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Powered by Shades of Green

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Second Party Opinion

NamPower Sustainable Fundraising Framework

Sept. 2, 2025

Location: Namibia **Sector:** Utilities

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

- ✓ Social Bond Principles, ICMA, 2025
- ✓ Social Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Green Bond Principles, ICMA, 2025
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Sustainability Bond Guidelines ICMA, 2021

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Strengths

NamPower and its Sustainable Fundraising Framework support Namibia's renewable energy strategy, including its aim to achieve 70% renewable energy by 2030 and 80% electricity self-sufficiency in the medium term. We expect most proceeds to be allocated to green projects, largely for renewable energy, which will support the decarbonization of the grid and the country's self-sufficiency. Projects also have social benefits, including improving the country's electrification rate, particularly for rural and underserved communities.

Weaknesses

No weaknesses to report.

Areas to watch

NamPower currently has limited considerations for physical climate risks. Although the company conducts some screening for common hazards such as wildfires, it does not use future climate risk scenarios to assess the future impact of physical risks to its assets. However, NamPower is working with the World Bank Group to develop a plan for mitigating climate risks, including physical risks.

Some eligible categories lack thresholds, limiting our view of the environmental benefits of the included projects. Projects in categories such as sustainable water lack thresholds for efficiency improvements or emissions. Similarly, some projects, including construction of hydropower plants such as the Baynes plant, could introduce environmental and social risks.

Shades of Green Projects Assessment Summary

Over the three years following issuance of the financing, NamPower expects to allocate most proceeds to green projects, particularly renewable energy projects, with other projects outlined in the framework considered ancillary. Up to 50% of proceeds may be allocated to refinancing projects, with the rest going toward financing new projects.

Generation of energy from renewable sources or renewable energy	**Dark to Medium green**
Projects and expenditure related to the development, construction, expansion, acquisition, maintenance, research and development, and operation of renewable energy generation, transmission, distribution, and associated infrastructure. This includes solar, hydropower, wind, biomass, energy storage, transmission lines, substations, and green hydrogen.	
Energy efficiency	**Dark green**
Projects related to initiatives that promote energy consumption reduction or assist energy management and storage.	
Sustainable water and wastewater management	**Medium to Light green**
Projects related to the sustainability of water resources, including sustainable infrastructure for clean and/or drinking water, water efficiency improvement, water pumping, wastewater treatment, water access, water usage, sustainable urban drainage systems, river training, and other forms of flooding mitigation systems.	
Climate change adaptation and mitigation	**Dark to Medium green**
Projects aimed at making NamPower's new and existing infrastructure more resilient to the impacts of climate change.	
Installation of transmission technology that allows for increased integration of renewable energy.	
Monitoring activities, including those related to biodiversity.	
Biodiversity conservation	**Light green**
Projects related to the preservation and/or restoration of biodiversity, specifically projects that support biomass power stations.	

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 Namibia, The Namibia Power Corporation (Pty) Ltd (NamPower) is a national electricity utility designated as a commercial public enterprise. It reports to the Ministry of Finance & Public Enterprises and the Ministry of Industry, Mines and Energy. Its areas of activity include power generation, transmission, and distribution, rural electrification, and energy trading, as well as facilitating electricity imports and exports. NamPower generates electricity from hydropower, coal, diesel, and solar farms, although it plans to focus more on renewables in the future.

As of Dec. 31, 2024, the issuer had a total installed capacity of 509.5 megawatts (MW), comprising hydropower (68%), thermal power (24%), diesel power (4%), and solar photovoltaic (PV) (4%). The company's energy supply for 2024 consisted of 46% from self-generation, 46% from imported power purchase agreements (PPAs) and the Southern African Power Pool (SAPP), and 8% from independent power producers (IPPs). Its total revenue was Namibia Dollars (N$) 8.9 billion (about US$480 million). NamPower's sole shareholder is The Government of the Republic of Namibia.

Material Sustainability Factors

Climate transition

Power generation is the largest direct source of greenhouse gas emissions globally, making the sector highly susceptible to growing public, political, legal, and regulatory pressures to accelerate climate goals. Policymakers and regulators are often pushing for a faster transition to lower carbon energy, especially as green technologies become more mature and cost competitive. Over the past decade, there have been multi-billion-dollar impairments for the most polluting assets, reflecting their weaker economics as taxes increase and they are displaced by new, cleaner technologies. In addition, more stringent decarbonization rules may sometimes affect companies' licenses to operate.

In the 2023 update of its Nationally Determined Contribution, Namibia reiterated its goal of reducing emissions by 91% below 2030 business-as-usual levels, although this could still lead to an increase in absolute emissions. With no direct emissions, renewable energy technologies such as wind and solar have vital roles to play in reducing emissions associated with power and heat, which will be vital for limiting global temperature rise well below 2 C.

Physical climate risk

Power generation and distribution are more exposed to physical climate risks than many other sectors, due to their fixed asset base, which is also geographically extensive in the case of distribution. This means severe weather events can result in power outages for large populations of users. Water is the key resource for hydropower, meaning flooding, drought, or warmer temperatures can pose significant risks. Physical climate risks generally involve significant financial losses for operators due to repairs, exposure to extreme power price spikes, or claims due to business disruption. These dynamics, coupled with regulatory pressure to preserve security of supply, are in turn driving companies in the industry to enhance the resilience of assets. Key risks in Namibia relate to droughts, flooding, extreme heat, and wildfires, with the country's grid largely reliant on hydro.

Biodiversity and resource use

Power generation projects can affect ecosystems through land use, habitat disruption, and water consumption. Renewable power generation requires large areas of land that often encompass sensitive habitats, where it can alter ecosystems, harm threatened species, and compete with other valuable land uses (such as agriculture). This is especially pertinent for hydropower plants, which, if not properly managed, may pose biodiversity risks such as habitat disruption, modified water flow, and

hindrances to fish migration. Activities linked to the transmission and distribution of electricity can also have an impact on the surrounding biodiversity, given the use of land to support above-ground infrastructure. Namibia became a party to the Convention on Biological Diversity in 1997 and has since developed national strategies, including the National Biodiversity Strategy and Action Plan, to fulfill its obligations. It is also a signatory to key international biodiversity agreements such as the Nagoya Protocol, the Cartagena Protocol, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Pollution and waste and recycling

The combustion of fossil fuels generates air emissions, notably sulfur oxides, nitrogen oxides, particulates, and volatile organic compounds. Coal-fired power generates toxic coal ash waste which, if mismanaged, can contaminate water and harm community health, which could lead to public opposition against such plants. However, this pollution is typically localized and coal ash waste is often recycled via beneficial reuses.

As regulatory scrutiny increases, generators face costs related to penalties, legal action, and remediation. However, these impacts are mostly isolated and the magnitude will depend on the stringency of the regulatory response. End-of-life management of power plants--the dismantling, recycling, and/or processing of waste--also exposes companies to financial, reputational, and/or litigation risks if not properly planned and provisioned.

Impact on communities

Plants located near communities can be difficult to develop and operate, creating regulatory and reputational risks for power generators. Sites with high potential for renewable projects are often in or near communities unaccustomed to power infrastructure and near indigenous groups, which can prompt strong local opposition. Impacts on communities can also arise from the siting and construction of power lines.

The rapid acceleration of renewable energy investments is driving a significant increase in demand for minerals like graphite, lithium, and cobalt. The extraction of these minerals can lead to severe human rights issues. Furthermore, the affordability and reliability of networks are under pressure from climate-related risks. Such dynamics can affect households' purchasing power and the competitive strengths of local industries. However, regulators allow utilities to use mechanisms to mitigate volatility and offer income assistance programs, which means rate rises have a more moderate impact on households.

Issuer And Context Analysis

NamPower's eligible project categories aim to address its most material sustainability factors. The green categories target risks related to the climate transition, physical climate, and the environment such as water and biodiversity. The social categories aim to support socioeconomic advancements by enhancing electricity access in rural areas and underserved communities.

NamPower is important for Namibia's decarbonization objectives and renewable energy policy, however its own climate strategy is nascent. NamPower is guided by various national policies and plans, including Namibia's Vision 2030, the National Integrated Resource Plan 2022, and the National Renewable Energy Policy that targets 70% renewable energy in the country by 2030. As of 2024, renewable energy accounted for 72% of NamPower's total installed capacity, although self-generation constituted only 45% of total electricity demand. The issuer is still in the early stages of developing its own climate strategy and it has started measuring scope 1 and 2 emissions internally, although these emission figures are not yet reported publicly. Additionally, the issuer is yet to establish reduction targets for its greenhouse gas emissions.

NamPower aims to achieve 80% self-sufficiency by 2028 by increasing local renewable energy generation and decreasing its dependence on imported PPAs. In 2019, Namibia transitioned its electricity market model beyond a single buyer to incorporate additional market participants to boost private sector involvement, particularly from IPPs. This shift supports local renewable generation and aims to reduce emissions-intensive imports, especially from South Africa. In line with this, the issuer plans to add around 325 MW of renewable capacity from solar and wind

projects between 2025 and 2028. Reliance on imported PPAs has therefore been decreasing over the past few years, dropping from 71.2% in financial year ending June 30, 2022 to 58.2% in financial year ending June 30, 2023.

NamPower's self-generated energy mainly comes from renewables, but it still partly relies on fossil fuel plants. Of its self-generated power in 2024, 72% came from renewable sources, mainly from the Ruacana hydropower station, which provides about 68% of total renewables output. However, Ruacana's capacity is seasonal and dependent on rainfall and river flow, and NamPower relies on fossil fuel plants--primarily coal and heavy fuel oil (HFO)--for backup during renewable shortfalls. The Van Eck coal plant is expected to be brought offline in the future, with NamPower currently exploring options to convert the site to green alternatives such as battery storage. However, capacity at the Anixas power station, which primarily uses HFO, has recently been expanded to 76.5 MW from 22.5 MW. According to NamPower, the HFO facility is crucial for emergency power and grid reliability, especially when SAPP imports fall short.

NamPower conducts physical risk assessments and adopts biodiversity protection measures for all its projects. An environmental impact assessment is required for all projects, in line with local requirements, as well as plans to mitigate identified impacts. We understand that NamPower screens all its assets for physical climate risks, such as those related to water risks and wildfires, during the project development phase when choosing sites. However, it does not yet use forward-looking climate scenarios in this assessment, which limits its insight into the future potential impact of physical risks. NamPower is currently working with the World Bank Group to develop a plan for mitigating climate risks, which includes physical risks.

NamPower aligns with Namibia's National Electrification Policy and aims to improve the country's electrification rate. NamPower aims to support the national goal to achieve universal electrification by 2040, up from around 50% currently. To promote affordable electricity, NamPower, as a bulk supplier, allows distributors to implement diverse pricing strategies, including those aimed at supporting low-income consumers. Moreover, the adoption of green technologies like solar and wind energy may decrease supply costs and lower electricity prices over time. To address broader community risks, NamPower employs a stakeholder engagement plan for each project, which includes a grievance form, a fraud hotline, and biennial stakeholder perception surveys. However, some projects such as the upcoming Baynes Hydro Project may displace the local population---in this case, the Himba. To mitigate this impact, a resettlement framework will be created to establish measures for resettling, compensating, and rehabilitating affected populations. NamPower requires hydropower projects financed under the framework to adhere to the principles of free, prior, and informed consent when there is a possibility of displacing individuals, although this is considered standard practice.

Alignment Assessment

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

Alignment Summary

Aligned = ✓ Conceptually aligned = o Not aligned = ×

- ✓ Social Bond Principles, ICMA, 2025
- ✓ Social Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Green Bond Principles, ICMA, 2025
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Sustainability Bond Guidelines ICMA, 2021

✓ Use of proceeds

We assess all the framework's green project categories as having a green shade and we consider all social project categories as aligned. NamPower commits to allocate an amount at least equivalent to the net proceeds issued under the framework exclusively to eligible green and social projects, contributing to specific U.N. Sustainable Development Goals (SDGs). 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. Eligible projects are restricted to a maximum three-year look-back period before the issuance of the sustainable finance instruments, and are capped at 50% of the total net proceeds.

✓ Process for project evaluation and selection

NamPower's executive committee and board of directors oversee and approve eligible projects. Initially, the originating business units screen potential projects to ensure they comply with framework eligibility criteria. For all generation projects, under the Environmental Management Act of 2007, an environmental and social impact assessment and environmental management plans must be completed, and an environmental clearance certificate must be secured to be considered eligible. Subsequently, these projects are assessed by NamPower's project framework committee, which includes representatives from key business units and convenes at least four times a year, prior to obtaining final approval from the executive committee. Additionally, each eligible project is assessed according to NamPower's risk management policy, using an integrated risk management tool for identifying, analyzing, managing, and mitigating environmental and social risks. The framework has exclusions and specifies that net proceeds cannot be allocated to projects related to fossil fuels.

✓ Management of proceeds

NamPower will track the net proceeds through its internal sustainable financing register and will allocate at least 50% of the net proceeds to eligible projects within 36 months after the issuance of a sustainable instrument. The issuer checks the eligibility of projects on a quarterly basis and will replace projects that cease to comply with the framework's eligibility criteria. Pending allocation, net proceeds will be held in cash or short-term instruments or invested according to the issuer's investment framework and funding strategy. Additionally, NamPower has confirmed that it will not be using any loan facilities that include green and non-green tranches.

✓ Reporting

NamPower commits to report and publish annually on its website the allocation of the net proceeds, as well as on the financed projects' impact, until full allocation of the net proceeds. Allocation reporting will include the total amount of instruments outstanding, a brief description of the projects, the breakdown of allocation of net proceeds by eligible category, distribution

between new financing and refinancing, and the amount of unallocated proceeds. Furthermore, NamPower will include projects' actual impact indicators in its impact report. We view as positive that the issuer commits to receiving external limited assurance on its allocation and impact reporting.

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

Generation of energy from renewable sources or renewable energy

Assessment	Description
Dark to Medium green	Projects related to the development, construction, expansion, acquisition, maintenance, research and development, and operation of renewable energy generation, transmission, distribution, and associated infrastructure and technologies for: • Solar energy (thermal, solar PV, or concentrated solar power [CSP]) • Hydro energy[1] • Wind energy • Biomass power stations[2] for electricity production • Energy storage, including batteries, pumped hydro, thermal storage, and any other eligible energy storage project with a proven commercial and sustainable track record • Transmission lines and substations • Green hydrogen (production and usage).[3]

1. Hydro energy derived from hydroelectric power plants, including run-of-river with artificial reservoir, will be subjected to minimum requirement of a power density of the electricity generation facility above 5 watts per square meter and life-cycle greenhouse gas emissions from the generation of electricity lower than 100 grams (g) of CO_2 equivalent (CO_2e) per kilowatt hour (kWh). All hydro energy environmental and social impact assessments will comply with national legislation the International Finance Corporation (IFC) performance standards, especially performance standards 5 and 6 to manage social and environmental risks, and will follow the Free and Prior Informed Consent principle if there is any need for the displacement of people.
2. Encroacher bush will be used as feedstock in alignment with Namibia's national policies on sustainable management of bush resources. All biomass projects will undergo a greenhouse gas emission assessment and will only be funded from the framework if the project results in greenhouse gas emission reductions. All biomass environmental and social impact assessments will comply to IFC performance standards. Sourcing of biomass feedstock will comply to an international standard such as the Forest Stewardship Council (FSC) standard or similar.
3. Green hydrogen projects will be aligned with and will support the Namibian government's green hydrogen strategy.

Analytical considerations

- Renewable energy projects such as solar PV and CSP, wind, and hydroelectricity are key elements in limiting global warming to well below 2 C, provided their potential negative impacts on the local environment and physical risks are sufficiently mitigated.
- Most proceeds will be allocated to investments in solar, hydro, and wind, which support the Paris Agreement-modelled pathways. These imply that almost all electricity is supplied from zero- or low-carbon sources by 2050. Investments in solar, wind, and hydro are shaded Dark green, due to their alignment with a low-carbon climate-resilient future. However, hydropower projects in scope include investments that support the Baynes hydropower project, which is expected to be large scale (>800 MW), and therefore the risk of negative impacts to the local environment is relatively high. Despite this, the framework provides details of safeguards in place to manage the risks and benefits associated with such projects. Investments in biomass can also introduce environmental risks, particularly those related to land use change, and we consider those projects invested in by NamPower as Light green. The overall project category is shaded Dark to Medium green to reflect the range of risks associated with projects financed under this category.
- NamPower's customers are mainly redistributors who distribute to regional areas and towns, although its customers also include industry clients such as those in the mining sector, which has associated environmental impacts. The renewable energy produced will feed directly into the grid, meaning that there will be no direct connections to high emitting assets, which somewhat limits the risk of carbon-lock in. There is currently no coal mining in Namibia, so it is unlikely the renewable energy produced will support the coal value chain.
- Hydropower projects financed under this framework could be large scale in nature. Construction and operation of larger hydropower plants are associated with significant environmental impacts, including impacts related to biodiversity such as on fish migration patterns and alterations of river flow. Investments in the energy sector in Namibia are required to undergo an environmental impact assessment, which may partly address these risks. Furthermore, NamPower will require such hydropower projects to have a power density of greater than 5 watts per square meter and life-cycle emissions of less than 100 g CO_2eq/kWh, in line with EU Taxonomy thresholds for a substantial contribution, which ensures some level of expected benefits from the plant. The projects will also be required to comply with IFC performance standards, with a particular focus on environmental and social risks, which could help manage their impact.
- Biomass can have climate mitigation benefits and can positively contribute to the circular economy, but its climate risks and impacts depend on multiple factors such as feedstock and transportation distances and modes. NamPower uses encroacher bush as feedstock to produce woodchips that are used as fuel in a combustion process. Bush encroachment, which is where native bush species expand and thicken, has been a concern in Namibia in recent years and has led to reduced biodiversity and an increase in land degradation, as well as exposing farmers to droughts. The use of encroacher bush as feedstock is in line with the Namibia National Strategy on the Sustainable Management of Bush Resources (2022-2027). The bush is harvested through a bush thinning process rather than a clearing process, which somewhat limits the risk of land use change. Risks related to transportation emissions are also somewhat limited, since NamPower currently harvests encroacher bush from the surrounding areas (within 100 kilometers) of the biomass project's site, meaning transportation distances are generally limited. Transportation distances will also be limited to within 100 kilometers for similar future projects.
- Investments in energy storage help bolster efficiency by storing the renewable energy surplus, curbing reliance on fossil fuels, tackling the intermittence of renewables, and ultimately cutting carbon emissions. Energy storage projects could include batteries, pumped hydrogen, and thermal energy. The batteries connected to the grid will typically store energy from renewable energy produced in peak hours, however during off-peak hours batteries are likely to store energy produced from non-renewable sources. Batteries also require high volumes of environmentally sensitive materials and can introduce environmental and social risks into the supply chain, which need to be appropriately managed. NamPower requires contractors to declare compliance to IFC standards to help reduce risks related to mineral sourcing, and it is working with contractors to determine the closest location for battery recycling facilities for end-of-life treatment.
- Investments in transmission lines and substations can help support the electrification of the economy and the integration of renewables into the grid. According to the International Energy Agency (IEA), the majority of electricity generation in Namibia is from renewables (98.6% in 2022). However, the country remains reliant on electricity imports from South Africa, which has a coal dominant grid. According to the International Trade Administration, Namibia's domestic electricity supply meets less than half of the country's demand and up to 60% of Namibians are "off-grid." The government and NamPower are working to make Namibia more self-sufficient and increase renewable generation capacity.

- NamPower has included green hydrogen in its framework, however no such projects are currently in the pipeline. Green hydrogen is in line with a low-carbon, climate-resilient future due to its low emissions and potential applications in otherwise difficult-to-decarbonize industrial processes and transportation, as well as due to its energy storage potential. However, green hydrogen production can be energy intensive and requires sufficient water supplies, introducing potential physical climate risks related to droughts and water availability. According to the issuer, given that no green hydrogen projects are yet planned, details on how to manage the specific environmental risks associated with such projects will be determined at a later date.
- Renewable energy projects, as well as other projects financed under the framework, can be exposed to physical climate risks due to their fixed nature. For more details on how NamPower assesses these risks, please see the Issuer and Context Analysis section.

Energy efficiency

Assessment	Description
Dark green	Projects related to initiatives that promote energy consumption reduction or assist energy management and storage (excluding fossil fuel related assets and/or activities): • Smart meters, load control systems, sensors, or building information and management systems; and • Other technologies known to improve energy efficiency, including but not limited to, static VAR compensators and synchronous condenser operation of generators to reduce reactive power in the network.

Analytical considerations

- Improvements in energy efficiency are important, particularly across energy transmission and distribution, with the potential to reduce greenhouse gas emissions through reduced energy use and to improve alignment with a low-carbon, climate-resilient future. However, there is the risk of rebound effects where improved efficiency can lead to increased demand, reducing the achieved energy savings.
- We shade NamPower's investments in energy efficiency as Dark green because they support the integration of renewables into the grid. Although the carbon intensity of electricity generation in the country is relatively low, due to a high proportion of electricity generated from renewable sources, Namibia relies on carbon-intensive electricity imports from South Africa. Improving the local grid and integrating renewable sources will help reduce reliance on these carbon-intensive imports. For more details on the grid in Namibia, please see the analytical considerations under the renewable energy project category.
- Investments in this project category support grid stability and efficiency. Smart meters can help provide real-time information about energy consumption and help to better match the supply and demand of electricity in real time. This can support the integration of renewables into the grid. Meanwhile, load control systems can also help to balance supply and demand, supporting grid stability and efficiency. Investments to reduce reactive power in the network provide similar benefits.
- NamPower will not finance investments in improving the energy efficiency of fossil fuel assets.

Energy requirements and/or energy projects related to sustainable water and wastewater management

Assessment	Description
Medium to Light green	Projects[4] related to the sustainability of water resources, including sustainable infrastructure for clean and/or drinking water, water efficiency improvement, water pumping, wastewater treatment (domestic and industrial), water access, water usage, sustainable urban drainage systems, river training, and other forms of flooding mitigation systems.

4. Projects will mainly be complimentary to the generation of energy from renewable sources or the renewable energy project category and will predominantly apply to water-stressed areas where renewable energy projects are being developed. This category is strictly limited to auxiliary facilities required for power generation financed under this framework, and explicitly excludes any fossil-based infrastructure. In applying this category, priority will be given to facilities in areas prone to water scarcity and drought, where alternative cooling technologies and/or water treatment facilities are necessary to ensure minimum and sustainable abstraction and protection of existing water resources. Projects will also be required to promote efficiency and recycling of water, harvesting of rain and stormwater, while implementing adequate treatment measures to ensure that any water discharged from the facility complies with environmental standards and minimizes ecological impacts.

Analytical considerations

- Water is essential for economic development, public health, and environmental sustainability. NamPower finances projects aimed at improving water infrastructure, including water pumping, access, usage, wastewater treatment, and flood mitigation systems. These initiatives aim to enhance water availability, improve water quality, and promote efficient resource use. Efficient water and wastewater activities, in terms of energy and water, are generally positive for climate resilience and pollution prevention, and investments in these sectors are needed to meet the Paris Agreement goals.
- We view NamPower's sustainable water and wastewater management projects as having environmental benefits, although the company does not necessarily go beyond local environmental regulations. The framework criteria lack quantitative criteria, such as defined thresholds on water efficiency, which could limit projects' environmental benefits. The lack of quantitative thresholds and the fact that projects do not necessarily go beyond regulation leads to a Light green shade. However, projects will utilize renewable energy as a power source, with flood mitigation systems introducing adaptation benefits. These factors lead to our Medium to Light green assessment of the project category.
- Systems to treat and convey water are energy intensive, and can generate significant waste, exacerbate water stress for other stakeholders, or pose disruptions to hydrology and aquatic ecosystems if not sufficiently managed. Water efficiency improvements help reduce demands on natural capital and reduce greenhouse gas emissions associated with water treatment and conveyance, and, as a result, provide important benefits to achieving a low-carbon, climate-resilient future.
- Projects financed will be complementary to the renewable energy projects financed under the framework, and therefore will use renewable energy as a power source. Projects will also be focused in water stressed areas. Namibia faces significant water stress due to its arid climate and limited freshwater resources. The country relies heavily on groundwater, which is often overused, and experiences frequent droughts that exacerbate water scarcity. As water stress remains a major challenge for Namibia, affecting agriculture, domestic use, and ecosystems, we view positively that the issuer is trying to alleviate the problem through the project category. The projects related to flooding mitigation systems, such river training systems, help to improve water security and benefit communities.
- Although projects will be required to promote efficiency and recycling of water, no ex-ante thresholds have been set for the different projects under this category. The issuer aims to set thresholds on a case-by-case basis depending on the geohydrology of the site. Also, for flood mitigation systems, the susceptibility to flooding is identified during the site investigations (through geotechnical, geohydrological, and topography studies). If there is a high vulnerability to climate change then a climate change vulnerability assessment can be undertaken.
- Wastewater systems, including both domestic and industrial sources, enable resource recovery and enhance ecosystems and public health, and as a result are key to a low-carbon, climate-resilient future. The primary benefits of such systems are improved water quality and cumulative effects on the watershed. The systems can help relieve water stress and be a source of nutrient and energy recovery, depending on the system. However, they are energy intensive and can produce significant solid waste and methane emissions if not sufficiently managed. Water pumping projects will expand wastewater collection, treatment, and storage capacity, helping to maintain compliance with regulation and reduce potential impacts on the local watershed and communities.

Climate change mitigation and/or adaptation

Assessment	Description
Dark to Medium green	Projects related to making NamPower's new and existing infrastructure more resilient to the impacts of climate change: • Information support systems • Measurement and/or observation and/or early warning systems, including but not limited to weather forecasting • Mitigating electricity cuts and/or blackouts through transmission-related investments • Installation of transmission technology that allows for increased integration of renewable energy • Expansion and/or maintenance of flood defense systems and wildfire mitigation • Monitoring activities and/or implementation technologies to manage nature-related changes including, but not limited to, biodiversity and/or bird migration.

Analytical considerations

- Climate scientists have been clear that some degree of climate change will take place, even in the most optimistic scenarios. This makes it crucial to plan for and mitigate potential risks to reduce the financial and environmental effects. Implementing adaptation solutions can also reduce resources and emissions linked to rebuilding damaged assets. Investments in this project category also have climate mitigation and biodiversity benefits.
- We assign the project category a shade of Dark to Medium green, reflecting the vast range of potential projects included in the category which have a range of environmental benefits. For example, adaptation measures such as early warning systems are considered Dark green due to their clear adaptation benefits and limited environmental risks, meanwhile flood defence measures are considered Medium green due to the balance of their resilience benefits and the emissions associated with construction.
- Early warning systems help companies and communities identify and limit damages caused by climate hazards. Information support systems can provide weather forecasting, which could help NamPower to better consider impacts to the trading of electricity in the SAPP and plan for the use of batteries to store excess renewable energy.
- Investments to mitigate electricity cuts and blackouts help support the reliability of electricity networks and support electrification, which is essential to the transition to a low-carbon climate-resilient future. Such investments include grid support equipment such as static VAR compensators and static synchronous compensators, which can help to stabilize electricity systems. Furthermore, investments to facilitate the increased integration of renewable energy could be ancillary to the renewable investments category and support the decarbonization of the grid.
- Monitoring activities and/or implementation technologies include technologies to help NamPower monitor the change in landscapes based on bush harvesting, to be used in biomass projects. These projects would be shaded as Light green on a stand-alone basis, in line with the shading of biomass projects under the renewable energy category. Other projects may include monitoring of other indicators such as bird migration paths that could have been affected by wind power projects.
- The financing includes adaptation and resilience measures that require construction, such as flood defense systems, which can lead to substantial emissions during the construction phase for example through the use of fossil fuel-powered equipment and heavy materials such as cement. NamPower does not have any plans to assess the embodied emissions associated with 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. NamPower considers such risks as part of its environmental management plan.
- NamPower will not finance adaptation measures that increase the resilience of fossil fuel assets, which we would not consider green.

Energy requirements and/or energy projects related biodiversity conservation

Assessment	Description
Light green	Projects related to the conservation of biodiversity: • Preservation and/or restoration of biodiversity and valuable natural habitats[5] related to the development of biomass power stations, including but not limited to, supporting Namibia's policies on the sustainable management of bush resources. 5. Projects will mainly be complementary to the renewable energy project category and will predominantly apply to areas where renewable energy projects, including biomass power generation, are being developed. Criteria for project selection also aligns with and is informed by Namibia's national policies on sustainable management of bush resources. Projects will also be required to include monitoring and surveillance of land and any protected areas, ensuring that renewable energy development is implemented in a manner that minimizes ecological impacts, enhances biodiversity, and contributes to long-term environmental resilience.

Analytical considerations

- Healthy ecosystems and biodiversity are an important part of a low-carbon, climate-resilient future, providing natural resources, water and soil management, and pollination services. Protecting or restoring biodiversity often creates climate co-benefits, such as carbon sequestration or adaptation solutions. Well-designed projects can reduce threats such as unsustainable resource extraction, climate change risks, land use change, pollution, and invasive species. Projects on the conservation of biodiversity are expected to be related only to bush thinning, where encroacher bush is harvested for feedstock of the biomass power stations.
- We believe eligible projects under the category will further promote the conservation of biodiversity and sustainable development in the region. However, such projects can introduce environmental risks, particularly those related to land use change. As such, in line with the biomass project under the renewable energy category, we assign the project category a Light green shade.
- Biodiversity protection relates to measures to thin encroacher bush, which will ultimately be used for biomass. Bush encroachment can lead to increased wildfire risks, and therefore thinning can help mitigate this exposure and address physical climate risk. Furthermore, bush encroachment can lead to an imbalance of grassland to bush, which negatively affects biodiversity, as well as having an impact on groundwater recharge. Thinning the bush, as opposed to clearing the bush completely, can help support biodiversity and support groundwater recharge, since harvesting the bush will not take place in protected areas, limiting potential impacts to local biodiversity.
- NamPower plans to finance active management for biomass related projects and is applying for FSC certification for its biomass project. The criteria for preservation and restoration activities are detailed in the DeBushing and Bush Harvesting Guidelines 2017, published by the Directorate of Forestry. The principles and guidelines include but are not limited to conducting a resource assessment to ensure the land is encroached before harvesting, bush thinning only while allowing sufficient biomass to remain on the land as opposed to bush clearing, not harvesting any trees larger than 4 meters in height and 180 centimeters in diameter, and not harvesting within 100 meters from a river course or natural drainage line. Furthermore, as outlined in the framework criteria, NamPower will require that all projects financed under this category to be monitored with the aim of ensuring there is minimal ecological impact.

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

Energy requirements and/or energy projects related socioeconomic advancement

Projects related to the development, improvement, maintenance, increased resilience, and/or expansion of transmission and distribution infrastructure and energy access.

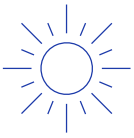
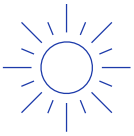
Analytical considerations

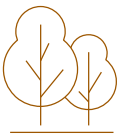
- Expanding electricity access in Namibia is crucial for driving economic growth, improving living standards, and reducing inequality. According to the IEA, approximately 50% of people in Namibia do not have reliable energy access, with rural areas being the most affected--54% of urban households have electricity compared to just 19% in rural regions. This energy gap limits opportunities for education, health care, and business development, particularly in underserved communities. By increasing electrification, Namibia can enhance productivity, support renewable energy projects, and ensure more equitable development. Closing this gap is essential for achieving sustainable development goals and empowering all Namibians with reliable and affordable energy. To address this gap, NamPower has intensified its efforts to bring electricity to these underserved communities, in line with the wider national electrification policy. NamPower is expected to play a key role here, as outlined in the Issuer and Context Analysis section.
- NamPower defines the target populations for this category, which includes rural areas and underserved communities. These projects are designed to align with the U.N.'s SDGs that focus on improving energy access and developing resilient and efficient infrastructure. These efforts aim to enhance equitable access to essential services, promote inclusive development, and address infrastructure gaps in underserved areas. We view the social benefits of these projects positively and consider this category aligned with the principles.
- Energy projects can be exposed to environmental risks, including climate transition and physical climate risks. The project will go through the risk management policy and framework which is an integrated risk management tool used for identification, risk analysis, management review and risk information endorsement, self-assessment of controls, and related risk management processes. The mitigants for the identified social and environmental risks are then implemented. Details on how NamPower assesses physical climate risks are included in the Issuer and Context Analysis section.

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

Where the financing documentation references the 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 affect our alignment opinion.

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs
Generation of energy from renewable sources or renewable energy	 **7. Affordable and clean energy***  **9. Industry, innovation and infrastructure***  **13. Climate action**
Energy efficiency	 **7. Affordable and clean energy***  **9. Industry, innovation and infrastructure***  **11. Sustainable cities and communities**  **13. Climate action**
Sustainable water and wastewater management	 **6. Clean water and sanitation***  **7. Affordable and clean energy**  **9. Industry, innovation and infrastructure**  **13. Climate action**
Climate change adaptation and mitigation	 **7. Affordable and clean energy**  **13. Climate action**  **15. Life on land**

Biodiversity conservation	 **7. Affordable and clean energy**	 **13. Climate action**	 **15. Life on land***
Socioeconomic advancement	 **1. No poverty***	 **5. Gender equality***	

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

Related Research

- Analytical Approach: Second Party Opinions, March 6, 2025
- FAQ: Applying Our Integrated Analytical Approach For Second Party Opinions, March 6, 2025
- Analytical Approach: Shades Of Green Assessments, July 27, 2023
- S&P Global Ratings ESG Materiality Maps, May 8, 2022

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