



Second-Party Opinion

Singapore Green Bond Framework

Evaluation Summary

Sustainalytics is of the opinion that the Singapore Green Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the ASEAN Green Bond Standards 2018. This assessment is based on the following:



USE OF PROCEEDS The eligible categories¹ for the use of proceeds are aligned with those recognized by the Green Bond Principles 2021 and ASEAN Green Bond Standards 2018. Sustainalytics considers that investments in the eligible categories are expected to facilitate the transition to a low-carbon economy in Singapore and advance the UN Sustainable Development Goals, specifically SDGs 6, 7, 9, 11, 12, 13 and 15.



PROJECT EVALUATION / SELECTION The MOF's Green Bond Steering Committee (GBSC) will oversee the internal process for evaluating and selecting projects. The GBSC is chaired by the Second Minister for Finance and comprised of senior government representatives from various government bodies. The MOF has processes in place to identify and mitigate common environmental and social risks associated with the eligible projects, which are applicable to all allocation decisions made under the Framework. Sustainalytics considers the MOF's risk management system to be adequate and the project selection process to be in line with market practice.



MANAGEMENT OF PROCEEDS The MOF will oversee the management of proceeds on a portfolio basis. The allocation process will be tracked using a green bond register. The MOF intends to allocate net proceeds within two or three years following the date of issuance. Unallocated proceeds will be held as cash or invested in short-term liquidity instruments. This is in line with market practice.



REPORTING The MOF intends to report on the allocation and impact of proceeds on its website on an annual basis until full allocation. Allocation reporting may include a breakdown of proceeds according to project category and the balance of unallocated proceeds. In addition, the MOF is committed to reporting on relevant impact indicators. Sustainalytics views the allocation and impact reporting as aligned with market practice.

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Issuer Location	Singapore

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Alignment with the ASEAN Green Bond Standards 2018

The ASEAN Green Bond Standards 2018 provide guidance to issuers and communicate more specifically on what issuers should do to issue credible green bonds in ASEAN countries. Sustainalytics is of the opinion that the green categories under the Framework are aligned with the ASEAN Green Bond Standards 2018.

¹ Renewable Energy, Energy Efficiency, Green Buildings, Clean Transportation, Sustainable Water and Wastewater Management, Pollution Prevention, Control and Circular Economy, Climate Change Adaptation, Biodiversity Conservation and Sustainable Management of Natural Resources and Land Use

Introduction

The Ministry of Finance of Singapore (“MOF”) is responsible for managing the Singapore Government’s fiscal policies and the structure of the country’s economy. Singapore is a sovereign island city-state that spans an area of 733 km² with a total population of 5.45 million and a GDP per capita of SGD97,798 (USD 72,677). Singapore’s key economic sectors include manufacturing, financial and business services and wholesale and retail trade.

The MOF has developed the Singapore Green Bond Framework (the “Framework”) under which it intends to issue multiple green bonds and use the proceeds to finance and refinance, in whole or in part, existing and future government expenditures in the form of capital and operational expenditures, fiscal measures (such as tax expenditures and subsidies) as well as transfer payments for central government purposes and extended to statutory bodies, departments, state-owned and private entities. The Framework applies to both the issuance of green bonds by the Singapore Government under the Significant Infrastructure Government Loan Act 2021² and its Statutory Boards.³ The eligible green projects are expected to facilitate the transition to a low-carbon economy in Singapore and contribute to the climate-related and environmental goals set out by the Singapore Government.

The Framework defines eligibility criteria in the following eight areas:

1. Renewable Energy
2. Energy Efficiency
3. Green Buildings
4. Clean Transportation
5. Sustainable Water and Wastewater Management
6. Pollution Prevention, Control and Circular Economy
7. Climate Change Adaptation
8. Biodiversity Conservation and Sustainable Management of Natural Resources and Land Use

The MOF engaged Sustainalytics to review the Singapore Green Bond Framework, dated February 2022, and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP)⁴ and the ASEAN Green Bond Standards 2018 (ASEAN GBS)⁵. The Framework will be published in a separate document.⁶

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁷ opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible project categories are credible and impactful.

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

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA and ASEAN Green Bond Standards 2018 as administered by ACFM;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

² The Significant Infrastructure Government Loan Act 2021 is an act that authorizes loans to be raised by the Singapore Government to fund nationally significant infrastructure expenditures.

³ The Singapore Government’s Statutory Boards will issue their own green bond frameworks to demonstrate how their respective frameworks are aligned with international guidelines and market practice.

⁴ The Green Bond Principles are administered by the International Capital Market Association and are available at: <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>.

⁵ The ASEAN Green Bond Standards are administered by the ASEAN Capital Markets Forum and are available at: <https://www.theacmf.org/initiatives/sustainable-finance/asean-green-bond-standards>.

⁶ The Singapore Green Bond Framework is available on the Ministry of Finance of Singapore’s website at: <https://www.MOF.gov.sg/home>.

⁷ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.11, which is informed by market practice and Sustainalytics' expertise as an ESG research provider.

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

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

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

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. Upon twenty-four (24) months following the evaluation date set stated herein, the MOF is encouraged to update the Framework, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

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

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

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Singapore Green Bond Framework

Sustainalytics is of the opinion that the Singapore Green Bond Framework is credible and impactful, and aligns with the four core components of the GBP and the ASEAN GBS. Sustainalytics highlights the following elements of the Singapore Green Bond Framework:

- Use of Proceeds:
 - The eligible categories – Renewable Energy, Energy Efficiency, Green Buildings, Clean Transportation, Sustainable Water and Wastewater Management, Pollution Prevention, Control and Circular Economy, Climate Change Adaptation, Biodiversity Conservation and Sustainable Management of Natural Resources and Land Use – are aligned with those recognized by the GBP and the ASEAN GBS. Sustainalytics notes that the proceeds of instruments issued under the Framework are expected to advance Singapore's efforts in low-carbon development and the achievement of the environmental goals set out by the Singapore Government.
 - Under the Renewable Energy category, the MOF may finance the development, deployment, transmission and distribution of renewable energy projects, including wind, solar, bioenergy, geothermal, hydropower projects and hydrogen. Sustainalytics notes the following thresholds and requirements:
 - Bioenergy projects including electricity generation and biofuel production from waste and non-waste feedstock. Waste feedstock includes forestry residues and residues from Roundtable on Sustainable Biomaterials (RSB) and Roundtable on Sustainable Palm Oil (RSPO) certified palm oil operations, such as palm kernel shells and palm oil mill effluents. The MOF has communicated to Sustainalytics that waste feedstock will not be derived from non-RSPO palm oil operations. In relation to non-waste feedstock

the MOF has clarified to Sustainalytics that non-waste feedstock will not be derived from land with high biodiversity, which are in competition with food production nor that deplete carbon pools excluding palm oil and peat. Sustainalytics further encourages the MOF to pursue the obtention of credible certifications schemes, which ensures third-party verification of compliance with the biofuel production requirements for non-waste biomass. Electricity generation from non-waste bioenergy projects will be limited to those with a life cycle GHG emission intensity lower than 100 gCO₂e/kWh. For biofuel production, bioenergy projects will be limited to those with a lifecycle GHG emissions at least 65% lower than the fossil fuel comparator defined under the EU Renewable Energy Directive II.⁸ This is in line with market practice.

- Geothermal projects with direct emissions below 100 gCO₂e/kWh, which is in line with market practice. Hydropower projects with (i) power density greater than 10 W/m² or (ii) life-cycle carbon intensity below 50 gCO₂e/kWh. The Framework specifies that an environmental and social risk assessment will be carried out by a credible external body with appropriate mitigation measures being incorporated into hydropower projects with no significant controversies identified. This is in line with market practice.
 - The MOF has confirmed to Sustainalytics that hydrogen production and storage will be limited to hydrogen production through electrolysis powered by renewables. This is in line with market practice.
 - Transmission and supporting infrastructure (i) dedicated to connecting renewables to the power grid or (ii) that support the integration of at least 90% renewable electricity, including electricity imports, such as subsea cables and high voltage direct current transmission lines. This is in line with market practice.
 - R&D on clean and renewable technologies, including solar photovoltaic panels, offshore and onshore wind turbines and tidal. The MOF has confirmed that R&D expenditures will be capped at 10% on a portfolio basis.
- Under the Energy Efficiency category, proceeds may be allocated towards the research, development and implementation of products or technologies that reduce energy use, recover or store energy. Sustainalytics considers activities under this category aligned with market practice and notes the following elements:
- Energy efficiency programmes for commercial and public sector. In the commercial sector, energy efficiency programmes include the Singapore National Environmental Agency's Energy Efficiency Fund⁹ and the Singapore Economic Development Board' Resource Efficiency Grant for Energy¹⁰ that support the manufacturing sector in achieving an annual energy efficiency improvement rate of 1-2% through efforts such as adopting energy efficiency technologies, resource-efficient facility design and conducting energy assessments. The MOF has confirmed to Sustainalytics that energy efficiency programmes will exclude application in the power generation and hard-to-abate sectors and equipment powered by fossil fuels. In the public sector, the MOF may finance the replacement of street lighting with energy efficient LEDs. This is in line with market practice.
 - Energy storage systems dedicated to renewable energy sources, including battery storage and smart grids systems, such as the Energy Grid 2.0¹¹, which enables bi-directional flow of both energy and information and improves the efficiency, sustainability and resiliency of energy grid systems.
 - The MOF has confirmed to Sustainalytics that district cooling and heating systems will be powered by electricity. Sustainalytics notes that district cooling distribution network systems primarily powered by renewables are preferred in the market but recognizes

⁸ EU Renewable Energy Directive, at: [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016PC0767R\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016PC0767R(01)&from=EN)

⁹ Singapore National Environmental Agency, "Energy Efficiency Fund", at: <https://www.e2singapore.gov.sg/programmes-and-grants/incentives/energy-efficiency-fund>

¹⁰ Singapore Economic Development Board, "Resource Efficiency Grant for Energy (REG(E))", at: <https://www.e2singapore.gov.sg/programmes-and-grants/incentives/edb-incentives>

¹¹ The Energy Grid 2.0 is a smart grid system that aims to enable the complete decarbonization of the electricity supply while maintaining overall system reliability and resilience through leveraging ICT technologies and solutions. At: https://www.ntu.edu.sg/docs/librariesprovider60/publications/grid-2-0.pdf?sfvrsn=c1803649_2.

- the importance of improving the energy efficiency of air conditioning systems and encourages the MOF to report on the impact achieved.
- R&D for new energy efficiency technologies including both hardware and software systems, such as better cooling technologies and energy usage optimization solutions. Expenditures will be capped at 10% on a portfolio basis, which is in line with market practice. The MOF has confirmed the exclusion of R&D for energy efficiency technologies dedicated to power generation or hard-to-abate sectors and equipment powered by fossil fuels.
 - Under the Green Buildings category, the MOF may finance commercial and residential buildings that have received or are expected to receive the Singapore BCA Green Mark green building certification, with a minimum level of "Gold Plus". Sustainalytics considers the referenced standard to be credible and the selected level to be aligned with market practice.
 - Under the Clean Transportation category, the MOF may finance electric vehicles, active mobility projects including walking and cycling infrastructure, and public buses and mass transit systems with a direct emissions threshold below 50 gCO₂/p-km, with the intention of reducing this threshold to 0 gCO₂/p-km from 2025 onwards.
 - The MOF has confirmed that R&D expenditures for low and zero emissions transportation technologies will be capped at 10% on a portfolio basis.
 - Sustainalytics considers these investments and the identified direct emissions thresholds as aligned with market practice.
 - Under the Sustainable Water and Wastewater Management category, the MOF may finance the development of infrastructure or technologies that prevent water pollution, water losses, as well as to treat and conserve water. Examples of infrastructure and technologies being considered include:
 - Water monitoring systems and water collection, distribution and storage infrastructure, such as canals, water supply pipelines and reservoir systems.
 - Water treatment and recycling facilities that minimize the pollution of water sources, facilitate water conservation and promote the reduction of waste generated. The MOF has confirmed that it will exclude the treatment of wastewater from fossil fuel-related activities.
 - Sustainalytics considers the financing of these projects to be in line with market practice.
 - Under the Pollution Prevention, Control and Circular Economy category, the MOF may allocate the proceeds into waste management systems, equipment and facilities that aim to prevent, minimize and recycle waste. Intended project examples include waste-to-energy plants, food waste treatment facilities, waste collection, sorting and recycling infrastructure, and the processing of recyclable waste, including plastics and electronic waste.
 - Regarding waste-to-energy, Sustainalytics recognizes that energy from waste could take out of circulation potentially recyclable materials and undermine the objectives of a zero-waste circular economy, such as waste prevention and recycling. Additionally, for these projects to have low emissions intensity, the composition of residual waste, particularly fossil carbon content, is a crucial consideration. However, Sustainalytics also notes that, due to current constraints of recycling in many parts of the world, energy from waste can offer a better residual waste management option than landfills in many cases.
 - The MOF has confirmed to Sustainalytics that waste collection activities will be limited to those that ensure source segregation of waste.
 - Plastic recycling projects will be limited to mechanical recycling. This is aligned with market practice.
 - Regarding electronic waste, the MOF will ensure the presence of robust waste management processes to mitigate associated risks with electronic waste recycling.
 - Under the Climate Change Adaptation category, the MOF may finance measures for climate resiliency and monitoring through the following eligible projects:
 - Information support and modelling systems to improve climate observation and early warning systems, such as for flood risks.

- Capital, operating and maintenance expenditures for climate change resilient infrastructure, flood protection and defence systems and other risk mitigation programmes. The MOF has communicated to Sustainalytics that technical consultancy studies including a climate-related vulnerability assessment and adaptation plan will be performed and developed for these infrastructure and adaptation programmes. Furthermore, the MOF has confirmed that operating expenditures will be directly related to the climate adaptation infrastructure. This is in line with market practice.
 - R&D towards sea level rise projections and to support the planning and implementation of coastal protection works by developing coastal protection solutions and conducting studies on Singapore's coastal processes. The MOF has confirmed that R&D expenditures will be capped at 10% on a portfolio basis, which Sustainalytics views to be in line with market practice.
 - Nature-based solutions to strengthen climate resilience, including incorporating natural designs and plantings into parks and streetscapes, as well as mitigation measures against the Urban Heat Island effect, such as urban planning and building design to maximize shade and wind flow and urban greenery to reduce heat absorption. This is in line with market practice.
 - Under the Biodiversity Conservation and Sustainable Management of Natural Resources and Land Use category, the MOF may finance projects that support biodiversity conservation in an urban environment and aquatic biodiversity conservation.
 - Forest-related projects include the financing of reforestation, conservation, habitat restoration and species recovery activities, and may include those under the One Million Trees movement, which is aimed at supporting new tree planting projects across Singapore. The MOF has confirmed that the tree-planting projects considered will use tree species that are well-adapted to site.
 - Regarding terrestrial and aquatic biodiversity conservation, the MOF may finance habitat enhancement and nature corridors for ecological connectivity, including projects under the Nature Conservation Masterplan, which aims to strengthen and intensify biodiversity conservation efforts across Singapore.
- Project Evaluation and Selection:
 - The MOF has established the Green Bond Steering Committee (GBSC) to oversee the project evaluation and selection process. The GBSC, chaired by the Second Minister for Finance, is comprised of senior government representatives from various government bodies, namely the Ministry of Finance, Monetary Authority of Singapore, Accountant-General's Department, Ministry of Sustainability and the Environment, and the Ministry of Transport.
 - The GBSC will rely on the existing two-phase process within the Singapore Government to evaluate and mitigate common environmental and social risks potentially associated with the eligible green projects. The first phase occurs during the planning stage, where development projects are required to undergo a thorough evaluation process that addresses the potential impacts on the environment, traffic, public health and heritage. The second phase occurs during the funding stage, where the Singapore Government proactively accounts for environmental and social risks during funding approval of projects. Sustainalytics considers these environmental and social risk management systems to be adequate. For more detail on the MOF's environmental and social risk mitigation processes, please refer to Section 2.
 - Based on the presence of a dedicated committee with cross-functional expertise and the presence of risk management systems, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
 - The MOF will oversee the management of proceeds on a portfolio basis. The allocation of proceeds will be tracked using a green bond register.
 - The MOF intends to allocate at least 50% of net green bond proceeds to current and future expenditures and the remainder to refinancing expenditures.
 - The Framework defines a look-back period of two years for refinancing and the MOF intends to allocate bond proceeds within two or three years following the date of issuance. Pending full allocation, unallocated proceeds will be held as cash or invested in short-term liquidity instruments.

- Based on the management of proceeds, disclosure of temporary proceeds and allocation period, Sustainalytics considers this process to be in line with market practice
- Reporting:
 - The MOF intends to disclose allocation and impact reporting on its website on an annual basis, until full allocation of the relevant green bonds.
 - Allocation reporting will include information on the amount of green bonds outstanding, the breakdown of eligible expenditures by categories, the list and description of eligible green expenditures with their respective allocated amounts, the share of new financing versus refinancing and the percentage of co-financing, if applicable,¹² and the balance of unallocated proceeds at the reporting end period, with confirmation that temporary use of proceeds were held as cash or invested in short-term liquidity instruments.
 - Impact reporting will include environmental indicators and social co-benefits where feasible, including any material developments or ESG controversies, as well as information on the methodology and assumptions used for calculation of the impact indicators. Examples of the environmental impact indicators and social co-benefits include annual GHG emissions reduced or avoided (tCO₂e), annual renewable energy generation (MWh or GWh), total number and gross floor area of green buildings, amount of wastewater treated (m³), reduction in flood damage costs, and number of households or businesses benefited. For the full list of environmental impact indicators and social co-benefits being considered, please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.
 - Based on the MOF's commitment to allocation and impact reporting on an annual basis, Sustainalytics considers this process to be in line with market practice.

Alignment with ASEAN Green Bond Standards 2018

The ASEAN Green Bond Standards 2018 provide guidance to issuers and communicate more specifically about what issuers should do to issue credible green bonds in ASEAN countries. Sustainalytics is of the opinion that the eligible green project categories under the Singapore Green Bond Framework align with the ASEAN Green Bond Standards 2018 (ASEAN GBS). For detailed information please refer to Appendix 1: Alignment with ASEAN Green Bond Standards 2018.

Alignment with the Green Bond Principles 2021

Sustainalytics has determined that the Singapore Green Bond Framework aligns with the four core components of the Green Bond Principles 2021 (GBP). For detailed information please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Strategy of the Singapore Government

Contribution of framework to the Singapore Government's sustainability strategy

In 2020, Singapore submitted its updated Nationally Determined Contribution (NDC) and Long-Term Low-Emissions Development Strategy (LEDS) to the United Nations Framework Convention on Climate Change. Under the NDC, Singapore has committed to peak absolute emissions at 65 MtCO₂e by 2030 and halving them by 2050.¹³ In February 2022, the Singapore Government announced its intention to raise its ambition to achieve net zero emissions by or around 2050.¹⁴

To achieve its sustainable development and net zero aspirations, Singapore follows the Singapore Green Plan 2030,¹⁵ which targets five key areas: (i) City in Nature, with a focus on tree planting activities and increasing the area of green and natural spaces, (ii) Sustainable Living, which supports waste reduction, green commuting and emissions targets for schools, (iii) Energy Reset, with a focus on green energy, buildings and sustainable towns and districts, (iv) Green Economy, which supports green investments and job creation and (v) Resilient Future, with a focus on climate change adaptation and food self-sufficiency.

¹² In case of co-financing, the MOF will aim to report on the pro-rata share of the overall impact or provide the share of financing from the green bond proceeds as a percentage of total project financing if the overall impact is being reported.

¹³ UNFCCC, NDC Registry, "Singapore", at: <https://www4.unfccc.int/sites/ndcstaging/Pages/Party.aspx?party=SGP&prototype=1>

¹⁴ Ministry of Finance Singapore, "Advance Our Green Transition – Net Zero Ambition", at: <https://www.MOF.gov.sg/singaporebudget/budget-2022/budget-statement/d-advance-our-green-transition#emNet-Zeememroemem-Ambitionem>

¹⁵ Singapore Government, Singapore Green Plan, at: <https://www.greenplan.gov.sg/>

Singapore's Green Finance Action Plan,^{16,17} is a key enabler to achieving the targets set on the NDC, LEDS and Green Plan, and to make sustainable finance a defining feature of Singapore's role as an international financial centre. Against the backdrop of the Green Finance Action Plan, the Singapore Government intends to raise the carbon tax from SGD 5 per tonne today, to SGD 50-80 per tonne by 2030, and aims to issue up to SGD 35 billion in green bonds by 2030 to fund public sector green infrastructure projects.¹⁸

Sustainalytics is of the opinion that the Singapore Green Bond Framework is aligned with the Singapore Green Plan 2030 and the Singapore Government's efforts to protect the environment and facilitate green investments. The Framework can assist the country in financing projects which advance and support the above-referenced policy objectives and contribute to mitigating and adapting to climate change. Considering the above, Sustainalytics considers the Ministry of Finance Singapore to be well positioned to issue green bonds.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that the net proceeds from the bonds issued under the Framework will be directed towards eligible projects that are expected to have positive environmental impact. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks associated with the eligible projects could include land use and biodiversity issues associated with large-scale infrastructure development, emissions, effluents and waste generated in construction, occupational health and safety, and stakeholder participation.

Sustainalytics is of the opinion that the MOF can manage or mitigate potential risks through the implementation of the following:

- The Singapore Government has established a two-phase process to evaluate and mitigate common environmental and social risks associated with any new development projects:¹⁹
 - The first phase occurs during the planning stage, when development projects are required to undergo a thorough evaluation process that addresses the potential impacts on the environment, traffic, public health and heritage.²⁰ A developer is required to ensure mitigating measures and monitoring plans are in place to minimize any environmental impact before the commencement of any works. Planning approvals are only granted to development proposals that have met the requirements imposed by regulatory agencies and have adequate mitigation measures in place.
 - The second phase occurs during the funding stage, when the Singapore Government proactively accounts for environmental and social risks during funding approval of projects. This includes: (i) requiring agencies to conduct a cost-benefit analysis (including environmental and social risks), where practicable, in their project proposals, (ii) considering a development project's implementation of carbon mitigation measures during the funding approval stage and (iii) the Singapore Government's Enterprise Risk Management (ERM) framework, which requires agencies to establish appropriate ERM governance structures and policies. Should agencies deem environmental and social risks as material, they will be required to establish processes to ensure such risks are well managed to acceptable levels.
- Singapore's Environmental Protection and Management Act 1999,²¹ which was recently amended in 2021, consolidates the laws relating to environmental pollution control, including air, water and land pollution, as well as hazardous substances and noise control. In general, development projects must meet the requirements of this act, with projects closer to sensitive nature areas being subject to greater scrutiny and may be required to carry out more detailed environmental studies.
- Under Singapore's Sewerage and Drainage Act 1999,²² developers and engineers must submit detailed building plans to Singapore's Public Utility Board for clearance related to any building and structural works. This is required to: i) minimize flood risk to developments and ii) ensure that premises are served by proper sanitation to safeguard public health and water resources.

¹⁶ Monetary Authority of Singapore, "Green Finance Action Plan 2019", at: <https://www.mas.gov.sg/development/sustainable-finance>

¹⁷ Details of the Green Finance Action Plan 2021 can be found in the Singapore Green Bond Framework

¹⁸ Ministry of Finance Singapore, "Advance Our Green Transition – Net Zero Ambition", at: <https://www.MOF.gov.sg/singaporebudget/budget-2022/budget-statement/d-advance-our-green-transition#emNet-Zeememroemem-Ambitionem>

¹⁹ Based on an internal policy document provided by the MOF

²⁰ Singapore Urban Redevelopment Authority, "Environmental Impact Assessment", at: <https://www.ura.gov.sg/Corporate/Planning/Our-Planning-Process/Bringing-plans-to-Reality/Environmental-Impact-Assessment>

²¹ Singapore Statutes Online, "Environmental Protection and Management Act 1999" at: <https://sso.agc.gov.sg/Act/EPMA1999?ProvIds=P13-#pr6->

²² Singapore Public Utility Board, "Legislation and Requirements", at: <https://www.pub.gov.sg/usedwater/legislation>

- In relation to worker's health and safety, Singapore's Workplace Safety and Health Act 2006 (WSA)²³ outlines the regulatory regime and duties of employers for ensuring the safety, health and welfare at work of all their employees, as well as protecting other people whose safety and health may be affected arising from work-related activities. Regarding the use of machinery, equipment or hazardous substances at the workplace in particular, the Act stipulates that specific steps must be taken to ensure that these will be safe to use without risk to health, including providing relevant information on the safe use of the machinery, equipment or hazardous substance and proper testing to ensure compliance with safety standards.
- The MOF excludes financing of any activity or projects related to: (i) nuclear energy, fossil fuel and fossil fuel power generation projects, (ii) non-certified palm oil, (iii) lethal defence goods, (iv) weaponry, (v) gambling, (vi) manufacture and production of finished alcoholic beverages, tobacco products and conflict minerals and (vii) child or forced labour.

Based on these policies, standards and assessments, Sustainalytics is of the opinion that the MOF has implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

Section 3: Impact of Use of Proceeds

All eight use of proceeds categories are aligned with those recognized by the GBP and ASEAN GBS. Sustainalytics has focused on three below whose impact is specifically relevant in the local context.

Role of renewable energy in achieving emissions reductions in Singapore

As a small island city-state, with high urban density, low wind speeds, relatively flat land and lack of geothermal resources, Singapore has limited renewable energy options to reduce GHG emissions from the energy sector.²⁴ Plans to generate renewable energy locally through rooftop and floating solar installations would best fulfil 4% of Singapore's electricity needs by 2030.²⁵ Nevertheless, Singapore aims to deploy at least 2 GW-peak of solar energy by 2030, the equivalent of powering about 350,000 households for a year.²⁶ To meet the country's NDC of peaking absolute emissions at 65 MtCO_{2e} by 2030 and halving them by 2050,²⁷ Singapore also intends to import up to 4 GW of low-carbon electricity by 2035, which will make up close to 30% of its electricity supply in that year.²⁸ Additionally, the Singapore Government is committed to deploying 200 MW of energy storage systems by 2030.²⁹

Within this context, Sustainalytics is of the opinion that the MOF's investment in the production and transmission of renewable energy is expected to support and advance efforts towards achieving Singapore's NDC goals.

Contribution of green buildings towards facilitating low-carbon development in Singapore

Buildings were responsible for over 20% of Singapore's GHG emissions in 2021.³⁰ According to the International Energy Agency, energy-related CO₂ emissions from buildings worldwide have risen largely due to the growth in energy demand for heating and cooling with rising air-conditioner ownership and extreme weather events.³¹ In order to reach a net zero carbon building stock by 2050, carbon emissions from buildings globally would need to fall by 50% by 2030.³² Recognizing the importance of buildings as a key sector for decarbonization, the Singapore Government introduced the Green Mark Scheme, a green building rating system in 2005.³³ The Green Mark Scheme promotes sustainability in the built environment during project

²³ Singapore Statutes Online, "Workplace Safety and Health Act 2006", at: <https://sso.agc.gov.sg/Act/WSHA2006?ProvIds=P14-#P14>

²⁴ Singapore Government, NCCS, "Singapore's Approach To Alternative Energy", at: <https://www.nccs.gov.sg/singapores-climate-action/singapore-approach-to-alternative-energy/>

²⁵ Channel News Asia, "Commentary: Singapore's plans to import clean electricity could meet resistance abroad" (2021), at: <https://www.channelnewsasia.com/commentary/singapore-energy-electricity-trade-renewable-solar-malaysia-indonesia-australia-net-zero-2274791>

²⁶ Singapore Government, NCCS, "Singapore's Approach To Alternative Energy", at: <https://www.nccs.gov.sg/singapores-climate-action/singapore-approach-to-alternative-energy/>

²⁷ UNFCCC, NDC Registry, "Singapore", at: <https://www4.unfccc.int/sites/ndcstaging/Pages/Party.aspx?party=SGP&prototype=1>

²⁸ Channel News Asia, "Singapore intends to import 30% of its electricity supply from low-carbon sources by 2035" (2021), at: <https://www.channelnewsasia.com/singapore/electricity-imports-singapore-low-carbon-sources-2035-2266036>

²⁹ Singapore Government, Singapore Green Plan 2030, at: <https://www.greenplan.gov.sg/>

³⁰ Straits Times, "Green buildings: Reaching beyond energy efficiency to tackle embodied carbon" (2021), at: <https://www.straitstimes.com/singapore/environment/green-buildings-reaching-beyond-energy-efficiency-to-tackle-embodied-carbon>

³¹ International Energy Agency, "Tracking Buildings, 2020", at: <https://www.iea.org/reports/tracking-buildings-2020>

³² UNEP, "Building Sector Emission hit record high, but low-carbon recovery can help transform sector-UN report", at: <https://www.unep.org/news-and-stories/press-release/building-sector-emissions-hit-record-high-low-carbon-pandemic>

³³ Singapore Building and Construction Authority, "Green Mark Certification Scheme", at: <https://www1.bca.gov.sg/buildsg/sustainability/green-mark-certificationscheme>

conceptualization and design, as well as during construction, by evaluating the environmental performance of a building in the following areas: (i) climate responsive design, (ii) building energy performance, (iii) resource stewardship, (iv) smart and healthy buildings and (v) advanced green efforts. By the end of 2020, approximately 43% of Singapore's buildings had been certified under the Green Mark Scheme.³⁴ The Singapore Government's target is to have 80% of all buildings (commercial and residential) by gross floor area, certified to a green standard by 2030.³⁵

Sustainalytics recognizes the importance of promoting green buildings in the reduction of GHG emissions in Singapore and is of the opinion that the green building projects financed under the Framework are expected to contribute positively to Singapore's transition to a low-carbon economy.

Decarbonization of the transportation sector in Singapore

The transportation sector is the third-largest contributor of GHG emissions in Singapore, accounting for 14.8% of the country's total emissions.³⁶ The sector is expected to play a key role in helping Singapore achieve its NDC³⁷ and LEDS³⁸ GHG emissions reduction targets. The Singapore Government aims to have no new diesel cars and taxis on the road from 2025,³⁹ and from 2030 all new car and taxi registrations will transition to cleaner-energy models.⁴⁰ These targets contribute to the overall 2040 vision set by the Land Transport Master Plan 2040 (LTMP) of phasing out internal combustion engine vehicles and replacing them with cleaner-energy vehicles in Singapore.⁴¹ Additionally, the LTMP includes ambitions to expand Singapore's rail network to 360 km by 2030 and expanding the cycling path network to more than 1,000 km by 2040.⁴² In line with Singapore's vision of having all vehicles run on cleaner energy by 2040, the implementation measures will be led by a newly established National Electric Vehicle Centre set up under the Land Transport Authority.⁴³ This involves advancing the deployment of a nationwide EV charging infrastructure, developing EV regulations and standards, and fostering an ecosystem for EVs in Singapore.⁴⁴

Within this context, Sustainalytics is of the opinion that the MOF's financing of clean transportation projects is expected to advance efforts towards Singapore's NDC, the Singapore Green Plan 2030 and the Land Transport Master Plan 2040.

Alignment with/contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by the year 2030. The bonds issued under the Singapore Green Bond Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and Clean	7.3 By 2030, double the global rate of improvement in energy efficiency

³⁴ Singapore Building and Construction Authority, "About the Green Building Masterplan", at: <https://www1.bca.gov.sg/buildsg/sustainability/green-building-masterplans>

³⁵ Singapore Government, Singapore Green Plan, at: <https://www.greenplan.gov.sg/>

³⁶ Singapore Government, NCCS, "Singapore's Emissions Profile", at: <https://www.nccs.gov.sg/singapores-climate-action/singapore-emissions-profile/>

³⁷ UNFCCC, NDC Registry, "Singapore", at: <https://www4.unfccc.int/sites/ndcstaging/Pages/Party.aspx?party=SGP&prototype=1>

³⁸ UNFCCC, "Charting Singapore's Low-carbon and Climate Resilient Future", at:

<https://unfccc.int/sites/default/files/resource/SingaporeLongtermlowemissionsdevelopmentstrategy.pdf>

³⁹ Channel News Asia, "Singapore unveils Green Plan 2030, outlines green targets for next 10 years", at:

<https://www.channelnewsasia.com/singapore/singapore-green-plan-2030-targets-10-years-1883021>

⁴⁰ Channels News Asia, "Registration of new diesel cars and taxis to end in 2025", at: <https://www.channelnewsasia.com/singapore/diesel-cars-taxis-new-registration-to-end-2025-ong-ye-kung-257916>

⁴¹ Ibid.

⁴² Singapore Land Transport Authority, "Land Transport Master Plan 2040", at:

https://www.lta.gov.sg/content/ltagov/en/who_we_are/our_work/land_transport_master_plan_2040.html

⁴³ Singapore Land Transport Authority, "Factsheet: Accelerating Nationwide Deployment of Electric Vehicle Charging Points", at:

https://www.lta.gov.sg/content/ltagov/en/newsroom/2021/3/newsrelease/Accelerating_nationwide_deployment_of_electric_vehicle_charging_points.html

⁴⁴ Singapore Land Transport Authority, "Electric Vehicle", at:

https://www.lta.gov.sg/content/ltagov/en/industry_innovations/technologies/electric_vehicles.html

Green Buildings	9. Industry, Innovation and Infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Clean Transportation	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
Sustainable Water and Wastewater Management	6. Clean Water and Sanitation	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Pollution Prevention, Control and Circular Economy	12. Responsible Consumption and production patterns	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Climate Change Adaptation	13. Climate Action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Biodiversity Conservation and Sustainable Management of Natural Resources and Land Use	15. Life on Land	15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

Conclusion

The MOF has developed the Singapore Green Bond Framework under which it may issue green bonds and other debt-financing instruments and use the proceeds to finance and refinance government expenditures in a broad range of projects to facilitate the transition to a low-carbon economy in Singapore and contribute to the climate-related and environmental goals set out by the Singapore Government. Sustainalytics anticipates the projects funded by the green bond proceeds to provide positive environmental impacts in Singapore.

The Singapore Green Bond Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the Singapore Green Bond Framework is aligned with the overall national strategy of the Singapore Government and that the green use of proceeds categories are expected to contribute to the advancement of the UN Sustainable Development Goals 6, 7, 9, 11, 12, 13 and 15. Additionally, Sustainalytics is of the opinion that the MOF has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the proceeds.

Based on the above, Sustainalytics is confident that Ministry of Finance Singapore is well positioned to issue green bonds and that the Singapore Green Bond Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles 2021 and ASEAN Green Bond Standards.

Appendices

Appendix 1: Alignment to the ASEAN Green Bond Standards 2018 (ASEAN GBS)

ASEAN GBS Criteria	Alignment with the	
	ASEAN GBS	Sustainalytics' comments on alignment with the ASEAN GBS
Eligibility	Yes	The ASEAN GBS requires that issuers must be in or that the proceeds be directed to assets in an ASEAN country. The MOF qualifies given that the MOF intends to finance projects in Singapore.
Use of Proceeds	Yes	The ASEAN GBS offers specific clarification that fossil fuel power generation projects are excluded. The MOF has confirmed this exclusion criteria to Sustainalytics.
Process for Project Evaluation and Selection	Yes	The ASEAN GBS specifies information that must be clearly communicated to investors before issuance regarding project selection. The MOF's Green Bond Steering Committee, chaired by the Second Minister of Finance and comprised of senior government representatives from various government bodies, is responsible for reviewing, selecting and validating eligible assets under the Framework.
Management of Proceeds	Yes	The ASEAN GBS mandates that proceeds must be appropriately tracked and that temporary investments be disclosed. Within the Framework, the MOF disclosed that it will track and monitor the use of proceeds using its internal green bond register. Unallocated proceeds will be held as cash or invested in short-term liquidity instruments.
Reporting	Yes	The ASEAN GBS requires annual reporting on the allocation of funds and the expected impacts. The MOF confirms that it will provide an annual allocation report until full allocation and report on the impact of the use of proceeds.
Annual Review	Yes	The ASEAN GBS encourages, but does not require, annual reviews. As of 2022, the MOF intends to provide annual reviews.

Appendix 2: Green Bond / Green Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	The Ministry of Finance Singapore
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	Singapore Green Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	May 20, 2022

Section 2. Review overview

SCOPE OF REVIEW

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

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

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

ROLE(S) OF REVIEW PROVIDER

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

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

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

Please refer to Evaluation Summary above.

Section 3. Detailed review

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

1. USE OF PROCEEDS

Overall comment on section (*if applicable*):

The eligible categories for the use of proceeds are aligned with those recognized by the Green Bond Principles 2021 and ASEAN Green Bond Standards 2018. Sustainalytics considers that investments in the eligible

categories are expected to facilitate the transition to a low-carbon economy in Singapore and advance the UN Sustainable Development Goals, specifically SDGs 6, 7, 9, 11, 12, 13 and 15.

Use of proceeds categories as per GBP:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Renewable energy | <input checked="" type="checkbox"/> Energy efficiency |
| <input checked="" type="checkbox"/> Pollution prevention and control | <input checked="" type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input checked="" type="checkbox"/> Clean transportation |
| <input checked="" type="checkbox"/> Sustainable water and wastewater management | <input checked="" type="checkbox"/> Climate change adaptation |
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes | <input checked="" type="checkbox"/> Green buildings |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP | <input type="checkbox"/> Other (<i>please specify</i>): |

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

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

The MOF's Green Bond Steering Committee (GBSC) will oversee the internal process for evaluating and selecting projects. The GBSC is chaired by the Second Minister for Finance and comprised of senior government representatives from various government bodies. The MOF has processes in place to identify and mitigate common environmental and social risks associated with the eligible projects, which are applicable to all allocation decisions made under the Framework. Sustainalytics considers the MOF's risk management system to be adequate and the project selection process to be in line with market practice.

Evaluation and selection

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

Information on Responsibilities and Accountability

- | | |
|--|--|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
|--|--|

- Other (please specify):

3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable):

The MOF will oversee the management of proceeds on a portfolio basis. The allocation process will be tracked using a green bond register. The MOF intends to allocate net proceeds within two or three years following the date of issuance. Unallocated proceeds will be held as cash or invested in short-term liquidity instruments. This is in line with market practice.

Tracking of proceeds:

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

Additional disclosure:

- | | |
|---|---|
| <input type="checkbox"/> Allocations to future investments only | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements | <input type="checkbox"/> Allocation to a portfolio of disbursements |
| <input checked="" type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other (please specify): |

4. REPORTING

Overall comment on section (if applicable):

The MOF intends to report on the allocation and impact of proceeds on its website on an annual basis until full allocation. Allocation reporting may include a breakdown of proceeds according to project category and the balance of unallocated proceeds. In addition, the MOF is committed to reporting on relevant impact indicators. Sustainalytics views the allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

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

Information reported:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Allocated amounts | <input type="checkbox"/> Green Bond financed share of total investment |
|---|--|

- Other (please specify): share of financing versus refinancing

Frequency:

- Annual Semi-annual
 Other (please specify):

Impact reporting:

- Project-by-project On a project portfolio basis
 Linkage to individual bond(s) Other (please specify):

Information reported (expected or ex-post):

- GHG Emissions / Savings Energy Savings
 Decrease in water use Other ESG indicators (please specify): Annual renewable energy generation (MWh/GWh), installed capacity of renewable energy (MW), total number and gross floor area (GFA) of green buildings, including types and levels of certification obtained, percentage of new developments by GFA certified as Green Mark Super Low Energy, reduction of air pollutants e.g., particulate matter, sulphur oxides, nitrogen oxides, carbon monoxide and non-methane volatile organic compounds, passenger-kilometres and or number of passengers, amount of infrastructure built e.g., length of rail, walking and cycling path networks (km), charging points for EVs in public car parks, number of sensors installed and system coverage, number of leaks avoided, reduction in system distribution losses (%), amount of wastewater treated(m³), amount of waste avoided or reduced (m³) overall gross power efficiency for waste to energy (%), annual energy recovered from waste and sludge incineration (MWh/GWh/GJ/TJ), annual incineration bottom ash (IBA) sent to off-site facility for recovery of ferrous metals and non-ferrous metals (tonnes), annual recovery of recyclables consisting of ferrous metals, non-ferrous metals, plastics and paper (tonnes), annual recovery of bottom ash (tonnes), annual

amount of IBA diverted from landfill (tonnes), reduction in flood damage costs, length of coastal flood defenses, length of drainage infrastructure developed or enhanced, number of trees planted, amount of carbon sequestered (tCO₂), amount of nature parks, added (ha), amount of forest, marine and coastal habitats restored and enhanced (ha), length of park connectors added (km), length of nature ways built (km), amount of skyrise greenery added (ha, number of parks and gardens with ecological habitats restored, number of nature play gardens added, number of species recovery programmes implemented, number of jobs created/supported, number of households and/or businesses benefited

Frequency

- Annual Semi-annual
 Other (please specify):

Means of Disclosure

- Information published in financial report Information published in sustainability report
 Information published in ad hoc documents Other (please specify): The MOF's website at: <https://go.gov.sg/greenbonds>.
 Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review): Allocation and impact reporting

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

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

- Consultancy (incl. 2nd opinion) Certification
 Verification / Audit Rating
 Other (please specify):

Review provider(s):

Date of publication:

ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP

- i. **Second-Party Opinion:** An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. **Verification:** An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. **Green Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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