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Second Party Opinion

Philippine National Bank Sustainability Financing Framework

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Location: The Philippines

Sector: Diversified Bank

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

- ✓ Social Bond Principles, ICMA, 2023
- ✓ Social Loan Principles, LMA/LSTA/APLMA, 2023
- ✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2023
- ✓ Sustainability Bond Guidelines ICMA, 2021

See [Alignment Assessment](#) for more detail.

Strengths

Philippine National Bank (PNB) lending activities contribute to financial inclusion and economic empowerment in the Philippines. For example, eligible social categories aim to improve access to credit for underserved segments such as low-income individuals and women entrepreneurs. The bank defines target populations based on official or government definitions, adding credibility to its projects screening.

Weaknesses

Proceeds may be used to finance eligible green projects that involve the use of fossil fuel-based equipment. Examples include pollution control projects and farming activities, as well as buildings' cooling/heating energy sources.

Areas to watch

Reporting on commercial paper can be a challenge due to its short tenure. However, PNB will publish ad-hoc reports if such paper matures between reporting cycles.

PNB will lend directly to pure-play companies within green categories if they meet framework criteria. Pure-play companies will then allocate funds across activities, hampering measurement of exact environmental benefits. PNB will regularly review lending, keeping in the portfolio only loans that meet eligibility criteria.

Framework categories have disparate environmental benefits. Feedstock for bioenergy could entail land use change risks; energy efficiency may not decarbonize data centers. Some categories do not specify performance thresholds. While common for frameworks with extensive lists of projects, this limits insights on benefits.

PNB's nonfinancial disclosures are developing and is yet to establish a net zero roadmap. The bank has not disclosed scope 3 emissions nor set decarbonization targets.

Eligible Green Projects Assessment Summary

PNB expects to allocate most proceeds to refinance renewable energy projects.

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

Renewable energy Dark to Medium green

Power generation from solar, wind, geothermal, hydropower, and bioenergy

Manufacture of components and equipment for renewable energy

Installation or maintenance of electricity transmission and distribution (T&D) systems

Energy efficiency Light green

Development, installation, or acquisition of energy efficiency projects

Green buildings Light green

Construction of new buildings and renovation of existing buildings that meet regional, national, or internationally recognized standards or certifications

Green buildings – data centers Light green

Construction, refurbishment, and maintenance of data centers

Clean transportation Dark to Medium green

Development, construction, acquisition, and manufacturing of low-carbon transportation or related infrastructure

Pollution prevention and control Light green

Development, construction, and acquisition of infrastructure intended to achieve pollution prevention and control

Climate change adaptation Medium green

Increase resilience against extreme weather events brought about by climate change

Environmentally sustainable management of living natural resources and land use Light green


Value-adding farming methods that achieve eco-friendliness, input reduction, or improved yields

Sustainable water and wastewater management

 Light green


Development and acquisition of sustainable water and wastewater management projects

Terrestrial and aquatic biodiversity conservation

 Medium green

Ethical use, allocation, and protection of the natural environment, its species, habitats, and ecosystems

Eco-efficient and/or circular economy adapted products, production technologies and processes

 Medium to Light green

Development and introduction of environmentally sustainable practices

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

PNB is one of the largest domestic commercial banks in the Philippines and is headquartered in Pasay City. It was established in 1916 by the government of the Philippines and was privatized in 2007. PNB provides corporate, retail, and global banking, and other financial services. The bank has 631 domestic and 73 overseas branches, representative offices, remittance centers, and subsidiaries in 17 locations in the U.S., Canada, Europe, the Middle East, and Asia. The bank's customers include corporations, small and medium markets, and retail customers, as well as various government units and agencies. The bank is regulated by the Bangko Sentral ng Pilipinas (BSP, the central bank of the Philippines) and is listed on the Philippine Stock Exchange.

As of Dec. 31, 2023, LT Group Inc., a diversified conglomerate with other operations in distilled spirits, beverages, tobacco, and property development businesses in the Philippines and internationally, owns 59.8% of PNB (indirect ownership through its various holding companies). PCD Nominee Corporations holds 14.4% and other stockholders own the remainder.

In 2023, the bank had operating income of Philippine peso (PHP) 57.4 billion (US\$1.03 billion), and total assets of PHP1.2 trillion (US\$0.02 trillion). Its loan book comprised 90% private corporations followed by retail customers (7%), small- and medium-size enterprises (2%), and overseas Filipinos (1%).

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 to 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 high-emitting sectors, 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 impact 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, the Philippines has committed to reduce emissions by 75% against a projected business-as-usual scenario between 2020 and 2030 (Source: UNOSD), and to accelerate its transition to a green economy. The country also aims to increase the share of renewable energy to 35% of the power generation mix by 2030 and 50% by 2040 (Source: Philippine Energy Plan 2023-2050).

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 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 mitigating 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. The Philippines is vulnerable to floods, droughts, typhoons, landslides and mudslides, earthquakes, and volcanic eruptions. Recent decades have witnessed an increase in extreme events, such as heavy rainfall and tropical cyclone activity, and this trend will continue under a changing climate, according to the World Bank.

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 payment 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 a financial enabler, banks have the capacity to impact 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 the country's economic development by financing infrastructural development projects and micro, small and medium enterprises (MSMEs). 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 individuals, so ensuring affordable access to financial services, especially for the most vulnerable parts of the population, remains a challenge for the banking industry. According to the BSP Financial Inclusion Survey, 15.5% of the cities or municipalities in the Philippines have no banking presence, with 12% having access points and 4% lacking them, as of the second quarter of 2023.

Biodiversity and Resource Use

Banks contribute to significant resource use and biodiversity impact through the activities they fund or invest in. For example, bank-financed activities such as construction, agriculture, and mining can have material biodiversity impacts. The Philippines Biodiversity Strategy and Action Plan (2015-2028) intends to meet 20 targets by 2028, including the preservation of vulnerable species, natural forest cover, ecosystem restoration, and improved cave conservation management (Source: Convention on Biological Diversity).

Privacy protection

Banks rely heavily on IT systems. Growing use of client data collection, data mining, and artificial intelligence (AI) have brought significant efficiency gains and facilitated financial access. However, this has increased banks' exposure to the risk of IT infrastructure failures, cyber attacks, and other quickly evolving risks. The resulting disruptions (such as client data leakage, data theft, or AI-related unintended or biased use of private personal data) could subject banks to higher and unpredictable risks given their large number of customers and business partners. In addition, stolen data may be used by criminals to commit various types of fraud. We see privacy protection risks rising and evolving as hackers become more sophisticated, but most banks have strong risk governance and controls in place to prepare for these risks. In the Philippines, the Data Privacy Act of 2012 governs data privacy matters. In 2022, House Bill No. 892 and House Bill No. 898 amended the Act, increasing penalties for violations and providing perpetual absolute disqualification for public officials or employees (Source: Data Protection Laws of The World).

Issuer And Context Analysis

Eligible categories aim to address some of PNB's material sustainability factors. Green categories cover climate transition risks, physical climate risks, and biodiversity risks, which are the most material environmental factors for the bank. Meanwhile, its social categories such as affordable basic infrastructure, access to essential services and socioeconomic advancement and empowerment seek to widen access to financial services and contribute to the economic development of targeted groups such as underserved communities and MSMEs led by women. However, there are also risks introduced by the financing, such as biodiversity impacts and impact on the communities.

PNB is indirectly exposed to climate transition risks and at an early phase of measuring and managing its financed carbon footprint. PNB aims to redirect loans from emission-intensive to low-carbon activities under its sustainability strategy. The bank has assessed the exposures of its loan portfolio to environmental and social risks, based on the impacts of the assigned Philippine Standard Industrial Classification. As of December 2023, 49.2% of its onshore loan portfolio is low risk, 25.5% is medium risk, and 25.3% is high risk. However, the bank could finance activities on its gray list, including existing coal-fired power plants. Although these activities are subject to enhanced due diligence and close monitoring, its exposure to the fossil fuel value chain

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heightens climate transition risks. Nonetheless, the bank is no longer accepting new coal related projects, except the ones classified as Ultrasuper Critical, Super Critical, and Circulating Fluidized Bed, subject to technical validation and regulatory requirements.

Currently, the bank discloses its scope 1 and 2 emissions based on United Nations Framework Convention on Climate Change. Its total scope 1 and 2 emissions in 2023 were 16,600 tons of carbon dioxide equivalent (tCO_{2e}). However, it is yet to report on scope 3 emissions, which typically account for a vast majority of banks' aggregated emissions and set decarbonization targets. The bank is working on measuring its financed and upstream emissions, as well as on target setting.

PNB integrates physical climate risk assessments into its risk assessment for lending activities and across its operations. The bank has incorporated physical risks into its enterprise risk framework. It is also part of its borrower risk rating and facility risk rating. PNB has disclosed its identification of such risks in its annual report, using the definition of the Task Force for Climate-related Financial Disclosures (TCFD).

Physical climate risks are also factored in when evaluating real estate collateral. In 2023, the bank conducted stress tests on operations highly vulnerable to natural disasters, using physical and hazard risk assessment data on branches, businesses, and lending centers. For its domestic facilities, the bank conducted chronic physical risk assessment with focus on temperature and rainfall under the Representative Concentration Pathway 4.5 and 8.5 climate scenarios, by leveraging data from Philippine Climate Extremes.

While the bank has measures in place to identify and manage potential impacts on biodiversity from its financing activities, it is yet to formulate a comprehensive policy on biodiversity. The framework includes eligible projects in relation to biodiversity such as agriculture, and terrestrial and aquatic conservation. On the other hand, other eligible projects (e.g. renewable energy, green buildings) may induce biodiversity risks. PNB will identify and manage such impacts through environmental impact assessments (EIAs). The bank also incorporates biodiversity considerations when lending to high-risk sectors to mitigate land use changes. For instance, feedstock used by bioenergy producers must be certified by credible schemes such as Roundtable on Sustainable Biomaterials (RSB) and International Sustainability & Carbon Certification (ISCC) Plus, and should not come from biodiversity rich areas. However, the bank is yet to formulate a comprehensive biodiversity policy.

Eligible social projects focus on lending to underserved segments of the population, to improve their access to credit. Target populations include low-income individuals, people who lack access to basic infrastructure, women entrepreneurs, and MSMEs. Through providing loans, PNB aims to reduce economic inequalities. PNB has partnered with government agencies and private institutions to conduct education sessions to improve target groups' financial literacy.

Acceleration of its digital offerings exposes the bank to data protection and privacy risks. The bank's enterprise information and cyber security group manages overall information and cyber risk, and data privacy exposure. The group is headed by a chief information security officer and data protection officer who report to the risk oversight committee on matters concerning information security and cyber security including data privacy. A management system and framework are in place to identify, assess, mitigate, and monitor risks associated with data privacy. There has been no major cyber attacks or data breaches over the past three years.

Alignment Assessment

This section provides an analysis of the framework's alignment to the Social and Green Bond/Loan principles and the Sustainability Bond Guidelines.

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✕

- ✓ Social Bond Principles, ICMA, 2023
- ✓ Social Loan Principles, LMA/LSTA/APLMA, 2023
- ✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
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✓ Use of proceeds

We assess all the framework's green project categories as having a green shade and consider all social project categories to be aligned. The issuer commits to allocate the net proceeds issued under the framework exclusively to eligible green and social projects. Please refer to the Analysis of Eligible Projects section for more information on our analysis of the environmental and social benefits of the expected use of proceeds. PNB will also extend general corporate purpose funding to pure-play companies, defined as those that derive at least 90% of their revenue from eligible green activities according to the framework's criteria. Measuring the exact environmental benefits of such lending may prove complex, together with ensuring that these borrowers maintain at all times a consistent share of eligible revenue. In addition to bonds and loans, commercial papers could be issued under the framework.

PNB shared that the maximum look-back period for refinanced projects is two years, shorter than the market practice of three years. The bank confirmed it will disclose the proportion of financing versus refinancing in its allocation reporting, in line with both ICMA and the Philippines Securities and Exchange Commission's recommendations. However, the framework does not mention this commitment.

✓ Process for project evaluation and selection

The framework outlines a process that PNB has developed to evaluate and select potential projects. Loan origination teams will first identify and select projects based on the framework's eligibility criteria. Then a separate committee with a different reporting line from the relevant loan origination team will evaluate and approve the proposed projects. The committee is composed of members from the credit risk, business, and sustainability functions.

The bank identifies and manages potential environmental and social risks associated with the projects as part of its credit and operational risk management systems. Due diligence on compliance with applicable laws (e.g. environmental protection and pollution, labor, and occupational health and safety standards) are also part of credit approval.

PNB's exclusion list includes fossil-fuel power generation and transmission, activities dedicated to the support and expansion of fossil fuel-based technologies, extractive and illegal mining, illegal gaming, gambling, and forced or child labor.

✓ Management of proceeds

PNB will maintain a register to track the allocation of proceeds. As long as any sustainable financing instruments issued under this framework is outstanding, the balance of the tracked net proceeds will be periodically adjusted to match allocations to eligible projects.

Pending allocation, unallocated proceeds will be held in cash, cash equivalents, money market investments, and fixed income instruments, in accordance with the bank's investment and trading policy. The framework's exclusion criteria apply to the management of unallocated proceeds, adding consistency to the bank's spending.

✓ Reporting

PNB commits to disclosing annually (and in case of any material changes) the allocation of proceeds and, where feasible, impact of the financed projects in its sustainable financing instrument report. It will be available on the bank's website and in its annual report. Allocation reporting will include information such as brief descriptions of the projects, target populations for social projects, and the balance of unallocated proceeds. Meanwhile, impact reporting will include qualitative environmental and social impact analysis. If practicable, the bank will disclose quantitative performance indicators, in line with the ICMA Harmonized Framework for Impact Reporting. Any calculation methodologies and assumptions are to be based on project technical reports furnished to the bank. However, the framework does not specify the performance indicators the bank will use, reducing its reporting transparency.


Reporting on commercial papers can be a challenge for issuers due to the short tenure of the instruments. However, PNB will publish an ad-hoc reporting if it matures in-between reporting cycles.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the "[Analytical Approach: Shades Of Green Assessments](#)," as well as our analysis of eligible projects considered to have clear social benefits and to address or mitigate a key social issue.

Green project categories

Renewable energy

Assessment	Description
 Dark to Medium green	<ul style="list-style-type: none"> • Power generation from renewable sources: loans to enable the power generation from solar, wind, geothermal, hydropower, and bioenergy • Manufacture of components and equipment for renewable energy <ul style="list-style-type: none"> ◦ Loans to enable the manufacturing of the components and/or equipment required for renewable energy power generation and energy storage ◦ Examples are solar panels, wind turbines, and battery storage • Installation or maintenance of electricity T&D systems

Analytical considerations

- Renewable energy projects are key elements in limiting global warming to well-below 2 C, provided their negative impacts on the local environment, and physical risks are sufficiently mitigated. The company’s investments in solar, wind, geothermal, hydropower, and bioenergy support the Paris Agreement modelled pathways. According to the International Energy Agency (IEA), most of the Philippines’s electricity supply currently comes from coal and natural gas. As of 2021, renewables accounted for 22.4% of the share of power generation. In addition, the Philippines commits to a projected greenhouse gas emissions reduction and avoidance of 75% (of which 2.71% is unconditional and 72.29% is conditional) between 2020 and 2030.
- PNB confirms that dedicated connections to fossil fuel related activities are not eligible. Renewable energy from solar, wind, geothermal, and hydropower, and energy storage systems are essential to the transition to a low-carbon future, and are a Dark green solution. Bioenergy can play a role in the transition, but risks and impacts depend on the type of feedstock, and lifecycle emissions, which we view as Light green. Meanwhile, there are uncertainties around the local grid, where coal still plays a large role and is linked to ongoing emissions, adding a Medium green element. As a result, we assess this category Dark to Medium green interval, reflecting the extensive list of activities. Eligible renewable energy generation projects will participate in integrating renewable energy into the local power grid. However, there are lifecycle carbon considerations during the development, construction, installation, and maintenance phases. These include emissions from materials sourcing, manufacturing, transportation, and equipment end-of-life decommissioning (e.g. solar panels and wind turbines). While PNB is the lender and not the asset owner, the bank relies on feasibility study reports and EIA reports to manage end-of-life issues, which are part of the lending requirements.
- Hydropower can entail significant emissions from construction and water reservoirs, as well as bring adverse impacts on biodiversity and ecosystems, for example disrupting water flows and fish migration. The bank will conduct environmental and social impact assessments and carry out enhanced due diligence exercises for large hydropower plants (more than 25MW), to ensure potential impacts are assessed systematically. It is positive that thresholds are set for power density of higher than 5W/m² or greenhouse gas emissions intensity of less than 100gCO₂e/kWh for facilities commencing operation before 2020; or power density of higher than 10W/m² or greenhouse gas emissions intensity of less than 50gCO₂/kWh for facilities commencing operation in 2020 or after. Similarly, for geothermal facilities, a lifecycle emissions threshold of less than 100gCO₂e/kWh should ensure an adequate environmental performance for such projects.
- Bioenergy activities could be exposed to sourcing and lifecycle emissions risks. They include risk of direct and indirect land use change from feedstocks, including deforestation and loss of biodiversity, transportation emissions, and impacts on water

and soil. Only certified feedstocks will be used (e.g. RSB and ISCC Plus) and the use of nonwaste feedstock from palm oil and peat is excluded. PNB also commits to excluding feedstocks derived from land with high biodiversity that are in competition with food production or deplete the carbon pool. In addition, a lifecycle emissions intensity threshold of <100gCO_{2e}/kWh is set, which we view positively. We assess this sub-category Light green.

- Energy storage plays a key role in net-zero energy systems by providing the necessary flexibility and adaptability to balance the intermittency of most renewable energy sources. The mining of metals, which batteries need a lot of, such as lithium, cobalt, or copper, can harm the environment, disrupting natural habitats and causing pollution, given that these activities tend to be water and energy intensive. In relation to the value chain of minerals sourcing, PNB will perform enhanced due diligence and the framework’s exclusion list covers illegal and extractive mining. We assess this sub-category Dark green.
- Investments in T&D networks facilitating the integration of renewable energy sources into the grid support the deployment of renewable energy. PNB has set a threshold of 90% of electricity coming from renewable sources. For systems carrying less than 90% of renewable electricity, they could be eligible only if they are on a decarbonization trajectory in accordance with the Philippine Sustainable Finance Roadmap. The Roadmap states that electric distribution companies are mandated to achieve 35% renewable energy share by 2030 and 50% by 2040. Having the criteria of either meeting the 90% threshold or decarbonization trajectory should ensure the invested projects contribute to greening the national grid, adding a Medium green element to the category.
- PNB integrates physical climate risks into its borrower risk rating and facility risk rating to assess the exposures to acute and chronic physical risks, as part of its lending strategy. In relation to renewable energy projects, the bank also relies on the EIAs to identify and manage such risks.

Energy efficiency

Assessment

 **Light green**

Description

Loans to enable the development, installation, or acquisition of energy efficiency projects such as:

- Smart meters
- LED lighting
- Replacement of 3G or 4G with 5G networks
- Upgrade of legacy telecommunications with fiber networks
- Telecom tower upgrades, including cooling systems, insulation and reflective paints that enhance energy efficiency

Analytical considerations

- Energy efficiency projects should reduce associated emissions. PNB has set a minimum energy efficiency improvement threshold of 20%, adding transparency to the projects’ potential impact. In addition, improvements for fossil fuel production or distribution, as well as for industrial processes that are carbon intensive or driven by fossil fuels, are excluded. 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. Thus, we assess this category Light green.
- The Philippines’ power grid is still carbon intensive. Smart meters will help improve energy efficiency and hence reduce the consumption of fossil fuel.
- Mobile network upgrades could enable energy efficiency savings through the use of more advanced technologies. This is because 5G networks are considered more energy efficient per traffic unit, both on the network and device side, than 3G/4G. The upgrade and expansion of 5G technology and network infrastructure can also enable technology for climate mitigation and adaptation strategies. Nevertheless, improved efficiency of end-user clients’ activities might have rebound effects. For example, 5G solutions offer improved bandwidth capacity, which could drive higher traffic, and increased energy usage and absolute emissions. Similarly, although investments in fiber optics and telecommunication towers will only be limited to upgrades, and not include expansion of new towers, improved efficiency could drive more energy usage.

- Similarly, energy efficient projects in fixed assets present some physical climate risks. PNB integrates physical climate risks into its borrower risk rating and facility risk rating, as explained for other project categories.

Green buildings

Assessment

 Light green

Description

Loans to enable the construction of new buildings and renovation of existing buildings with a view for the buildings to be environmentally responsible and energy efficient, focusing on those that meet regional, national, or internationally recognized standards or certifications:

- BERDE (or Building for Ecologically Responsive Design Excellence)/Philippine Green Building Rating of 4-star and above
- U.S. Leadership in Energy and Environmental Design (LEED) – Gold, or Platinum
- BEAM Plus – Gold, or Platinum
- BREEAM – Very Good and above
- Other Internationally recognized green building label that is equivalent to the above

Analytical considerations

- Green buildings support climate change mitigation by alleviating greenhouse gas emissions. They also have other benefits such as increasing energy efficiency, reducing water consumption, and ensuring waste management. However, construction activities introduce other issues like the energy performance and emissions associated with building materials. Physical climate risks are material considerations for buildings, and new construction may raise biodiversity issues. Only buildings that meet one of the selected certifications are eligible for funding.
- The project category receives a Light green shade because PNB solely relies on the selected green building certifications for screening. The bank considers all types of buildings (commercial, residential, public, industrial) in its green buildings category, as long as they are able to achieve one of the abovementioned certifications. It also does not have an indicative split between new builds and existing building renovations. For renovations, it applies to buildings that do not have the required certifications before work begins. In addition, the framework’s exclusion list rules out any activities related to fossil fuel power generation or transmission, and activities dedicated to the support and expansion of fossil fuel-based technologies. While the bank expects the main energy source to be electricity from the grid, the project’s eligibility criteria do not consider downstream emissions, e.g. from fossil fuel heating.
- Although green building certifications cover a broad set of environmental issues, they differ considerably in their requirements for energy efficiency, embodied emissions of construction materials, and climate resilience. Typically, their point-based systems do not guarantee low carbon new construction nor highly energy efficient existing buildings. Their robustness depends on a variety of factors, such as levels achieved and type of certification. The framework includes both international and local certifications. Established by the Philippine Green Building Council, BERDE is a tool to assess, measure, monitor, and certify the performance of green building projects above and beyond existing national and local building and environmental laws, regulations, and mandatory standards. However, there is limited visibility on by how much BERDE outperforms the local building code.
- Embodied emissions could be addressed according to which green certification is used and what level a given building achieves. Given these green building certifications are assessed using a points-based system, they would not necessarily result in a reduction in embodied emissions.
- Both new and existing properties are exposed to physical climate risks. There are no specific criteria to mitigate the physical climate risks these eligible buildings could be exposed to. PNB integrates physical climate risks into its borrower risk rating and facility risk rating, as explained for other project categories.

Green buildings – data centers

Assessment

 Light green

Description

Loans to enable the construction, refurbishment, and maintenance of data centers

Analytical considerations

- Estimated global data center electricity consumption contributed to around 1%-1.3% of global final electricity demand in 2022, according to the IEA. Energy-efficient data centers support climate change mitigation by alleviating associated greenhouse gas emissions.
- Eligible data centers must have a power usage effectiveness (PUE) of 1.5 and below. The upgrade of data centers must result in the attainment of such a PUE value. The PUE is a ratio of total amount of power entering a facility divided by power consumption of IT equipment. The closer the PUE ratio is to 1, the more energy efficient the data center is. PUE reflects efficient energy use, and is a relevant indicator given the high energy requirements of data center operations. PNB is targeting a PUE better than the global industry average of 1.56, according to the Uptime Institute Global Data Centre Survey 2024. Such an average PUE is consistent in APAC, suggesting a PUE of 1.5 and below is consistent with an above average energy efficiency in the Philippines. PNB will require documentary evidence to assess and determine the eligibility of 1.5 PUE or below. Yet, the actual emissions reduction is dependent on the local electricity grid profile and power consumption, and most of the Philippines' electricity supply currently comes from coal and natural gas.
- Given no information on the planned split between new built and existing data centers, the potential embodied emissions and the climate impact from new construction could be large.
- However, the PUE is an indicator for energy efficiency only and does not account for other environmental considerations such as embodied emissions, water use, environmental impacts from sourcing metals in electronics, and physical risks, limiting this category to Light green. Nonetheless, PNB integrates physical climate risks into its borrower risk rating and facility risk rating, as explained for other project categories.

Clean transportation

Assessment

 Dark to Medium green

Description

Loans to enable the development, construction, acquisition, and manufacturing of low-carbon transportation or related infrastructure

Analytical considerations

- Mitigating greenhouse gas emissions from transportation will be crucial to meet global decarbonization goals. In the Philippines, the transport sector accounts for about a third of the total energy consumption and around one-seventh of the country's greenhouse gas emissions. Fossil fuel powered vehicles and vessels also create air pollution, such as nitrogen oxides and sulfur oxides. PNB confirms that transportation or related infrastructure dedicated to the transport of fossil fuels, as well as hybrid vehicles are not eligible.
- Electric road and rail transport is key to decarbonize land transportation and is a Dark green technology. It is in line with the country's Comprehensive Roadmap for the Electric Vehicle (EV) Industry, targeting a 10% of EV fleet share by 2040 under the business-as-usual scenario, or 50% by 2040 under the clean energy scenario. However, there are limited considerations on reducing production emissions from EV manufacturing and potential environmental impacts associated with batteries, adding a Medium green element. As a result, we assess this category Dark to medium green.
- The production of batteries and sourcing of raw materials can have substantial climate and environmental effects. In relation to the value chain of minerals sourcing, PNB will perform enhanced due diligence and the framework's exclusion list covers illegal and extractive mining, which may limit sourcing risks.
- The decarbonization of all modes of transport will require a significant expansion of low-carbon transport infrastructure. 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. For

example, coal still contributes to 59.6% of the Philippines’ electricity generation mix, according to the IEA. In addition, value chain emissions and environmental impacts can be significant and should be carefully managed, for example by choosing low-carbon construction materials. In addition, PNB confirms that railway construction will only cover tracks serving fully electric trains.

- Physical climate risks also are a material consideration for all infrastructure projects. PNB integrates physical climate risks into its borrower risk rating and facility risk rating, as explained for other project categories.

Pollution prevention and control

Assessment

 **Light green**

Description

Loans to enable the development, construction, and acquisition of infrastructure intended to achieve pollution prevention and control, such as waste recycling, reuse or treatment, soil remediation, and waste-to-energy projects

Analytical considerations

- This category covers soil remediation, waste management, and waste-to-energy projects. Any pollution prevention and control projects which result in the lock-in of fossil fuel technologies are excluded and the framework’s exclusion list rules out any activities related to fossil fuel power generation or transmission, and activities dedicated to the support and expansion of fossil fuel-based technologies. However, the powering of some of these infrastructure and facilities could necessitate the usage of fossil fuel, which creates carbon lock-in risks and limits the full benefits of the projects. As a result, we assess this category Light green.
- Pollution remediation projects have direct benefits to local biodiversity and human health by reducing soil pollutants concentration. The treatment and recovery of contaminated soil help to address past environmental damage and set the stage for long-term ecosystem recovery. That said, it leaves some uncertainties around risks and required benefits of projects without specific thresholds available. Nonetheless, PNB will rely on due diligence to ensure regulatory compliance.
- Waste management is an important pollution prevention measure that can avoid harm to human health and local ecosystems from waste streams. Eligible projects include waste recycling, reuse or treatment, and diverting waste from less environmentally beneficially disposal solutions. Diverting waste from landfill avoids risks of soil contamination and methane emission. Recycling, if done properly, increases the useful life of materials, thereby reducing carbon and other air pollutants’ emissions, energy, and natural-resource use.
- Waste-to-energy projects convert municipal solid waste to electricity and heat, while most recyclables, especially plastics, will be segregated before incineration. PNB will ensure eligible projects adhere to the waste management hierarchy, which prioritizes waste collection, sorting, and recycling efforts before resorting to waste-to-energy solutions. While this may be preferable to landfilling, it is equally important to consider life-cycle emissions to maximize climate mitigative effects. Waste-to-energy projects are also energy intensive and will likely involve fossil fuel use throughout the value chain (i.e. transportation of waste over long distances). The absence of lifecycle emission threshold limits insight on the overall environmental benefits. There is also a risk from local pollution from by-products like dioxins, which could be challenging to address given PNB’s position as the borrowers’ source of funding, limiting the shade to Light green. Nevertheless, the bank will rely on EIAs, as part of the loan approval process, to identify and manage potential environmental risks.
- PNB integrates physical climate risks into its borrower risk rating and facility risk rating, as explained for other project categories.

Climate change adaptation

Assessment

 **Medium green**

Description

Loans to increase resilience against extreme weather events brought about by climate change. Examples are flood barriers, information support systems such as climate observation and early warning systems, information and communications technology (ICT) solutions for the exclusive purpose of collecting, transmitting, storing and using data to facilitate greenhouse gas emission reductions.

Analytical considerations

- Climate scientists have been clear that some level of climate change will take place, even in the most-optimistic scenarios, making it crucial to plan for and mitigate the potential risks to reduce the financial and environmental impact of such events. Implementing adaptation solutions can also reduce resources and emissions linked to rebuilding damaged assets.
- This category covers a broad range of adaptation projects, with activities that are less clearly specified or where the benefit is not clear over time. We assess this category Medium green due to limited considerations on embodied emissions from construction and maladaptation.
- Early warning systems help companies and communities identify and limit the damages caused by climate hazards. The Philippines is particularly vulnerable to floods, droughts, typhoons, landslides and mudslides, earthquakes, and volcanic eruptions.
- The financing includes adaptation and resilience measures that require construction (e.g. flood defenses), which can lead to substantial emissions during the construction phase (e.g. use of fossil fuels-powered equipment) and heavy materials use (cement in particular). PNB does not have any specific plans to manage these embodied emissions, weighing on the benefits of such projects.
- It is important to identify and manage the potential risk of maladaptation--that is, shifting vulnerability to other parties of climate-related events, and eligible projects' impacts on local biodiversity. PNB does not have clear policies and plans to manage such risks.
- In addition to integrating physical climate risks into its borrower risk rating and facility risk rating, PNB will identify material climate hazards of adaption projects as part of its lending requirements. For example, it will use HazardHunterPH (a tool that can be used to generate indicative hazard assessment reports on the user's specified location) to assess the susceptibility of the client's location of major business operations or offices in relation to identified environmental or physical hazard risks.

Environmentally sustainable management of living natural resources and land use

Assessment

 **Light green**

Description

Loans to value-adding farming methods that achieve eco-friendliness, input reduction (water, pesticides, fertilizers, energy, etc.) or improved yields. Examples are drip irrigation and vertical farming.

Analytical considerations

- The agriculture sector had the second largest share (29.9%) to the total nonforestry and land use greenhouse gas emissions in the Philippines, according to the Philippine Statistics Authority (PSA) in 2010. 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. A diversity of interventions is needed for a green transition for this sector, such as more efficient irrigation, organic certification, biological pest control, cover cropping/rotation and other soil health measures, vertical farming, or input reduction. Sustainable inputs and farming practices contribute to a green transition for this sector. PNB confirms that livestock will be not eligible under this category.

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- PNB defines “value-adding farming methods” by referring to labels such as Fairtrade Certification and organic certification process of the Food and Agriculture Organization of the United Nations. However, certification systems vary significantly in stringency, can contain loopholes and, in many cases, cannot adequately address larger systemic issues, such as direct and indirect land use change driven by agricultural expansion and associated climate emissions, or enforceability and traceability of impacts. As a result, we assess this category Light green.
- The powering of equipment could be associated with the usage of fossil-fuel, which creates carbon lock-in risks and limits the full benefits of the projects.
- The framework’s exclusion criteria rule out activities related to the conversion of land for plantation use in primary tropical moist forests, and projects located near any protected areas. PNB will also examine the borrowers’ policies relating to deforestation during the project evaluation phase, ensuring regulatory compliance with relevant national or state deforestation regulations.
- PNB integrates physical climate risks into its borrower risk rating and facility risk rating, as explained for other project categories.

Sustainable water and wastewater management

Assessment

 Light green

Description

Loans to enable the development, and acquisition of sustainable water and wastewater management projects such as:

- Water treatment facilities
- Wastewater treatment facilities
- Water collection and water treatment plant facilities to enhance water recycling and reuse
- Projects to improve water management efficiency by reducing leakage or improving water usage efficiency such as water pressure management systems, and pump and pipe systems

Analytical considerations

- Water is a necessary natural capital for economic activity, thriving ecosystems, and supporting public health. Therefore, water supply systems are important to secure a future where all stakeholders have reliable access to sufficient water of adequate quality. That said, these systems are energy intensive and can generate significant waste, exacerbate water stress for other stakeholders, and pose disruptions to hydrology and aquatic ecosystems. Wastewater systems reduce pollution, enable resource recovery, and enhance ecosystem and public health. Likewise, these systems are also energy intensive and can produce significant solid waste and methane emissions. Improvements in water efficiency help reduce demands on natural capital and reduce greenhouse gas emissions associated with water treatment and conveyance, and as a result pose important benefits to achieving a low carbon climate resilient future.
- Challenges in the Philippines include water scarcity and distribution inequality, water pollution from industrial discharge and untreated sewage, and over-extraction of groundwater. Extreme weather events also damage an aging infrastructure. While non-revenue water has steadily decreased in Metro Manila, it remains elevated and likely substantially higher elsewhere in the country. According to UN and UNICEF data, 53% of households in the Philippines lack access to a safely managed water supply and 39% lack safe sanitation (source: planet-water.org). The framework does not include technical criteria in terms of leakage, energy efficiency, or sewage management thresholds and requirements. While the projects are clearly addressing pressing needs in the country, the absence of visibility on their potential impact limits the assessment to Light green.
- Typhoons and flooding, which have become more frequent, damage water infrastructure. The Philippines is also ranked 57th out of 167 countries that are likely to undergo water stress by 2040 (source: UNICEF). It is unclear whether due diligence will systematically and specifically cover physical risks considerations, especially for brownfield projects.
- With the fundamental objective to provide water services to the population, projects primarily address water infrastructure for public needs, rather than serving water-intensive sectors, like industrial and agricultural use. Waste/wastewater

management systems for fossil fuel assets are not eligible, especially as projects will be focusing on retail rather than industrial customers. Likewise, water efficiency efforts will include industrial, agricultural, commercial, and residential facilities, but no asset with a direct exposure and contribution to the fossil fuels value chain. Projects may use fossil-fuel based equipment, depending on operational and technological requirements.

- While PNB says it prioritizes assets with more advanced technology, their design will largely depend on operational requirements. This means there are no standard performance thresholds for the projects, such as emissions ceilings, systematic methane/energy capture at the facilities, or programs to reduce inflow and infiltration.
- Water efficiency improvements may potentially induce or enable more agricultural or industrial activity, but such rebound effects would be indirect and likely limited, given the focus of projects on individual users. Frequency of inspection or replacement of pipes/meters will vary by project.

Terrestrial and aquatic biodiversity

Assessment

 **Medium green**

Description

Loans to enable the ethical use, allocation, and protection of the natural environment, its species, habitats and ecosystems. Examples are:

- Projects for protection of coastal, marine, or watershed environments
- Ocean plastic reduction projects to enhance marine biodiversity

Analytical considerations

- The sustainable management of land, including forested land and coasts, and of rivers and seas is a key element for managing greenhouse gas emissions and adapting to climate change. Equally, conservation of biodiversity, natural ecosystems, and habitats can have substantial co-benefits for climate-change mitigation and adaptation due to critical ecosystem services, including carbon sequestration, local climate regulation, soil stabilization, and storm surge protection. Forest growing projects for the sole purpose of generating and selling carbon credits are not eligible.
- By ethical use, the bank means actions that do not diminish/disrupt the biodiversity of terrestrial and marine areas and systems, suggesting as much an emphasis on protection as on restoration of biodiversity. The projects will rely on a few labels, such as Forest Stewardship Council (FSC), Marine Stewardship Council (MSC), Rainforest Alliance Certification, Programme for the Endorsement of Forest Certification (PEFC), Sustainable Forestry Initiative (SFI), Rainforest Alliance Certification, and IUCN Green List (a global standard for protected and conserved areas, ensuring that these areas are effectively managed and deliver long-term conservation outcomes). Using internationally recognized certifications is 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. For instance, the FSC certification focuses on the sustainable forest management, while the PEFC one has a larger emphasis on the supply chain. The list of potential spending is broad, and funded ventures may differ greatly in their impact. Projects include ocean cleanup (floating barriers and systems to collect and concentrate plastic debris, and educational programs and research), restoration on coral reefs and marine habitats, reforestation, and afforestation. As a result, we assess this category Medium green.
- Such projects align with national objectives. The Philippine Biodiversity Strategy and Action Plan has the ambitious roadmap to restore and rehabilitate biodiversity by 2028, to maintain natural ecosystem services to sustain healthy, resilient Filipino communities. The Philippines is one of the most biodiverse countries of the world, with two-thirds of the earth’s biodiversity and 70% to 80% of the plant and animal species. The country is also a hotspot with at least 700 threatened species (source CBD). Threats include forest commercial exploitation, urbanization, the introduction of invasive alien species, chemical pollution and eutrophication, and fisheries operations. The Philippines had the largest share of global plastic waste discarded in the ocean in 2019, accounting for a bit more than a third (source: earth.org). This shows the importance and urgency of projects on plastic use.
- Projects may involve equipment running on fossil fuels, but risks of carbon lock-in look limited given their nature. As a result, this weighs marginally on the category’s intrinsic benefits.

- To measure biodiversity improvement, PNB will require borrowers or project operators to conduct species inventory and monitoring, and plant diversity measurements. The bank will also rely on EIAs to identify and mitigate any potential impacts on the existing wildlife and biodiversity.

Eco-efficient and/ or circular economy adapted products, production technologies and processes

Assessment

 **Medium to Light green**







Description

Loans to enable the development and introduction of environmentally sustainable practices such as eco-products, promotion of eco-labels or environmental certifications, or use of resource-efficient packaging and distribution.

Analytical considerations

- The sourcing of materials and energy use related to the production of goods, and their eventual disposal accounts for two-thirds of global greenhouse gas emissions, in addition to other negative environmental impacts, such as land and water pollution. Goods produced in energy-efficient ways that also seek to limit resource use, including through careful sourcing of materials and optimization of the supply and distribution chains can contribute to significant emissions savings. Having thresholds on lifecycle emissions or energy usage reduction, and minimum recycled content in packaging materials should ensure an adequate performance for such projects. However, given the broad nature of eligibility criteria and the complexity of the supply chains involved, we assess this category Medium to light green.
- PNB defined “eco-products” as those using 30% less energy or accounting for 30% less lifecycle emissions than comparable conventional model. They contribute to meeting consumer demand in a more energy and resource efficient manner. The framework excludes products directly derived from fossil fuels and manufactured with fossil fuel-based equipment and relies on few certifications. The category is broad across food products, and consumer goods and industrial goods. It has a complex supply chain, where traceability may be difficult, and the implementation of PNB’s policies remains to be seen. Apart from integrating physical climate risks into its borrower risk rating and facility risk rating, the bank does not have comprehensive policies to address physical risks for projects in this category, and biodiversity to a lesser extent. The category also emphasizes both products production optimization and circularity, limiting the assessment to Medium green.
- The bank will use a few established certifications to temper the risk in sourcing. Bio-based materials will have to be certified by the Roundtable on Sustainable Biomaterials (RSB). While this certification adds objectivity to projects selection, several of its 12 principles are social, limiting insight on the certified assets’ environmental performance. Likewise, consumer goods like electronics would need an Energy Star label. Other certifications could include Fair Trade Certified, FSC, ASEAN Green Label, and ASEAN Eco-Label. They share RSB’s merits and limitations to various degrees.
- PNB informs us they will prioritize lending to projects with the highest recyclable materials content, designed for disassembly (so that different materials can be easily separated for recycling), with minimalist and reusable packaging. The bank has set thresholds on the minimum recycled content, such that eligible projects should have at least 60% recycled content in paper or cardboard packaging, at least 30% recycled content for plastic packaging, and at least 20% recycled content for all other packaging material.
- The supply chain of raw materials has its challenges. Bioplastics, cardboard, or paper have risks of unwanted land use, and transportation to and from manufacturing centers may be carbon intensive. The bank will request information on products specificities from borrowers/project operators on topics such as checking bioplastics are made from renewable resources such as plant-based materials, farming practices minimize hectareage, water consumption, and pesticide use, cardboard comes from forests with FSC or PEFC certifications.
- While project emissions associated with transport may be substantial, they may be challenging to address and monitor given PNB’s position as a lender.

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).

Social project categories

Affordable Basic Infrastructure

- Loans to enable the development of roads or other transportation infrastructure to achieve at least one of the following objectives: i) improve connectivity for underserved areas; ii) relieve traffic congestion to mitigate worker productivity loss; or iii) reduce the accident rate.
- Loans to enable the development of water treatment projects and associated infrastructure such as pipework.
- Loans to enable the development of digital infrastructure projects like telecommunications towers, to promote digital inclusion.
- Loans to enable the construction of affordable housing.

Analytical considerations

- As of July 2023, the administration of President Ferdinand Marcos Jr. has 197 projects in its Infrastructure Flagship Projects list, with 71 projects under various stages of construction, 30 projects approved for implementation, 8 for government approval, 52 under project preparation, and 36 under pre-project preparation. Out of the 71 ongoing flagship infrastructure projects, 40 are transport-related, and out of the 30 projects approved for implementation, only six are not transportation projects (source: Government). Transport infrastructure loans will enhance connectivity in underserved regions, reduce traffic congestion to improve productivity, and lower accident rates. Water infrastructure financing will develop water treatment facilities and necessary pipework to ensure clean water access. Digital infrastructure loans will focus on building telecommunications towers to foster digital inclusion. Affordable housing loans will provide low-income families with access to safe and secure housing.
- The Philippines lags many neighboring countries in transportation infrastructure development and has a reputation for challenging traffic conditions and long commutes, undercapacity in international airports, and ports congestion. One of the core issues hindering the maintenance and expansion of roads in the Philippines is the insufficient funding and financial resources available for road maintenance (source: Democracy Lab).
- Transportation spending will target people living in underserved areas with substantially inadequate access to transportation. This means they have only roads in poor conditions (characterized by potholes, cracked pavements, collapsing shoulders, and no median strips) or undeveloped such as unpaved and nonweather proof (mud), or too narrow. Projects will prioritize roads with a volume-capacity ratio of 60% and above.
- Likely benefits are increased road safety (assuming reasonable speed) and reduced traffic congestion, which is impacting both the population's income and well-being. For instance, according to TomTom International, a traffic and location data provider, Manila is one of the most congested cities globally. Poor traffic conditions are a nationwide phenomenon. And two-wheelers account for half of fatalities in Southeast Asia (source: World Health Organization).
- Water projects will be in countries where less than two-thirds of the population have access to safe drinking water services. As per the World Bank's latest data, the global average percentage of populations with access was about 70%, with marked disparities and a score of below 50% for the Philippines and a few neighboring countries (source: ourworldindata.org). In the Philippines, 52% of the people lack access to safe water and 37% lack access to a safe toilet. Despite its growing economy, the Philippines faces significant challenges in terms of water and sanitation access. The country is rapidly urbanizing, and its growing cities struggle to provide new residents with adequate water and sanitation services (source: water.org). Over the years, the volume of wastewater has steadily increased with the rise in population. According to the Philippine Statistics Authority (PSA), from 2010 to 2019, the volume of polluted water increased by 32% in Metro Manila (source: industrial.ph), highlighting challenges to complying and preserving adherence to the standards set by the Clean Water Act of 2004.
- Access to clean water reduces health hazards (unsafe water causes 1 million deaths globally per annum) and the effort required to collect water for domestic use, especially in underserved neighborhoods. This frees up time for economically more productive activities, strengthening farmers' livelihoods and supporting women's empowerment.
- As per the World Bank, the Philippines is an outlier in ASEAN regarding internet access. In 2022, only 33% of households had access to fixed broadband (ASEAN average 48%), and just 70% of the population had an active mobile broadband subscription (ASEAN average 104%). The recently approved PHP16.1 billion (US\$288 million) Philippine Digital Infrastructure Project (PDIP) aims to boost broadband connectivity nationwide. According to the National Economic Development Authority, the PDIP will

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bring high-speed internet connections to underserved areas as well as augment the country's digital infrastructure to bridge the digital divide.

- Projects will benefit people living in areas with limited broadband capacity or access to 2G/3G only or where the download speed is 50 megabits per second or below (as per the Speedtest Global Index).
- In 2021, overall affordable housing demand in the Philippines reached 6.7 million units, according to the Philippine Housing and Household Statistics. Many Filipinos who belong to lower-middle income families struggle with owning a home. This is because of limited housing options for low-income households, high housing costs, and income being primarily allocated to basic needs rather than housing despite rising incomes. Working on minimum wage makes it nearly impossible to initiate plans to buy a house in the Philippines, according to Ohmyhome Property, a property technology start-up in Southeast Asia.
- In the Philippines, the target populations are low-income householders, identified based on prevailing poverty thresholds as defined by the PSA. In its latest report published in 2023, it defines low-income individuals as those with a monthly income below PHP13,873 (about US\$250). For eligible affordable housing projects overseas, PNB will abide by a similar approach, i.e., taking reference from applicable local government poverty thresholds, bringing objectivity to the identification of the recipients of funding.
- PNB's environmental process includes screening for (1) the company/projects' compliance to environmental, health, and safety regulations; and (2) impact and mitigation plans in relation to land acquisition, involuntary resettlement, air emissions, hazardous and non-hazardous chemicals, and nuisance pollution.

Access to Essential Services

- Loans to enable the construction or operation of hospitals, clinics, or health care centers
- Loans to enable the construction or operation of schools or other education centers

Analytical considerations

- Supporting access to essential services can contribute to lifting people out of poverty and ensuring fair economic development. These services fulfil basic human needs and are key to well-being and social inclusion, especially for disadvantaged groups. They also allow access to other enabling services important for active participation in society and the labor market.
- The Philippine health care system is shared between the public and private sectors. The pandemic allowed hospitals to upgrade and increase their facilities to cope with the situation. Public hospitals focus their efforts on preventive and primary care while also taking the lead in educating the public on health issues. On the other hand, private hospitals focus on specialized care, for instance for cardiovascular diseases, cancer, pulmonology, and orthopedics. The top three causes of death in the Philippines in 2022 were ischemic heart diseases (18.4%), neoplasms (10.2%), and cerebrovascular diseases (10.2%) (source: Government). The Philippines lacks health care facilities, especially in the rural areas, jeopardizing public health (source: www.bworldonline.com).
- Half of the population, 60 million Filipinos, experience health care poverty because many of them live a considerable distance from the nearest clinic, lack sufficient health literacy, and cannot afford the cost of health care. (source: Philanthropy Asia Alliance).
- The lack of school infrastructure and facilities remains basic education's primary problem up to this date in the Philippines. The Basic Education Development Plan 2022-2030 (BEDP 2030) of the Philippines was developed through a consultative and participatory approach to raise enrollment levels in all formal education from kindergarten, elementary, junior high school, to senior high school, as well as informal education through the Alternative Learning System.
- Equitable access to quality education remains elusive throughout the years of formal education. In 2019, while 82% of Filipinos aged 25 and over have completed primary education, the number is 30% for secondary education and 24% for a bachelor's or equivalent degree. The enrollment rate in Philippine higher education is on par with middle-income countries' average. This is, however, rapidly eroding as neighboring countries continue to rise while the country's enrollment rate has stagnated. And while 49% of the richest decile attend higher education, only 17% from the poorest decile can do so (source: Philippine Business for Education). In the 2018 Programme for International Student Assessment (PISA), the Philippines ranked last among 79

participating countries and economies in reading and second to last in science and mathematics. At least 78% of students in the Philippines failed to reach minimum levels of proficiency in each of the three PISA subjects.

- A shortage of educational and medical services has been an issue across the entire population in the Philippines. This has consequential impact on public health, financial risk protection, access to economic opportunities, and unemployment. To that extent, the general population as an inclusive target group does not undermine the social benefits of the funded projects. In addition, PNB will prioritize facilities that benefit from direct or indirect subsidies from the government.
- The building and construction (including of schools and hospitals) sector is one the largest emitter of greenhouse gas. The production and use of materials such as cement, steel, and aluminum have a significant carbon footprint. Environmental performance is not a priority consideration for these projects.

Food Security

Loans to enable the development of projects that provide ecologically sustainable production of food or the improvement of food nutritional value. Examples are sustainable farming/fishing, sustainable food manufacturing, and irrigation.

Analytical considerations

- Food security stands at the crossroad between social and environmental imperatives. PNB will fund projects that address food security and malnutrition issues in the Philippines and other countries where it operates. And projects will have to demonstrate good environmental credentials to be eligible.
- As per the World Bank, “undernutrition has remained a serious problem with one in every three Filipino children below five years old suffering from stunting.” The country ranks fifth among countries in the East Asia and the Pacific region with the highest prevalence of stunting. Malnutrition, according to the United Nations Children’s Fund, also kills 95 Filipino children every day, while 27 out of 1,000 do not get past their fifth birthday. Child malnutrition also has a significant impact on countries’ economies. It reduces parents’ productivity and creates a burden on health care systems. Adult and child malnutrition can lead to noncommunicable diseases, disability, and even death, reducing the potential workforce. For example, the economic cost of noncommunicable diseases in Indonesia – much of which is diet-related – is estimated at US\$248 billion per year (source: UNICEF).
- Target populations are those people living in countries with a Global Food Security Index (GFSI) of 70 or below. Targeting general populations makes more sense than specific groups, as food security tends to be nationwide issue. GFSI evaluates food security in 113 countries across four key pillars of affordability, availability, quality & safety, and sustainability & adaptation, with 68 qualitative and quantitative variables. Of those countries, 39 (35%) scored more than 70, and 74 (65%) scored 70 or below. The average 62.2 and regional differences show a correlation between GDP per capita and food security. With a score of 59.3, the Philippines ranks 67 globally, suggesting food security is below average in the country. Between 2019 and 2022, the index’s affordability score has fallen by 4%, from 71.9 to 69, as shocks such as the COVID-19 pandemic, high input costs, and the war on Ukraine have led to rising costs for food.
- According to the PSA, the country has a total agricultural land area of 47%. Rice and corn are the two major crops. As of 2022, agriculture is one of the major national economy contributors, standing for 8.5% to the country GDP and employing 24.5% of the population. Filipinos also get more than 50% of their dietary protein from aquatic resources, with an average per capita fish consumption of 40kg per year, significantly higher than the global average of 20kg according to FAO.
- Beyond food security, projects may have socioeconomic co-benefits. People who work in Agriculture and Marine sectors are constantly exposed to job insecurity. Farmers are among the most marginalized and vulnerable individuals, with the highest poverty incidence in the country, as per PSA. Likewise, overexploitation of marine fisheries is a huge issue locally, depleting fish reserves, and endangering the livelihoods of many smallholder fishers (source: UNDP).
- PNB will prioritize projects that have certifications, those more efficient crops yield gains and reduced loss in storage, which help to benefit smallholder farmers and minimize food waste. Specifically, PNB will rely on the Marine Stewardship Council for Sustainable Fishing for aquaculture projects. The bank will endeavor to factor greenhouse gas emissions from agricultural activity in the screening, to a degree that remains to be seen. Projects should limit issues of land conversion for agricultural usage, as they will focus on plots already tagged as agricultural land based on the DAR (Department of Agrarian Reform).

- Using chemical products such as pesticides or greenhouse gas emissions from fishing vessels could have some major environmental impacts when it comes to food security. As of now, there is no consideration on the environmental aspects.

Socioeconomic advancement and empowerment

Loans to enable the funding to MSMEs, microfinance loans, businesses led by women, or underserved populations

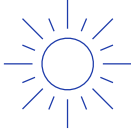
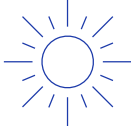
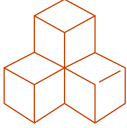
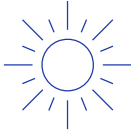


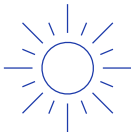
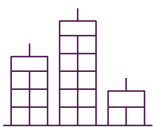
Analytical considerations

- MSMEs serve as a source of innovation as they stimulate competition for prices, product design and efficiency. They are, in aggregate, huge employers as well. Their employees are often members of the local community. The money employees earn is likely to be spent locally, boosting the economy further.
- MSMEs make up 99% of the Philippines' businesses and generate 65% of the country's total employment. Access to funding enables these enterprises to start or expand their operations, and uplift not only the nation's income and consumption levels, but further unlock gains across health, education, and social empowerment (source: Bloomberg). As of March 2022, there are approximately 6,183 microfinance institutions with PHP406 billion in loans. Growth in microfinance was robust from 2017 to 2019, the pre-pandemic period, which registered 14% to 37% loan portfolio growth rate and 11%-16% member growth rate. However, microfinance portfolio growth was only 7% in 2020 and 1% in 2021, affected by the pandemic. (source: Sedpi).
- Businesses led by women are those ventures at least 51% owned by female shareholders; or at least 20%, with women in top executive roles (such as CEO/COO/president/vice president) and at least 30% of the board of directors composed of women, where a board exists. There is a persistent gender wage gap in the Philippines. There is a 79.1% gender parity based on the 2023 Global Gender Gap Index Report by the World Economic Forum. This disparity is more pronounced in rural areas where women's earnings are below a half of men's. Other issues are the prevalence of gender-based violence and under-representation of women in politics (only 28% of elected officials being female according to UNDP) and leadership roles. May 2023 saw a key legislative milestone with the passage of a measure prohibiting discrimination on the basis of a person's sexual orientation, gender identity, gender expression, or sex characteristics (SOGIESC).
- As eligibility criteria focus on gender, there is no income cap for loan applicants, and women may receive funding regardless of their resources. This suggests financing could be channeled to less underserved segments of the population. However, further empowering women economically could pave the road for better gender equality in the country.
- Vulnerable populations are single parents with dependents below 18, families or individuals with financially-dependents aged over 60, or low-income individuals. A recent World Health Organization survey found there are 15 million single parents in the Philippines, with over 14 million (95%) being women. The arduous task of juggling work, child-rearing, and household responsibilities leaves many single parents unable to attain economic stability. In the Philippines, it is common for adult children to financially support their parents by providing for their basic needs or helping with medical expenses. Among older adults in the country, 58% depend on their children as the primary source of financial support. According to data from World Population Review in 2021, the poverty rate is 18.1% in the Philippines, higher than in neighboring countries such as Malaysia (6.2%) and Thailand (6.3%). The wealth distribution in the country is highly uneven, with the top 1% of earners capturing 17% of the national income, while the bottom 50% share only 14% of the income (source: World Bank). The Philippines' Gini coefficient, a measure of income inequality, stood at 41.6% in 2021, the highest Gini coefficient among ASEAN's six largest economies, highlighting significant income inequality in the country.
- Financial support to these underserved entrepreneurs should contribute to reducing income inequality, while helping local communities prosper.

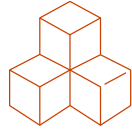
Mapping To The U.N.'s Sustainable Development Goals

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.

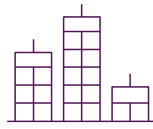
This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs
Renewable energy	 <p data-bbox="446 751 652 814">*7. Affordable and clean energy</p>
Energy efficiency	  <p data-bbox="446 1045 652 1108">*7. Affordable and clean energy</p> <p data-bbox="682 1045 852 1129">*9. Industry, innovation and infrastructure</p>
Green buildings	   <p data-bbox="446 1360 652 1423">7. Affordable and clean energy</p> <p data-bbox="678 1360 852 1444">*11. Sustainable cities and communities</p> <p data-bbox="885 1360 1084 1444">12. Responsible consumption and production</p>
Green buildings – data centers	  <p data-bbox="446 1675 652 1738">7. Affordable and clean energy</p> <p data-bbox="678 1675 852 1759">*11. Sustainable cities and communities</p>

Clean transportation



9. Industry, innovation and infrastructure



***11. Sustainable cities and communities**

Pollution prevention and control



***11. Sustainable cities and communities**



***12. Responsible consumption and production**

Climate change adaptation



***13. Climate action**

Environmentally sustainable management of living natural resources and land use



***2. Zero hunger**



9. Industry, innovation and infrastructure

Sustainable water and wastewater management

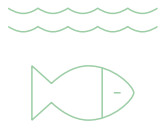


***6. Clean water and sanitation**

Terrestrial and aquatic biodiversity



***6. Clean water and sanitation**



***14. Life below water**



***15. Life on land**

Eco-efficient and/or circular economy adapted products, production technologies and processes

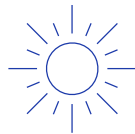


***12. Responsible consumption and production**

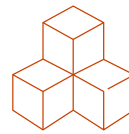
Affordable basic infrastructure



***6. Clean water and sanitation**



***7. Affordable and clean energy**



***9. Industry, innovation and infrastructure**



***11. Sustainable cities and communities**

Access to essential services



***3. Good health and well-being**



***4. Quality education**

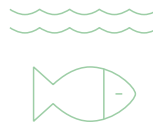
Food security



***2. Zero hunger**



9. Industry, innovation and infrastructure



14. Life below water

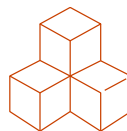
Socioeconomic advancement and empowerment



***5. Gender equality**



***8. Decent work and economic growth**



9. Industry, innovation and infrastructure

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

Related Research

- [ESG Materiality Map: Banks](#), July 20, 2022
- [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

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Second Party Opinion: Philippine National Bank Sustainability Financing Framework

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