

Second-Party Opinion

Kingdom of Thailand Sustainable Financing Framework



Evaluation Summary

Sustainalytics is of the opinion that the Kingdom of Thailand Sustainable Financing Framework aligns with the Green Bond Principles 2018 (GBP), Social Bond Principles 2020 (SBP), Green Loan Principles 2020 (GLP), and ASEAN Sustainability Bond Standards 2018 (ASEAN SUS). This assessment is based on the following:



USE OF PROCEEDS The seven green and three social eligible categories for the use of proceeds are aligned with those recognized by GBP, SBP, GLP and ASEAN SUS. Sustainalytics considers that the eligible categories will facilitate a transition to a low-carbon economy and advance the socioeconomic development in Thailand while advancing the UN Sustainable Development Goals (SDGs), specifically SDG 1, 2, 3, 4, 6, 7, 8, 11, 14 and 15.



PROJECT EVALUATION / SELECTION KOT's internal process in evaluating and selecting projects will be managed by the Committee, which is comprised of representatives from Public Debt Management Office, Budget Bureau, Office of the National Economic and Social Development Council, State Enterprise Policy Office, Office of Natural Resources and Environmental Policy and Planning, The Securities and Exchange Commission, and Thai Bond Market Association. The Committee will monitor eligibility and impact of projects until full allocation. This process is in line with market practice.



MANAGEMENT OF PROCEEDS The Committee will manage the net proceeds using the government treasury reserve account of the Kingdom of Thailand. The net proceeds will be tracked by a register (the "Register"), including information on the issued financial instrument and relevant details. Pending full allocation, unallocated proceeds will be invested in temporary liquid instruments, such as cash and cash equivalents, in accordance with the Comptroller General's Department's policy. This process is in line with market practice.



REPORTING KOT intends to report on the allocation and impact of the proceeds annually on the Sustainable Financing section of the PDMO's website until full allocation. In its allocation reporting, KOT will report on (i) the percentage of an amount equal to the net proceeds allocated to eligible projects, (ii) the percentage of financing and refinancing of projects, and (iii) a breakdown of allocated amounts to eligible categories and the relevant Ministries in charge of the projects financed. Also, KOT commits to reporting on relevant impact metrics. This process is in line with market practice.

Alignment with the ASEAN Sustainability Bond Standards

The ASEAN Sustainability Bond Standards provide guidance to issuers and communicate more specifically what an issuer should do to issue a credible sustainable bond within Southeast Asia. Sustainalytics is of the opinion that the green and social categories under the Framework align with the ASEAN Sustainability Bond Standards.

Evaluation date	July 21, 2020
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Issuer Location	Bangkok, Thailand
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Introduction

Kingdom of Thailand (“KOT”, the “Country”, the “Government” or the “Issuer”) has developed the Kingdom of Thailand Sustainable Financing Framework (the “Framework”) under which it intends to issue green, social and sustainability bonds and loans, and use the proceeds to finance and refinance, in whole or in part, existing and future government loans or expenditures in the form of direct investment expenditures, subsidies, fiscal measures and operational expenditures. Eligible projects will reduce Thailand’s environmental footprint and assist the transition towards a low-carbon economy while advancing the socioeconomic development of the Country. The Framework defines eligibility criteria in seven green areas and three social areas:

Green Eligible Categories

1. Clean Transportation
2. Renewable Energy
3. Energy Efficiency
4. Sustainable Water and Wastewater Management
5. Sustainable Management of Living Natural Resources and Land Use
6. Terrestrial and Aquatic Biodiversity Conservation
7. Green Buildings

Social Eligible Categories

1. Employment Generation Including Through the Potential Effect of SME Financing and Microfinance
2. Access to Essential Services
 - a. Healthcare
 - b. Educational and Vocational Training
 - c. Affordable Housing
3. Food Security

KOT engaged Sustainalytics to review the Kingdom of Thailand Sustainable Financing Framework, dated July 2020, and provide a second-party opinion on the Framework’s environmental and social credentials and its alignment with the Sustainability Bond Guidelines 2018 (SBG),¹ Green Loan Principles 2020 (GLP),² and ASEAN Sustainability Bond Standards (ASEAN SUS).³ This Framework has been published in a separate document.⁴

Scope of work and limitations of Sustainalytics Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁵ opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2018, Social Bond Principles 2020, and Sustainability Bond Guidelines 2018 as administered by ICMA, Green Loan Principles 2020 as administered by LMA, and ASEAN Sustainability Bond Standards as administered by ACMF;
- The credibility and anticipated positive impacts of the use of proceeds;
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

¹ The Sustainability Bond Guidelines are administered by the International Capital Market Association and are available at: <https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/>

² The Green Loan Principles are administered by the Loan Market Association and are available at: <https://www.lsta.org/content/green-loan-principles/>

³ The ASEAN Sustainability Bond Standards are administered by the ASEAN Capital Markets Forum and are available at: <https://www.theacmf.org/initiatives/sustainable-finance/asean-sustainability-bond-standards>

⁴ The Kingdom of Thailand Sustainable Financing Framework is available on PDMO’s website at: <https://www.pdmo.go.th/en>

⁵ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

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For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.4.1, which is informed by market practice and Sustainalytics' expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of KOT's Public Debt Management Office to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. KOT representatives have confirmed (1) they understand it is the sole responsibility of KOT to ensure that the information provided is complete, accurate or up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and KOT.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner.

In addition, the Second-Party Opinion opines on the intended allocation of proceeds but does not guarantee the realised allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that KOT has made available to Sustainalytics for the purpose of this SPO.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Kingdom of Thailand Sustainable Financing Framework

Sustainalytics is of the opinion that the Kingdom of Thailand Sustainable Financing Framework is credible, impactful and aligns with the four core components of the Green Bond Principles 2018 (GBP), Social Bond Principles 2020 (SBP), Green Loan Principles 2020 (GLP) and ASEAN Sustainability Bond Standards 2018 (ASEAN GBS). Sustainalytics highlights the following elements of KOT's Sustainability Financing Framework:

- Use of Proceeds:
 - The eligible categories – (i) Clean Transportation, (ii) Renewable Energy, (iii) Energy Efficiency, (iv) Sustainable Water and Wastewater Management, (v) Sustainable Management of Living Natural Resources and Land Use, (vi) Terrestrial and Aquatic Biodiversity Conservation, (vii) Green Buildings, (viii) Employment Generation, (ix) Access to Essential Services, and (x) Food Security – are aligned with those recognized by the GBP, SBP, GLP and ASEAN SUS. Sustainalytics believes that KOT's eligible projects will reduce Thailand's environmental footprint and assist the transition towards a low-carbon economy while advancing the socioeconomic development of the Country.
 - Sustainalytics views KOT's two-year look-back period for refinancing activities as aligned with current market practice. Additionally, KOT intends to report on the share of financing vs refinancing in its allocation reporting.
 - KOT confirmed that the eligibility criteria for clean transportation and supporting infrastructure include investments in electric-powered systems only. Intended projects include mass rail transport systems and electric vehicle infrastructure.
 - The Energy Efficiency category includes investments to products and technologies that reduce the energy consumption of underlying assets by at least 10%. Intended projects include LED and

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smart lighting solutions, improved chillers, and smart meters. Sustainalytics highlights KOT's threshold, which ensures meaningful energy savings. Additionally, Sustainalytics views positively that KOT excludes energy efficiency investments that may contribute to fossil fuel lock-in across all sectors, and encourages the Government to provide further disclosure on the financed projects.

- KOT's green building eligibility criteria includes third-party certification standards, namely EDGE (Certified), BREEAM (very good or above), LEED (gold or above), and BCA Green Mark (gold or above). Sustainalytics has conducted an evaluation of these standards and considers them to be robust and credible. (see Appendix 1 for additional details). Additionally, KOT set a minimum threshold of 20% for GHG emission or energy consumption reductions in new and existing buildings, which Sustainalytics considers to be in line with current market practice.
- The Sustainable Management of Living Natural Resources and Land Use category includes investments in reforestation/afforestation, aquaculture, and preservation/restoration of biodiversity and landscapes. KOT confirmed that the Government uses third-party standards for its investments in the category, such as the Endorsement of Forest Certification (PEFC) and Aquaculture Stewardship Council (ASC). Additionally, as part of its aquaculture activities, KOT excludes financing of any equipment powered by fossil fuels. While Sustainalytics acknowledges that ASC has received criticism related to the implementation and control of standards,⁶ Sustainalytics views positively the certification schemes included in the Framework's eligibility criteria. (See Appendix 2 and 3 for additional details)
- Under the Food Security category, KOT intends to invest in projects that aim to promote the Government's agriculture and land management theory, *New Theory Agriculture*.⁷ The theory aims to reduce the reliance of farmers on external factors, generate sufficient food and income for households, and improve farmers' livelihoods through following three steps: (i) implementing the Government's land management standards on small-scale farms, (ii) promoting communal farming through the establishment of co-operatives, and (iii) increasing access to finance and basic services for farmers. As part of the Framework, the Government intends to promote the theory through the provision of production subsidies and the establishment of learning centers for eligible small- and medium-scale farmers⁸ who follow the standards of the theory for at least three years. Sustainalytics considers the objectives of the category as robust, credible and impactful.
- KOT's social eligible categories include the following (please see Section 3: Impact of Use of Proceeds for additional details):
 - Employment Generation: Provision of loans to small and medium-sized enterprises (SMEs)⁹ based on one of three eligibility criteria: (i) SMEs led by women,¹⁰ (ii) SMEs in rural areas, and (iii) SMEs led by persons with disabilities. Sustainalytics recognizes the importance of supporting SMEs in Thailand and considers KOT's targeted approach as aligned with market practice.
 - Employment Generation (COVID-19): Provision of loans to SMEs, small-scale farmers,¹¹ employees or self-employed affected by the spread of infectious diseases such as COVID-19. Sustainalytics recognizes the importance of ensuring business and employment continuity to address the adverse impacts of COVID-19, and governments' role in this regard. Given the broad impact of COVID-19, Sustainalytics encourages KOT to implement adequate identification mechanisms to target groups affected by COVID-19, provide further disclosure on the SMEs financed, and report on the impact achieved.

⁶ ASC reserves the right to award certification with variances from the standard in some cases, which could result in financing for aquaculture activities that do not fully comply with the standard.

⁷ New Theory Agriculture, at: http://www.idd.go.th/EFiles_html/main%20page/Ea0400.htm

⁸ Eligibility Criteria of Farmers: (i) has his own rights/lease document, (ii) domiciles in the same community as the location of his plot of land, (iii) has operating areas of 1 rai (1,600 m²) or above, and (iv) there are water resources.

⁹ Definition of SMEs, Thai Ministry of Industry, (2016), at: https://read.oecd-ilibrary.org/industry-and-services/financing-smes-and-entrepreneurs-2016/definition-of-smes-according-to-the-thai-ministry-of-industry-thailand_fin_sme_ent-2016-table273-en#page1

¹⁰ Women led SMEs are defined as; at least for 51% owned by a woman or by women, or (b) (i) at least for 20% owned by a woman or by women, (ii). with a woman as CEO, COO, President or Vice President and (iii) if such enterprise has a board of directors, with at least 30% of such board of directors comprised of women

¹¹ KOT confirmed the exclusion of large scale farmers and cooperatives.

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- Healthcare: Development and provision of public health care services and related infrastructure. Intended projects include the construction of hospitals and the research and development (R&D) activities aimed at improving emergency medical response and disease control services. While Sustainalytics views positively that related services and infrastructures will be accessible to the general public, Sustainalytics encourages detailed reporting on the nominated R&D projects and the impact achieved.
- Healthcare (COVID-19): Expenditures related to the construction and maintenance of facilities, as well as the production of medical supplies and equipment needed for the prevention and/or treatment of infectious diseases such as COVID-19.
- Education and Vocational Training: Development and provision of public educational services and related infrastructure. Intended projects include the construction of schools and the establishment of digital learning platforms and workforce training. Sustainalytics highlights the targeted approach applied by KOT, aiming to increase access to education for low income,¹² people with disabilities and the unemployed.
- Affordable Housing: Development of affordable housing and the provision of affordable mortgage loans for low income people. Low-income population and terms/conditions of loans are defined by the Government per project. While KOT confirmed that affordability of the loans will be ensured for the low-income population, and that the low-income population will be identified adequately, Sustainalytics encourages KOT to provide transparency on the individual criteria per project upon issuance.
- Project Evaluation and Selection:
 - The Ministry of Finance will establish a Committee, comprised of cross-functional representatives from Public Debt Management Office, Budget Bureau, Office of the National Economic and Social Development Council, State Enterprise Policy Office, Office of Natural Resources and Environmental Policy and Planning, The Securities and Exchange Commission, and Thai Bond Market Association. The Committee will manage the project evaluation and selection. When necessary, the Committee will collaborate with other ministries, government departments and agencies. Until full allocation, the Committee will monitor the eligibility and impact of projects based on eligibility criteria under the Framework.
 - Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
 - The Committee will manage the use of proceeds via the government treasury reserve account of the Kingdom of Thailand. Use of proceeds will be tracked by a register (the “Register”) which will contain the details of the issued bonds or loans with their pricing date and maturity date. Pending full allocation, unallocated proceeds will be invested in temporary liquid instruments, such as cash and cash equivalents, in accordance with the Comptroller General’s Department’s policy.
 - Sustainalytics considers this process to be in line with market practice.
- Reporting:
 - On an annual basis, KOT commits to providing allocation and impact reporting on Sustainable Financing section of the PDMO’s website until full allocation. Allocation reporting will provide information on (i) the percentage of an amount equal to the net proceeds allocated to eligible projects, (ii) the percentage of financing and refinancing of projects, (iii) a breakdown of allocated amounts to eligible categories, and (iv) and the relevant Ministries in charge of the projects financed. Furthermore, in the case of co-financing, the pro-rata share of impact or the share of financing from financing instrument as a percentage of total project financing will be reported.
 - Upon data availability, impact reporting will disclose relevant impact indicators including but not limited to (i) reduced and/or avoided GHG emissions in tonnes of CO₂ per year, (ii) reduction in energy consumption, (iii) number of passengers transferred to the train and/or passenger kilometers, (iv) annual reduction in water consumption, (v) number, type and rating of green building certifications obtained, (vi) number of jobs created and/or retained, (vii) number of

¹² KOT Defines low income group as individuals who earn less than 30,000 Thai Baht per year.

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- loans to SMEs, (viii), number of people benefiting from vocational training and/or with better access to education, and (ix) number of people/families benefited from affordable housing.
- Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2018, Social Bond Principles 2020 and Green Loan Principles 2020

Sustainalytics has determined that the Kingdom of Thailand Sustainable Financing Framework aligns to the four core components of the Green Bond Principles 2018 (GBP), Social Bond Principles 2020 (SBP), and Green Loan Principles 2020 (GLP). For detailed information please refer to Appendix 5: Sustainability Bond/ Sustainability Bond Programme External Review Form.

Alignment with ASEAN Sustainability Bond Standards 2018

The ASEAN Sustainability Bond Standards provide guidance to issuers and communicate more specifically what an issuer should do to issue a credible green bond within Southeast Asia. Sustainalytics is of the opinion that the Kingdom of Thailand Sustainable Financing Framework aligns with the ASEAN Sustainability Bond Standards 2018 (ASEAN SUS). See Appendix 4: Alignment to the ASEAN Sustainability Bond Standards.

Section 2: Sustainability Strategy of the Issuer

Contribution of Framework to KOT's sustainability mandate

Sustainalytics has a positive view on the KOT's Sustainable Financing Framework and its alignment with the Government's sustainability efforts and strategies due to the following:

In 2015, prior to the signing of the Paris Agreement, KOT established its *Intended Nationally Determined Contribution (INDC)*, and has committed to reducing 20% of GHG emissions from business as usual levels by 2030 compared to a 2005 baseline.¹³ In conjunction with its INDC, KOT adopted the *Climate Change Master Plan 2015-2050* to establish a long-term strategy for climate change adaptation and decarbonization while guiding relevant government organizations.¹⁴ In line with the plan, KOT aims to achieve the following: (i) a 30% reduction in energy intensity by 2036 compared to the 2010 level, (ii) sourcing 30% of total final energy consumption from renewables by 2036, (iii) developing 1.2 million electric vehicles and 690 charging stations by 2036.¹⁵

Under the *Thailand 20-year National Strategy (2017-2036)*,¹⁶ KOT articulates its six national strategies to achieve by 2036 including (i) "eco-friendly development and growth" and (ii) "social cohesion and equity".¹⁷ Under the Social Cohesion and Equity, KOT aims to mitigate inequality while advancing the socioeconomic development of Thailand. To be aligned with its overarching national strategy, KOT has been publishing the Country's *National Economic and Social Development Plan* every five years, including short and medium-term environmental and social goals. Following the *Twelfth National Economic and Social Development Plan (2017-2021)*,¹⁸ KOT articulates the importance of advancing the Thai workforce while increasing access to quality and public services, particularly for disadvantaged people and those living in remote areas. As part of its commitment to mitigate inequality whilst improving the Thai workforce, the Government established the Rao Mai Ting Kun (We Stand Together) programme, aimed at supporting vulnerable groups during the COVID-19 pandemic.¹⁹ Additionally, KOT demonstrates its goal of fostering Thai SMEs to be equipped with improved products and services through innovation and technology.

¹³ Office of Natural Resources and Environmental Policy and Planning, "Thailand's Intended Nationally Determined Contribution (INDC)", (2015), at: https://www.ctc-n.org/sites/d8uat.ctc-n.org/files/UNFCCC_docs/thailand_indc.pdf

¹⁴ Office of Natural Resources and Environmental Policy and Planning, "Climate Change Master Plan 2015-2050", (2015), at: https://climate.onep.go.th/wp-content/uploads/2019/07/CCMP_english.pdf

¹⁵ IEA, "Southeast Asia Energy Outlook 2019", (2019), at: https://webstore.iea.org/download/direct/2887?fileName=Southeast_Asia_Energy_Outlook_2019.pdf

¹⁶ Thailand Today, "Thailand: 20-year National Strategy (2017-2036)", (2017), at: <http://www.thailandtoday.in.th/sites/default/files/Thailand-20-year-national-strategy.pdf>

¹⁷ Office of the National Economic and Social Development Board, "Meeting on Thailand's 20-Year National Strategy and Collaboration with International Development Partners", (2019), at: <http://nscr.nesdb.go.th/wp-content/uploads/2019/10/PPT-National-Strategy.pdf>

¹⁸ Office of the National Economic and Social Development Board/Office of the Prime Minister, "The Twelfth National Economic and Social Development Plan (2017-2021)", (2017), at: https://www.nesdc.go.th/ewt_w3c/ewt_dl_link.php?nid=9640

¹⁹ ISSA, Press Release, (2020), at: <https://iskm.issa.int/node/13180>

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Based on the above, Sustainalytics is of the opinion that the Kingdom of Thailand Sustainable Financing Framework is aligned with the KOT's overall sustainability initiatives and targets and will further strengthen the Country's action on its key environmental and social priorities.

Well positioned to address common environmental and social risks associated with the projects

While the eligible categories under the Framework are recognized as impactful by the GBP, SBP, GLP, and ASEAN SUS, Sustainalytics acknowledges that the eligible projects may have potential environmental and social risks such as occupational health and safety, environmental impacts related to large scale infrastructures, pollution from construction activities, and biodiversity loss from land use change, as well as risk related to community relations. Sustainalytics highlights the following regulations and practices adopted by KOT to mitigate the named risks:

In compliance with the *Enhancement and Conservation of National Environmental Quality Act (2018)*,²⁰ Environmental Impact Assessment (EIA) should be carried out for projects based on their type and size categorization, which is determined by the Office of the Natural Resources and Environmental Policy and Planning (ONEP). The review of projects and activities that are managed by governmental agencies and state enterprises need to include the approval of the Cabinet.²¹ The EIA consists of seven procedures: (i) screening, (ii) scoping, (iii) project information, (iv) existing environmental and natural resources describing, (v) environmental impacts identification, (vi) mitigation measures determination and (vii) monitoring and evaluation determination (monitoring reports twice a year).²² The assessment focuses on primary standards, rules and regulations on environment such as atmospheric, water, social, biodiversity and natural environment, landscape and amenity, waste management, climate change mitigation and adaptation. When there is no applicable standards, rules, or regulations in Thailand, consultation with ONEP is required.

Under the *Enhancement and Conservation of National Environmental Quality Act (2018)*, if intended projects or activities are associated with natural resources, environment, health, sanitary, or communities, the project operators are obliged to conduct an Environmental & Health Impact Assessment (EHIA), which requires additional steps on public health and community consultation.²³ To ensure the sufficient implementation of the Act, project operators shall engage with a third party to review the public participation process.

*Occupational Safety, Health and Environment Act (2011)*²⁴ require employers to develop health and safety policies that meet minimum requirements set by the government and provide a safe working place, identify and mitigate potential health and safety hazards, and provide sufficient training. According to the Act, an employer shall perform the following: (i) hazard assessment, (ii) impact assessment, (iii) operation plans on occupational safety, health, and environment and supervisory plans for employees. During the implementation of these steps, the employer shall comply with the guidance of a certified expert.

Under the Framework, KOT excludes financing projects associated with significant environmental and social risks such as exploration, production or transportation of fossil fuel, generation of nuclear power, lethal defence goods and military contracting, conflict minerals and child/forced labour.

Based on these policies and regulations, Sustainalytics is of the opinion that KOT has established adequate measures and is well positioned to manage and mitigate environmental and social risks potentially associated with the eligible projects.

Section 3: Impact of Use of Proceeds

All ten use of proceeds categories are aligned with those recognized by GBP, SBP, GLP and ASEAN SUS. Sustainalytics has focused on three below where the impact is specifically relevant in the local context.

²⁰ ONEP, "Enhancement and Conservation of National Environmental Quality Act (No. 2) B.E. 2561", (2018), at: <http://www.onep.go.th/eia/wp-content/uploads/2019/04/ACT2561-2.pdf>

²¹ AICEN, "Assessing Environmental Impact Assessment (EIA) in Thailand: Implementation Challenges and Opportunities for Sustainable Development Planning (Working Paper)", (2015), at: https://www.iges.or.jp/en/publication_documents/pub/workingpaper/en/5601/EIA+Thai+study_10Mar15-Final.pdf

²² ONEP, "Training Course on Environmental Goods Service and Services Negotiation", (2016), at: http://www.onep.go.th/eia/wp-content/uploads/2018/08/KM_18.pdf

²³ ONEP, "Training Course on Environmental Goods Service and Services Negotiation", (2016), at: http://www.onep.go.th/eia/wp-content/uploads/2018/08/KM_18.pdf

²⁴ Royal Thai Government Gazette, "Occupational Safety, Health and Environment ACT B.E. 2554 (A.D. 2011)", (2011), at: http://web.krisdika.go.th/data/outsidedata/outside21/file/OCCUPATIONAL_SAFETY_HEALTH_AND_ENVIRONMENT_ACT,B.E._2554.pdf

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Importance of the shift towards mass and clean passenger transportation in Thailand

In 2017, road transport accounted for 85% of Thailand's transportation sector, followed by maritime (12%), rail (2%) and airway (1%).²⁵ In 2018, the transport sector accounted for more than one-third of the country's final energy consumption²⁶ and 26% of total GHG emissions.²⁷ In particular, passenger road transport relies heavily on personal vehicles (cars, pickup trucks, and motorcycles), demonstrating the importance of facilitating mass passenger transportation systems in the country.²⁸

Due to the rapid development of the economy and urbanization,²⁹ Bangkok Metropolitan Region (BMR; Bangkok, Samut Prakarn, Nontha Buri and Pathum Thani provinces) became the country's urban hub, accounting for around 80% of the country's total urban space³⁰ and 23% of the Thai population.³¹ To address the transportation challenges resulting from this rapid urbanization, the Government of Thailand announced the *Environmentally Sustainable Transport System Plan* in 2013, aimed at facilitating the shift from road to rail passenger transport, particularly through extensions of mass rapid transit lines and construction of double-track railways in the BMR.³² The Government of Thailand aims to increase the mass rapid transit system from 5% to 15% between 2017-2021.³³

Despite above efforts of the Government in promoting mass and clean transportation, private cars accounted for 43.2% of total vehicles used daily in the BMR in 2017, followed by private motorbikes (25.5%), public transport (20.2%) and the others (11.1%).³⁴ Reflecting the current situation, the Government established the *20 Years National Transport System Development Strategy (2018-2037)*, underpinned by three main targets: (i) a shift to electric vehicles from the conventional vehicles, (ii) inclusivity through increasing access to public and affordable transport services, and (iii) improved transport and logistics with better connectivity.³⁴

KOT intends to invest in developing and maintaining clean transportation projects, including mass rail transport systems and electric vehicle infrastructures. Given the importance of decarbonizing the transportation sector in Thailand, Sustainalytics is of the opinion that KOT's financing will contribute to a shift towards a mass and clean transportation, and thus reduce the GHG emissions of the transport sector.

Importance of increasing access to healthcare in Thailand

Universal Health Coverage (UHC) has been a key to improve healthcare service in Thailand since 2002, allowing every Thai citizen to have access to essential health services at all life stages.³⁵ While UHC was launched to ensure this access, rising healthcare costs have remained a challenge in Thailand due to the following: (i) changing health needs, (ii) increasing population, and (iii) increasing costs of technological and medical improvements.³⁶ Under the *20-Year National Strategy*, Government of Thailand articulates the importance of addressing these challenges, preventing the spread of diseases and increasing access to public healthcare services.³⁶

²⁵ AIT, "Transportation Infrastructure Development in Thailand: Go Green or Go Grey?", (2017), at:

<https://www.uncrd.or.jp/content/documents/5602Presentation%20%20-%20Module%20%20-%20Mr.%20Surachet%20Pravinongvuth.pdf>

²⁶ NESDB/World Bank, "Thailand: Clean Energy for Green Low-Carbon Growth", (2011), at:

<http://documents1.worldbank.org/curated/en/576401468120848097/pdf/662200WP0p12440e0Clean0Energy0all07.pdf>

²⁷ Ministry of Energy, "Emission - Table 9.1-2: CO2 Emission from Energy Consumption by Sector", (2019), at: <http://www.eppo.go.th/index.php/en/en-energystatistics/co2-statistic>

²⁸ ADB, "Thailand Transport Sector Assessment, Strategy, and Road Map", (2011), at: <https://www.adb.org/sites/default/files/institutional-document/33104/files/tha-transport-assessment.pdf>

²⁹ APEC, "The Impacts and Benefits of Structural Reforms in Transport, Energy and Telecommunications Sectors", (2011), at:

<https://www.apec.org/Publications/2011/01/The-Impacts-and-Benefits-of-Structural-Reforms-in-Transport-Energy-and-Telecommunications-Sectors>

³⁰ World Bank, "Urbanization in Thailand is dominated by the Bangkok urban area", (2015), at:

<https://www.worldbank.org/en/news/feature/2015/01/26/urbanization-in-thailand-is-dominated-by-the-bangkok-urban-area>

³¹ City population National Statistics Office, "Bangkok Metropolitan (2019 population)", (2020), at:

https://www.citypopulation.de/en/thailand/prov/admin/B_bangkok_metropolitan/

³² Office of Natural Resources and Environmental Policy and Planning, "Climate Change Master Plan 2015-2050", (2015), at:

https://climate.onep.go.th/wp-content/uploads/2019/07/CCMP_english.pdf

³³ ADB, "Draft Social Due Diligence Report: Proposed Loans Northern Bangkok Monorail Company Limited Eastern Bangkok Monorail Company Limited Bangkok Mass Rapid Transit Project (Pink and Yellow Lines) (Thailand)", (2018), at: https://www.adb.org/sites/default/files/project-documents/51274/51274-001-sddr-en_2.pdf

³⁴ ADB, "Draft Social Due Diligence Report: Proposed Loans Northern Bangkok Monorail Company Limited Eastern Bangkok Monorail Company Limited Bangkok Mass Rapid Transit Project (Pink and Yellow Lines) (Thailand)", (2018), at: https://www.adb.org/sites/default/files/project-documents/51274/51274-001-sddr-en_2.pdf

³⁵ WHO/ Sumridetchkajorn et al. "Universal health coverage and primary care, Thailand", (2019), at: <https://www.who.int/bulletin/volumes/97/6/18-223693/en/>

³⁶ Minister of Foreign Affairs of the Kingdom of Thailand, "Thailand's Voluntary National Review on the Implementation of the 2030 Agenda for Sustainable Development", (2017), at: <https://sustainabledevelopment.un.org/content/documents/16147Thailand.pdf>

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According to the World Health Organization (WHO), health emergencies and disasters can disrupt the healthcare system and lead to limited access to medical services while responding to the challenges of health disasters.³⁷ In particular, insufficient preparation to health threats can significantly endanger public health.³⁷ Given this context, it is crucial to implement response and action plans, which is acknowledged through global pandemics such as SARS, influenza (H1N1 and H5N1), cholera and COVID-19 over the last decade.³⁷ In March 2020, WHO defined COVID-19 as a global pandemic³⁸ and notes that sufficient funding is crucial for sufficient response.³⁹

KOT intends to finance healthcare services and equipment for the targeted population including people with impairments, vulnerable youth, and the elderly aimed at increasing capacity and efficiency in Thai healthcare, including safety equipment for infectious diseases such as COVID-19. Sustainalytics is of the opinion that KOT's financing will increase access to healthcare services while mitigating the effects of infectious diseases.

Importance of SMEs and employment generation in Thailand

In 2018, SMEs accounted for 99.8% of total companies (3 million companies), 86% of total employment (14 million jobs), and 45% of the country's gross domestic product in Thailand.⁴⁰ Given the fundamental role of SMEs in employment generation, the Government of Thailand has committed to increasing access to finance and employment for SMEs by introducing fiscal measures, promoting SME exports, and increasing financial opportunities through commercial banks.⁴¹

As of March 2020, WHO announced COVID-19 as a global pandemic, urging all countries to take prompt action to tackle the spread of the coronavirus.⁴² It was reported that around 1.33 million Thai SMEs are disrupted by COVID-19, indicating that 4 million jobs are at risk.⁴³ In particular, SMEs in the service sector are expected to experience a revenue drop by more than USD 110 mn by the end of 2020.⁴³ To address employment challenges resulting from the measures implemented during the spread of COVID-19, the Government of Thailand launched fiscal initiatives in April 2020⁴⁴ such as the establishment of Social Security Fund and the provision of income support of 5,000 baht for people in informal employment for three months.⁴⁴

KOT intends to finance SMEs and sole proprietors in Thailand, including those affected by the outbreak of COVID-19. Sustainalytics is of the opinion that KOT's financing will increase access to finance for SMEs in Thailand while ensuring business and employment continuity.

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. This sustainability bond advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG target
Clean Transportation	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

³⁷ WHO, "Emergency Risk Management for Health Overview", (2013), at:

https://www.who.int/hac/techguidance/preparedness/risk_management_overview_17may2013.pdf?ua=1

³⁸ WHO, "Coronavirus disease (COVID-19) pandemic", (2020), at: <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov>

³⁹ WHO, "Health systems governance and financing & COVID-19", (2020), at: <https://www.who.int/teams/health-financing/covid-19>

⁴⁰ ADBI, "Empowering Thai SMEs to join global value chains: Policy priorities under COVID-19", (2020), at: <https://www.asiapathways-adbi.org/2020/07/empowering-thai-smes-join-global-value-chains-policy-priorities-under-covid-19/>

⁴¹ Oxford Business Group, "Thailand's economic growth strategy focuses on small business", (2017), at: <https://oxfordbusinessgroup.com/analysis/ground-small-business-heart-government-growth-strategy>

⁴² WHO, "Timeline of WHO's response to COVID-19, March 11", (2020), at: <https://www.who.int/news-room/detail/29-06-2020-covidtimeline>

⁴³ ADBI, "Empowering Thai SMEs to join global value chains: Policy priorities under COVID-19", (2020), at: <https://www.asiapathways-adbi.org/2020/07/empowering-thai-smes-join-global-value-chains-policy-priorities-under-covid-19/>

⁴⁴ The Diplomat, "Why COVID-19 Will Worsen Inequality in Thailand", (2020), news article, at: <https://thediplomat.com/2020/04/why-covid-19-will-worsen-inequality-in-thailand/>

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Renewable Energy Energy Efficiency	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix 7.3 By 2030, double the global rate of improvement in energy efficiency
Sustainable Water and Wastewater Management	6. Clean Water and Sanitation	6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
Sustainable Management of Living Natural Resources and Land Use	15. Life on Land	15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems
Terrestrial and Aquatic Biodiversity Conservation	14. Life Below Water	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.
Green Buildings	11. Sustainable Cities and Communities	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Access to Essential Services	1. No Poverty	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
	3. Good Health and Well-Being	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all 3.D Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks
	4. Quality Education	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
	11. Sustainable Cities and Communities	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Employment generation including through the potential effect of SME financing and microfinance	8. Decent Work and Economic Growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized

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		enterprises, including through access to financial services
Food Security	2. Zero Hunger	<p>2.1. By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round</p> <p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.</p> <p>2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility</p>

Conclusion

KOT has developed the Kingdom of Thailand Sustainable Financing Framework under which it intends to issue sustainability bonds and use the proceeds to finance projects under the categories of (i) Clean Transportation, (ii) Renewable Energy, (iii) Energy Efficiency, (iv) Sustainable Water and Wastewater Management, (v) Sustainable Management of Living Natural Resources and Land Use (vi) Terrestrial and Aquatic Biodiversity Conservation, (vii) Green Buildings, (viii) Employment Generation, (ix) Access to Essential Services, and (x) Food Security. Sustainalytics considers that the eligible categories will facilitate a transition to a low-carbon economy and advance the socioeconomic development in Thailand.

Kingdom of Thailand Sustainable Financing Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that Kingdom of Thailand Sustainable Financing Framework is aligned with the overall sustainability strategy of the Government and that the use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals SDG 11, 2, 3, 4, 6, 7, 8, 11, 14 and 15. Additionally, Sustainalytics is of the opinion that KOT has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the use of proceeds.

Based on the above, Sustainalytics is confident that KOT is well-positioned to issue sustainability bonds and that that Kingdom of Thailand Sustainable Financing Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles 2018, Social Bond Principles 2020, Green Loan Principles 2020, and ASEAN Sustainability Bond Standards 2018.

Appendices

Appendix 1: Certification Schemes for Green Buildings

	LEED ⁴⁵	BREEAM ⁴⁶	EDGE ⁴⁷	Singapore Green Mark BCA
Background	Leadership in Energy and Environmental Design (LEED) is a US Certification System for residential and commercial buildings used worldwide. LEED was developed by the non-profit U.S. Green Building Council (USGBC) and covers the design, construction, maintenance and operation of buildings.	Building Research Establishment Environmental Assessment Method (BREEAM) was first published by the Building Research Establishment (BRE) in 1990. Based in the UK, BREEAM is used for new, refurbished and extension of existing buildings.	EDGE (or “Excellence in Design for Greater Efficiencies”) is a green building standard and certification system developed by the International Finance Corporation and applicable in 140 countries.	The BCA Green Mark Scheme provides real estate certifications in Singapore to promote sustainability in the built environment (during project conceptualization and design, as well as during construction.) ⁴⁸
Certification levels/rating	Certified Silver Gold Platinum	Pass Good Very Good Excellent Outstanding	Certified/ non-certified	Bronze Silver Gold Platinum
Areas of Assessment: Environmental Performance of the Building	Energy and Atmosphere Sustainable Sites Location and Transportation Materials and Resources Water efficiency Indoor Environmental Quality Innovation in Design Regional Priority	Energy Land Use and Ecology Pollution Transport Materials Water Waste Health and Wellbeing Innovation	Management is part of the Core Framework of EDGE ⁴⁹	Site Aspects (location, planning and design, emissions from the site) Materials Aspects (efficient use of materials, selection of materials, waste materials) Energy Use (annual energy use, energy efficient systems, energy efficient equipment, facilities for energy, management) Water Use (water quality, water conservation, effluent) Indoor Environmental

⁴⁵ USGBC, LEED, at: www.usgbc.org/LEED

⁴⁶ BREEAM, Building Research Establishment LTD, at: <https://breeam.com/>

⁴⁷ Website available at: <https://www.edgebuildings.com/marketing/edge/>

⁴⁸ https://www.bca.gov.sg/greenmark/green_mark_buildings.html





⁴⁹ EDGE Methodology Report available at: <https://www.edgebuildings.com/wp-content/uploads/2018/10/181018-EDGE-Methodology-Version-2.pdf>

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				Quality (safety, hygiene, indoor air quality, ventilation, thermal comfort, lighting quality, acoustics and noise, building amenities) Innovations and Additions
Requirements	<p>Prerequisites (independent of level of certification) + Credits with associated points</p> <p>These points are then added together to obtain the LEED level of certification</p> <p>There are several different rating systems within LEED. Each rating system is designed to apply to a specific sector (e.g. New Construction, Major Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, Existing Buildings: Operation and Maintenance).</p>	<p>Prerequisites depending on the levels of certification + Credits with associated points</p> <p>This number of points is then weighted by item⁵⁰ and gives a BREEAM level of certification, which is based on the overall score obtained (expressed as a percentage). Majority of BREEAM issues are flexible, meaning that the client can choose which to comply with to build their BREEAM performance score.</p> <p>BREEAM has two stages/ audit reports: a 'BREEAM Design Stage' and a 'Post Construction Stage', with different assessment criteria.</p>	<p>1. Climatic Conditions of the Location</p> <p>Monthly average wet and dry bulb temperature; Monthly average outdoor wind velocity; Monthly average outdoor humidity, Solar radiation intensity; Annual average rainfall; Carbon dioxide intensity of the electricity grid; Average cost of energy (by fuel type) and water.</p> <p>2. Building Type and Occupant Use</p> <p>Homes: for both apartments and houses (assumptions for area and occupancy are based on income categories); Hotels: for both hotels and resorts (assumptions for area, occupancy and the type of support services are based on the star rating of the property); Offices: assumptions are based on occupancy density and hours of use; Hospitals: assumptions are based on the type of hospital (e.g., nursing home, private or public hospital, clinic or diagnostic center); Retail: assumptions are based on the type of retail building (e.g.,</p>	<p>Prerequisites for each performance area + Credits with associated points</p> <p>Detailed compliance with legal requirements is a prerequisite for the award of credits. For every performance area BEAM prescribes different prerequisites. Every applicable prerequisite in every BEAM category must be achieved for the project to be assessed. Credits are allocated for each performance area, and every area is weighted as per international consensus.²⁰ The Overall Assessment Grade is determined by the percentage (%) of the applicable credits gained under each performance category and its weighting factor. Verification of compliance with BEAM criteria is done by an independent BEAM assessor.</p>

⁵⁰ BREEAM weighting: Management 12%, Health, and wellbeing 15%, Energy 19%, Transport 8%, Water 6%, Materials 12.5%, Waste 7.5%, Land Use and ecology 10%, Pollution 10% and Innovation 10%. One point scored in the Energy item is therefore worth twice as much in the overall score as one point scored in the Pollution item

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			<p>department store, mall, supermarket, light industry or warehouse); Education: assumptions are based on the type of educational facility (e.g., pre-school, university or sports facility), as well as occupancy density and hours of use.</p> <p>3. Design and Specifications Thermal properties of the building envelope; Window to Wall Ratio; Building Orientation</p> <p>4. Calculation of the End Use Demand Overall energy demand in buildings; heating ventilation and air conditioning demand; virtual energy for comfort, energy demand for hot water requirements; lighting energy demand; water demand in buildings; estimations on rainwater harvesting or recycled water onsite; embodied energy in building materials.</p>	
Performance display				

Appendix 2: Overview and Assessment of Aquaculture Certifications

	Aquaculture Stewardship Council⁵¹
Background	The Aquaculture Stewardship Council (ASC) is an independent, international NGO that manages the ASC certification and labelling program for responsible aquaculture.
Clear positive impact	Promoting sustainable aquaculture practices.

⁵¹ Aquaculture Stewardship Council, at: <https://www.asc-aqua.org/what-we-do/our-standards/farm-standards/>.

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Minimum standards	<p>Quantitative and qualitative thresholds which are designed to be measurable, metric- and performance-based.</p> <p>Certification may be granted with a “variance” to certain requirements of the standard. This variance is designed to allow the standard to adapt to local conditions but has been criticized for weakening the standard and overriding the consultations involved in the standard-setting process.</p>
Scope of certification or programme	<p>ASC encompasses nine farm standards, covering 15 fish species as well as the harvest of seaweed. These farm standards lay out minimum requirements regarding both environmental and social performance.</p> <p>Additionally, a Chain of Custody Standard is mandatory for all supply chain actors in order to ensure traceability.</p>
Verification of standards and risk mitigation	<p>Third-party conformity assessment bodies (CABs), certified by Accreditation Service International (ASI) carry out assessments in line with the ASC standard and ISO 17065.</p> <p>Major non-compliances must be remedied within three months.</p>
Third party expertise and multi-stakeholder process	<p>Developed in line with United Nation’s Food and Agriculture Organization (UN FAO) and International Labour Organization (ILO) principles.</p> <p>Managed in accordance with the International Social and Environmental Accreditation and Labelling (ISEAL) Codes of Good Practice.</p>
Performance display	
Qualitative considerations	<p>Widely recognized and modeled on the successful MSC certification.</p> <p>Some criticism has been focused on the ability to certify with a “variance”, in which certain aspects of the standard can be interpreted or waived during the audit procedure.</p> <p>While a reputable certification overall, the standard does not fully mitigate all the risks associated with aquaculture.</p>

Appendix 3: Certification Schemes for Forestry

	Programme for the Endorsement of Forest Certification (PEFC)⁵²
Background	<p>Founded in 1999, the Programme for the Endorsement of Forest Certification (PEFC) is a non-profit organization that promotes sustainable forest management through independent third-party certification, this includes assessments, endorsements and recognition of national forest certification systems. PEFC was created in response to the specific requirements of small- and family forest owners as an international umbrella organization.</p>
Basic Principles	<ul style="list-style-type: none"> • Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle • Maintenance and enhancement of forest ecosystem health and vitality • Maintenance and encouragement of productive functions of forests (wood and no-wood) • Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems • Maintenance and appropriate enhancement of protective functions in forest management (notably soil and water)

⁵² PEFC, Standards and Implementation: <https://www.pefc.org/standards-implementation>

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	<ul style="list-style-type: none"> • Maintenance of socioeconomic functions and conditions • Compliance with legal requirements
Types of standards/benchmarks	<ul style="list-style-type: none"> • Sustainable Forest Management benchmark – international requirements for sustainable forest management. National forest management standards must meet these requirements in order to obtain PEFC endorsement • Group Forest Management Certification – outlines the requirements for national forest certification systems who have group forest management certification • Standard Setting – covers the processes that must be adhered to during the development, review and revision of national forest management standards • Chain of Custody – outlines the conditions for obtaining CoC certification for forest-based products • PEFC logo Usage Rules – outlines the requirements entities must abide by when using the PEFC logo • Endorsement of National Systems – outlines the process that national systems must go through to achieve PEFC endorsement
Governance	<p>PEFC's governance structure is formed by the General Assembly (GA) which is the highest authority and decision-making body. It is made up of all PEFC members, including national and international stakeholders. In general, PEFC's governance structure is more representative of industry and government stakeholders than of social or environmental groups. Members vote on key decisions including endorsements, international standards, new members, statutes and budgets. All national members have between one and seven votes, depending on membership fees, while international stakeholder members have one vote each.</p>
Scope	<p>Multi-stakeholder participation is required in the governance of national schemes as well as in the standard-setting process. Standards and normative documents are reviewed periodically at intervals that do not exceed five years. The PEFC Standard Setting standard is based on ISO/IEC Code for good practice for standardization (Guide 59)⁵³ and the ISEAL Code of Good Practice for Setting Social and Environmental Standards.</p>
Chain-of-Custody	<ul style="list-style-type: none"> • Quality or environmental management systems (ISO 9001:2008 or ISO 14001:2004 respectively) may be used to implement the minimum requirements for chain-of-custody management systems required by PEFC • Only accredited certification bodies can undertake certification • CoC requirements include specifications for physical separation of wood and percentage-based methods for products with mixed content. • The CoC standard includes specifications for tracking and collecting and maintaining documentation about the origin of the materials • The CoC standard includes specifications for the physical separation of certified and non-certified wood • The CoC standard includes specifications about procedures for dealing with complains related to participant's chain of custody

⁵³ ISO, ISO/IEC Guide 59:2019: <https://www.iso.org/standard/23390.html>

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Non-certified wood sources	<p>The PEFC's Due Diligence System requires participants to establish systems to minimize the risk of sourcing raw materials from:</p> <ul style="list-style-type: none"> a. forest management activities that do not comply with local, national or international laws related to: <ul style="list-style-type: none"> - operations and harvesting, including land use conversion, - management of areas with designated high environmental and cultural values, - protected and endangered species, including CITES species, - health and labor issues, - indigenous peoples' property, tenure and use rights, - payment of royalties and taxes. b. genetically modified organisms, c. forest conversion, including conversion of primary forests to forest plantations.
Accreditation/verification	<p>Accreditation is carried out by an accreditation body (AB). In the same way that a certification body checks that a company meets the PEFC standard, the accreditation body checks that a certification body meets specific PEFC and ISO requirements. Through the accreditation process, PEFC has assurance that certification bodies are independent and impartial, that they follow PEFC certification procedures.</p> <p>PEFC does not have their own accreditation body. Like with the majority of ISO based certifications, PEFC relies on national ABs under the umbrella of the International Accreditation Forum (IAF). National ABs need to be a member of the IAF, which means they must follow IAF's rules and regulations.</p>
Qualitative considerations	<p>Sustainalytics views PEFC as being robust, credible standard that is based on comprehensive principles and criteria that are aligned with ISO. The scheme has received praise for its contribution to sustainable forest management practices⁵⁴ and it has also faced criticism from civil society actors.^{55,56} In certain instances, the standards go above and beyond national regulation and is capable of providing a high level of assurance that sustainable forest management practices are in place. However, in other cases, the standards are similar or equal to national legislation and provide little additional assurance. Ultimately, the level of assurance that can be provided by either scheme is contingent upon several factors including the certification bodies conducting audits, national regulations and local context.</p>

Appendix 4: Alignment with the ASEAN Sustainability Bond Standards

ASEAN GBS Criteria	Alignment with the ASEAN GBS	Sustainalytics' comments on alignment with the ASEAN GBS
Eligibility	Yes	The ASEAN GBS requires that issuers must be in or that the proceeds be directed to assets in an ASEAN country. KOT qualifies given that KOT intends to finance in Thailand.

⁵⁴ FESPA, FSC, PEFC and ISO 38200: <https://www.fespa.com/en/news-media/blog/fsc-pefc-and-iso-38200>

⁵⁵ Yale Environment 360, Greenwashed Timber: How Sustainable Forest Certification Has Failed: <https://e360.yale.edu/features/greenwashed-timber-how-sustainable-forest-certification-has-failed>

⁵⁶ EIA, PEFC: A Fig Leaf for Stolen Timber: <https://eia-global.org/blog-posts/PEFC-fig-leaf-for-stolen-timber>

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Use of Proceeds	Yes	The ASEAN GBS offers specific clarification that fossil fuel power generation projects and projects which involve activities that pose a negative social impact related to alcohol, gambling, tobacco and weaponry are excluded. KOT has included criteria in the Framework to this effect.
Process for Project Evaluation and Selection	Yes	The ASEAN GBS specifies information that must be clearly communicated to investors before issuance regarding project selection. KOT's Ministry of Finance has established a Committee, comprised of cross-departmental members from the Comptroller General's Department, Office of the National Economic and Social Development Council, Bureau of the Budget and Public Debt Management Office ("PDMO"), to select projects aligned with the eligibility criteria.
Management of Proceeds	Yes	The ASEAN GBS mandates that proceeds must be appropriately tracked and that temporary investments be disclosed. Within its framework, KOT disclosed that it will track and monitor the use of proceeds using a register. Unallocated proceeds will be invested in temporary liquid instruments such as cash and cash equivalents.
Reporting	Yes	The ASEAN GBS requires annual reporting on the allocation of funds and the expected impacts. KOT states that it will provide an annual allocation report until full allocation and report on the impact of the use of proceeds.
Annual Review	Yes	The ASEAN GBS encourages, but does not require, annual reviews. As of 2020, KOT does not intend to provide annual reviews.

Appendix 5: Sustainability Bond / Sustainability Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Kingdom of Thailand
Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable:	Kingdom of Thailand Sustainable Financing Framework
Review provider's name:	Sustainalytics
Completion date of this form:	July 17, 2020
Publication date of review publication:	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP and SBP:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other (please specify): | |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW (if applicable)

Please refer to Evaluation Summary above.

Section 3. Detailed review

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

1. USE OF PROCEEDS

Overall comment on section (if applicable):

The eligible categories – (i) Clean Transportation, (ii) Renewable Energy, (iii) Energy Efficiency, (iv) Sustainable Water and Wastewater Management, (v) Sustainable Management of Living Natural Resources and Land Use, (vi) Terrestrial and Aquatic Biodiversity Conservation, (vii) Green Buildings, (viii) Employment Generation, (ix) Access to Essential Services, and (x) Food Security – are aligned with those recognized by the GBP, SBP, GLP and ASEAN SUS. Sustainalytics considers that the eligible categories will facilitate a transition to a low-carbon economy and advance the socioeconomic development in Thailand while advancing the UN Sustainable Development Goals (SDGs), specifically SDG 1, 2, 3, 4, 6, 7, 8, 11, 14 and 15.

Use of proceeds categories as per GBP:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Renewable energy | <input checked="" type="checkbox"/> Energy efficiency |
| <input type="checkbox"/> Pollution prevention and control | <input checked="" type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input checked="" type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input checked="" type="checkbox"/> Clean transportation |
| <input checked="" type="checkbox"/> Sustainable water and wastewater management | <input type="checkbox"/> Climate change adaptation |

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- | | |
|--|---|
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes | <input checked="" type="checkbox"/> Green buildings |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs | <input type="checkbox"/> Other (please specify): |

If applicable please specify the environmental taxonomy, if other than GBPs:

Use of proceeds categories as per SBP:

- | | |
|---|--|
| <input type="checkbox"/> Affordable basic infrastructure | <input checked="" type="checkbox"/> Access to essential services |
| <input checked="" type="checkbox"/> Affordable housing | <input checked="" type="checkbox"/> Employment generation (through SME financing and microfinance) |
| <input checked="" type="checkbox"/> Food security | <input type="checkbox"/> Socioeconomic advancement and empowerment |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBP | <input type="checkbox"/> Other (please specify): |

If applicable please specify the social taxonomy, if other than SBP:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

The Ministry of Finance will establish a Committee, comprised of cross-functional representatives from Public Debt Management Office, Budget Bureau, Office of the National Economic and Social Development Council, State Enterprise Policy Office, Office of Natural Resources and Environmental Policy and Planning, The Securities and Exchange Commission, and Thai Bond Market Association. The Committee will manage the project evaluation and selection. When necessary, the Committee will collaborate with other ministries, government departments and agencies. Until full allocation, the Committee will monitor the eligibility and impact of projects based on eligibility criteria under the Framework.

Evaluation and selection

- | | |
|---|--|
| <input checked="" type="checkbox"/> Credentials on the issuer's social and green objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Sustainability Bond proceeds | <input type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (please specify): |

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Information on Responsibilities and Accountability

- ☒ Evaluation / Selection criteria subject to external advice or verification ☐ In-house assessment
- ☐ Other (please specify):

3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable):

The Committee will manage the use of proceeds via the government treasury reserve account of the Kingdom of Thailand. Use of proceeds will be tracked by a register (the "Register") which will contain the details of the issued bonds or loans with their pricing date and maturity date. Pending full allocation, unallocated proceeds will be invested in temporary liquid instruments, such as cash and cash equivalents, in accordance with the Comptroller General's Department's policy.

Tracking of proceeds:

- ☒ Sustainability Bond proceeds segregated or tracked by the issuer in an appropriate manner
- ☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds
- ☐ Other (please specify):

Additional disclosure:

- ☐ Allocations to future investments only ☒ Allocations to both existing and future investments
- ☐ Allocation to individual disbursements ☒ Allocation to a portfolio of disbursements
- ☒ Disclosure of portfolio balance of unallocated proceeds ☐ Other (please specify):

4. REPORTING

Overall comment on section (if applicable):

On an annual basis, KOT commits to providing allocation and impact reporting on Sustainable Financing section of the PDMO's website until full allocation. Allocation reporting will provide information on (i) the percentage of an amount equal to the net proceeds allocated to eligible projects, (ii) the percentage of financing and refinancing of projects, (iii) a breakdown of allocated amounts to eligible categories, and (iv) and the relevant Ministries in charge of the projects financed. Furthermore, in the case of co-financing, the pro-rata share of impact or the share of financing from financing instrument as a percentage of total project financing will be reported. -Upon data availability, impact reporting will disclose relevant impact indicators including but not limited to (i) reduced and/or avoided GHG emissions in tonnes of CO2 per year, (ii) reduction in energy consumption, (iii) number of passengers transferred to the train and/or passenger kilometers, (iv) annual reduction in water consumption, (v) number, type and rating of green building certifications obtained, (vi) number of jobs created and/or retained, (vii) number of loans to SMEs, (viii), number of people benefiting from vocational training and/or with better access to education, and (ix) number of people/families benefited from affordable housing.

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Use of proceeds reporting:

- | | |
|--|--|
| <input type="checkbox"/> Project-by-project | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (please specify): |

Information reported:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Allocated amounts | <input checked="" type="checkbox"/> Sustainability Bond financed share of total investment |
| <input type="checkbox"/> Other (please specify): | |

Frequency:

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): | |

Impact reporting:

- | | |
|--|--|
| <input type="checkbox"/> Project-by-project | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (please specify): |

Information reported (expected or ex-post):

- | | |
|---|--|
| <input checked="" type="checkbox"/> GHG Emissions / Savings | <input checked="" type="checkbox"/> Energy Savings |
| <input checked="" type="checkbox"/> Decrease in water use | <input checked="" type="checkbox"/> Number of beneficiaries |
| <input type="checkbox"/> Target populations | <input type="checkbox"/> Other ESG indicators (please specify): |
| | Estimated reduction in car use in number of kilometers driven or as share of total transport ridership |
| | Estimated reduction in fuel consumption |
| | Total in kilometers of new or improved train lines] |
| | Expected annual renewable energy generation (MWh/y) |
| | Number, type and rating of green building certifications obtained |
| | Total gross floor area (GFA) of green buildings |
| | Number of loans to SMEs |
| | Number of loans to microenterprises] |

Number of classrooms/
educational support facilities
constructed/rehabilitated]

Frequency:☒ Annual☐ Semi-annual☐ Other (please specify):**Means of Disclosure**☐ Information published in financial report☐ Information published in sustainability report☐ Information published in ad hoc documents☒ Other (please specify): Sustainable Financing section of the PDMO's website☐ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)**SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE****Type(s) of Review provided:**☐ Consultancy (incl. 2nd opinion)☐ Certification☐ Verification / Audit☐ Rating☐ Other (please specify):**Review provider(s):****Date of publication:****ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP AND THE SBP**

- i. Second Party Opinion: An institution with sustainability expertise that is independent from the issuer may provide a Second Party Opinion. The institution should be independent from the issuer's adviser for its Sustainability Bond framework, or appropriate procedures such as information barriers will have been implemented within the institution to ensure the independence of the Second Party Opinion. It normally entails an assessment of the alignment with the Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy, and/or processes relating to sustainability and an evaluation of the environmental and social features of the type of Projects intended for the Use of Proceeds.
- ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or sustainability criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally or socially

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sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Sustainability Bond proceeds, statement of environmental or social impact or alignment of reporting with the Principles may also be termed verification.

- iii. **Certification:** An issuer can have its Sustainability Bond or associated Sustainability Bond framework or Use of Proceeds certified against a recognised external sustainability standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. **Green, Social and Sustainability Bond Scoring/Rating:** An issuer can have its Sustainability Bond, associated Sustainability Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental and/or social performance data, process relative to the Principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material sustainability risks.

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