

ธนาคารกสิกรไทย  
开泰银行 KASIKORNBANK



# Green Finance Framework

Version 1.0

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## 1. Introduction

KASIKORNBANK (KBank) is a market leading commercial bank, headquartered in Bangkok, Thailand. It was established in 1945 and has been offering comprehensive financial solutions through its commercial banking business, securities business and other related businesses to its retails, Small and Medium Enterprises (SMEs), large corporates and institutions clients over 70 years. KBank aims to balance economic, social, and environmental dimensions to create sustainability for all stakeholders and to be consistent with the United Nations' Sustainable Development Goals (SDGs). The philosophy of sustainable development is integrated in all operations ensuring maximum benefit for all stakeholders and paving the way for sustainable growth.

The Sustainable Development Policy has been established as a set of guidelines for the operating processes of all KBank units under the sustainable development structure, which cascades the long-term sustainability targets to the implementation level. KBank has also set the target called Sustainable financing and Investment at least THB 100–200 billion within 2030. With this target, KBank has been building a sustainable finance framework and expected to be regularly reviewed and updated subject to any significant changes from Thailand Taxonomy or related market practices.

### **Credit lending policy on Environment, Social and Governance and Sector-specific guidelines**

KBank established an exclusion list and sector-specific guidelines<sup>1</sup> while having in place measures for risk management appropriate for high-risk customers to ensure that credit supported by KBank will involve effective management of environmental and social impacts.

This Credit lending policy developed in alignment with KBank's commitment to ensure environmental stewardship towards Net Zero in our own operations by 2030, as well as to reduce greenhouse gas emissions in our financed portfolio in line with Thailand's aspirations<sup>2</sup>; reducing greenhouse gas emissions in significantly impacted sectors, both in terms of greenhouse gas emission volume and proportion of loans extended to each sector; and accelerating this journey where possible.

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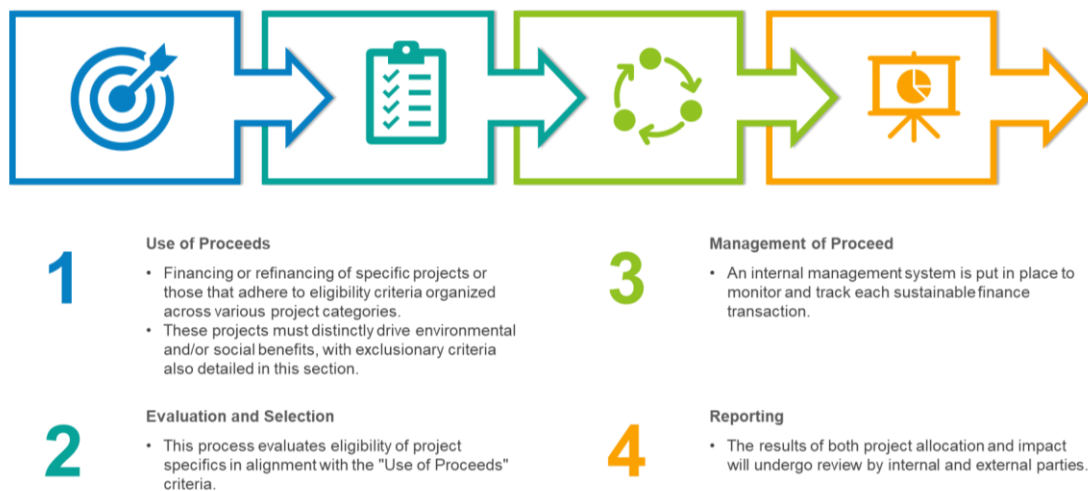
<sup>1</sup> The Exclusion list and sector-specific guidelines are available in <https://www.kasikornbank.com/en/ir/corporategovernance/transparency/pages/esg-credit-policy.aspx>

<sup>2</sup> Thailand's ambition at COP26 includes 2050 Carbon Neutrality, and 2065 Net Zero Greenhouse Gas Emission

## 2. Green Finance Framework

To support sustainability, KBank prepared this Green Finance Framework, with intention to cover green finance assets, liabilities and products including but not limited to loans, bonds, deposit, etc. that create positive impacts on the environment. This Framework was designed in line with the ICMA’s Green Bond Principles and LMA’s Green Loan Principles. Any use of proceeds with the specific purpose to financing or refinancing with these eligible categories within this framework are classified as green.

The workflow of green financing can be summarized into 4 steps:



**Figure 1: Workflow of green financing**

### 3. Use of proceeds

This framework is applicable to KBank and its subsidiaries, with a focus on specific purpose financing to environmental benefit and labeled as green.



In transactions with specific use of proceeds, it is required that 100% of the proceeds be allocated to an activity that contributes to environmental objectives<sup>3</sup> that can be assessed, quantified, and measured by the borrower. The disclosure of distribution of proceed by project category is provided in annual reporting. The annual report will provide information about the allocation period and committed to report by project category. KBank commits to monitor all the green proceeds throughout the life of the loan (maturity of the loan). The allocation period is structured on a deal-by-deal basis, depending on the underlying characteristics of the transaction and the specific requirements of the borrower. In general, KBank shall allocate, on a best effort basis, all the proceeds within 12-24 months from the date of issuance of each green financing product (bond, deposit, etc.) from the eligible green loan portfolio. For refinancing, Eligible Assets that were financed within 24 months before the issuance date of the corresponding Sustainability Financing debt instruments will be still considered eligible. The eligibility criteria for Use of Proceeds are listed in the following table.

<sup>3</sup> The six environmental objectives are:

- |   |  |
|---|--|
| 1. Climate change mitigation                                    | 4. Transition to a circular economy                          |
| 2. Climate change adaptation                                    | 5. Pollution prevention and control, and                     |
| 3. Sustainable use and protection of water and marine resources | 6. Protection and restoration of biodiversity and ecosystems |



**Table 1: The green eligible use of proceeds**

Category	Definitions	UN SDGs
<p><b>1. Renewable Energy</b> (Including installation, maintenance, construction, operation, transmission, distribution and the production of solar panels, hydrogen fuel cells for energy storage)</p>	<p>The potential projects are related to Renewable Energy that do not support fossil fuel infrastructure.</p> <ul style="list-style-type: none"> <li>• All energy generation by solar panels, solar farms, or Concentrated Solar Power (CSP)</li> <li>• All energy generation by wind (onshore and offshore)</li> <li>• Hydropower generation with a capacity size less than 1 000 MW<sup>4</sup> <ul style="list-style-type: none"> <li>- Construction and operation of hydropower generation before 1 January 2024 with power density &gt; 5W/m<sup>2</sup> or GHG emissions intensity &lt; 100 gCO<sub>2</sub>e/kWh during the life cycle of the power plant</li> <li>- Construction and operation of hydropower generation on 1 January 2024 or after this date with power density &gt; 10 W/m<sup>2</sup> or GHG emissions intensity &lt; 50 gCO<sub>2</sub>e/kWh during the life cycle of the power plant</li> <li>- Construction and maintenance of Run-of-river projects with power density &gt; 10 W/m<sup>2</sup> or GHG emissions intensity &lt; 50 gCO<sub>2</sub>e/kWh</li> <li>- Installation of Pumped Storage Hydropower (PSH) that is demonstrably purposefully built in conjunction with intermittent renewables and/or contributing to a grid which already has a share of intermittent renewables deployment at least 20%, or has credible evidence that increase the share of</li> </ul> </li> </ul>	 

<sup>4</sup> KBank does not provide new loans for hydropower generation from dams that generate significant impacts on the environment and society, without management measures or work plans in accordance with the Equator Principles (EP) and the environmental and social performance standards of the International Finance Corporation (IFC) and without support from international financial institutions for development or foreign financial institutions that have accepted the Equator Principle.



	<p>intermittent renewables to this level within the next 10 years</p> <ul style="list-style-type: none"> <li>- Retrofitting of Pumped Storage Hydropower (PSH) that improves either power density or decreases emission intensity of the existing hydropower plant by at least 15%</li> <li>• Geothermal power generation <ul style="list-style-type: none"> <li>- New construction of geothermal power facilities with life cycle emissions intensity &lt; 100 gCO<sub>2</sub>e/kWh until 2040, after 2040 it should be &lt; 50 gCO<sub>2</sub>e/kWh</li> <li>- Existing facilities that meet emission intensity that are aligned with the decarbonization pathways for the Energy sector as detailed in <b>Table 2</b> below and after 2040, it should be &lt;50 gCO<sub>2</sub>e/kWh</li> </ul> </li> </ul> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Thresholds for Energy sector</th> <th>2022–2025</th> <th>2026–2030</th> <th>2031–2035</th> <th>2036–2040</th> </tr> </thead> <tbody> <tr> <td>Life cycle Emission Intensity (gCO<sub>2</sub>e/kWh)</td> <td>&lt;381</td> <td>&lt;225</td> <td>&lt;191</td> <td>&lt;148</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Bioenergy<sup>5</sup> generation and production (both new and existing facilities), which have specific life cycle emissions intensity thresholds depending on asset type below: <ul style="list-style-type: none"> <li>- Facilities producing liquid biofuel, solid and gaseous biomass for heating and cogeneration with life cycle emission intensity &lt; 57.6 gCO<sub>2</sub>e/kWh</li> <li>- Facilities producing biofuel for transport with life cycle emission intensity &lt; 67.7 gCO<sub>2</sub>e/kWh</li> </ul> </li> </ul>	Thresholds for Energy sector	2022–2025	2026–2030	2031–2035	2036–2040	Life cycle Emission Intensity (gCO <sub>2</sub> e/kWh)	<381	<225	<191	<148	
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<sup>5</sup> Bioenergy means biomass, biogas and biofuels. The eligible feedstocks including residues, energy crops and lignocellulosic biomass such as straw, with three exclusions of wood and all woody biomass, algae, biodegradable Municipal Solid Waste (MSW) including sewage sludge and food waste. The feedstocks used for bioenergy should comply with international guidelines such as FSC, 2BSvs, Bonsucro, ISCC Plus, RSB, RTRS or equivalent recognized standards.



	<ul style="list-style-type: none"> <li>- Heating/cooling, and co-generation facilities using biofuel/biomass with life cycle emission intensity &lt; 57.6 gCO<sub>2</sub>e/kWh, or with energy efficiency &gt; 80%</li> <li>• Energy production from existing natural gas             <ul style="list-style-type: none"> <li>- Conversion of the existing natural gas power plant by using green hydrogen leading to emissions intensity &lt; 100 gCO<sub>2</sub>e/kWh (until 2040; beyond 2040, it should be &lt; 50 gCO<sub>2</sub>e/kWh)</li> <li>- Retrofitting of the existing natural gas power plant that leads to meet the life cycle emissions intensity that are aligned with the decarbonization pathways for Energy sector as detailed in <b>Table 2</b>. Also, the life cycle GHG emission is calculated based on the ISO 14067:2018 or 14064-2:2019 or equivalent. The measurement equipment for methane leakage or leak detection is installed and monitored during the operation. An independent third party verifies compliance with criteria and publishes the results.</li> </ul> </li> <li>• All marine (or ocean) energy generation facilities that produce electricity, heating, and cooling from marine energy</li> <li>• Electricity generation from renewable non-fossil gaseous and liquid fuels including green hydrogen with life cycle GHG emissions intensity &lt; 100 gCO<sub>2</sub>e/kWh (until 2040; beyond 2040, it should be &lt; 50 gCO<sub>2</sub>e/kWh). The life cycle GHG emissions are calculated based on the ISO 14067:2018 or 14064-2:2018 or ISO 14064-2:2019 or equivalents. The quantified life cycle GHG emissions are verified by independent third party.             <ul style="list-style-type: none"> <li>- Construction/ operation of cogeneration of heating/cooling and power using RE (solar, wind, geothermal, bioenergy, ocean energy, renewable</li> </ul> </li> </ul>	
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	<p>liquid and gaseous fuels, and green hydrogen) with life cycle GHG emissions &lt; 100 gCO<sub>2</sub>e/kWh (until 2040; beyond 2040, it should be &lt; 50 gCO<sub>2</sub>e/kWh). The life cycle GHG emissions are calculated based on the ISO 14064-1:2018 or 14064-2:2019 or equivalents.</p> <ul style="list-style-type: none"> <li>- Retrofitting of the existing cogeneration of heating/cooling and power using RE (solar, wind, geothermal, bioenergy, ocean energy, renewable liquid and gaseous fuels, and green hydrogen) with life cycle emission intensity that are aligned with the decarbonization pathways for Energy sector as detailed in <b>Table 2</b></li> <li>• Production of heating and cooling using waste heat</li> <li>• Installation and operation of electric heat pumps which using the refrigerants GWP ≤ 675 and implementation and adherence to a recognized environmental system (ISO14001 or equivalent)</li> <li>• Heating and cooling distribution             <ul style="list-style-type: none"> <li>- Operation of pipelines and Infrastructures for distribution of heating, ending at the sub-station or heat exchanger at least 50% renewable energy, or 50% waste heat, or 75% cogenerated heat or 50% of a combination of such energy and heat</li> </ul> </li> <li>• Transmission and distribution networks for renewable and low-carbon gases, including green hydrogen             <ul style="list-style-type: none"> <li>- Transmission and distribution networks for low-carbon gases and green hydrogen<sup>6</sup></li> <li>- Retrofit of natural gas distribution lines to use 100% green hydrogen or other low carbon gases whose emissions when used to generate electricity</li> </ul> </li> </ul>	
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<sup>6</sup> The activity includes leak detection and repair of existing gas pipelines and other network elements to reduce methane leakage. Low carbon gases are the gases whose life-cycle GHG emissions from the generation of electricity is lower than 100 gCO<sub>2</sub>e/kWh until 2040 (beyond 2040, it should be < 50 gCO<sub>2</sub>e/kWh)



	<p>with emissions intensity &lt; 100 gCO<sub>2</sub>e/kWh. The activity includes leak detection and repair of existing gas pipelines and other networks to reduce methane leakage.</p> <ul style="list-style-type: none"> <li>• Construction and operation of the facilities that store electricity, thermal energy and green hydrogen             <ul style="list-style-type: none"> <li>- Construction and operation of electricity and green hydrogen storage systems</li> <li>- Construction and operation of the thermal energy storage systems or geothermal energy storage system where the generated energy with life cycle emissions intensity &lt; 100 gCO<sub>2</sub>e/kWh</li> </ul> </li> <li>• Transmission and distribution of electricity             <ul style="list-style-type: none"> <li>- Transmission and distribution infrastructure dedicated to a direct connection or an expansion of connection between power plants with energy intensity &lt; 100 gCO<sub>2</sub>e/kWh (life cycle emissions)</li> <li>- Transmission and distribution of electricity infrastructures that are on the decarbonization trajectory where &gt; 67% of the newly connected generation capacity in the system is below the emission intensity &lt; 100 gCO<sub>2</sub>e/kWh (based on Product Carbon Footprint (PCF) measurement, over a rolling five-year period)</li> <li>- In average system grid emissions factor is below the threshold value of 100 gCO<sub>2</sub>e/kWh measured on PCF basis, over a rolling five-year average period</li> <li>- Includes all enabling ICT systems and smart management systems for the eligible infrastructure</li> </ul> </li> <li>• The enabling activity for renewable energy production such as the PV or photovoltaic manufacturing, wind and turbines, or energy storage (battery) manufacturing that supports Renewable Energy</li> </ul>	
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<p><b>2. Energy efficiency</b> (Such as in new and refurbished buildings that are related to apply efficient energy measures, energy storage, district heating, smart grids, appliances and products)</p>	<p>Energy efficiency refers to conscious and purposeful energy usage. It encompasses efficient planning and control, minimizing energy losses at all stages, and regular equipment inspections and maintenance to prevent energy wastage.</p> <ul style="list-style-type: none"> <li>• Promoting activities that enhance energy conservation or saving, e.g. buying efficient energy-saving products like EGAT Label No.5</li> <li>• Implementing technologies or measures that align with international, regional or national standards for energy efficiency that have been awarded for energy efficiency             <ul style="list-style-type: none"> <li>- The examples technologies or measures such as using LED lighting instead of the traditional bulbs, implementing energy management system for better energy monitoring and optimization and using the energy-efficiency appliances that use less electricity. The standards for energy efficiency have various levels, aiming to help consumers identify energy-efficient products. For international standards like Energy STAR and national standards such as Thailand’s EGAT No.5 label from the Electricity Generating Authority of Thailand (EGAT)</li> </ul> </li> <li>• Buying equipment/ technology that proves energy efficiency more than 20% compared to baseline (referenced from K-Energy Saving Guarantee Program)<sup>7</sup></li> <li>• Grid integration and smart grid technologies involve implementing new/ advanced technology for the grid connection, such as transformers, inverters, smart meters, energy storage systems, and a grid management system. These technologies should either reduce electrical system faults and interference, ensure</li> </ul>	<p>7 AFFORDABLE AND CLEAN ENERGY </p> <p>13 CLIMATE ACTION </p>
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<sup>7</sup> K-Energy Saving Guarantee Program detailed via [K-Energy Saving Guarantee Program – KASIKORNBANK](#)



	reliable transmission of power grid information, or enhance fault response time.	
<p><b>3. Pollution prevention and control</b> (Including air emission reduction, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/emission-efficient waste to energy)</p>	<p>Pollution prevention and control related to purchase and/or installation of products that deliver clear improvements in waste reduction through either waste prevention or recycling.</p> <ul style="list-style-type: none"> <li>Any activities that reduce, eliminate, or prevent pollution at its source like the installation of wastewater treatment system, water conservation</li> <li>Activities that relate to waste treatment include preparation, collection, separation, reuse, and recycling</li> <li>Activities that align with the IFC Blue Finance guidelines categories B. Water sanitation<sup>8</sup> which are detailed below; <ul style="list-style-type: none"> <li>New or expansion of water treatment infrastructure</li> <li>Rehabilitation or retrofit of existing water treatment infrastructure</li> <li>Wastewater treatment plants, including industrial, agri-business, commercial, residential, or city level. This also includes biogas and heat exchange systems at wastewater treatment plants to increase their efficiency and effectiveness</li> </ul> </li> </ul>	 
<p><b>4. Environmentally sustainable management of living natural resources and land use</b> (Including environmentally sustainable agriculture, environmentally</p>	<ul style="list-style-type: none"> <li>Implementing techniques like smart farming or normally known as precision farming, which is related to incorporating advanced technologies such as sensors and IoT, drones and aerial imaging, automated machinery, data analytics, AI, and smart irrigation systems. This enables farmers to adapt to climate variability and to maximize the efficiency of limited resources. For example, drones can apply with fertilizers, pesticides, or herbicides spraying with pinpoint accuracy, reducing environmental impact, that</li> </ul>	  

<sup>8</sup> Water sanitation: investments in the research, design, development, and implementation of water treatment solutions that under the IFC Blue Finance, <https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-guidelines-for-blue-finance.pdf>



<p>sustainable animal husbandry, climate smart farm inputs such as biological crop protection or drip-irrigation, environmentally sustainable fishery and aquaculture)</p>	<p>help of precision spraying for saving fertilizer, pesticides, or herbicides usage at least 20% or even improving crop yields at least 20%.</p> <ul style="list-style-type: none"> <li>• Smart farming that produces the organic products accredited by the official organic farming logo i.e. G-Mark<sup>9</sup>, Organic Agriculture Certification Thailand (ACT)<sup>10</sup> and International Federation of Organic Agriculture Movements (IFOAM)<sup>11</sup></li> <li>• Water conservation (to ensure sustainable management of freshwater resources and prevent water scarcity in some rural areas). For example, real-time sensors with a control unit to regulate irrigation amount. These sensors can monitor/detect the rainfall and prevent over-irrigation by pausing the irrigation system when rain is detected or determine the optimal irrigation schedule ensuring precise water saving at least 20% compared to traditional that verified by an external party</li> <li>• Activities that align with the IFC Climate Smart Agriculture eligible<sup>12</sup>;             <ul style="list-style-type: none"> <li>- Water-efficient irrigation system: Use of more efficient irrigation technologies. This aimed at water management for plantation that provides water saving. The documentation or engineering facility will be required for evaluation</li> <li>- Water-efficient irrigation system: Rainwater harvesting and storage for future use</li> </ul> </li> </ul>	
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<sup>9</sup> The “G Mark” is regulated by the Department of Agriculture (DOA) under the Ministry of Agriculture and Cooperatives. It signifies that a product meets the organic standards set by the DOA (<https://www.thaiorganics.co.th/reference-standard/>)

<sup>10</sup> About the Organic Certifications (<https://www.tuv-nord.com/th/en/our-services/food-safety/organic-certifications/>)

<sup>11</sup> About the IFOAM (<https://www.ifoam.bio/why-organic/organic-landmarks/definition-organic>)

<sup>12</sup> Climate Smart Agriculture positive lists aimed to contribute to any of these targets (1) increase the productivity yield, (2) decrease the post-harvest loses, or (3) reduce the GHG emission or energy savings



	<ul style="list-style-type: none"> <li>- Solar &amp; electric water pumps that are powered by solar energy or renewable energy</li> <li>- Tractors powered with alternative fuels: New tractors powered with sustainable biofuel/ biodiesel (e.g. used cooking oil)</li> <li>- Tractors powered with alternative fuels: New tractors powered with low-carbon energy sources (EVs or PHEVs)</li> <li>- Machinery for precision agriculture and conservation agriculture (no-till): Technologies that optimize input and enhance operation timeliness such as No-Till Planters, No-Till Drills. For example, the programme that involves No-Till machines (including No-Till Planters, No-Till Drills and No-Till Seeders) which use electric vehicles (EV) tractors.</li> <li>- Sustainable greenhouses: Vegetables grown in sustainable greenhouses that are protected against extreme events. Adaptation projects from Thailand’s National Adaptation Plan (NAP).</li> <li>- Production of biomaterials and bioenergy: Use of agricultural residues and by-products<sup>13</sup> in the production of market-valued processed products.</li> <li>- Biodigester: System that collects and processes livestock manure as biogas for heating and electricity purposes.</li> </ul>	
<p><b>5. Terrestrial and aquatic biodiversity conservation</b> (Including the protection of coastal, marine and</p>	<ul style="list-style-type: none"> <li>• Activities that protect or remediate coastal, marine, watershed environments and terrestrial biodiversity detailed example activities below. Comprehensive documentation is needed to select projects that benefit biodiversity. However, this will excluded projects that were previously deteriorated by the same company and ensure no further deterioration for the committed to</li> </ul>	



<sup>13</sup> For example, rice husk, straw, palm oil shell and residue wood chips from paper mill/ furniture industries.



<p>watershed environments)</p>	<p>project’ to ensure that the projects financed are not “restoration projects” implemented by stakeholders who run activities that were detrimental to the restored location.</p> <ul style="list-style-type: none"> <li>- Mangrove restoration: the project should focus on planting mangroves to restore coastal ecosystems, protect against erosion, and provide habitats for various marine species. Comprehensive documentation is needed to select projects that benefit biodiversity.</li> <li>- Coral reef restoration: the project work to restore damaged coral reefs by transplanting healthy corals, these efforts help maintain biodiversity. Comprehensive documentation is needed to select projects that benefit biodiversity.</li> <li>- River basin management: the project involves protecting and restoring marine habitats, such as seagrasses and coral reefs, to support biodiversity and enhancing ecosystem services. Comprehensive documentation is needed to select projects that benefit biodiversity.</li> <li>- Reforestation project in the National Park: the project focuses on reforesting degraded areas within National Park. It involves planting native tree species to restore habitats for wildlife. Comprehensive documentation is needed to select projects that benefit biodiversity.</li> </ul> <ul style="list-style-type: none"> <li>• Sustainable land use and management<sup>14</sup> <ul style="list-style-type: none"> <li>- The projects aim to promote sustainable land use through agroforestry certified by external parties. The certifications and standards that ensure the</li> </ul> </li> </ul>	
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<sup>14</sup> The financing will not go to the same borrower that cause the land deterioration. The borrowers who have previously deteriorated a natural area are excluded from the financing of the restoration projects.



	<p>benefits include the Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC), Voluntary Carbon Standard (VCS), and the Clean Development Mechanism (CDM). It aims to restore degraded forest areas, improve soil fertility, prevent soil erosion, and support biodiversity.</p> <ul style="list-style-type: none"> <li>Commercial forestry projects with certified by FSC Stewardship Standards (FSS) for Thailand developed PEFC or certified by Thailand Forest Certification Council (TFCC), or international standards such as Voluntary Carbon Standard (VCS) and the Clean Development Mechanism (CDM).</li> </ul>	
<p><b>6. Clean transportation</b> (such as electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)</p>	<p>The activities related to clean transportation included infrastructures that are not support of internal combustion engines vehicles as well as transport or storage of fossil fuels and fossil fuel filling stations.</p> <ul style="list-style-type: none"> <li>Transport via railways: <ul style="list-style-type: none"> <li>The train and passenger coaches/wagons have zero direct (tailpipe) CO<sub>2</sub> emissions</li> <li>The train and passenger coaches/wagons have zero direct (tailpipe) CO<sub>2</sub> emissions when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimodal)</li> </ul> </li> <li>Others passenger land transport includes scheduled long-distance bus services, charters, excursions and other occasional coach services, taxi operation, passenger cars, airport shuttles and other renting of private cars with drivers, operation of school buses and buses for transport or employees, passenger transport by man-or animal-drawn vehicles with its direct (tailpipe) CO<sub>2</sub> emissions are zero</li> <li>Others passenger land transport includes scheduled long-distance bus services, charters, excursions and</li> </ul>	<p>7 AFFORDABLE AND CLEAN ENERGY </p> <p>13 CLIMATE ACTION </p>





	<p>other occasional coach services, taxi operation, passenger cars, airport shuttles and other renting of private cars with drivers, operation of school buses and buses for transport or employee, passenger transport by man-or animal-drawn vehicles with its direct (tailpipe) CO<sub>2</sub> emissions are below 75 gCO<sub>2</sub>e/pkm until 2040 (after this year, passenger land transport with zero direct tail emission is eligible)</p> <ul style="list-style-type: none"> <li>• Urban and suburban passenger land transport includes town-to-airport or town-to-station lines, operation of funicular railways, aerial cableways etc. This may include different modes of land transport, such as by motorbus, tramway, streetcar, trolley bus, underground, elevated railways etc. <ul style="list-style-type: none"> <li>- For scheduled passenger road transport- its direct (tailpipe) CO<sub>2</sub> emissions are zero</li> <li>- For scheduled passenger urban and suburban rail transport – its direct (tailpipe) CO<sub>2</sub> emissions are zero or when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimodal)</li> </ul> </li> <li>• Freight transport by road includes logging haulage, heavy haulage, renting of trucks with driver, transport of waste and waste materials, without collection or disposal, furniture removal, etc. <ul style="list-style-type: none"> <li>- Freight transport with its direct (tailpipe) CO<sub>2</sub> emissions are zero</li> </ul> </li> <li>• Enabling infrastructure for low-emission transport that not solely to support internal combustion engines vehicles as well as transport or storage of fossil fuels <ul style="list-style-type: none"> <li>- Rail transport: activities that support the electrified trackside infrastructure and associated subsystems, trackside control-command,</li> </ul> </li> </ul>	
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	<p>signaling subsystems, infrastructure that dedicated to transshipping freight between the modes</p> <ul style="list-style-type: none"> <li>- Activities and infrastructures that support personal mobility or cycle logistics such as pavements, bike lanes and pedestrian zones, electrical charging and hydrogen refueling installations</li> <li>- Road transport: activities that support electric charging points, electricity grid connection upgrades, hydrogen fueling stations or electric road systems (ERS) or infrastructure installations are dedicated to transshipping freight between modes or dedicated to urban and suburban passenger transport</li> <li>- Water transport: activities that support electricity charging, hydrogen-based refueling, or infrastructure that are dedicated to the provision of shore side electrical power to vessels</li> <li>- Airports: activities that support electricity charging and hydrogen refueling stations</li> <li>• Manufacturing or production of electric and hybrid vehicles, EV batteries, automotive parts for EV, EV charging stations, hydrogen fueling stations, electric road systems</li> <li>• Sea and coastal water transport (passengers or freight) <ul style="list-style-type: none"> <li>- Sea and coastal water transport that complies with the green thresholds established for the specific kinds of ships (types and size)<sup>15</sup> that comply to green thresholds established in Thailand Taxonomy Phase I, <b>Table 13</b> and <b>Table 15</b>.</li> </ul> </li> <li>• Inland water transport (passenger or freight) via rivers, canals, lakes, and other inland waterways, including</li> </ul>	
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<sup>15</sup> The green criteria threshold for the shipping sector is specific to the ship's type/size category reaching zero emissions by 2050 (see **table 13**, [Thailand Taxonomy Phase I](#))



	<p>inside harbors and ports, rental of pleasure boats with crews for inland water transport</p> <ul style="list-style-type: none"> <li>- Inland water transport or vessels (freight) with have zero direct (tailpipe) CO<sub>2</sub> emissions</li> <li>- For passenger inland water transport - Hybrid and dual fuel vessels derive at least 50% of their energy from zero direct (tailpipe) CO<sub>2</sub> emission fuels or plug-in power for their normal operation (until 31 December 2027)</li> <li>• The specialty electric vehicles (EVs) that are designed to perform specific tasks or purposes which have zero direct tailpipe emissions and/or used advanced battery technologies that can charge using RE sources such as             <ul style="list-style-type: none"> <li>- Electric forklifts used in warehouses and industrial for material handling</li> <li>- Electric golf carts used in golf courses, resorts, and gated communities</li> </ul> </li> <li>• Retrofitting sea and coastal freight and passenger water transport (not allow the vessels carrying fossil fuels)             <ul style="list-style-type: none"> <li>- Retrofitting of vessels that leads to having zero direct (tailpipe) CO<sub>2</sub> emissions</li> <li>- Retrofitting vessels with direct (tailpipe) CO<sub>2</sub> emissions that are aligned with <b>Table 3</b></li> </ul> </li> </ul>											
<table border="1"> <thead> <tr> <th>Transportation sector (Shipping)</th> <th>2022-2025</th> <th>2026-2030</th> <th>2031-2035</th> <th>2036-2040</th> </tr> </thead> <tbody> <tr> <td>Emission Intensity (gCO<sub>2</sub>/t-km)</td> <td>&lt; 8.9</td> <td>&lt; 7.92</td> <td>&lt; 7</td> <td>&lt; 6</td> </tr> </tbody> </table>			Transportation sector (Shipping)	2022-2025	2026-2030	2031-2035	2036-2040	Emission Intensity (gCO <sub>2</sub> /t-km)	< 8.9	< 7.92	< 7	< 6
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<p><b>7. Sustainable water and wastewater management</b> (Including sustainable infrastructure for clean and/or drinking water, wastewater treatment, sustainable urban drainage systems and flooding systems)</p>	<ul style="list-style-type: none"> <li>• Infrastructure for clean and/or drinking water (i.e. construction and rehabilitating water wells, improvement of the rainwater catchment systems and clean drinking water</li> <li>• Infrastructure for river training of flood mitigation (i.e. infrastructures using engineering techniques to control river flow aimed to mitigate flooding and riverbank erosion). These infrastructures aim to be implemented in the rural areas where no such kinds of water services coverage.</li> <li>• Infrastructure for wastewater treatment and sustainable urban drainage system.</li> <li>• Installation equipment for improving efficiency of water consumption includes high-efficiency toilets, industrial high-pressure, low-volume nozzles, and water-saving appliance replacements. The necessary information from third parties or technical sources would be required.</li> <li>• The investment that addresses the water supply and water sanitation aligns with IFC Blue Finance Guidelines: A. Water supply and B. Water sanitation<sup>16</sup> detailed below;             <ul style="list-style-type: none"> <li>- A. Water supply: investments in research, design, development, and implementation of efficient and clean water supply. These infrastructures aim to be implemented in rural areas so that the services have no coverage yet.</li> </ul> </li> </ul>	
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<sup>16</sup> [The IFC Blue Finance Guidelines](https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-guidelines-for-blue-finance.pdf) (see <https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-guidelines-for-blue-finance.pdf>):

- A. Water supply: investments in the research, design, development, and implementation of efficient and clean water supply
- B. Water sanitation: investments in the research, design, development, and implementation of water treatment solutions






	<p>1) Water efficiency technologies and equipment and water management activities that reduce water footprint. This includes the financing or refinancing of technologies where the manufacturers show the respective substantial water efficiency benefits or a documented reduction in water consumption in land-based aquaculture, agriculture and irrigation, and residential, commercial, and industrial uses. For example, drip irrigation or sprinkles deliver water directly to the roots of plants, reducing waste and saving up at least 20% of water compared to traditional irrigation methods.</p> <p>2) New drinking water treatment, storage, and sustainable supply infrastructure that documents at least 20% water savings per unit of service compared to a documented baseline</p> <p>3) Rehabilitation of existing water infrastructure that documents at least 20% water savings per unit of service compared to a documented baseline</p> <p>4) More sustainable desalination plants that help protect groundwater depletion and wetlands and avoid hypersaline pollution of the environment<sup>17</sup></p> <p>- B. Water sanitation: investments in research, design, development, and implementation of water treatment solutions.</p>	
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<sup>17</sup> the average carbon intensity of the electricity that is used for desalination is at or below 100 gCO<sub>2</sub>e/kWh, Climate Bonds Initiative for desalination plants.

[https://www.climatebonds.net/files/files/Water%20Criteria%20Document%20Final\\_100822.pdf](https://www.climatebonds.net/files/files/Water%20Criteria%20Document%20Final_100822.pdf)



	<p>These facilities aim to be implemented in rural areas where the services have not coverage yet.</p> <ol style="list-style-type: none"> <li>1) New or expansion of water treatment infrastructure</li> <li>2) Rehabilitation or retrofit of existing water treatment infrastructure</li> </ol> <ul style="list-style-type: none"> <li>• Wastewater treatment plants, including industrial, agri-business, commercial, residential, or city level. This also includes biogas and heat exchange systems at wastewater treatment plants to increase their efficiency and effectiveness</li> </ul>	
<p><b>8. Climate change adaptation</b> (Involving a range of strategies to adjust the effects of climate change)</p>	<p>Activities that increase the resilience of ecosystems. KBank has a process in place to ensure that for each underlying project, risks and vulnerabilities are identified, and contributions to addressing these risks/vulnerabilities are assessed on a case-by-case basis.</p> <ul style="list-style-type: none"> <li>• Buying, selling, owning and renting out real estate objects with certain adaptation characteristics</li> <li>• Building seawalls to protect against sea-level rise, or constructing flood defenses</li> <li>• Maintenance/ setting up the early warning systems</li> <li>• Diversifying crops for changing conditions, managing natural resources wisely, and promoting climate-resilient practices</li> <li>• Mangrove planting, habitat conservation, and selective breeding for drought-resistant crops or other nature-based solutions or rely on blue or green infrastructure whenever possible</li> </ul>	<p>13 CLIMATE ACTION</p> 
<p><b>9) Circular economy adapted products, production technologies and processes</b></p>	<p>These activities/adapted products that enhance usability, facilitate disassembly, and supports biodegradability or recycling, thereby reducing the need for new resources and minimizing waste. Additionally, sufficient documentation is required and assessed case by case. The adapted products, production technologies, and processes are as follows:</p>	<p>7 AFFORDABLE AND CLEAN ENERGY</p>  <p>13 CLIMATE ACTION</p> 



<p>(Including of the measures that can be taken to adapt products, production, and technologies for the effects of sustainable economy that reduce impact of environment)</p>	<ul style="list-style-type: none"> <li>• Design products for durability, repairability, recyclability and biodegradable. For example, the textile industry uses materials like recycled polyester 100% from post-consumer waste.</li> <li>• Utilize renewable energy sources and aim for carbon-neutral manufacturing such as installing solar panels to generate electricity independently.</li> <li>• Use logistics strategies that reduce the carbon footprint, such as electric delivery vehicles</li> <li>• Waste-to-energy plants involve converting waste materials into usable forms of energy, such as electricity or heat. For example, the anaerobic digestion method converts wastewater into biogas that can generate electricity</li> <li>• The incineration plants to convert waste (biogenic or sludge) into energy, producing electricity and heat.</li> <li>• Implement food waste composter to convert food waste (organic waste materials) into nutrient-rich compost that can be used further for soil improvement material</li> <li>• Implement processes that minimize waste (landfill waste) and conservation natural resources such as incorporating recycled materials into the new production process. For example: The recycling program or process collects and processes recyclable materials such as glass, paper, aluminum for the purpose of manufacturing new products, thereby reducing reliance on virgin materials. KBank will establish recycling thresholds based on the specific material, taking into account available technologies and market demand for recycled products. The following recycling rate thresholds for new production processes are specific to each material e.g. glass</li> </ul>	
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	(90-100%), paper (90-100%), and Aluminum (90-100%)	
<p><b>10) Green building</b> (Incorporate measures that are environmentally friendly and resource-efficient across the building lifecycle, or meet regional, national or internationally recognized standards or certifications for environmental performance)</p>	<ul style="list-style-type: none"> <li>• Construction of new buildings that comply with international, regional and/or national recognized green building certifications (at all levels) such as LEED, BREEAM, EDGE, TREES</li> <li>• Construction of Data center that complies with international, regional and/or national recognized green building certifications and standards (at all levels (i.e. LEED, TREES)</li> <li>• Acquisition or ownership of buildings (new and/or existing buildings) under Green home mortgage criteria require meet the green housing standard certification from international and/or national building standards (at all levels) such as LEED, BREEAM, EDGE, TREES</li> <li>• Green condo mortgage criteria that meet the green building standard certification from national and/or international (at all levels), such as LEED, BREEAM, EDGE, TREES</li> <li>• Internal Green home mortgage criteria for homes that meet the green housing standard certification from international and/or national building standards such as LEED, BREEAM, EDGE, TREES</li> <li>• Acquisition or ownership of buildings (existing buildings) under Green home mortgage criteria require installation of the solar rooftop</li> <li>• Renovation of existing residential or commercial buildings that compliance with international, regional and/or national recognized green building certifications (at all levels) such as LEED, BREEAM, EDGE, and TREES</li> <li>• Renovation of existing residential or commercial buildings that help to achieve energy performance improvements at least 30% reduction in emission</li> </ul>	





	<p>intensity or energy usage intensity against baseline defined at the start of the project (sunset date until 2040)</p> <ul style="list-style-type: none"> <li>• Green condo mortgage criteria that achieve at least 30% energy efficiency improvement over the Thailand’s Building Energy Code that established by DEDE<sup>18</sup></li> <li>• Acquisition or ownership of buildings (existing buildings) under Green home mortgage criteria require installation of the solar rooftop</li> <li>• Maintenance, and repair of special-purpose building equipment that achieve energy or resource savings<sup>19</sup></li> <li>• Installation of special-purpose building equipment that achieves energy or resource savings<sup>20</sup></li> <li>• Internal green mortgage for home-install the solar rooftop.</li> <li>• Internal green mortgage for home- installation of other techniques related to green innovations that are proven to save energy, such as smart thermostats or AI-controlled systems (e.g. motion and day light control sensing equipment as a measure to reduce household energy consumption). These measures can significantly reduce your household energy consumption</li> </ul>	
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<sup>18</sup> The Department of Alternative Energy Development and Efficiency (DEDE) has established the Building Energy Code (BEC), which sets minimum energy efficiency requirements for new and renovated buildings

<sup>19</sup> The following projects might be installation of the equipment/ infrastructure that relevant to resource saving, or improvement of insulation system, replacement of existing windows with new energy-efficiency windows, replacement of energy-efficiency light sources, or replacement of existing external doors with new energy-efficient doors.

<sup>20</sup> The following projects might be installation of the equipment/ infrastructure that relevant to resource saving, or improvement of insulation system, replacement of existing windows with new energy-efficiency windows, replacement of energy-efficiency light sources, or replacement of existing external doors with new energy-efficient doors.





	<ul style="list-style-type: none"> <li>• Acquisition or ownership of buildings (new and/or existing buildings), KBank set its criteria specific to assets below:             <ul style="list-style-type: none"> <li>• Green home mortgage criteria require at least one of these following criteria:                 <ol style="list-style-type: none"> <li>(1) Meet the green housing standard certification from international and/or national building standards (at all levels) such as LEED, BREEAM, EDGE, TREES, or</li> <li>(2) Install the solar rooftop, or</li> <li>(3) Meet the Internal KBank Green Mortgage (see <b>Appendix 1</b>)</li> </ol> </li> <li>• Green condo mortgage criteria require meeting one of these criteria:                 <ol style="list-style-type: none"> <li>(1) Meet the green building standard certification from national and/ or international (at all levels), such as LEED, BREEAM, EDGE, and TREES or</li> <li>(2) Achieve at least 30% energy efficiency improvement over the Thailand's Building Energy Code that established by DEDE<sup>21</sup></li> </ol> </li> </ul> </li> <li>• Installation, maintenance, and repair of special-purpose building equipment that achieve energy or resource savings<sup>22</sup></li> </ul>	
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<sup>21</sup> The Department of Alternative Energy Development and Efficiency (DEDE) has established the Building Energy Code (BEC), which sets minimum energy efficiency requirements for new and renovated buildings

<sup>22</sup> The following projects might be installation of the equipment/ infrastructure that relevant to resource saving, or improvement of insulation system, replacement of existing windows with new energy-efficiency windows, replacement of energy-efficiency light sources, or replacement of existing external doors with new energy-efficient doors



<p><b>11) Green technologies</b></p>	<ul style="list-style-type: none"> <li>• Carbon extraction technologies such as Direct Air Capture (DAC)<sup>23</sup> and Carbon Capture Storage (CCS)<sup>24</sup> facilities, can vary in appearance depending on their design and scale. The facilities required to capture and process CO<sub>2</sub> from the air or flue gas from the industrial processes but included measures to ensure the CO<sub>2</sub> is stored and processed properly. Comprehensive documents are required.</li> <li>• Green Hydrogen storage facilities that support the electrolysis reactor</li> <li>• Energy Storage Systems (ESS) such as pumped hydro storage that pump water to a higher elevation during periods of low energy demand to generate electricity</li> </ul>	 
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<sup>23</sup> For DAC, the measures ensuring the CO<sub>2</sub> is permanently and safety stored are in place

<sup>24</sup> The CCS process (including the energy needed for the capture process) is efficient

#### 4. Process of project evaluation and selection

KBank established the Credit Lending Policy on Environment, Social and Governance and Sector-Specific Guidelines which provide information about the ESG exclusion list and Sector-Specific Guidelines<sup>25</sup> while having in place measures for risk management appropriate for high ESG risk sector to ensure that credit supported by KBank will effectively manage in environmental and social impacts over the loan term period.

This process will be implemented through the following steps:

- **Step 1: Asset screening and selection**

In the project evaluation and selection process, KBank expects, as a minimum, that clients meet applicable environmental and social laws and regulations relevant to their business processes, consider the international and/or national practice approaches, and hold relevant licenses and permits. The social and governance standards encompass compliance with labour laws, human rights, anti-corruption measures, and fair business practices. These elements are evaluated to ensure adherence to minimum safeguards. Additionally, KBank will take into consideration and make every effort to ensure that selected projects do not cause significant harm to the environment or society.

The corporate banking team employ tools<sup>26</sup> for environmental and social screening which can be applied for all new credit lending as summarized in **Table 4**.

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<sup>25</sup> ESG Exclusion List and Sector-Specific Guidelines are available via official website: <https://www.kasikornbank.com/en/ir/corporategovernance/transparency/pages/esg-credit-policy.aspx>

<sup>26</sup> The ESG (Environmental, Social, and Governance) Screening Form is an internal tool used to assess the green eligibility of a project. It helps identify and evaluate potential social and environmental risks associated with the project. By using this form, KBank can ensure that projects align with sustainability goals and adhere to responsible investment principles.

**Table 4: ESG screening processes in accordance with project type**

<b>Commercial credits for medium business and corporate customer</b>	<b>Project finance</b>
<ol style="list-style-type: none"> <li>1. Checking the industry type against the Exclusion List</li> <li>2. Assessing ESG impacts via General ESG Screening Form</li> <li>3. Approving or rejecting the applications in accordance with the delegated authority, and determining environmental and social conditions</li> </ol>	<ol style="list-style-type: none"> <li>1. Checking the industry type against the Exclusion List</li> <li>2. Classifying the credit application types for projects that may create environmental or social impacts, based on global principles and notifications of the Ministry of Natural Resources and Environment Assessing ESG impacts via the initial ESG risk assessment form to be delivered to responsible officers for assessment of project management</li> <li>3. Requesting approval of heads of business divisions and Enterprise Risk Management Division for detailed study of the projects (without approval, the processes terminate)</li> <li>4. Reporting to the Corporate Governance Committee for recommendations</li> <li>5. Studying details and negotiating about project feasibility in terms of credit and environmental management</li> <li>6. Approving or rejecting the applications in accordance with the approval authority, and determining environmental and social conditions</li> </ol>

- **Step 2: Internal validation**

Designated members of the working group are assigned specific responsibilities to oversee and manage the governance process of related eligible asset operations. Ensuring the adherence of selected assets to the green framework and its associated policies where not have a significant adverse impact on the environment and society.

These 2 steps ensure that the selected projects align with KBank’s sustainability strategy and green finance framework.

## 5. Management of proceeds

The Working Group, which includes key functional teams such as the corporate banking teams (from business division), the Visionary and Corporate Strategy Department, the Central Treasury Department and the Sustainable Development Unit will collaborate to manage all eligible green assets according to this framework. The Working Group will ensure the proceeds from green liabilities will be fully allocated to eligible green assets. Also, all the eligibility of the green proceeds will be flagged as “Green” in the internal information system for monitoring reason where the Working Group can review and monitor periodically at least three times per year to ensure full transparency and accountability throughout the loan duration. The green loan that flagged in the internal bank system will be selected further for bonds and deposits issuance. The green loan asset is always monitored timely to ensure the eligibility criteria and not double counting.

This Green Finance Framework is implemented for all green eligibility proceeds. The Use of Proceeds can cover liabilities such as loans, bonds, and deposits. The allocation and updating of eligible projects will be managed by the working group. KBank commits to maintaining a total eligible green loan portfolio that exceeds the net proceeds from outstanding bonds and deposits (buffer mechanism). The working group will closely monitor that buffer amount to prevent unexpected decreases in outstanding eligible asset pool.

For management, if a loan facility is provided in multiple tranches, KBank will maintain separate accounts for each tranche and ensure proper tracking for transparency. Also, in the event that an eligible project does not meet the established green criteria, that associated proceeds will be reclassified as non-green.

The net proceeds from green can be administered on an individual bond and loan basis (loan-by-loan approach and bond-by-bond approach). This approach ensures that the funds generated from each bond, deposit and loan are monitored and managed separately, guaranteeing their allocation to their intended purpose.

## 6. Reporting

The allocation and impact reporting occurs annually until the entire loan or financing amount has been fully allocated for eligible projects. Moreover, the total green loan and investment (bond, deposit, etc) under this Green Finance Framework will be published and publicly disclosed on the official website and available for download<sup>27</sup>. The entirety of the assets to be financed will be reported on the aggregated/portfolio level. The monitoring and reporting concepts will apply equally to green loans, green bonds, and green deposits.

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<sup>27</sup> More information via <https://www.kasikornbank.com/en/sustainable-development/goal/Pages/environment.aspx>

- Allocation report

The report will provide an allocated amount with detailed breakdown of eligible green projects with a brief description of projects. Also, the amount of unallocated proceeds and how they are managed. KBank will track all green eligibility projects with the project base. However, for the reporting manner, the green assets will aggregate into the portfolio basis, in the level of green category.

- Impact report

This report will provide the relevant environmental impact indicators of the eligible green projects. The report may include impact indicators such as renewable energy generated and GHG emission avoided. However, the detailed indicators for impact reporting will be derived from ICMA's Harmonized Framework of Impact Reporting.

## **7. External Review**

Green Finance Framework- KBank will engage an external reviewer from ISS Corporate Solutions (ICS) to provide assurance on its Green Finance Framework and proposed issuance to confirm alignment with the ICMA and Thailand Taxonomy. The second party opinion will be made publicly available and published on the Kasikom Investor Relations webpage.

Allocation and impact report KBank will engage the external reviewer to provide assurance on the annual report. The second party opinion will be made publicly available and published on the Kasikom Investor Relations webpage.

## Appendix 1

### Internal green mortgage for home

To be eligible for the internal green mortgage for home, the loan must satisfy at least one of the following criteria:

1. Meet the green housing standard certification from international and/or national building standards (at all levels) such as LEED, BREAM, EDGE, and TREEs, or
2. Install the solar rooftop or other techniques related to green innovations that are proven to save energy, such as smart thermostats or AI-controlled systems. These measures can significantly reduce your household energy consumption. or
3. Meet at least 7 of 11 requirements (see **Table A1**)

**Table A1: The internal green home criteria**

Requirements	No.	Description and criteria
<b>Water and waste management</b>	1	Installation of water-efficient equipment (showerheads for bathroom and faucets for kitchen sinks)
	2	Installation of grease traps for managing wastewater from kitchens
<b>Materials and resources</b>	3	Use environmentally friendly materials that are certified Green Labels or Carbon labels of Thailand at least 5 items such as eco-friendly paints, eco-cement, or recycled paper products and equivalent. These are certified with Green Labels such as Green Label Thailand by TEI <sup>28</sup> and EGAT Energy Label No.5 Label
<b>Energy management</b>	4	Design fresh air volume into the building that shall meet the minimum requirements specified in the Thai laws that including provisions for both mechanical air conditioning and natural methods
	5	Design the insulation thickness for exteriors wall and roofs to ensure that the Overall Thermal Transfer Value (OTTV) is less than 40 watts/m <sup>2</sup> referenced to Thailand BEC standard
	6	Use the air conditions with label number 5 energy efficiency (or above) rating by Electricity Generating authority of Thailand (EGAT)
	7	Window positions can be designed to optimize natural light, reduce glare, and minimize heat gain based on various conditions. This includes achieving a Daylight Factor (DF) of more than 1.5% or

<sup>28</sup> [https://www.tei.or.th/file/library/2022-know-greenlabel-thailand-eng\\_74.pdf](https://www.tei.or.th/file/library/2022-know-greenlabel-thailand-eng_74.pdf)





		designing windows in such a way that the total window area exceeds 15%.
	8	Design the efficient lighting with Lighting Power Density (LPD) is less than 8 watts/m <sup>2</sup> referenced to Thailand BEC standard
	9	Use the lights with label number 5 energy efficiency (or above) rating by Electricity Generating authority of Thailand (EGAT)
<b>Heating and ventilation system</b>	10	Design good ventilation (natural and/or mechanical ventilation) to ensure the healthy indoor environment such as installation of hood in kitchen, or exhaust fans in bathrooms comply with the Thailand Building Act, 2522. The heating and ventilation criteria depend on whether the area is air-conditioned or non-air conditioned. This includes specific settings for air volume (measured as units of air volume per area) based on room functions such as bedrooms (> 2 m <sup>3</sup> /h/m <sup>2</sup> ), toilets (> 10 m <sup>3</sup> /h/m <sup>2</sup> ), and kitchens (> 30 m <sup>3</sup> /h/m <sup>2</sup> ).
<b>Green Innovations</b>	11	Other techniques such as installation of renewable energy systems such as solar, wind or smart home which automate household functions can significantly enhance energy or water savings. Examples of smart home devices include smart thermostats that adjust settings when the home is unoccupied, smart lighting systems that can be controlled remotely or via motion sensors, energy monitoring systems, smart appliances that operate during off-peak hours, and leak detector devices that prevent energy waste.