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Second Party Opinion

JSC Bank for Foreign Trade of Vietnam Green Bond Framework

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Location: Vietnam **Sector:** Diversified Bank

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✕

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

See Alignment Assessment for more detail.

Medium green

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our Shades of Green Analytical Approach >

Strengths

JSC Bank for Foreign Trade of Vietnam's (Vietcombank) eligible green lending activities contribute to addressing some of the most acute environmental issues facing the country, such as carbon emissions and pollution.

Weaknesses

No weakness to report.

Areas to watch

The framework does not specify thresholds for some green eligible projects, such as those addressing waste and land-use. In addition, some fossil fuel equipment and assets (such as fossil fuel back-ups and hybrid vehicles) are eligible. These limit insights on potential impacts.

Vietcombank is yet to systematically assess and report its portfolio's exposure to physical climate risks. The bank stated that it will require eligible borrowers to conduct a third-party climate risk assessment and submit an environmental impact assessment, which partially mitigates the risk.

While direct emissions information is available in the annual report, Vietcombank lacks detailed plans to measure its financed emissions. Scope 3 emissions should account for the majority of its portfolio. Similarly, it is yet to fully develop a decarbonization roadmap, despite its aim to support the country's net zero target by 2050.

Eligible Green Projects Assessment Summary

Over the two years following the issuance, Vietcombank expects to direct the entire proceeds to finance new projects in Vietnam. Without an indicative allocation among the eligible categories stated in the framework, the bank expects most proceeds to be allocated to renewable energy and clean energy, followed by sustainable water management, sustainable transport, and energy efficiency.

Overall Shades of Green assessment

Based on the project category shades of green detailed below, and consideration of environmental ambitions reflected in Vietcombank's framework, we assess the framework as Medium green.

Eligible projects under Vietcombank's green finance framework are assessed based on their environmental benefits and risks, using Shades of Green methodology.

Medium green

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our Shades of Green Analytical Approach >

Renewable Energy, Clean Energy	Dark to Medium green
Construction and operation of generation facilities, supply chain facilities (manufacturing, dedicated storage, distribution, installation), and electric transmission infrastructure for renewable energies (e.g. solar, wind, geothermal, bioenergy, hydropower, marine renewables, and green hydrogen)	

Sustainable Transport	Medium to Light green
Procurement and operation of transport services using vehicles with emission-reducing technology (excluding airplanes, trains, ships, and vessels/ferries), such as electric vehicles, hydrogen-powered vehicles, and other transport vehicles with zero direct emissions	
Construction of infrastructure for carbon-free transportation (e.g. charging facilities and green energy supply, electric vehicles, electrified public vehicles, non-motorized vehicles, and public walking)	
Construction of infrastructure for low-carbon transportation (e.g. infrastructure dedicated to supporting the transition to electric and green energy vehicles, and infrastructure for hybrid vehicles)	

Sustainable Water Management	Medium to Light green
Construction and operation of water collection, treatment, and distribution and supply systems	
Water recycling, wastewater treatment, sewage, manure, and slurry treatment	
Improved water efficiency through reduced leakage	
Quality management and protection of water resources	
Construction, installation, operation of water circulation systems, drainage systems for flood prevention, and smart irrigation systems	
Construction, installation, and operation of water monitoring systems (e.g. smart monitoring networks, early warning systems for storms, droughts, floods or dam breaks, water quality or quantity monitoring processes)	

Flood prevention projects (e.g. lightning protection barriers, pumping stations, dikes, and gates)	
Green Construction	**Light green**
Acquisition, construction, development, operation of new buildings (including public service, commercial, and residential buildings) that meet national standards on energy efficient construction works, or recognized green building certifications	
Acquisition, operation, renovation, upgrading, and retrofitting of existing projects (including public service, commercial, and residential buildings) that achieve at least 20% energy savings, and meet recognized green building certifications	
Sustainable Agriculture - Forestry - Fisheries and Biodiversity Conservation	**Light green**
Agricultural extraction, production and cultivation, and processing projects (excluding agricultural production on peatland) that meet local or international certifications	
Forestry extraction, production and cultivation, and processing projects (excluding timber production on peatland) that meet local or international certifications	
Aquaculture extraction, production and cultivation, and processing projects that meet local or international certifications	
Biodiversity conservation, forest conservation, and resource conservation projects that meet local or international certifications	
Waste Management and Resource Efficiency	**Medium to Light green**
Collection, sorting, transferring, transporting, reuse, recycling, and waste treatment of solid waste (including municipal and industrial waste), hazardous waste, urban and residential wastewater, medical wastewater, wastewater from business activities, and air emissions	
Energy Efficiency	**Light green**
Construction projects (infrastructure, new buildings, and renovation, upgrading, or refurbishment of existing buildings) that result in at least 20% energy savings (e.g. improve thermal performance of utilities, retrofit using renewable energy, software and automation solutions, energy efficient equipment, retrofit distribution systems, transmission lines, or substations)	
Acquisition, development, production, and installation of energy-saving technologies, equipment, or components (e.g. energy saving lighting, smart meters, energy-efficient heating, ventilation, and air conditioning systems, and improvement of energy efficiency in battery storage for renewable energy sources)	

See Analysis Of Eligible Projects for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Headquartered in Hanoi, Vietcombank was founded in 1963. It is the fourth-largest commercial bank in Vietnam and accounted for 8%-10% of system loans and deposits as of Dec. 31, 2023. The bank operates in retail banking, corporate banking, treasury and capital markets, international banking, wealth management, and other services (including insurance, remittance services, and electronic banking solutions), through over 600 branches and transaction offices in 63 provinces and cities in Vietnam.

In 2023, retail loans accounted for 51%, or Vietnamese dong (VND) 648 trillion (US$ 30 billion), of the bank's loan portfolio, and corporate loans accounted for 49%. The total asset of the bank stood at VND 1,840 trillion (US$ 76 billion) as of Dec. 31, 2023. Vietcombank is 75% owned by the State Bank of Vietnam, 15% by Mizuho Corporate Bank Ltd., and the remaining 10% is held by domestic and foreign investors.

Material Sustainability Factors

Climate Transition Risk

Banks are highly exposed to climate transition risk through their financing of economic activities, which impact the environment. Banks' direct environmental impact is small compared with their financed emissions and stems mainly from power consumption (e.g. data centers). Policies and rules to reduce emissions could raise credit, legal, and reputational risks for banks with large exposures to sectors with high emissions, such as oil and gas, metals and mining, real estate, or transportation. These medium- to long-term risks are significant and will be proportional to the effects of climate change on the economy. Positively, financing the climate transition offers a growth avenue for banks through lending, debt structuring, and other capital markets activities. By 2030 Vietnam has committed to reduce emissions by 43.5% against a projected business-as-usual (BAU) scenario between 2020-2030 (Source: UNDP), and to accelerate its transition to a green economy. It aims to increase the share of renewable energy to 20% of the power generation mix by 2030 and 30% by 2045 (Source: International Trade Administration).

Physical Climate Risk

Physical climate risks will affect many economic activities as climate change will increase the frequency and severity of extreme weather events. Banks finance a wide array of business sectors that are exposed to physical climate risks, exposing banks through their financing activities. However, while climate change is a global issue, weather-related events are typically localized, so the magnitude of banks' exposure is linked to the geographical location of the activities and assets they finance. Similarly, banks' physical footprint (e.g. branches or ATMs) may also be exposed to physical risks, which may disrupt their ability to service clients in the event of a natural catastrophe, amplifying the impact on communities. Banks may contribute to mitigate the effects of physical climate risks by financing adaptation projects and climate-resilient infrastructure, as well as by investing in solutions that support business continuity in exposed geographies. According to the World Bank, Vietnam is vulnerable to floods, droughts, heatwaves, cyclones & storm surges, and the rise of sea levels.

Biodiversity and Resource Use

Banks contribute to significant resource use and biodiversity effects through the activities they fund or invest in. For example, bank-financed activities such as construction, agriculture, and mining can have material biodiversity impacts. Vietnam's National Biodiversity Strategy (2020-2030) aims to protect 9% of terrestrial and 3%-5% of marine areas, maintain 42%-43% forest coverage, and restore 20% of degraded ecosystems by 2030. It emphasizes endangered species conservation, ecosystem

connectivity, and sustainable biodiversity use. Despite progress, challenges like habitat loss from agriculture and forestry persist (Source: NBSAP).

Access and Affordability

Banks' large impact on society and the economy stems from their role in enabling access to financial services to individuals and businesses, and in ensuring the correct functioning of payments systems, which are cornerstones of economic development and stability. In most countries, unbanked and underserved population segments are still meaningful, although the access gap is most acute in emerging economies. As financial enablers, banks have the capacity to affect a wide range of community issues by providing economically vulnerable groups with access to essential services. This may help alleviate income inequality and foster upward social mobility and it also plays a vital role in Vietnam's economic development by financing infrastructure development projects and operations for micro, small and medium-sized enterprises. Meanwhile, market imperfections such as low competition, incomplete information, and lack of financial literacy, often result in costly alternatives for small businesses and low-income people, so ensuring affordable access to financial services, especially to the most vulnerable segments of the population, remains a challenge for the banking industry. As of 2022, the share of Vietnamese adults with a bank account increased to 77%, and the country also had one of the highest digital payment volumes in Southeast Asia. Consistent efforts to encourage citizens to open accounts and the introduction of digital banking will also contribute to an increase in online banking penetration in subsequent years (Source: State Bank of Vietnam).

Issuer And Context Analysis

Eligible environmental categories aim to address some of Vietcombank's material sustainability factors. For instance, renewable energy, sustainable transport, green construction, and energy efficiency projects aim to address climate transition risks, while sustainable water, waste management, and sustainable land use projects aim to prevent and control pollution, as well as manage biodiversity and resource use.

On the other hand, eligible projects could potentially introduce additional issues, such as exposure to physical climate risk, as well as resource-use considerations. The bank is yet to formulate plans to identify or measure its loan portfolio's exposure to physical climate risks or disclose a policy to communicate its biodiversity commitment. It mainly relies on the framework that requires eligible projects to identify and manage such impacts through a third-party climate risk assessment and environmental impact assessment, which will also include mitigation measures.

Similar to some state-owned banks in Vietnam, Vietcombank lacks transparency in communicating plans to manage its financed carbon footprint. While the bank tracks and reports scope 1 and 2 emissions, it is yet to quantify or share any plan to report its scope 3 emissions, which typically account for a vast majority of a financier's aggregated emissions. While Vietcombank communicated that its sustainability strategy aims to allocate capital to green projects and contribute to Vietnam's national target of net-zero emissions by 2050, the bank is yet to establish any decarbonization targets or have plans to disclose its sustainability performance. This limits public insights in understanding its sustainability efforts. Vietcombank stated that it is in the process of selecting a third-party advisor to develop an environmental, social, and governance (ESG) strategy and roadmap by 2030.

Vietcombank has steadily increased its focus on financing what it considers environmentally friendly projects, particularly through green loans. From 2020-2023, the bank's green credit portfolio expanded at an average annual rate of 3.9 times, from VND11,765 billion (US$ 47.81 billion) to VND 46,100 billion (US$ 187.36 billion). The bank stated it has implemented some procedures to identify and manage high environmental and social risks in its credit activities. While being less transparent on the screening criteria, its environmental risk assessments will identify and exclude projects that directly contribute to biodiversity degradation, deforestation, or significant carbon emissions. It will require impact and monitoring reports from its borrowers to evaluate their progress and ensure their compliance with environmental standards.

While Vietcombank stated that it could finance coal or oil activities only if they demonstrate commitments to a low-carbon transition (e.g. investment in carbon capture or renewable technologies), this could still heighten its exposure to climate transition risk. Nonetheless, any activities related to the fossil fuel value chain are ineligible for financing under this framework. As of June 30, 2024, sectors where emissions are hard to abate, such as air, road and marine transport, coal mining, and oil and gas, accounted for about 15% of Vietcombank's loan book. The bank stated that it aims to maintain a lower proportion of lending to such sectors in its portfolio in the future, without specifying any quantifiable targets.

Vietcombank aims to empower underserved populations, and micro, small and medium-sized enterprises through providing affordable credit and investing in social projects. In 2023, the bank reduced interest rates, reducing interest payments by VND5,800 billion (US$23.57 billion) for nearly 290,000 customers with loan balances exceeding VND1.1 quadrillion (US$ 447 billion). Since 2019, it has committed a total of VND1,936 billion to social welfare projects in community development, education, healthcare, and infrastructure, while supporting housing initiatives for disadvantaged groups.

In addition, Vietcombank has increased its focus on empowering local communities through digitalization, allowing them to get equitable and inclusive access to its services. However, the acceleration of the bank's digital offerings exposes it to data protection and privacy risks. The bank stated that its cybersecurity and personal data protection framework is certified by ISO 27001:2022 and PCI Security Standards Council.

Alignment Assessment

This section provides an analysis of the framework's alignment to Green Bond Principles.

Alignment With Principles

Aligned = ✓ Conceptually aligned = o Not aligned = ×

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

✓ Use of proceeds

All the framework's green project categories have a green shade, and the bank commits to allocating the net proceeds issued under the framework exclusively to eligible projects. Please refer to the Analysis of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds.

✓ Process for project evaluation and selection

Vietcombank's framework articulates the bank's process to evaluate, select, and approve eligible green projects, which is integrated with the credit approval process. The bank will appoint representatives with ESG knowledge from the branch (customer relationship department), finance division (assets liabilities management department), and wholesale banking departments to screen projects. The Authority (deputy CEO or director/ deputy director of corporate departments at head office) will review and approval the value of disbursement for the use of proceeds for financing eligible projects. Screening will include a credit appraisal process that requires strict adherence to national regulations on environmental risk management. Vietcombank relies on internal policies (review, appraisal, approval, and credit management) to identify and manage environmental and social risks associated with eligible projects. These risks will be recorded in each credit appraisal report. The credit approval process also requires all eligible projects to conduct environmental and social impact assessments to implement mitigation measures, in compliance with regulatory requirements.

✓ Management of proceeds

The net proceeds will be placed into Vietcombank's general account, with a specific code to record, track, and manage separately. If a project is no longer eligible, the bank will replace it as soon as practicable, in line with the framework's exclusion list. Pending allocation, net proceeds will be kept in cash, cash equivalents, or deposited at correspondent banks, such as the State Bank of Vietnam.

✓ Reporting

Vietcombank commits to disclosing annually the allocation of proceeds and impact of the financed projects on the bank's website until full allocation of the net proceeds. The allocation reporting will include the list of funded projects and aggregated amounts by category, along with brief descriptions of the projects, the proportion of net proceeds used for financing versus refinancing, and the balance of unallocated proceeds. The bank will report the actual environmental impacts of funded projects qualitatively and quantitatively, based on the availability of information and the agreement signed with its customers.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the Shades of Green methodology.

Green project categories

Renewable energy, clean energy

Assessment	Description
Dark to Medium green	Projects for investment in the construction and operation of generation facilities, supply chain facilities (manufacturing, dedicated storage, distribution, installation), and electric transmission infrastructure for renewable energies, including but not limited to: • Solar power • Wind power • Geothermal energy shall have direct emissions less than 100gCO_2/kWh • Bioenergy that simultaneously meets both the following criteria (1) Criteria 1: Capacity and emissions - Facilities producing biofuel, biomass, biogas including fuel preparation process facilities, pretreatment facilities and biorefinery facilities (if ≥50% biomass-based products produced for energy use) that meet criteria: (i) Emissions of biomass or biofuel used must be 80% lower than fossil fuel baseline or ≤100gCO_2e/kWh; and (ii) Biofuel must be sourced from a sustainable feedstock (if timber is used as feedstock, only waste timber wood is allowed); and - Electricity generation facilities such as biomass power stations need to apply the following criteria: (i) Emissions of biomass or biofuel used must be 80% lower than fossil fuel baseline or ≤100gCO_2e/kWh; and (ii) Biofuel must be sourced from a sustainable feedstock (if timber is used as feedstock, only waste timber wood is allowed) (2) Criteria 2: feedstocks (excluding food-based feedstocks) include but are not limited to: - Agricultural residue (e.g. corn stover); and/or - Non-recyclable organic municipal waste (e.g., biosolids, sludge, waste food, used cooking oil); and/or - Forestry industry residues (waste timber), and/or - Certified under one of the following pre-approved best practice standards: RSB, RTRS, FSC, ISCC Plus, Bonsucro, Climate Bonds Agriculture Criteria • Hydropower plants that performed an assessment of environmental and social risks by a credible body based on recognized best practice guidelines (with no significant risk or expected negative impact identified, and incorporate measures to address risks) fall under the following categories: - Small hydroelectric projects with capacities less than 10MW - Run-of-river hydropower without an artificial reservoir

  - Pumped storage meeting one of the following criteria:

    (i) Power density >5W/sqm

    (ii) Emissions ≤100g CO_2e/kWh

  - Other hydropower projects meeting one of the following criteria:

    (i): In operation before 2020: power density >5W/sqm; or GHG emissions intensity of electricity generated <100gCO_2e/kWh;

    (ii): Commencing operation in 2020 or after: power density >10W/sqm; or GHG emissions intensity <50gCO_2e/kWh

- Marine renewables meet the following criteria:
  - Fossil fuel back up (if any) can only be used for restart capability and monitoring, operating or resilience measures in the event of no power in the system; and
  - Heating or cooling facilities using ocean thermals must achieve an 80% reduction in gCO_2e/kWh compared with fossil fuel alternative
- Green hydrogen energy meets one of the following criteria:
  - Green hydrogen produced using electrolysis powered by renewable energy; or
  - Greenhouse gas emissions in the life cycle lower than 3 tCO_2e/tH_2
- Transmission, distribution & storage of renewable energy, and clean energy which have no connections to fossil fuel power generation plants, and meet one of the following criteria:
  - Have a dedicated connection to a power production plant eligible under one of the sector criteria of this Green Bond Framework (e.g. solar, wind etc.)
  - Have a dedicated connection to a power production plant operating under the low carbon power threshold (100gCO_2/kWh)
  - The infrastructure is located on a system with a grid factor at or below 100gCO_2/kWh
  - The infrastructure is located on a system for which at least 67% of its added generation capacity in the last five years falls below the low carbon power threshold

Analytical considerations

- Renewable energy generation projects address climate change mitigation by enabling systemic decarbonization. Transmission, distribution, and storage projects support the increased electrification required for the low-carbon transition. However, this will happen only if life-cycle carbon emissions and other environmental considerations, including physical climate, biodiversity, and land use change risks, are carefully managed. Vietcombank confirmed that the eligible renewable energy generation, and transmission, distribution, and storage projects will not be connected to fossil fuel companies.
- Eligible solar, wind, geothermal, hydropower, and green hydrogen are Dark green solutions to a low-carbon climate resilient future. Vietcombank references lifecycle emissions thresholds for some eligibility criteria. For instance, it sets emissions ceilings of 100gCO_2/kWh for geothermal, and 3 tCO_2e/tH_2 for green hydrogen facilities. It also maintains different requirements for eligible hydropower projects, such as pumped-hydropower and hydropower facilities in operation before 2020 to meet power density requirement greater than 5W/sqm or have an emissions threshold below 100gCO_2/kWh, and power density greater than 10W/sqm or an emissions threshold below 50gCO_2/kWh for hydropower facilities that commence operations in 2020 or after. These commitments are strengths to lower emissions from renewable energy generation.
- Marine renewables will include ocean thermal energy conversion to provide heat or cooling sources. While Vietcombank requires eligible projects to achieve an 80% reduction in carbon emissions compared with alternative fossil fuel generation, it includes

potential fossil fuel backups (only for restart capability and monitoring, operating or resilience measures) in case of power blackouts as eligible for financing. This limits the projects to Medium green.

- Alternative fuels can replace fossil fuels in energy applications, but also show some uncertainty on their full climate and environmental impacts. These risks include direct and indirect land use change, including deforestation and loss of biodiversity, transportation emissions, and impacts on water and soil. Sourcing waste-based inputs is preferable, as these risks are higher for non-waste biomass. The sustainability risks associated with biomass sourcing could be tempered using certifications.
- It is positive that Vietcombank requires eligible bioenergy projects to meet emissions thresholds below 100gCO_2/kWh or achieve 80% reduction of emissions compared with baselines. The bank will only consider waste or residue-based feedstock as eligible sources, including agricultural residues (e.g. corn stover), non-recyclable organic municipal waste (e.g. biosolids, sludge, waste food, and used cooking oil), and residues from the forestry industry (e.g. waste timber). It stated that it will prioritize bioenergy projects with internationally recognized certified waste feedstock, such as RSB (Roundtable on Sustainable Biomaterials), RTRS (Round Table on Responsible Soy Association), FSC (Forest Stewardship Council), ISCC Plus, Bonsucro, Climate Bonds Agriculture Criteria. It excludes food or crop-based feedstock, non-waste timber, or any feedstock that contributes to deforestation, requires dedicated land use, or competes with food production.
- Using internationally recognized certifications should be an effective way to manage a wide range of environmental risks at the project level. However, certification systems vary significantly in stringency, can contain loopholes, and in many cases, cannot adequately address larger systemic issues. Vietcombank stated that it will require projects to submit land use plans to assess and ensure they do not indirectly contribute to deforestation or adverse environmental impacts. While the bank encourages projects to optimize logistics and use cleaner fuels to reduce transportation emissions, lack of clear thresholds or eligibility criteria limits the visibility to climate impacts in this regard. We also consider the possibility to include a broad range of biomass from certified feedstock, and view the projects as Medium green.
- Vietcombank will consider transmission, distribution, and storage projects that are dedicated to the connection to renewable energy projects defined in the framework, facilities that operate with an emission threshold below 100gCO_2/kWh, or facilities with at least 67% added generation capacity meeting the 100gCO_2/kWh emissions thresholds for the past five years as eligible. The bank confirmed that activities supporting the expansion of fossil-fuel power technologies, or facilities dedicated to connecting fossil fuel power plants will be excluded. The bank stated that it will strictly require eligible projects to demonstrate commitment to expanding renewable energy capacity and reducing fossil fuel dependencies in their current energy mix and will assess projects based on their ability to meet pre-defined renewable energy targets. This partially mitigates risks from projects being connected to heavy-emitting or energy-intensive assets, and therefore supports Medium green assessment.
- Production of green hydrogen is energy intensive. While Vietcombank will only finance hydrogen produced from electrolysis using renewable energy and maintains lifecycle emissions caps, the environmental impacts of potential risks of leakages should also be carefully managed, given the complexity of the value chain.
- There are lifecycle considerations during the development, construction, installation, and maintenance phases for solar and wind projects. These include emissions and environmental impacts from materials sourcing, manufacturing, transportation, and equipment end-of-life decommissioning. Vietcombank stated that it will incorporate requirements on the durability and recyclability of solar and wind equipment, to ease end-of-life management. For example, procurements include mandates that require suppliers to provide information on recycling processes and end-of-life management.
- Vietcombank stated that it will require an environmental and social risk assessment by independent opinions for each eligible project, to ensure no significant risk or negative impact. The assessments will cover considerations to biodiversity and ecosystems, in compliance with national regulations. It will require mitigation measures, such as creating buffer zones and conducting ongoing biodiversity monitoring programs. In addition, it will require climate resilience assessments for all eligible projects to ensure they are designed to withstand extreme weather events.

Sustainable Transport

Assessment	Description
Medium to Light green	Procurement or operation of transport services using vehicles with emission-reducing technology (excluding airplanes, road, trains, ships, and vessels/ferries), such as electric vehicles, green hydrogen-powered vehicles, and other zero direct emission transport vehicles (excluding fossil fuel-powered vehicles)

Investment in and construction of infrastructure for carbon-free transportation, including but not limited to:

- Charging infrastructure and green energy supply; and/or
- Electric vehicles; and/or
- Electrified public vehicles (e.g. bus, train, e.tc.); and/or
- Infrastructure for non-motorized vehicles and public walking

Investment in and construction of infrastructure for low-carbon transportation, including but not limited to

- Other transportation infrastructure dedicated to supporting the transition to electric and green energy vehicles; and/or
- Infrastructure for other low-carbon vehicles (e.g. hybrid vehicles)

Emission-reducing technology and low-carbon transportation must comply with a maximum GHG emissions level of 50gCO_2 per passenger-kilometer (p-km) over the lifecycle

Analytical considerations

- Mitigating greenhouse gas (GHG) emissions from transportation will be crucial to meet global decarbonization goals, as the transport sector accounts for 23% of global energy-related GHG emissions, according to the Intergovernmental Panel on Climate Change (IPCC). According to the Ministry of Transport, the transport sector contributes 18% of Vietnam's total GHG emissions. Fossil fuel-powered vehicles also create air pollution, such as nitrogen oxides and sulfur oxides. This category is assigned an overall shade of Medium to Light green, given the inclusion of both electrified transportation and supporting infrastructure, as well as hybrid solutions.
- Eligible projects include investment in the electrification of transportation, such as EVs and green hydrogen-powered vehicles with a lifecycle threshold below maximum of 50gCO_2/p-km. They could also include battery technologies upgrade and energy efficient logistics, if the projects meet the same 50gCO_2/p-km thresholds. Vietcombank excludes airplanes, trains, and vessels, or any vehicles dedicated for the transportation of fossil fuels. These factors support a low-carbon future and Dark green shade.
- Eligible projects also include hybrid vehicles infrastructure. The bank acknowledges hybrid solutions as a transition technology in some areas of Vietnam where full electrification is not yet feasible due to technological constraints. The bank will require eligible hybrid solutions to demonstrate significant emissions reductions compared with conventional fossil-fuel vehicles but has not included thresholds concerning lifecycle emissions of eligible hybrids. While hybrid vehicles are more climate-friendly than conventional fossil-based alternatives, they represent a short-term solution that supports our Light green assessment.
- The production of batteries and fuel cells, as well as the sourcing of raw materials for the construction of infrastructure can have substantial climate and environmental impacts, which should be carefully managed. End-of-life battery recycling is also important to manage biodiversity and pollution risks from a circular economy perspective and ease the pressure on minerals mining. Vietcombank stated that it will prioritize projects with lower emissions using recycled materials, renewable energy, and energy efficiency technology. It will also conduct supplier due diligence to assess the emission performance of vehicles, production processes, sourcing, among other social and governance aspects.
- Supporting infrastructure and technologies for EVs, such as charging stations, are well-aligned with a low-carbon future. However, the actual emissions reduction the vehicles can provide is dependent on the local electricity grid profile. Currently, coal still dominates 45% of Vietnam's energy mix, followed by oil (27%), natural gas (7.5%), and the remaining from biofuels and waste (source: International Energy Agency).
- The construction of infrastructure dedicated to the charging of electric or hydrogen-powered vehicles is crucial to decarbonize the sector. Nevertheless, climate and other environmental risks can arise during the production process through running facilities on fossil-fuel based energy, as well as biodiversity risks stemming from the increased demand for raw materials and their sourcing. Vietcombank stated that it will exclude the financing of any machinery or equipment directly running on fossil fuels. It will also assess the lifecycle emissions and commits to monitoring and reporting eligible projects' emissions reductions. In addressing embodied emissions, it will prioritize construction with materials such as recycled steel and concrete.

- Proceeds will also finance infrastructure for non-motorized vehicles and public walking. The company has not detailed any additional considerations for embodied emissions, though these projects have low risk of emissions locked-in and are aligned with a low-carbon future.
- Vietcombank integrates physical climate risks (such as vulnerability to flooding and extreme heat) as part of its credit approval processes during the planning and development of infrastructure projects. It will ensure climate adaptation and risk management measures are in place for eligible infrastructure.

Sustainable water management

Assessment	Description
Medium to Light green	The management of water and/or wastewater in a sustainable way including, but not limited to, the following: • Construction and operation of water collection, treatment, and distribution and supply systems. In case water treatment plants include desalination facilities, the average carbon intensity of the energy used to power the plant must be at or below 100gCO_2/kWh over the remaining life of the asset • Water recycling, wastewater treatment, sewage, manure, and slurry treatment • Improved water efficiency through reduced leakage • Quality management and protection of water resources • Construction, installation, operation of water circulation systems • Construction, installation, operation of drainage systems for flood prevention • Construction, installation, and operation of smart irrigation systems • Construction, installation, and operation of water monitoring systems: Smart monitoring networks, early warning systems for storms, droughts, floods or dam breaks, water quality or quantity monitoring processes • Flood prevention projects: lightning protection barriers, pumping stations, dikes, and gates, etc.

Analytical considerations

- Vietnam currently faces several water issues, such as water stress because of rapid urbanization and industrialization, inadequate access to drinking water in rural and underserved areas, deteriorated water quality from agricultural runoff, industrial discharges, inadequate wastewater management, and outdated infrastructure, as well as uncertain water availability due to evolving precipitation patterns from climate change. For instance, only 39% of the rural population has access to safe water and sanitation, and the Ministry of Natural Resources and Environment estimates that close to 80% of the diseases in Vietnam are caused by polluted water. Water and wastewater management can help avoid untreated water being released into the environment. Untreated sewage contributes to excess nutrients in water streams, which, in turn, can result in the loss of biodiversity and have detrimental effects on the ecosystem. Reuse of water resources and flood prevention projects can enhance water supply security and climate resiliency, and limit negative local environmental impacts from water overuse.
- Vietcombank stated that eligible projects will not serve fossil fuel operators. According to the bank, water supply utilities are strictly regulated by the state. While these utilities have little discretion in choosing or excluding the type of eligible customers, water supply projects are prioritized to support the demand of local households' domestic uses. The bank added that the majority of fossil fuel operators (e.g. coal-fire powerplants) extract water directly from rivers, lakes, and other raw water sources. (source: Department of Science and Technology – Ministry of Industry and Trade)
- The production of chemicals for use in water and wastewater treatment produce solid waste and methane emissions. The powering of these systems could be highly energy intensive and produce solid waste and methane emissions. Eligible activities

cannot be dependent on fossil-fuel based equipment and must demonstrate their commitment to using low-carbon energy sources, such as solar, wind, or hydropower.

- Water efficiency projects for agriculture use could be eligible, which could introduce value chain risks (e.g. land use change, and adverse environmental impacts from agricultural practices). The bank aims to finance smart irrigation systems, such as sensor-based technologies that monitor soil moisture, weather conditions, and crops' water needs in real time, which could reduce water use. The bank stated that it will manage operational carbon emissions by prioritizing energy efficient technologies, as well as encouraging facilities to incorporate energy capture (e.g. biogas recovery) and gravity utilization for water transmission and distribution to replace pumping. However, apart from eligible desalination plants that require a lifecycle emissions threshold of below 100gCO_2/kWh, the framework lacks specific quantifiable thresholds for other projects. This limits the assessment to Light green.
- Improving water management with the introduction of climate change adaptation and stormwater management features can enhance resilience in the context of growing physical climate risks facing Vietnam. In the past, the bank has financed tree plantation projects to infiltrate and drain excess rainwater and prevent soil erosion and flooding. It also provided loans to businesses and individuals to rebuild dike sections after an extreme storm. This track record may help the bank channel the funds to the most impactful projects, in the absence of any quantitative eligibility criteria.
- Under this framework, the bank aims to finance the construction of mangrove reforestation projects that act as natural buffers against storm surges in coastal regions, as well as flood barrier systems and stormwater drainage networks that prevent waterlogging during heavy rains. Eligible activities also include drought prevention projects in agricultural areas, such as smart water management systems that ensure efficient water distribution during dry seasons. Vietcombank mentioned that it will monitor, evaluate, and track project outcomes regularly to reduce water loss. The absence of more specific screening criteria may temper the benefits of these projects to the country's climate resiliency, supporting an interval of Dark to Medium green for this sub-category.
- Construction of water infrastructure could imply significant embodied emissions. Vietcombank stated that it will prioritize projects that use low carbon materials, such as recycled steel and concrete, though they are not a prerequisite of project eligibility.
- Vietcombank will require climate risk assessment for all eligible water infrastructure projects, and require plans to address exposure to climate vulnerabilities, such as flooding, droughts, among other extreme weather events. All projects have to abide by national regulations, including the Law on Water Resources and Law on Environment Protection.

Green construction

Assessment	Description
Light green	Acquisition, construction, development, operation of new buildings (including public service buildings, commercial buildings, residential buildings, etc.) meeting one of the following criteria: • Having solutions to save energy on building envelopes and equipment in the works meeting the National Standards on energy efficient construction works adhere to legal construction regulations, reducing energy consumption by at least 25-30% and water consumption by at least 30% compared with the average performance of similar buildings within the current building stock in Vietnam; or • Achieve green building certifications from international or national organizations that have mutual recognition agreements with Vietnam, such as - LOTUS Gold or above, or - BREEAM Very Good or above, or - EDGE Level 2 or above, or - LEED Gold or above, or

- Other equivalent certifications, while complying with legal construction regulations

Acquisition, operation, renovation/upgrading/retrofitting of existing projects (including public service buildings, commercial buildings, residential buildings, etc.) meeting the following criteria:

- Renovating/upgrading/retrofitting projects that result in energy savings of 20% or more compared with the baseline performance of the building before renovation (or of at least 25%-30% compared with the average performance of similar buildings within the current building stock in Vietnam); as well as achieving water savings of at least 20%-30% compared with the baseline performance of the building before renovation (or compared with the average performance of similar buildings within the current building stock in Vietnam), and comply with legal construction regulations; and
- Retrofitting that results in the building achieving one of the eligible construction industry certification systems such as:
  - LOTUS Gold or above, or
  - BREEAM Very Good or above, or
  - EDGE Level 2 or above, or
  - LEED Gold or above, or
  - Other equivalent certifications, while complying with legal construction regulations

The funding for the projects mentioned in sections (1) and (2) above does not include cooling and heating systems that operate on fossil fuels

Analytical considerations

- Green buildings support climate change mitigation by alleviating greenhouse gas emissions associated with energy use. They could also have other environmental benefits related to water and waste management. However, construction activities introduce other issues such as energy performance and emissions associated with building materials. Physical climate risks are likely to be material for buildings, and new construction may raise biodiversity issues.
- Vietcombank expects most proceeds will go to new buildings (40%-50%), followed by energy efficiency measures and low carbon solutions in existing buildings (30%-40%), and the balance for renovation projects (retrofit of older buildings that meet energy efficiency and certification criteria). The bank considers public service, commercial and residential buildings that have obtained international or national green certificates to be eligible. Eligible industrial buildings (e.g. warehouses) can only serve sectors in green technologies, such as renewable energy, sustainable product distribution, and recycling. Any buildings directly involved in fossil fuel activities, or any building supporting the fossil fuel value chain will not receive funding.
- Construction and retrofits involve embodied emissions and associated climate impacts. In addition to relying on the selected certifications to address a given building's environmental impact throughout its life cycle, Vietcombank stated that it will prioritize the sourcing of local and recycled materials, low carbon transportation, and sustainable resource uses in construction. It expects eligible certified new buildings to have an energy and water efficiency performance of at least 25% and 30% beyond the local building standards through installing energy and water efficient equipment, renewable energy systems, use of low carbon building materials, rainwater harvesting and recycling. Nevertheless, it has no plan to assess a given building's life cycle emissions, nor to set any emissions reduction targets or thresholds. This implies that certified buildings do not necessarily guarantee the highest climate impact and supports the assessment of Light green.
- Vietcombank plans to implement energy efficiency measures and renewable energy sources in both renovation projects, as well as operations of existing buildings. The bank requires eligible renovation projects to achieve at least 25% energy efficiency and 20% water efficiency improvement, and at least a 20% energy efficiency improvement for eligible existing building projects. Similarly, it has not identified any opportunities to conduct life cycle emissions assessment, or to inform any emissions reduction thresholds. These factors limit the assessment to Light green.
- Point-based systems of buildings certifications do not necessarily require minimum performance improvements. Required certification levels could be achieved without addressing specific environmental issues thoroughly. The framework considers

other comparable green building standards as eligible, without specifying the certifications, criteria, or performance thresholds. These factors limit our insight into the projects' potential environmental impacts.

- Vietcombank confirmed that all eligible projects will not directly finance fossil fuel-based equipment (including natural gas). Heating and cooling of the buildings will rely mostly on electricity sourced from the national grid, for which coal still largely dominates in power generation. The bank will require eligible projects to explore energy efficient options such as energy management technologies, as well as the use of renewable energy sources (e.g. solar and geothermal technologies).
- Green buildings are exposed to physical climate risks, including flooding, rising temperatures, and extreme rainstorms. During the planning stage, Vietcombank requires climate risk assessments for both new construction and renovation projects to identify and address vulnerabilities.
- Vietcombank has included procedures to manage the risks on biodiversity and land use change. The bank stated that it will focus on the redevelopment of previously used brownfield sites to address land degradation. In the case where greenfield sites are involved, it will avoid protected areas or those with high biodiversity or conservation value. In addition to compliance with national laws and regulations, the bank requires the implementation of biodiversity management plans, including habitat restoration, the use of native species in landscaping, and measures to protect local wildlife during and after construction.

Sustainable Agriculture - Forestry - Fisheries and Biodiversity Conservation

Assessment	Description
Light green	Sustainable agricultural, forestry, aquacultural and biodiversity conservation projects including, but not limited to the following: • Agricultural extraction, production and cultivation, and processing projects (excluding agricultural production on peatland) that meet good practice standards and apply advanced technology with commitments and evidence related to: (i) No deforestation, (ii) No alteration of natural ecosystems, (iii) Participation in efforts to protect biodiversity, (iv) Application of energy-saving measures, use of renewable energy, carbon capture measures, and other greenhouse gas reduction measures, and meet one of the following criteria: - Certification of good agricultural practice standards domestically or internationally (VIETGAP, GLOBALGAP) or equivalent certifications recognized by international or national organizations with mutual recognition agreements with Vietnam; or - National standards for organic farming; or - Vietnam Green Label or Environmental Label according to TCVN ISO/TS 14027, or equivalent labels recognized by international or national organizations with mutual recognition agreements with Vietnam • Forestry extraction, production and cultivation, and processing projects (excluding timber production on peatland) that meet good practice standards and apply advanced technology must meet one of the following criteria: - FSC (Forest Stewardship Council) National Forest Management Standards of Vietnam or equivalent certifications recognized by international or national organizations with mutual recognition agreements with Vietnam; or - Vietnam Green Label / Environmental Label according to TCVN ISO/TS 14027 or equivalent labels recognized by international or national organizations with mutual recognition agreements with Vietnam • Aquaculture extraction, production and cultivation, and processing projects that meet good practice standards and apply advanced technology with commitments and evidence related to: (i) Reducing greenhouse gas emissions; (ii) Implementing

measures to combat environmental degradation; and meet one of the following criteria:

  - Certification of good aquaculture practice standards domestically or internationally (VIETGAP, GLOBALGAP, BAP) or equivalent certifications recognized by international or national organizations with mutual recognition agreements with Vietnam; or
  - Vietnam Green Label or Environmental Label according to TCVN ISO/TS 14027 or equivalent standards recognized by international or national organizations with mutual recognition agreements with Vietnam

- Biodiversity conservation, forest conservation, and resource conservation projects meet one of the following criteria:
  - Vietnam National FSC Forest Management Standard or equivalent certifications recognized by international or national organizations with mutual recognition agreements with Vietnam; or
  - Vietnam Green Label or Environmental Label according to TCVN ISO/TS 14027 or equivalent standards recognized by international or national organizations with mutual recognition agreements with Vietnam

Analytical considerations

- Crop-based agriculture can drive climate emissions and harm biodiversity and ecosystems. Risks include land use change, fertilizer and pesticide overuse, water pollution, soil degradation, and use of fossil fuel-powered equipment. Crops are highly exposed to physical climate risks such as chronic changes in rainfall and temperatures. Forests can contribute to carbon sequestration, support biodiversity habitat, and provide ecosystem services such as water regulation and soil stabilization that improve climate resilience. Aquaculture can provide a lower emissions protein alternative to livestock farming. However, the potential climate benefit depends on the sustainability of feed sourcing and product transportation emissions.
- According to United Nations Development Program, Vietnam's agriculture sector faces challenges from climate change impacts. The sector accounts for 13.9% of the national net GHG emissions. Agricultural projects do not include livestock and receive a Medium Green, given the bank's commitment to land protection and emission minimization, inter alia through the use of organic fertilizers. Vietcombank confirms that it will exclude the financings of any fertilizers, equipment, vessels, and vehicles that utilize fossil fuels.
- Vietnam has 14.8 million hectares of forests, and the country has a rapidly developing wood processing industry, which weighs on the natural resource (Source: DAI). Vietcombank will evaluate forestry projects' potential environmental impacts, social implications, and compliance with relevant regulations. Forests could be used to generate carbon credits. The bank explains it focuses on protecting carbon- and biodiversity-rich areas, such as primary forests, by financing projects that are certified by the Forest Stewardship Council (FSC) or equivalent. However, certification systems vary significantly in stringency, can contain loopholes, and in many cases, cannot adequately address larger systemic issues. The list of potential spending is broad, and funded ventures may differ greatly in their impact. Vietcombank stated that it will conduct due diligence according to the biodiversity and land use change plans submitted by its borrowers. Nevertheless, the absence of clear thresholds may not guarantee biodiversity benefits and cap the assessment at Light Green.
- Vietnam is the fourth-largest aquaculture producer in the world in 2016 with 4.5% of the world's total production. Aquaculture farmers are experiencing the impacts of climate change firsthand. With warming temperatures, many aquaculture species are living under stress. This creates stress and makes them more susceptible to disease (Source: Network of Aquaculture Centres in Asia-Pacific). Projects could include both land-based and facilities at sea. Vietcombank expects to prioritize funding for projects that use energy-efficient or renewable energy technologies and expect 20% energy savings. Projects must comply with VIETGAP, GLOBALGAP, or equivalent standards, which could contribute to minimizing disruptions on natural ecosystems. Since there is no visibility on the requirements on feed or transport emissions beyond certification requirements, aquaculture projects are Light Green.
- Growth over the past 25 years has imposed significant environmental costs in Vietnam, such as rapid depletion and degradation of natural resources and environmental pollution. Soil erosion is a serious concern, given the topography (three-

quarters of the country is covered by hills and mountains) and the change in soil features, vegetation, rainfall patterns. For instance, in the uplands, expanding coffee cultivation has deforested and degraded land, especially on steep slopes.

- Projects protecting the natural environment, species, and ecosystems will include reforestation, restoration of degraded land and mangroves along coastal areas. While this is positive, eligible projects could also serve for active management purposes, such as sustainable forestry, aquaculture, and agriculture. Vietcombank stated that it will ensure management practices are in line with targeted certifications. It will collaborate with experts such as biologists, ecologists, and environmental scientists to screen these projects, at the stage of planning, implementation and operation. We assess these projects receive Medium green.
- All projects are exposed to potentially substantial physical risks. VCB claims each loan application will go through a detailed review, but both assessment and monitoring may be challenging, depending on the level of understanding of the client base.

Waste Management and Resource Efficiency

Assessment	Description
Medium to Light green	Sustainable waste management and resource efficiency projects including, but not limited to, the following projects: • Collection, sorting, transferring, transporting, reuse, recycling, and waste treatment; solid waste including municipal and industrial waste; hazardous waste; urban and residential wastewater; medical wastewater; wastewater from business activities; and air emissions must meet the following criteria: - Collection for recycling purposes; and - Collection, sorting, transfer, and transportation vehicles must meet green Transport Criteria. - No landfill, or direct incineration of waste • Reuse of solid waste • Recycling waste into secondary raw materials

Analytical considerations

- Circular economy services are a key part of a low carbon future, because they can contribute to reduced resource use and waste, for example by extending products' lifetime though re-use or repair. According to United Nations Development Program, only 7.2% of used materials are cycled back into economies after use, which has a significant burden on the environment. Through efficient and more circular use of materials in key industrial materials such as cement, steel, plastics, and aluminum, circular economy strategies can help reduce global GHG emissions by 40% by 2050.
- With more than 8,000 tons of plastic waste generation per day (WWF Viet Nam, 2021), Vietnam is one of the top ten countries in the world for plastic pollution. The consumption of single use plastics is common in Vietnam. Approximately 75% of solid waste in the country, including plastics, is mismanaged, or improperly disposed, with less than 30% of plastic waste being recycled. This has contributed to plastic pollution, with the material constituting 80% of marine waste in the country (source: UNDP). Waste in Vietnam increased by 46% between 2010 and 2019. As per the World Bank, Vietnamese on average use 41.3 kg of plastics per year. These projects address an urgent need to prevent pollution, protect biodiversity, and address emissions from less resource usage. The project category receives a Medium green shade because Vietcombank states that they focus on recycling, reuse, and resource recovery, in line with the waste management hierarchy. Additionally, it requires waste collection and recycling activities to meet the criteria under the Sustainable Transport section, by using electric or hydrogen powered vehicles to address transportation related emissions.
- Wastewater systems reduce pollution, enable resource recovery, and enhance ecosystem and public health, and as a result are a key component of a low-carbon, climate-resilient future. The primary benefits include improvement in water quality and have important cumulative effects in a watershed; they can help relieve water stress and be a source of nutrient and energy

recovery depending on the system. That said, these systems are energy intensive, and can produce significant solid waste and methane emissions.

- As per the World Bank, although 60% of Vietnamese households dispose of wastewater through a public sewerage system, much of this goes to the drainage system with only 10% of the wastewater treated. Likewise, 90% of households dispose wastewater to septic tanks, but only 4% of the septage is treated. Vietcombank will prioritize projects with the most efficient technologies. However, in the absence of quantified performance thresholds, they are Light green.
- Eligible waste and wastewater treatment plants can serve various sectors, including agriculture, food and beverage, textiles, manufacturing, construction, and healthcare. However, waste or wastewater originating from the fossil fuel value chain is not eligible for financing. The eligible projects intend to reduce inflow and infiltration in the wastewater network, so that wastewater is processed, reducing energy consumption. Furthermore, Vietcombank prioritizes projects that utilize anaerobic digestion to produce biogas, and methane capture technologies to reduce operational emissions in wastewater management facilities.
- The framework includes a broad range of waste streams such as hazardous waste, plastics, and biodegradable waste. Hazardous and industrial waste is managed under strict protocols for contamination and environmental harm prevention. Sludge and solids from water treatment project are sold to authorized environmental entities to be further recycled towards minimizing environmental impacts. Any projects related to landfilling waste or burning waste directly are not allowed.
- Eligible projects have to meet or exceed related local regulatory requirements, and Vietcombank encourages projects to align with international best practices (ISO 14001 for environmental management systems, TCVN ISO/TS 14027 for environmental labeling.
- Vietcombank requires customers to submit project explanations on physical and biodiversity risks, with independent appraisal opinions. Its staff regularly conduct site visits to monitor and oversee eligible projects' environmental impact.

Energy Efficiency

Assessment	Description
Light green	Promote a low-carbon and energy-efficient society through electrification, as well as improve energy performance through technologies and/or processes, including but not limited to the following areas: • Construction projects (Infrastructure, new buildings, or renovation/ upgrading/ refurbishment of existing buildings) that result in at least 20% energy savings, including but not limited to: - Improve thermal performance of utilities such as waste heat recovery, enhancement of regional power generation systems, cooling systems, and boilers with energy-saving solutions and not directly using fossil fuels; or - Retrofit using renewable energy; or - Software and automation solutions to reduce electricity consumption, including Smart Energy Management Systems, machine learning applications, and artificial intelligence based on energy demand and consumption; or - Using energy-efficient equipment, including networks devices, heating, ventilation, air conditioning systems, cooling systems, lighting, and electrical appliances in buildings to improve energy efficiency; or - Retrofit distribution systems, transmission lines, or substations to reduce energy use or loss but excluding transmission and distribution lines that support fossil fuel-powered plants; or - Retrofit energy-saving equipment, such as LED lights and sensor-based lighting management systems

- Acquisition, development, production, and installation of energy-saving technologies, equipment, or components, including but not limited to:
  - Energy-saving lighting (e.g., LED lights); or;
  - Smart meters; or
  - Energy-efficient heating, ventilation, and air conditioning (HVAC) systems; or
  - Supporting the improvement of energy efficiency in battery storage for renewable energy sources

Analytical considerations

- Energy efficiency brings various environmental benefits, such as greenhouse gas emissions reduction from reduced usage of power. Therefore, increasing energy efficiency is critical to limiting global warming to below 2°C. According to the IEA's net zero emissions by 2050 scenario, a 35% improvement in energy efficiency, equivalent to 4% per year, is necessary by 2030. But the average improvement from 2017 to 2021 was only 1.3%.
- On March 13, 2019, the Prime Minister issued the Vietnam Energy Efficiency Program (VNEEP 3) in Decision No. 280/QD-TTG outlining the national master plan on energy efficiency, saving, and conservation of energy resources. Vietnam seeks to deal with a 10% annual growth rate for energy demand. VNEEP 3 expects to save 8%-10% of national energy consumption, and a 6.0% power loss reduction through 2030. By 2025, targets include 70% of industrial parks and 50% of industrial clusters have access to and apply energy-saving solutions and 90% of cities and provinces develop and approve energy-saving and efficient programs (source: International Trade Administration). All projects do not have minimum improvement in energy performance, their list is extensive and there is a high risk of rebound effects given the country's rapid economic growth, translating into a Light green shading for the category.
- Vietcombank states that all projects must utilize renewable energy sources or energy-saving technologies to minimize carbon emissions and will not be connected to the fossil fuels value chain. It also confirmed that it will not include any projects that utilize fossil fuels. For instance, eligible boilers under this category could be powered by sustainable biomass or biogas, hydrogen, and waste heat recovery projects. While this is positive, not specifying the eligible sources or feedstock of renewable energy limit our insights on the potential value chain risks. In addition, given the bank's presence in Vietnam where the country grids are still greatly reliant on fossil fuel for power, improved efficiency could drive more energy usage, leading to rebound effects. The energy sourcing and projects' benefits will ultimately depend on the availability of clean power in the near and long-term.
- According to VietnamPlus, a news agency, the energy used by high-rise buildings in Vietnam accounts for 35%-40% of the country's total energy consumption. Real estate projects are required to achieve at least 20% energy savings, bringing transparency to their potential impact. Customers will be screened based on experience, reputation, and adherence to international energy savings standards.
- Beyond real estate, projects will include improving the thermal performance of utilities such as waste heat recovery, cooling systems, and boilers with energy-saving solutions, software solutions, automation to reduce electricity consumption, including smart energy management systems, machine learning (ML) and artificial intelligence (AI) applications, energy-efficient equipment, such as network equipment, heating, ventilation, air conditioning, cooling systems, lighting, transmission lines, or substations to reduce energy use/loss, excluding transmission and distribution lines supporting fossil fuel power plants. AI applications are highly energy-intensive, and improved efficiency could similarly lead to higher emissions due to more energy usage.
- Vietcombank has stated that eligible projects are expected to achieve 20% energy savings. We view having quantitative performance thresholds as positive. However, there are limited considerations to the development and manufacturing required for the supply chain, limiting the visibility of the lifecycle benefits to these projects. The bank acknowledges the risk of rebound effects, i.e. increasing energy use after an energy efficiency improvement. It will require projects to implement output control measures and commit not to expand production beyond the level of emission reductions achieved.
- Energy efficient projects in fixed assets present some physical climate risks, which Vietcombank integrates into its credit assessment through requirement credit risk assessment

S&P Global Ratings' Shades of Green

Assessments	Dark green	Medium green	Light green	Yellow	Orange	Red
Description	Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
Example projects	Solar power plants	Energy efficient buildings	Hybrid road vehicles	Health care services	Conventional steel production	New oil exploration

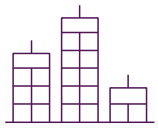
Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

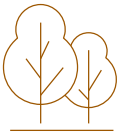
LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Mapping To The U.N.'s Sustainable Development Goals

Where the Financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the Financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not impact our alignment opinion.

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs
Renewable Energy, Clean Energy	  ***7. Affordable and clean energy** **13. Climate action**
Sustainable Transport	   **9. Industry, innovation and infrastructure** ***11. Sustainable cities and communities** **13. Climate action**
Sustainable Water Management	  ***6. Clean water and sanitation** ***11. Sustainable cities and communities**
Green Construction	  **9. Industry, innovation and infrastructure** ***11. Sustainable cities and communities**

Sustainable Agriculture - Forestry - Fisheries and Biodiversity Conservation	 ***12. Responsible consumption and production**	 ***14. Life below water**	 ***15. Life on land**
Waste Management and Resource Efficiency	 ***12. Responsible consumption and production**		
Energy Efficiency	 **12. Responsible consumption and production**	 **13. Climate action**	

*The eligible project categories link to these SDGs in the ICMA mapping.

Related Research

- Analytical Approach: Second Party Opinions: Use of Proceeds, July 27, 2023
- FAQ: Applying Our Integrated Analytical Approach for Use-of-Proceeds Second Party Opinions, July 27, 2023
- Analytical Approach: Shades of Green Assessments, July 27, 2023
- S&P Global Ratings ESG Materiality Maps, July 20, 2022

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