition finance in ASEAN

The transition to net zero must be private sector led, but public sector enabled. The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) emphasised how coordinated climate policies, integrated into the wider development context, can increase the pace, depth, and breadth of emissions reductions. The scope of supportive policies is broad as it covers finance, industry, agriculture, trade and energy amongst other elements. Climate Bonds' 101 Sustainable Finance Policies for 1.5°C, as the name suggests, is a useful resource as it gives an overview of policies that can contribute to reaching the goals of the Paris Agreement.³⁴ Many of these policies, if implemented, would support entities in designing their transition strategies.

A selection of supportive financial policies from ASEAN are described briefly below.

Malaysia – SRI Sukuk and Bond Grant Scheme and Low Carbon Transition Facility

In August 2022, the Securities Commission Malaysia (SC) announced the expansion of the Sustainable and Responsible Investment (SRI) Sukuk and Bond Grant Scheme to facilitate companies raising sukuk to meet their sustainable finance needs.³⁵ The grant scheme covers up to 90% of the costs incurred by issuers on external reviews of sustainable instruments under the SC's SRI Sukuk Framework and the ASEAN Green, Social and Sustainability Bond Standards, and has since extended this to SRI-linked Sukuk issued under the SC's SRI-linked Sukuk Framework, which was introduced in June 2022.³⁶ This announcement was made in conjunction with the 2022 release of SC's SRI-linked Sukuk Framework, which aims to facilitate companies raising funds using SLBs.³⁷



Separately, the country's central bank – Bank Negara Malaysia (BNM) – launched a Low Carbon Transition Facility (LCTF) worth MYR2bn (USD480m) in January 2022, as part of a joint effort with participating financial institutions to support and encourage small and medium-sized enterprises (SMEs) to adopt sustainable practices for business resilience.³⁸ Under this scheme, eligible SMEs will be able to obtain financing up to MYR10m (USD2.3m) per SME and financing tenure to 10 years, which can be utilised to fund capital expenditure or working capital to initiate or facilitate the transition to low carbon and sustainable operations. This initiative was announced in the Budget 2022 by the Ministry of Finance and is consistent with Malaysia's national target to achieve net-zero emissions by 2050.³⁹

Singapore – Sustainable Bond Grant Scheme and Green and Sustainability-Linked Loan Grant Scheme

The Monetary Authority of Singapore (MAS) launched a Sustainable Bond Grant Scheme (SBGS) in 2017, encouraging the issuance of green, social and sustainability bonds in Singapore by helping issuers to cover additional costs associated with external reviews.⁴⁰ Valid until 31 May 2023, the scheme defrays up to SGD100k (USD75.1k) of additional expenses for external reviews of eligible green, social, sustainability and sustainability-linked bonds, in addition to advocating for the adoption of internationally accepted standards.

MAS also acknowledges the role of the banking sector in accelerating local adoption of sustainable practices in Singapore. Thus, prior to the release of SBGS, MAS introduced the Green and Sustainability-Linked Loan Grant Scheme (GSLs).⁴¹ Reported to be a global first, the GSLs offsets the costs of independent verification of the green and sustainability credentials of relevant instruments.



Thailand – Waiver of approval and filing fees for sustainability-linked bonds

In May 2021, the Securities and Exchange Commission of Thailand (SEC) expanded its waiver of approval and filing fees to include SLBs.⁴² The waiver was introduced in 2019 to cover green, social and sustainability (GSS) bonds extended until 31 May 2025.⁴³ Restrictions on the UoP of GSS bonds were also removed.

Meanwhile, the Thai Bond Market Association (ThaiBMA) announced it would waive the application fee on GSS bonds in compliance with SEC regulations, and annual fees would be reduced by THB10k (USD290) from March 2019 until June 2020.⁴⁴ This incentive was extended to June 2022, and SLBs were added to the eligible assets.



ASEAN Sustainability-Linked Bond Standards

In November 2022, the ASEAN Capital Market Forum (ACMF) published the ASEAN Sustainability-Linked Bond Standards (ASEAN SLBS).⁴⁵ The ASEAN SLBS are intended to contribute to the development of the SLB market in the region by facilitating enhanced transparency, consistency, and uniformity of the instruments, reducing due diligence costs, and helping investors to make informed investment decisions.

The ASEAN Taxonomy for Sustainable Finance – Version 1 provides a framework for definitions of acceptable economic activities.⁴⁶ These two initiatives will support issuers, including those in high emitting sectors, to implement the required transition activities.

There is huge potential for other ASEAN member states to introduce further incentives.



Endnotes

1. Including from Climate Bonds Initiative, GFANZ, TPI, CDP, TPT, IIGCC. All guidance is well aligned calling for ambitious short-, mid- and long-term science-based targets underpinned by a comprehensive, costed and transparent business plan.
2. United Nations Framework Agreement on Climate Change <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement#:~:text=The%20Paris%20Agreement%20is%20a,compared%20to%20pre%20industrial%20levels>.
3. Climate Action 100+ <https://www.climateaction100.org/news/climate-action-100-net-zero-company-benchmark-shows-continued-progress-on-net-zero-commitments-is-not-matched-by-development-and-implementation-of-credible-decarbonisation-strategies/>.
4. Climate Bonds Initiative, *Transition Finance for Transforming Companies*, 2021 [Transition-Finance-for-Transforming-Companies-6-Sept-2022.pdf](https://www.climatebonds.net/files/files/Transition%20Finance%20Transition-Finance-for-Transforming-Companies-6-Sept-2022.pdf)
5. <https://www.climatebonds.net/files/files/Transition%20Finance%20Transition-Finance-for-Transforming-Companies-6-Sept-2022.pdf>
6. Climate Bonds Initiative, *Climate Bonds Standard V4.0*, 2022, <https://www.climatebonds.net/climate-bonds-standard-v4>
7. Climate Bonds Initiative Sustainable Debt Market Summary Q3 2022 https://www.climatebonds.net/files/reports/cbi_susdebtsum_highla32022_final.pdf
8. Climate Bonds Initiative, *Green Bond Pricing in the Primary Market H1 2022*, September 2022, <https://www.climatebonds.net/resources/reports/green-bond-pricing-primary-market-h1-2022>
9. *Climate Bonds Cement Criteria*, October 2022, <https://www.climatebonds.net/files/files/Cement-Criteria-Documents-Final-241022.pdf>
10. Climate Bonds Initiative, *Cement Criteria, Development of Eligibility Criteria under the Climate Bonds Standard and Certification Scheme Cement Background Paper (climatebonds.net)*
11. 30 November 2022, Bloomberg
12. PT Semen Indonesia (Persero) Tbk, *2021 Sustainability Report SR-SIG-2021-r2.pdf*
13. PT Semen Indonesia (Persero) Tbk, *Sustainability-Linked Finance Framework October 2022* https://sig.id/wp-content/uploads/2022/10/Project-Gaia-SLF-Framework_REV_2022.10.21.pdf
14. Transition Pathway Initiative, *TPI Sectoral Decarbonisation Pathways*, February 2022, <https://www.transitionpathwayinitiative.org/publications/100.pdf?type=Publication>
15. Climate Bonds Initiative, *Cement Criteria, The Cement Eligibility Criteria of the Climate Bonds Standard and Certification Scheme Cement Criteria (climatebonds.net)*
16. Biomass is not automatically sustainable and must be used only under strict conditions, as outlined by Climate Bonds criteria, to avoid increasing emissions and negatively affecting ecosystem health
17. Climate Bonds Initiative, *Steel Criteria*, December 2022, <https://www.climatebonds.net/standard/Steel>
18. Climate Bonds Initiative, *Basic Chemicals Criteria*, October 2022, <https://www.climatebonds.net/files/files/criteria-document-basic-chemicals-final-oct-2022-06102022.pdf>
19. The GHG Protocol, *Category 11, Use of Solid Products*, https://ghgprotocol.org/sites/default/files/standards_supporting/Chapter11.pdf
20. 30 November 2022, Bloomberg, Ticker = PTTGC
21. 30 November 2022, Bloomberg
22. IRENA, 2022. Indonesia energy transition outlook, International Renewable Energy Agency, Abu Dhabi: <https://www.irena.org/publications/2022/Oct/Indonesia-Energy-Transition-Outlook>
23. <https://www.sciencedirect.com/science/article/pii/S0306261922000617>
24. Enhanced Nationally Determined Contribution, Republic of Indonesia: https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022_Enhanced%20NDC%20Indonesia.pdf
25. <https://www.listrindo.com/uploads/sustainability/SR2021.pdf>
26. Climate Bonds Initiative, *Agriculture Criteria*, 2021, <https://www.climatebonds.net/standard/agriculture>
27. Climate Bonds Initiative, *Forestry, Land Conservation, and Restoration Criteria*, November 2018, <https://www.climatebonds.net/standard/forestry>
28. Olam Annual Sustainability Report 2020 (olamgroup.com)
29. 30 November 2022, Bloomberg.
30. Biomass is not automatically sustainable and its use must follow strict criteria
31. Climate Bonds Initiative, *Climate Bonds Standard Version 4.0*, 2023, <https://www.climatebonds.net/climate-bonds-standard-v4>
32. In the UK the movement to become a Net Zero Aligned Finance hub will lead to mandatory transition plans and has seen the establishment of the Transition plan Taskforce to define content and disclosure requirements <https://www.gov.uk/government/publications/fact-sheet-net-zero-aligned-financial-centre/fact-sheet-net-zero-aligned-financial-centre>. In the EU emerging regulations on corporate disclosure and due diligence both have requirements for transition plans. The EU Green Bond Standard is also considering the requirement.
33. These Hallmarks align well with other leading transition plan guidance as published by GFANZ, the Transition Plan Taskforce, IIGCC, TPI, and ICMA
34. Climate Bonds Initiative, *101 Sustainable Finance Policies for 1.5°C*, October 2022, <https://www.climatebonds.net/resources/reports/101-sustainable-finance-policies-15%C2%B0C>
35. Securities Commission Malaysia, 2022, [Expansion of SRI Sukuk and Bond Grant Scheme to Facilitate Sustainable Finance](https://www.ssm.com.my/webContent/Expansion%20of%20SRI%20Sukuk%20and%20Bond%20Grant%20Scheme%20to%20Facilitate%20Sustainable%20Finance.pdf)
36. Securities Commission Malaysia, 2022, [Expansion of SRI Sukuk and Bond Grant Scheme to Facilitate Sustainable Finance](https://www.ssm.com.my/webContent/Expansion%20of%20SRI%20Sukuk%20and%20Bond%20Grant%20Scheme%20to%20Facilitate%20Sustainable%20Finance.pdf)
37. Securities Commission Malaysia, 2022, [SC Releases New Sukuk Framework to Facilitate Companies' Transition to Net Zero](https://www.ssm.com.my/webContent/Expansion%20of%20SRI%20Sukuk%20and%20Bond%20Grant%20Scheme%20to%20Facilitate%20Sustainable%20Finance.pdf)
38. Bank Negara Malaysia, 2022, [Establishment of New Financing Facilities by Bank Negara Malaysia](https://www.bnm.gov.my/index.php?id=133&lang=en)
39. Bank Negara Malaysia, 2021, [Additional assistance for SMEs and individuals under Budget 2022](https://www.bnm.gov.my/index.php?id=133&lang=en)
40. Monetary Authority of Singapore, 2022, [Sustainable Bond Grant Scheme](https://www.mas.gov.sg/press-releases/2022/09/2022-09-20-01)
41. Monetary Authority of Singapore, 2022, [Green and Sustainability-Linked Loan Grant Scheme](https://www.mas.gov.sg/press-releases/2022/09/2022-09-20-01)
42. Asian Development Bank, 2022, [Green Bond Market Survey for Thailand](https://www.adb.org/publications/green-bond-market-survey-thailand)
43. Asian Development Bank, 2022, [Green Bond Market Survey for Thailand](https://www.adb.org/publications/green-bond-market-survey-thailand)
44. Asian Development Bank, 2021, [Bond Market Costs and Taxation](https://www.adb.org/publications/bond-market-costs-and-taxation)
45. ASEAN Capital Market Forum, 2022, [ASEAN Sustainability-Linked Bond Standards](https://asean.org/wp-content/uploads/2021/11/ASEAN-Taxonomy.pdf)
46. The ASEAN Taxonomy Board, *ASEAN Taxonomy for Sustainable Finance*, Version 1, November 2021, <https://asean.org/wp-content/uploads/2021/11/ASEAN-Taxonomy.pdf>



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